Free Public Transport Study

Development of a Free Public Transport Pilot for the City of Glasgow

March 2024

Glasgow CITY COUNCIL

In partnership with:

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1.0   INTRODUCTION

1.1   PROJECT OVERVIEW

Stantec was appointed by Glasgow City Council (GCC) to provide a fully developed proposal for a **free Public Transport** (hereafter PT) **pilot**. The intention of the pilot is to provide a mechanism through which benefits and costs of free PT can be captured and assessed, to inform future decision making and policy setting for potential wider roll-out of the scheme across the city on a more permanent basis. It should be noted, however, that this report focuses on the design of a potential pilot only, and the subsequent delivery of any pilot of free public transport would be subject to GCC securing appropriate funding.

1.2   PROJECT BACKGROUND

GCC is preparing a series of new transport-related plans and strategies, with the objective of ensuring Glasgow has a set of coherent, transparent, and connected transport policies in place to support the achievement of several goals in the city, including **at least a 30% reduction in vehicle kilometres by 2030** and the **2030 net zero carbon goal**.

Informed by the GCC Climate plan and subsequent budget-setting process in 2021/22, the recently published *Glasgow Transport Strategy: Policy Framework*, included a policy action commitment:

> *Policy Action 41C:* *The Council will work with partners to explore the feasibility of **a targeted free public transport scheme**, and subject to this, monitor and evaluate any pilot to inform thinking on the benefits and costs of free public*

> *transport. This should build on Transport Scotland's free bus travel scheme for under 22s.*

GCC elected members have allocated funding to understand the feasibility of a free public transport pilot in Glasgow and how this could be delivered. It should be noted that at the time of writing, no funding has been allocated to deliver the pilot.

A comprehensive Detailed Report has been produced covering the following topic areas:

- Similar schemes in operation both in Scotland and wider afield.
- Lessons learnt from these schemes which could assist in the development of a pilot within Glasgow.
- The need for free public transport in Glasgow.
- Options for the delivery of a pilot – including ticketing solutions, pilot population and duration.
- The development of a monitoring and evaluation framework to assess the emerging findings from a pilot.

1.3   STRUCTURE OF THIS REPORT

This report summarises the key outcomes and messages arising from the study and presented in greater depth within the accompanying **Detailed Report**.

The development of a pilot study for free PT in Glasgow has been formulated over five component parts summarised within this report.

- **What is Free Public Transport?**

   Defining what is meant by the concept of free public transport, and summarising schemes in operation in Scotland and further afield, including,

capturing lessons learnt for consideration in the development of a Glasgow pilot.

- **What is the Need for Free Public Transport in Glasgow?**

An examination of the core drivers behind the need for this pilot.

- **How could a pilot scheme for Glasgow be delivered?**

An options assessment exercise of various delivery mechanisms for the pilot, including selection of both the most efficient ticketing option, pilot population and duration.

- **How will the success of the pilot be determined**?

Summary of a framework to monitor the pilot in three phases; pre, during and post, in addition to evaluating the benefits and costs emerging from the data collected as part of this framework.

- **What is the Pilot and how will it be delivered?**

Establishing the delivery route-map for the pilot based on the identification of a preferred option.

2.0   WHAT IS FREE PUBLIC TRANSPORT?

2.1   DEFINING FREE PUBLIC TRANSPORT

The phrase "*free public transport*" typically refers to a situation **where fares are not the exclusive source of funding** for public transport. Historically, these schemes are provided or supported by the government (national, regional, or municipal), frequently through taxation, or, in rare cases, through commercial sponsorships with businesses.

In the context of public transport, the phrase "*free*" can be considered under two concepts[1]:

- **Full Fare Free Public Transport (FFPT):** can be defined as a system implemented on most routes and services provided within a given public transport network, available to most of its users, most of the time, and for a period of at least 12 months.

- **Partial Full Fare Public Transport (Partial FFPT):** is defined as FFPT but where one of the characteristics does not apply. There are four defined forms of Partial FFPT:
  - **Temporary:** Fares are abolished for a short period of time (no longer than 23 months).
  - **Temporally Limited:** Fares are suspended in specific, yet regularly occurring, periods of time.
  - **Spatially Limited:** Fares do not apply when travelling in a certain area and / or a specific mode of transport, and / or on selected routes.

Socially Limited: Fares do not apply to certain members of society / groups (i.e., tourists).

2.2   FREE PUBLIC TRANSPORT IN SCOTLAND

Within Scotland, a few schemes providing discounted or free public transport travel exist, mostly under the auspices of the Scottish Government. These schemes are targeted at specific demographics within society and restricted to certain modes of transport and are therefore considered to be **Partial FFPT** schemes.

2.2.1   National Entitlement Card (NEC)

The Scottish NEC is a Smartcard which enables those residents which are eligible convenient access to many services with one card. The Scottish Government helps support / fund the card to deliver both national and local services. The NEC assists local authorities in Scotland to deliver various public services to customers efficiently.

Table 2-1: NEC Card Scheme Overview

Characteristic	Information
Purpose	• To provide older and disabled people with improved access to services, reduce social isolation and remove the barriers to travel by more sustainable transport modes.
Timescales & Eligibility	• For people aged 60 and over and / or people with a disability. • The scheme is an ongoing commitment by the Scottish Government.

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[1] Keblowski, W.: Why (not) abolish fares? Exploring the global geography of fare-free public transport (2019)

Coverage	• The scheme enables free travel on any bus in any part of Scotland on registered bus services. • Users can travel on buses outside the area they live in using their card.
Accessing the Scheme	• Residents are automatically provided with a card once deemed eligible by their local authority.
Delivery Mechanism	• An ITSO Smartcard is used to deliver the scheme. • Users tap their card on the assigned card readers and inform the driver of their destination. • The driver presses the appropriate button on the console. • All data is consolidated on the HOPS platform to enable data management and reimbursement calculations.
Cost & Reimbursement	• Bus operators are reimbursed at a rate of **55.9%** of an equivalent **adult single fare** for that journey. • Journeys are reimbursed for each travel leg by operator.

2.2.2   Young Persons (Under 22s) Free Bus Travel Scheme

In 2020, the Scottish Government announced plans to introduce free bus travel to residents in Scotland aged under 19 years. Following an extensive consultation exercise, a further commitment to extend this offer to those aged under 22 was announced in 2021, making up to 930,000 young people across Scotland eligible for the scheme.

Table 2-2: Young Persons (Under 22) Free Bus Scheme Overview

Characteristic	Information
Purpose	• To provide young people with greater independence and new opportunities and reduce car use and related carbon emissions.

Timescales & Eligibility	• Those who live in Scotland and are 5-21 years old are eligible for a card providing them with free bus travel[2] • The timescales of the scheme are still to be confirmed.
Coverage	• The scheme enables free travel on any bus in any part of Scotland on registered bus services. • Users can travel on buses outside the area they live in using their card. • Only a few services, such as premium-fare night buses and City Sightseeing buses, will not accept the card.
Accessing the Scheme	• Users can either apply online (at getyournec.scot or parentsportal.scot) or directly to their local council. • In some local councils, schools are coordinating applications on behalf of their pupils.
Delivery Mechanism	• The National Entitlement Card (NEC) / Young Scot National Entitlement Card (Young Scot NEC) is used to deliver the scheme – although those wishing to access free travel require a new or replacement card (as previously issued cards do not enable access to the scheme). • However, from 28th February 2022, users aged 16-21 – who already have an active NEC or Young NEC issued prior to applications opening – can download free bus travel onto their existing card using the *Transport Scot Pass Collect App.* • Scottish Government work in partnership with the Improvement Service, National Entitlement Card Programme Office and Young Scot to deliver the scheme. • To access a free bus service, users get on the bus, tell the driver where they are going and tap on the electronic card reader to use it.
Cost & Reimbursement	• The Scottish Government pays bus companies for each individual journey made, with the payment value being a percentage of what an adult single fare would be. For

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[2] Children under 5 years old already travel for free on buses and don't need a card.

	journeys made by five to 15-year-olds, bus companies receive 43.6% of an adult single fare. For 16 to 21-year-olds, they receive 81.2%.

2.2.3   UN Climate Change Conference (COP26)

Glasgow hosted the 26th UN Climate Change Conferences of the Parties (COP26) between 31st October and 13th November 2021. Each host nation has an obligation to provide free public transport travel for all delegates and their staff, and thus delegates and volunteers were provided with free travel passes which could be used for a period between a week before the start of the conference and the last day of the conference (20 days in total). Smartcards were provided to delegates and volunteers with a specific ticket product type preloaded to enable free travel across all modes of public transport for the duration of the conference.

Table 2-3: COP26 Ticketing Scheme Overview

Characteristic	Information
Purpose	● To fulfil host nation duties by providing free public transport to applicable delegates and volunteers.
Timescales & Eligibility	● Free public transport was provided to every delegate and volunteer for a total of 20 days (38,000 delegates [including 4,000 media] and 1,000 volunteers). ● On average 13,000 delegates a day at the conference and 17,000 on peak days.
Coverage	● The free travel pass could be used for standard class services on any bus, tram, subway or ScotRail train. ● The pass was intended for travel to and from COP26 Conference venues, however it was not possible to lock geographic boundaries on the Smartcard. ● The pass could not be applied on ferry, air travel or cross border services.
Accessing the Scheme	● Passes were included within volunteer / delegate welcome packs (collected from the COP26 venue).
Delivery Mechanism	● Users simply used their card to tap on / off any applicable service and inform the driver of final destination (bus). ● 152,518 Smartcard journeys were made over the 20 days.
Cost & Reimbursement	● Bus operators were reimbursed 100% of an adult single fare. A fixed fee was agreed with ScotRail due to the inability to use Smartcards on its rail gates and an agreed reimbursement fee with Edinburgh Trams was also implemented. ● The combined cost of the scheme (for both delegates and volunteers) was **£1,018,970**. This was reimbursed to the Scottish Government by the UK Government.

2.2.4   Fair Fares Review

The Scottish Government is currently undertaking a Fair Fares Review, led by Transport Scotland, to ensure a sustainable and integrated approach to public transport fares as the country recovers from the pandemic.

The Fair Fares Review will look at the range of discounts and concessionary schemes which are available on all modes including bus, rail and ferry across the whole of Scotland. The Fair Fares Review will also consider the cost and availability of services, in addition to options that take cognisance of the relative changes to the overall cost of travel.

The Review will include consultation on a Draft Vision for public transport which will give people across the country the opportunity to shape the future of public transport in Scotland.

2.2.5   What can be learned from these existing schemes?

From the existing schemes in operation within Scotland, there are several noteworthy points for consideration in the design process of a pilot for Glasgow:

- There is no current scheme in place that provides **universal access to free public transport** in Scotland.
- Additionally, there is **no current scheme that offers multi-modal free public transport**.
- Both the under 22s and concessionary fares schemes, and the COP26 trial, use **Smartcards as the delivery mechanism** – they use the ITSO platform.
- Analysis of extending the under 22s scheme to under 26s undertaken by Transport Scotland discounted this option due to the **cost outweighing the anticipated benefits**.
- To provide all under 26s in Scotland with free bus travel and free rail travel, would cost approximately **£330m a year**.
- To run a short term free public transport scheme as part of the COP26 event, cost just over **£1m for 20 days**.
- Transport Scotland is currently **investigating public transport ticketing** at a national level, including improving integrated ticketing via the Fair Fares Review.

2.3   FREE PUBLIC TRANSPORT ELSEWHERE

To provide further insight into how free public transport may operate in Glasgow, examples of similar concepts from across the world were studied to identify those of relevance to Glasgow, in terms of population served, socio-economic profile and public transport provision. Over 20 different schemes were considered, and although no examples specifically aligned with the key characteristics of Glasgow,

five best-fit examples were identified. These were Aubagne (France), Dunkirk (France), Malta, Luxemburg, and Tallinn (Estonia).

Table 2-4: Case Study Comparison

Factor	Aubagne	Dunkirk	Malta	Luxembourg	Tallinn
Scheme in Operation	Yes	Yes	Yes	Yes	Yes
Ticketing Scheme	Full FFTP	Full FFTP	Partial FFPT – Socially Limited (Residents Only)	Full FFPT[3]	Partial FFPT – Socially Limited (Residents Only)
Reason for Implementation	Increase social connectivity and reduce congestion	Increase social connectivity and reduce congestion	Reduce congestion and to increase household income	Increase social connectivity and reduce congestion	Increase social connectivity and reduce congestion
Funding	Transport Tax / Local Government Funding	Transport Tax / Local Government Funding	National Government Funding	National Government Funding	National Government Funding
Additional Investment	Transport infrastructure and placemaking	Transport infrastructure and placemaking	Transport infrastructure, placemaking and active travel schemes	Placemaking, vehicles and rolling stock, supporting infrastructure	N / A
Scheme Operation / Governance	Managed by government and contracted to single private operator	Managed by government and contracted to single private operator	Managed and operated by government transport department	Operated by government transport department and negotiated with neighbouring rail operatives	Operated by government, with private contracts for ferries

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[3] With the exception of first-class fares on rail services

Scale of mode shift	50% of new bus users transferred from car	48% of new bus users transferred from car	Missing Data	Missing Data	Missing Data
Benefits	Increased public transport usage, reduced cost for low-income residents	Increased public transport usage, reduced cost for low-income residents	Increased public transport usage, reduced cost for low-income residents	Increased public transport usage	Increased public transport usage
Negatives	Friction between regional government and local government	Funding diverted from other schemes	Unknown	Poor reliability / journey times and low cost of operating a car	Limited investment into the network

Each of the five locations had similar reasons for introducing the scheme, with either **local or national government helping to fund each**. Evidence from the case studies has demonstrated, however, that these schemes **tend to require further subsequent investment into supporting infrastructure** to make public transport journeys more competitive to the car, as demonstrated within Aubagne and Dunkirk, where complementary investment into the transport system and bus priority measures resulted in a subsequent increase in usage.

Apart from Tallinn, each of the locations had a pre-cursor scheme in place, normally in the form of concessionary travel schemes, available to young adults and the over 60s. However, ridership levels remained relatively low, with the **investment in supporting infrastructure then acting as a catalyst for patronage growth**.

Where monitoring and evaluation has occurred, it is noted that, although there has been a gradual shift from car users to bus, there have also been **unintentional consequences for active travel**, where these users have also transferred to using public transport – most notably Tallinn.

Lastly, on all systems, the **existing revenue levels generated were relatively low before the introduction of these schemes, thus the removal of fares caused limited revenue losses overall**. In the case of Tallin, there were revenue gains, as this scheme is tied to registrations for tax, thus increased patronage dovetailed with increased taxes through new registrations.

2.3.1   What lessons can be learnt for Glasgow?

From the case study review, there are several noteworthy points to consider when designing a pilot project for free PT in Glasgow.

- Most schemes **only included bus travel**, with only a few including train and / or tram. Where schemes were bus-only, the area did not have an extensive tram or rail network and it was therefore **difficult to understand possible abstraction from one mode to another**, or integration of the systems. *Glasgow, however, has a comprehensive bus, rail and subway network and may prove more difficult to introduce due to contract negotiations, partnership working and could provide the opportunity for abstraction across modes – including active travel.*

- **The boundary of the pilot scheme will need serious consideration**. Most schemes in place across the world **are restricted to only including journeys within the local / regional boundary**, with commuters travelling into the area still having to pay a fare*. As Glasgow attracts a considerable number of cross boundary trips from commuters and others visiting the city centre, it will be important to establish an appropriate boundary in which to make the fare free. This may have wider impacts on cross-boundary movements, i.e., more commuters switching to car as they feel penalised compared to pilot participants travelling for free, or alternatively depending on the pilot area, freed-up road space (from people switching to PT) may become attractive to more car users.*

- As **Scotland does not have a specific transport tax**, such as the French examples, it is likely that any scheme that could be funded by a tax is done via a local authority-based tax. *For example, a Glasgow City business*

transport tax or increase in council tax to help fund a portion of the costs. However, such taxes would be difficult to implement and would be dictated by the boundary set for the scheme. Additional taxes, certainly council tax based, would have a negative impact on low-income households and perhaps exacerbate social inequalities.

● Prior to implementation, **many of the existing public transport networks in the examples generated low levels of income from fares**, due to fare dodging / lack of enforcement, in addition to fares being low compared to average monthly incomes of residents. *This is a different situation to that of Glasgow, where most services require tap on and / or off, whilst fares are arguably higher than other areas in Scotland and wider afield. It will be important, therefore, to understand the impact to the wider economy through the removal of fares.*

● Furthermore, in **most cases operations were undertaken by one contractor (service provider), thus a move to FFPT was less problematic**. *In Glasgow, there are a significant number of operations, thus, to roll out FFPT would require considerable contract negotiations with operators as part of a pilot. For longer term roll-out, there would likely be a requirement to explore options available to GCC under the Transport (Scotland) Act 2019 – municipal bus operations, BSIP or franchising.*

● Consideration must be taken of the **required supporting infrastructure**, particularly relating to bus travel. It is well documented in the case studies that the service needs to be of a high quality and high frequency to be successful. *Glasgow's public transport network should be reviewed as to consider whether it can support a successful scheme of this nature.*

● It will be important to be **mindful of possible unintended consequences**, such as abstraction of active mode users to public transport. *This is especially important in Glasgow after the significant investment in the active travel network by Glasgow City Council. For example, in Dunkirk 33.5% of new bus passengers were those who used to walk or cycle instead.*

● Finally, **most schemes noted cost savings through the removal of back-office staff, ticket inspectors, ticketing infrastructure** (machines, back-

office processes etc.). *Care must be taken that residents do not lose jobs through the roll out of any such scheme on a permanent basis, adding to job issues and unemployment in the City.*

3.0 WHAT IS THE NEED FOR FREE PUBLIC TRANSPORT IN GLASGOW?

3.1 GLASGOW'S POLICY LANDSCAPE

As outlined in the introduction, GCC has prepared a series of plans and strategies with the objective of ensuring Glasgow has a set of coherent and connected policies to support carbon objectives and tackle deprivation and social inequalities. These documents have helped set the agenda for the need for free public transport.

- **Glasgow's Climate Plan**[4] - sets out a timeline of activities to help achieve GCC's commitment to net zero carbon by 2030. The incorporated Action Plan includes Action 56, which focuses on reducing the need to own and use a car by making public transport more accessible whilst also making car use less attractive. The action makes specific reference to piloting free public transport within the city.
- The **Glasgow Transport Strategy Policy Framework (2022-2030)**[5] has a vision for Glasgow to have: "*A sustainable transport system for people and for goods, which is affordable and inclusive, accessible and easy to use, clean and safe, integrated and reliable.*" A set of policies and related actions were developed to achieve this vision, with Policy 41.C directly relating to free public transport provision – "*The Council will work with partners to explore the feasibility of a targeted free public transport scheme, and subject to this, monitor and evaluate any pilot to inform thinking on the benefits and costs of free public transport. This should build on Transport Scotland's free bus travel scheme for under 22s.*"

- The **City Centre Transport Plan (CCTP)**[6] is GCC's strategy for movement and place within the city centre. One of the priority actions relating to bus includes "*investigating a free electric City Centre Circular bus service connecting transport interchanges, and key gateway locations*". Although not strictly universal, the contents of the policy highlight how interventions relating to free public transport are again a core component of Glasgow's policy landscape

Overall, it is clear from the policy review that a **free public transport pilot scheme would complement existing policy**, and the scheme has its foundations solidly within published GCC documents. More specifically, a pilot of free public transport would:

- Support in contributing to **local net-zero ambitions** by encouraging a step change in modal shift to public transport and where possible active forms of transport that subsequently reduces total car kilometres.
- Assist in tackling existing **socio-economic inequalities** by removing cost-based barriers to public transport for some households; enabling more equitable access for Glasgow residents to life opportunities – such as employment, training, health, social activities, and education.

3.2 DEFINING THE NEED

Informed by the policy review, the need for free public transport in Glasgow can be driven by two defining and overarching objectives:

- **Achieving Glasgow's Net Zero Carbon ambitions**
- **Reducing socio-economic inequalities prevalent within Glasgow by improving access to opportunities of life**

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[4] Glasgow Climate Plan (Glasgow City Council, 2021)
[5] Glasgow Transport Strategy – Final Policy Framework (Glasgow City Council, 2022)

[6] City Centre Transport Plan (Glasgow City Council, 2022)

To understand where the pilot could play a supporting role in achieving these objectives, a baselining exercise was undertaken under each to examine the extent of the current problems and issues. This will then help establish where the need for this pilot could provide support.

3.2.1   Achieving Glasgow's Net Zero Ambitions

A baselining exercise was undertaken on core transport data and information to understand the relationship between current travel behaviours in the city and the ability to reach **net zero**. This included consideration of:

- Mode Share
- Vehicle Kms
- Emissions
- Glasgow's LEZ
- A Public Transport Network review
  - Access to the network
  - Connectivity of the network
  - Use of the network (bus, rail, subway, cycling)
  - Reliability of the network
  - Cost of travel

The analysis highlighted that **car travel** is the main driver behind Glasgow's transport emissions, with the region's rising car kilometres resulting in transport emissions reducing at relatively slower rates than other sectors. This is underpinned by high motorway traffic, in addition to **44% of trips within the city boundary being made by private vehicle**. Although Glasgow has an extensive public transport offering, in many cases it requires **interchange between mode or**

operator to complete a journey. While existing and new ticketing options are available for integrated ticketing (SPT Zonecard / Tripper), these can be confusing for many and adds to the wider complex number of operator tickets and cost of tickets, especially if changing between operators / modes. Furthermore, a recent SPT scoping exercise[7] reported that the Strathclyde bus network has poor performance in areas such as bus patronage, average bus speeds and average fares when compared to other 'world-class' cities with higher bus patronage levels. A level of investment and intervention is, therefore, required to reduce these factors and increase the attractiveness of public transport.

One such mechanism to make public transport more attractive, would be the pilot, which would see the removal of one of the main barriers to public transport use – cost. By introducing the pilot, it could potentially:

- Assist in increasing patronage through more efficient and easier use of the public transport network, as there would **no longer be a need for multiple ticket purchases**.
- Make the decision to own/maintain and use a car less attractive, **by reducing the existing cost gap between public transport travel and using car**, thus making decisions to travel by PT more cost effective (although it should be noted the effectiveness of this would be limited under a short-term pilot).
- **Remove the upfront financial burden** associated with buying discounted ticket offerings such as weekly, flexi-tickets or season passes, thus encouraging further patronage growth.
- **Induce additional and new trips** to be made by PT across the city providing many wider economic and socio-economic benefits.
- Embed **positive sustainable travel behaviours**.

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[7] Glasgow & Strathclyde Transport Act Scoping Study (Systra / SPT, 2022)

- Close attention, however, would be required to monitor active travel trends, **to ensure the pilot is not having a negative impact** on this mode.

Overall, a free public transport pilot could <u>play a role</u> in inducing modal shift from car journeys towards public transport – helping to play a part in addressing the core driver of the Glasgow's transport emissions, a key hurdle to the city achieving its Net Zero Carbon Ambitions.

It should be recognised, however, that the pilot can only form one part of the solution and that wider exogenous factors to this study will be required to achieve the end objective.

3.2.2   Reducing Social Inequalities

A similar baselining exercise was undertaken of demographic and socio-economic data to understand the characteristics, needs and challenges faced by Glasgow's various communities. Consideration was given to:

- Population – current and future trends
- Economic Participation
- Poverty
  - Levels of deprivation
  - Child poverty
  - Health
  - Health of neighbourhoods
  - Cost of transport
- Cost of living crisis

The analysis demonstrated examples of the various socio-economic challenges that the residents of Glasgow face. While the population is growing and the number of jobs is higher than the number of residents, **the mismatch of skills, in addition to access to these jobs, is suppressing earnings across the region**. Combined with the cost-of-living crisis, **residents of Glasgow have been severely impacted by economic and financial challenges**, with many **households living well below the poverty threshold**. Tightening of household budgets in addition to lowering of household incomes, combined with **high public transport fares**, is likely reducing the opportunities for some residents to access key services and better employment, thus exacerbating the cycle of poverty in local areas across the city.

As such, establishing free public transport – thereby removing the cost element of journeys – could have the following impacts:

- **Relieving household budgets**, allowing families and individuals to spend money on other essential commodities such as food, clothing, and household items.
- Enabling residents to **reach previously inaccessible education, training, and employment opportunities** – improving household incomes and / or existing skill levels.
- Act as a catalyst for **local economies across the city through increased local spending** with the 'freed up' or improved income.
- **Present investment opportunities in local neighbourhoods**, improving local communities and tackling the cycle of poverty.

Overall, free public transport could <u>play a role</u> in helping to reduce current inequalities which exist within the city – by removing cost barriers for some, thus opening access for residents to wider opportunities on offer within the city.

In turn the pilot could <u>play one part in a larger policy context</u> in helping Glasgow to address many of the underlying social issues which currently exist.

3.2.3   The need for free Public Transport in Glasgow

The need for free public transport within Glasgow can thus be intrinsically linked to two main policy objectives (i) *achieving Glasgow's Net Zero Carbon ambitions* and (ii) *reducing the socio-economic inequalities* present in the city.

Free public transport could act as a mechanism for enticing a step change in modal shift towards public transport, and away from private vehicle trips. By removing one of the main barriers of using public transport (fares and tickets) **the experience becomes both integrated and easier for all users**. However, based on the evidence from the case study review, any introduction of such a scheme, **would require complementary investment in public transport infrastructure and services** to both succeed and become one of the first travel choices alongside active travel.

The scheme would also help remove one of the main pressures on household budgets. Transport expenditure is one of the main aspects which constrains residents' abilities to make the journeys they need to make, especially for a family requiring multiple tickets. This restrains these members of society from accessing the opportunities of life from which they could benefit (education, training, employment, health, etc.,). **By providing universal and free access to an integrated public transport system, residents of Glasgow will be able to embrace different opportunities, improving their life circumstances**, thus helping the city to achieve its aims of stopping the cycle of poverty and increasing social participation and inclusion, whilst overall witnessing a reduction in the inequalities that are prevalent across the city.

3.2.4   Pilot Criteria Framework

Having considered the outcomes of the case study review and establishing the need for free public transport in Glasgow, it is important to consider the context in which any pilot would operate, and set a range of criteria that a pilot should look to deliver, to be considered successful if met. These criteria should be used to stress test various options for the design of the pilot to identify a preferred option, in addition to supporting the identification of participants for the pilot.

Table 3-1: Pilot Criteria Framework

Criteria	Description	What does it seek to achieve?
C1: The pilot should be universal	Universal access will include participation from all members of society, including households in poverty to those in affluent neighbourhoods. This will provide diverse and wide-ranging views on the use of public transport.	This would enable the pilot to capture true benefits and costs of free public transport to various members of society providing data to support informed decisions to be made on any future roll-out post pilot.
C2: The pilot should be public transport multi-modal	Public transport multi-modal provision will assist in facilitating movement across modes throughout the city, negating the impact of travel choices and operator coverage in some areas of the city.	This would enable participants of the pilot to freely move across the city by any public transport mode, accessing many destinations as a result. This will reduce the impact of some areas of the city having limited PT travel choices. It can also help to open access to new destinations for some who previously encountered barriers to making trips.
C3: The pilot should include a mix of car and non-car owning households	By including both car and non-car users, the pilot would capture views and use of both participant types to understand travel movements and needs. This will also help to assess wider environmental impacts of the pilot.	This would assist in the monitoring and evaluation of the pilot to understand whether the pilot has encouraged a modal shift or change of travel behaviours. By capturing both car and non-car users, the pilot can collate data impacting car users, whilst also monitoring any unintended consequences of non-car users switching from active travel to public transport.
C4: The pilot should remove existing barriers to mobility	By removing the cost element of making a journey, one of the main barriers to mobility would be removed, providing equal access to opportunities across the city for all households. This will help to assess the contribution the pilot would make to reducing social inequalities within the city.	By removing the cost element of making a journey, households will in turn have more income available to spend on other needs. By including this criteria within the scope of the pilot, monitoring and evaluation can be undertaken to assess the level of impact this has on household budgets and help identify where this money is better spent and

		what benefits and costs this brings to families throughout Glasgow.		rate. Glasgow has such a diverse spread of populations cross the city, each with different public transport options available to them. Therefore, a sample from each should be included within the pilot, however, a sample size of 10% across Glasgow would equate to a significant number of people, and thus targets should be realistic.	access and choices available to them. This criterion would thus seek to include views from as many different area across Glasgow.
C5: The pilot solution should be technology based	A technology-based solution will enable participants to use only one ticket throughout the pilot process, making journeys more convenient and user friendly. Technology also infers data, which can be collated and processed to assist in the monitoring and evaluation of the pilot study. It can also be linked to participation in the pilot – i.e., used as a mechanism to ensure participants feed back into the process, to continue to be part of the pilot.	A technical solution will provide data to help support assessment of the pilot. Tickets can be preloaded onto a technological solution and can be added throughout the pilot process. Therefore, to ensure that a robust dataset is gained from the pilot, participation can be linked to contributions to the monitoring and evaluation process. A technological solution would also help validate movements within the study area by rejecting any movements that are not covered by the pilot. In essence act as a measure for revenue protection. However, a level of mitigation would be required in considering those without access to a device or digital connectivity to utilise a device (data plans / availability of smart device).	C8: The pilot should look to minimise unintended consequences	From the case study review, it was highlighted that several of these schemes encouraged modal shift from active travel to public transport in addition to car users. This is an unintended consequence of the scheme, as the objective was to target car users in the main. The pilot should, therefore, look to mitigate the potential for this to happen in Glasgow. It will be important to encourage integration between active travel and public transport as part of the pilot.	This Criteria looks to mitigate potential consequences on active travel numbers across Glasgow as a result of free public transport. Glasgow has invested significantly in active travel infrastructure and is continuing to do so, achieving a significant uplift in the number of people who do travel by active modes. The pilot, therefore, should look to provide a solution that complements active travel, thus encouraging use of both modes across and integrated network.
C6: The pilot should operate for a sufficient period of time	Pilot studies should test the extent to which the proposed set of questions the pilot seeks to answer and the data collection to do so, are capable of producing relatively sufficient, valid and reliable information. As such, the pilot should operate for a sufficient period of time in order to collate this information. As the main subject is public transport and perceptions of public transport are particularly low, it will be important to run the pilot for a period of time whereby people have a fair chance to develop an informed assessment of public transport.	The pilot should run for a period no less than a month in order to provide an opportunity for participants to form a fair assessment of public transport provision and operation within Glasgow. Services are often subject to delay or cancellation and running a pilot for a shorter period of time than this, is likely to skew public opinion of public transport if they are subject to these issues or strikes for example. Research has shown that it takes 21 days for a habit to form, and thus a period of a minimum of a month would help to develop participants opinions of public transport based on usage over this extended period of time.	C9: The pilot should be affordable	The pilot should be designed to provide a means to capture as much useful information as possible to inform monitoring and evaluation of the benefits of free public transport but taking cognisance of the financial implications of delivering the pilot.	This criterion looks to provide a platform for the pilot to be as ambitious as possible but within the realms of affordability so that it can take place and provide the foundations for establishing a city-wide roll-out.
C7: The pilot should look include a representative sample across the diverse geography of Glasgow	Building on the universal access Criteria, the pilot should also look to include a sufficient sample size that is reflective of specific geographic areas across Glasgow. Research has shown that for pilot studies to produce robust and valid data, pilot administrators should seek to achieve a 10% population sample	This Criteria seeks to ensure that pilot participants are representative of areas across Glasgow and are of a sufficient number to provide data that can be used to make an informed decision on the future of any wider scheme implementation. Residents will have different public transport experiences based on the provision they have			

4.0 HOW COULD A PILOT SCHEME FOR GLASGOW BE DELIVERED?

4.1 METHODOLOGY

On paper, the concept of introducing a pilot of free public transport sounds straightforward, but it is far more complex. The nature of the public transport network in Glasgow provides many challenges – in a deregulated market, there are numerous different operators, ticket offerings, revenue reimbursement and operational factors to consider. To understand and address each of these, an eight-step methodology was devised, considering:
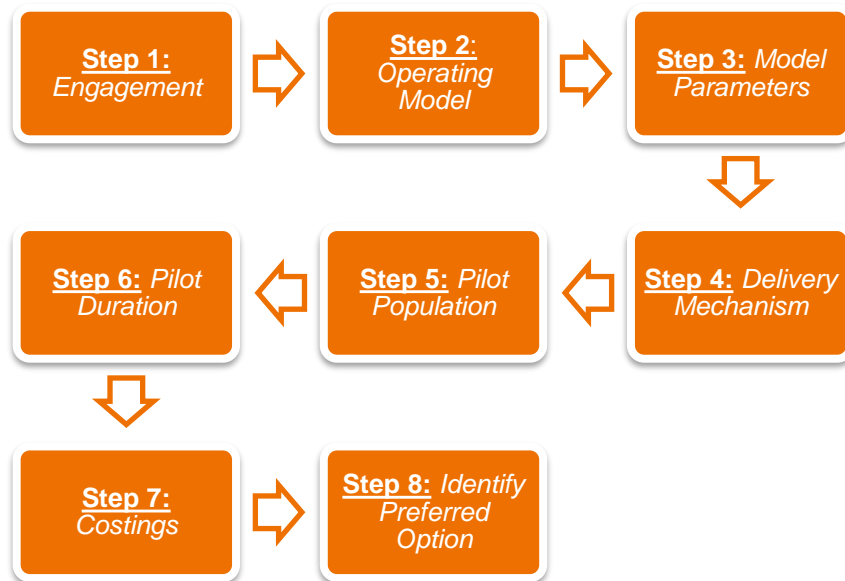
Figure 4-1: Pilot Process

4.1.1 Step 1: Engagement

Public transport in Glasgow is managed by several agencies and authorities. However, SPT is the main body responsible for overseeing the integration of public transport services across the Greater Glasgow area. It is **important to remember that the bus market in Scotland is deregulated**, meaning that in many cases bus services are operated by private companies under a **competitive market framework**. As such, it is important that each operator in Glasgow was consulted separately to gather their own opinions on the pilot. Considering the range of organisations and agencies involved in administering public transport in Glasgow, it was decided to group stakeholders into three categories: (i) Public Transport Operators, (ii) Agencies and (iii) local campaign groups.

What did they say?

Operators and Agencies…

- Operators raised concerns over the approach to reimbursement that might be adopted, stressing that they should not be carrying the financial risk during the pilot and would therefore expect to see near fare-gone reimbursement.

- Bus operators highlighted an increase in patronage because of the under 22s travel, whilst also highlighting that 60 years and over concessionary travellers have decreased significantly since the pandemic.

- Additional concerns were raised over revenue protection depending on which mechanism is selected to operate the pilot – ticket validation. Using paper tickets and other approaches could lead to increased labour hours and costs.

- Operators pointed out that they have witnessed an increase in operating costs, combined with a market shortage of drivers, which could potentially risk the pilot if demand were sufficiently increased as part of the pilot.

- ScotRail would need Ministerial approval to take part in any pilot.

- ScotRail also noted concerns over the difficulty in monitoring and policing use of the rail network during the pilot, particularly at gated stations.
- Not all tickets can be used by current onboard vehicle and rail barriers.
- Transport Scotland is currently investigating public transport ticketing at a national level, including improving integrated ticketing via the Fair Fares Review.
- If wanting to deliver a new Smartcard product as part of the pilot, it could take as long as two years to establish.
- SPT are redesigning and relaunching their Zonecard as a Smartcard product with flexible ticketing and reduced zones.
- All operators highlighted concerns over setting a boundary for the pilot and how cross boundary travel will be treated, especially instances of 'over-staging', where passengers stay on beyond the boundary.
- It was recognised that there would be winners and losers depending on the final choice of ticket product.
- All operators, however, did highlight the new SPT Zonecard Smartcard as a potential opportunity for this pilot, especially if the reimbursement calculation is also refreshed (this is a confirmed commitment from SPT and has been commissioned and considers revenue apportionment).

Get Glasgow Moving and Free Our City

- Both groups are campaigning for improved public transport within the Greater Glasgow region, with a key ambition of seeing municipal ownership of bus services.
- It was suggested by both groups that any pilot should be universal, it should include all households in Glasgow, it should be ticketless and could be achieved by "buying out" bus companies for the duration of the pilot.

4.1.2   Step 2: Potential Models

Two potential models have been identified through the case study review and engagement process.

Option 1: *"Buy out" the Public Transport Network within Glasgow Pilot*

This model would involve Glasgow City Council negotiating with bus operators (commercial parties) and both SPT(Subway) and Transport Scotland (Rail) to agree a fixed price for providing universal access to free public transport for the period of the pilot.

Benefits:

- This option would provide everyone within Glasgow free ticketless access to public transport over the period of the pilot. This would have no burden on pilot participants as they could move freely around the network.

Challenges:

- There is no legal mechanism / obligation for operators to agree to this model, or to a set fixed price based on current revenue. As such, operators could set an asking price which is unaffordable for the pilot – especially as recent funding has ended, and passenger levels are still below pre-pandemic levels.
- This model would require buy-in from all operators to participate in the pilot. If not all operator's sign-up to this model, then significant legal ramifications could be introduced in the form of subsidy control and competition law.
- With so many operators in the City there is the potential for protracted negotiations with each, including around contracts, which could significantly impact delivery timescales.
- COP26 Conference established a precedent for negotiating with public transport operators, with full-fare reimbursement agreed. This would mean that GCC would have to start from this position and try and negotiate a reduced fee. The COP26 cost was £1,018,970 for 20 days which included 152,518 (*recorded*) journeys.
- Many services are cross boundary between local authorities, therefore there are serious challenges in agreeing what services are covered within the pilot,

or GCC could be responsible for paying for residents of other local authorities to participate in the pilot.

- ScotRail participation would require ministerial approval. Under this model approach, residents of other local authorities may feel aggrieved that they do not have free rail travel while residents of Glasgow do. This would be politically challenging to deliver under this model.

- NEC and Under 22 card holder reimbursement. Under this model universal access is provided, however those aged 60 and over and those under 22 currently receive free bus travel paid for by the Scottish Government. Thus, there would need to be discussions on whether this would continue to be paid for by Scottish Government during the pilot or GCC. This could be further complicated with the pilot aiming to be multi-modal, with these card holders currently not in receipt of free rail and subway travel, and thus how will trips made on these modes be compensated.

- This model would also limit potential mechanisms to encourage passengers to provide data and information to support the monitoring and evaluation of the pilot to determine benefits and costs, and thus the opportunity to inform further roll-out of the pilot on a permanent basis.

Option 2: *Concerted Pilot*

This model would include a more focused approach to undertaking a pilot, by identifying a defined pilot area, pilot population and ticketed delivery mechanism for the period of the pilot.

Benefits:

- A benefit of this approach is that the pilot will be focused, providing a greater level of monitoring and evaluation to support future decision making on free public transport, whilst also providing potential approaches (subject to identifying the most appropriate ticket solution) to making the pilot both feasible and affordable.

Challenges:

- While it would remain universal, this concept would be restricted to an identified and set number of participants, thus not including the entire population within Glasgow.

- This model would also require buy-in from all operators to participate in the pilot. If not all operator's sign-up to this model, then significant legal ramifications could be introduced in the form of subsidy and competition law.

- Again, there exists the potential for protracted negotiations with each public transport operator, including contract wrangling, however, this would be dependent on the reimbursement model chosen as a result of the ticket solution identified.

- The boundary issue would need to be resolved by defining an agreed boundary and the journeys within this boundary that are valid for the purposes of the pilot.

- ScotRail participation would again depend on ministerial approval with some ticketing solutions requiring different reimbursement routes. This would circumnavigate the issue around free rail transport for some residents of Scotland and not others as GCC would be required to fund the tickets purchased.

- Would require significant GCC staff time and potentially both software and hardware costs to deliver the pilot.

- It does not reflect the level of ambition desired by several campaign groups.

In considering both the benefits and challenges of each of the potential operating models, **it is recommended that Option 2 is considered further for the roll-out of the pilot**. Option 1 is likely to be both unfeasible and unaffordable for the purposes of the pilot, thus the level of cost is likely to disproportionate to the level of benefit during the duration of the pilot. Option 2, while scaling down the ambition of the pilot, **does retain the integrity of the purpose of the scheme, whilst providing GCC with a greater level of control over both scope and potential costs**. This model also provides a greater level of assurance in obtaining

data to enable monitoring and evaluation of the pilot to inform any future decision making.

4.1.3   Step 3: Model Parameters

Having identified an appropriate operating model for the pilot, the next step is to confirm the parameters to establish the content and scope of the pilot. Those parameters have been identified as:

- **Delivery mechanism** – how will people have access to public transport under the pilot? This considers various approaches to ticketing and reimbursement.
- **Pilot population** – who should participate in the pilot? This considers demographics, geography, and sample sizes.
- **Duration** – how long should the pilot last?

4.1.4   Step 4: Delivery Mechanisms

4.1.4.1   Ticketing Solutions

The identification of a preferred delivery mechanism is a critical element in delivering the pilot. This process includes consideration of several elements, such as:

- Technology (digital solutions or paper-based).
- Infrastructure (digital [systems, platforms] and / or physical [barriers, onboard vehicle ticketing machines]).
- Operators buy-in to the process.
- Operator approval to participate (ScotRail).
- Back-office requirements, such as cost and resourcing.
- Ticket platform.

- Ticket product.
- Reimbursement of operators (full / partial / product based).
- Ability to monitor transactions – to support monitoring and evaluation.
- Requirements of participants in the pilot (id, fixed address, bank account).
- Requirements of GCC – helpdesk, support, query handling, issuing tickets, hardware, software, systems, reimbursement.
- Ability to link the pilot to monitoring and evaluation metrics and processes.

Central to the consideration of these various factors is ticketing. Selecting the most appropriate ticketing solution is essential in not only providing access to the pilot, but also providing a means by which reimbursement to public transport operators can be determined, in addition to providing a tool to secure data to inform the monitoring and evaluation. The selection of the ticketing option then assists in informing the other model parameters, as each ticket type will have an associated cost implication which is scalable based on the number of people included and duration of the pilot.

Eight potential ticketing solutions were identified and split by non-technical and technical solutions. These comprise:

- **Non-Technical**
  - *Ticketless* – no ticket requirements for pilot participants.
  - *Identification* – a small sticker is provided to pilot participants to affix to an existing card (drivers licence, bank card etc).
  - *Paper Tickets* – the purchase of existing tickets by pilot participants.
  - *Travel Vouchers* – distribution of a book of vouchers to pilot participants.
- **Technical**
  - *QR Codes* – paper and digital versions issued to pilot participants.
  - *Bar Codes* – paper and digital versions issued to pilot participants.
  - *Mobile Tickets* – in-app tickets provided to pilot participants.

– *Smartcards* – provision of Smartcards to pilot participants.

Each ticketing solution was considered in detail and key questions asked of its potential application within a pilot context, such as:

● How would it work?
● What are the requirements of pilot participants?
● What are the requirements of Glasgow City Council?
● Would the ticketing solution enable access to all public transport modes, and would operators accept this approach?
● What are the benefits of the ticketing solution?
● What are the challenges / limitations of the ticketing solution?
● How would reimbursement work?
● What would the likely cost to Glasgow City Council be using the ticketing solution?

Each of the eight ticket options have both benefits and challenges to its overall appropriateness and selection for this pilot.

Non-technology-based options would be the easiest to implement but would have significant back-office requirements to collate and record all ticket expenses and reimburse operators / participants. This will likely require significant staff time to undertake this process for operators, participants in the pilot and Glasgow City Council. It is unlikely that operators would support any of these options. One of the main drawbacks of this approach is the opportunity for tickets to be lost, damaged, stolen or for the scheme to be abused. Furthermore, from a Glasgow City Council perspective a number of these options are financially **uncapped** thus could see the council incur significant costs.

Technology based options would enable easier management of the pilot, but they would come with significant cost implications mainly due to the need to set up back-office systems (depending on the solution). The data collated, however,

would provide a rich source of information to support the identification of benefits and costs as part of the monitoring and evaluation process. The main benefit of a technology-based approach is that the cost of the pilot could be **capped**.

At this stage, calculating an appropriate level of cost associated with each option is challenging due to several complexities and uncertainties such as:

● The number of people who would participate in the pilot and make a trip.
● The number of concessionary or under 22s who make a trip.
● The number of trips people are likely to make.
● The number of new or additional trips over and above current trip making.
● The number of new trips made by new public transport users.
● When people may make trips – cost differences between on and off-peak fares.
● The ticket segmentation of these trips by mode, by distance, by time period, by participant type – which could all impact reimbursement rates and ultimate cost of the scheme.
● When the pilot would run – changes in fares / inflation / ticket products.
● Participation of operators.
● Duration of the pilot.

Furthermore, there are two other significant factors which need to be addressed, before a ticketing solution for the pilot can be selected. These **are financial reimbursement** and **legal considerations**.

4.1.4.2 Financial Reimbursement

There are two distinct reimbursement models which underpin the majority of ticketing solutions available to Glasgow City Council, (i) *reimbursement percentage rates* and (ii) *revenue apportionment.*

Reimbursement percentage rates operate by calculating a shadow fare for a journey and then applying this rate to all journeys made by an operator. This shadow fare is normally calculated by using a single fare for the journey and applying a discounted percentage on the basis of the availability of discount tickets (returns, daily, weekly etc.) which would reduce the single fare element. For example, the concessionary fares scheme applies a reimbursement rate to operators of 55.9% of an adult single fare for the journey made which the passenger would have previously paid for. The principle here is that the operator is no better or worse off as a result.

Revenue apportionment is mainly adopted when using a group ticket type, such as the Zonecard. In this reimbursement system, all revenue from ticket sales is totalled, and then apportioned back to public transport operators using an agreed methodology which includes the number of journeys made on each operator. This provides a different, and potentially lower, rate of reimbursement per journey made than via a reimbursement percentage rate approach.

How would these work in the context of the pilot?

Reimbursement Percentage Rates

Implications for Glasgow City Council - Selecting a ticketing solution which is underpinned by this method is likely to **higher cost implications for Glasgow City Council**. This is because in most circumstances, the number of journeys made by participants in the pilot would be uncapped – i.e., they can make as many (or as little) journeys as they wish. Costs would then escalate if the level of trip making by pilot participants was to increase (i.e., they make new or additional trips, over their normal level of trip making).

Implications for Operators – Operators would likely receive a **higher proportion of revenue** under this approach as each new and / or additional trip would incur a

cost and therefore, subsequent reimbursement to them. However, there is a risk, that some operators could witness a decrease in overall revenue. Three scenarios may impact revenue negatively.

(i)   Pilot participants, who may have previously been fare paying customers are now travelling for free. They may have previously purchased daily or flex tickets at a higher cost rate, than what operators may now receive as reimbursement as part of the pilot.

(ii)   There could be abstraction between modes. For example, on corridors where rail and bus both operate, there could be a modal shift from bus to rail, if rail was now free to use. Cost of rail travel may have been a barrier to these people previously and with all being equal they may then switch to rail. This could see the reverse impact of the under 22s scheme where people have switched from rail to bus, and now see them move back – therefore impacting bus revenue.

(iii)   Depending on the number of participants included within the pilot, the total revenue received attuned to the level of reimbursement, may be lower than the revenue received under normal operating practices. Combined with increasing operational costs, this could potentially threaten the viability of services during the pilot, leading to service cuts, reduction in frequency or route adjustments.

With this level of risk involved, it will be challenging to agree a reimbursement rate with public transport operators that would be acceptable to each and especially to Glasgow City Council, as in an uncapped scenario, costs could increase exponentially.

Revenue Apportionment

Implications for Glasgow City Council - This approach would **benefit Glasgow City Council** as a budget and by definition a cap, could be placed on the number

of tickets purchased. This would also **benefit Glasgow City Council as the ticket types that generally use this type of operator reimbursement, has a set cost, but no set value on the number of trips that can be made for that cost**. Therefore, this method would allow Glasgow City Council to protect budgets, while still enabling pilot participants a level of agency over the number of and time of trips made.

Implications for Operators - Conversely, for operators this type of agreement is likely to be **less beneficial than reimbursement percentage rates**. As this system works on a pot allocation, whilst the size of this pot may increase through tickets being purchased for the pilot, it will be capped. So, although the revenue pot is larger, the rate per trip reimbursed could be lower if new and additional trips are made by pilot participants. The number of trips made dilutes the share of the pot and potentially under a new methodology, could see some operators lose out if there is modal switch between bus and rail, as rail could take a larger share of the pot.

Again, as above, operators could also lose revenue via pilot participants switching from being fare paying customers to using this scheme, thus reducing their overall revenue gained from direct purchases to receiving a much lower rate of reimbursement.

A further underlying complication at this stage affecting both reimbursement models, is the consideration of trips made by someone eligible for concessionary travel, either as a NEC card holder or YoungScot card holder. Journeys made using these cards are currently reimbursed to operators by Transport Scotland, however, within a free public transport pilot, it would be necessary to identify who will ultimately cover this expense. A potential solution here may be that during the pilot, any journeys that are made using a NEC or YoungScot card are still reimbursed by Transport Scotland, and if these cards are not used, then Glasgow City Council reimburses these trips depending on the model selected. This would

be a potential financial risk to the council as if passengers do not use these cards, then the full financial liability would reside with GCC.

The crux of the point in dealing with reimbursement of operators, is that travel behaviours have changed as a product of the pandemic, with some people travelling less because of the adoption of hybrid working. This has seen operators introduce flexi-tickets and witness a change in ticket sales towards these higher yielding tickets and daily tickets, as opposed to lower yielding discounted season passes (weekly, monthly, annual). Depending on the number of participants in the pilot, some operators will see a significant change in their revenue, as these ticket sales will be replaced by lower yield reimbursement rates under both models.

Glasgow City Council will therefore need to take cognisance of this fact when considering the selection of (i) the ticket solution and thereby reimbursement model and (ii) the size of the pilot population which will determine total reimbursables.

4.1.4.3 Legal Considerations

An underlying factor which could ultimately limit the ability to introduce the pilot, is the willingness of operators to take part. This is why the selection of the ticket product has significance as it defines the impact on operators' revenue. For the pilot to work, all operators need to buy-in to the process. If an operator decides not to participate in the pilot, and it does still go ahead, there is a possibility of a legal challenge.

Running the pilot and reimbursing some but not all operators in the Glasgow network, could be viewed as a **breach of subsidy controls in a competitive and commercially operated market**. The opportunity of this challenge arising would be heightened if a non-participating operator witnessed a loss of passengers to a participating operator, which could also **contravene competition law**.

It is imperative therefore, that the best ticketing solution for all is selected, to achieve operator buy-in and mitigate this risk. This issue of subsidy and competition law is the main underlying factor which further reduced the feasibility of Option 1 in step 2.

4.1.4.4 Ticket Solutions and Pilot Criteria

Based on the information considered and engagement with public transport operators, each ticketing solution has been assessed against the pilot criteria to assist in identifying the best solution for the pilot. A seven-point scale has been used to indicate the level of contribution that each ticketing solution could deliver against each of the criteria, ranging from ××× for negative / not compatible contribution -> ○ no impact / contribution -> ✓✓✓ fully compliant.

Table 4-1: Ticketing Solutions and Pilot Criteria

Criteria	Ticketless	Identifier	Paper Ticket	Travel Vouchers	QR / Bar Codes	Mobile Tickets	Smartcard
C1: The pilot should be universal	✓✓	✓	✓✓	✓✓	✓	×	✓✓✓
C2: The pilot should be multi-modal	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓	✓✓✓
C3: The pilot should include a mix of car and non-car owning households	○	○	○	○	○	○	○
C4: The pilot should remove existing barriers to mobility	✓✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓✓
C5: The pilot solution	×××	×××	×××	×××	✓✓	✓✓	✓✓✓
should be technology based							
C6: The pilot should operate for a sufficient period of time	✓✓✓	✓✓✓	✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓
C7: The pilot should look include a representative sample across the diverse geography of Glasgow	○	○	○	○	○	○	○
C8: The pilot should look to minimise unintended consequences	○	○	○	○	○	○	○
C9: The pilot should be affordable	×××	×××	×××	×	✓	✓	✓✓

4.1.4.5 What is the preferred ticketing solution?

Based on the analysis undertaken, a **Smartcard** solution is the most feasible option for the purpose of this pilot. A Smartcard solution provides the greatest benefits based on its flexibility, ease to manage and ease of use for participants in the pilot. It would provide a simple means for accessing multi-modal public transport throughout Glasgow, whilst also recording journeys undertaken during the pilot building a rich dataset for more accurate reimbursement to operators and for monitoring and evaluating the scheme.

A Smartcard platform would also enable GCC to manage the validity of trips made and the timescales of the pilot by preloading cards with journeys and acting as an incentive for participants to complete travel dairies to receive further free travel

added directly to their cards. It will also provide a level of contingency / validation against any travel surveys created for monitoring and evaluation.

4.1.4.6   Should the Pilot use an existing or new Smartcard?

Current Smartcard Options

There are currently four existing Smartcard products available within Glasgow:

● *SPT Zonecard* - The Zonecard is a flexible season ticket for travel by rail, subway, buses[8], and some ferries in the Strathclyde region. This product will be moving onto a new ITSO Smartcard platform that will be unique, in that it will be the only Smartcard product that can be read both by ticketer machines on buses and barriers at subway and ScotRail stations. The product will also include new ticket types including one-day, three-day flexi and seven-day flexi tickets[9]. These new tickets will be available to buy online and will be priced based on the creation of a new seven zone system, simplifying the current multi-zone system. There will be a one-off purchase fee for a new Zonecard, which is yet undetermined.

● *Glasgow Tripper Card* - The Glasgow Tripper is available as a Smartcard or mobile ticket for travel on the city's bus network, including services provided by First Glasgow, McGill's, Stagecoach, Whitelaws, West Coast Motors and Glasgow Citybus. If purchasing the smartcard option there is a £1.75 fee, after which users can purchase daily, weekly or 3/5/10day flexi ticket bundles. The smartcard must be presented upon boarding bus services.

● *ScotRail Smartcard* - The ScotRail Smartcard provides paperless travel on the rail network. Tickets can be loaded onto the Smartcard using the ScotRail App, ticket vending machines or at a booking office. Once the ticket has been loaded onto the card, the user is

able to tap the card to proceed through the barriers at the station and as proof of ticket on the train itself.

● *National Entitlement Card (NEC)* – As discussed, the NEC is a Smartcard product that provides free travel on buses in Scotland for those aged over 59, have a disability or are under the age of 22. Currently, the NEC is only registered to work with ticketer machines on board buses and not ticket barriers at ScotRail or Subway stations.

New Smartcard

There are two approaches to creating a new Smartcard for the pilot, (i) create a new platform and card from scratch or (ii) use an existing platform and add a new Smartcard ticket product.

New Platform and New card
● Glasgow City Council would need to secure both membership to ITSO and purchase a HOPS.
● This would require Glasgow City Council paying the membership fee (£6,127) and then annual fee (£6,127) to be a member of ITSO - then, using an organisation such as Unicard, to develop the back-office management system and link to HOPS.
● The cost of the back-office system varies based on the package required, complexity of the reimbursement calculations (additional fee for distance-based) and the number of transactions.
● Once the system has been created, a new ticket product for the pilot would need to be developed and shared with all public transport operators so that they can install this ticket type in all their respective ticketing systems.
● Transport Scotland indicated that to roll-out a new Smartcard product from scratch could take a minimum of two years.

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[8] Except for First Glasgow and Stagecoach night services.

[9] In addition to the previously available weekly, 4-week, 10-week and annual passes.

Existing Platform and new Card

- There is an opportunity to make use of an existing platform to deliver a new Smartcard product. Transport Scotland can provide access to its platform that currently manages the NEC scheme.
- In this instance, GCC would pay Transport Scotland a fee to use its platform to launch a GCC pilot ticket product. A fee would need to be agreed with Transport Scotland, but there would also be a £150 charge to introduce a new ticket type.
- GCC would then gain free access to the system up until a transaction threshold is met, whereby each transaction after that point is subject to a further charge.
- Although Transport Scotland would provide the platform upon which to deliver the GCC Smartcard, there would still be a requirement for GCC to negotiate with operators' suitable reimbursement rates, and then develop a reimbursement model to calculate the correct revenue shares based on the journeys recorded within the system.
- As before, there would also be a need for the ticketer machines and ScotRail ticket barriers to be updated to register this new Smartcard product.

What is the preferred Smartcard solution?

As this study is examining the feasibility of undertaking a short-term pilot, **creating a new product would produce a cost that is disproportionate to meeting the end objective**. It would be more efficient, feasible and less cost intensive to adopt an existing product for the purpose of this pilot.

Considering the pilot criteria and the ambition to create a data rich source of information to inform future decision making, the most feasible / viable solution would be **to use the new SPT Zonecard Smartcard**. There is an opportunity to take advantage of the launch of this new product to test the concept of free public transport in Glasgow, whilst reducing both the back-office requirements and overall costs to Glasgow City Council.

4.1.4.7 Ticketing Solution Risks

The risk of selecting this option, however, is the wider financial impacts to operators as discussed previously. It would not be beyond the possibility that some operators may not accept this approach, as they could be facing larger revenue shortfalls during the period of the pilot. This would be determined by the number of people taking part in the pilot and the duration of the pilot. As such, some operators may not agree to participate in the pilot, which would remove this solution from consideration as it would need unanimous support from those operators in the Zonecard Forum.

An instance may even occur, whereby one operator may remove themselves from the Zonecard scheme because of this pilot which would then risk the overall Zonecard scheme. It would be recommended therefore, that GCC engage with SPT and public transport operators at the Zonecard Forum to discuss mitigation measures and potential solutions to adopting this approach to deliver a successful pilot. Close collaborative working across bodies would help to mitigate these risks and ensure an open channel of communication between parties.

4.1.5   Step 5: Who should participate in the pilot?

Universal access was expressed as a key desire for Glasgow City Council. The assumption here being that all people would be eligible for the pilot rather than only certain societal groups for a determined duration. However, informed by the research to date and exploring the costs of the preferred ticket type (Zonecard), this is unlikely to be a financially achievable objective for the whole of Glasgow - for example, providing an SPT Zonecard for one week's travel to every resident within Glasgow (for city centre zones only) would cost approximately **£12.8m**. This is a substantial sum for a very short period of time.

It is therefore necessary to examine alternative approaches to delivering this pilot, whilst at the same time protecting the integrity and objective of this exercise. To

do so, would require the rolling back on the size / ambition of the pilot and the qualifying population. With a view to this, the focus turns to answering two questions; (i) *who is eligible to take part in the pilot?* and (ii) *what criteria is used to select this eligible population?*

4.1.5.1   Determining eligibility

To contain the scale of the pilot, whilst maintaining a process which reflects the various characteristics of the people and geography of Glasgow, there are two areas of consideration: **geography** and **demography**.

Geographic Eligibility

Glasgow is central to the SPT region, and thus sees significant cross-boundary travel from each of the neighbouring local authorities and further afield. Although the source for funding the pilot is still to be identified, it is assumed Glasgow City Council will be responsible for managing and budgeting any funding as the project sponsor. As the Zonecard operates on a zonal system, the cost can quickly escalate with each additional zone included. This can quickly diminish the funding available and impact pilot population size and / or duration. Additionally, for each zone added, the number of cross zonal services also increases and subsequently increases the difficulty in policing the pilot. Considering this, the **recommendation would be using the new zone system to define the pilot area scope and align this with the City of Glasgow boundary area – two zones**. This would also reduce the impact of City of Glasgow residents missing out on opportunities to participate in the pilot at the expense of others from neighbouring local authorities.

The recommended approach therefore would be to adopt the Tallinn model, restricting participation in the pilot to the residents of Glasgow, with commuters from or to Glasgow continuing to pay a fare as they do now, i.e., **the pilot would only be open to residents of Glasgow for all movements by public transport within the City of Glasgow**.

Demographic Eligibility

Currently in Scotland, everyone under the age of 22 and over the age of 59 is entitled to free bus travel, and if a resident of the Strathclyde region discounted rail / subway travel via the concessionary fare scheme. This leaves a significantly sized population within Glasgow who do not qualify for any form of free public transport (with exception of those who have a NEC due to disability). This sits at **approximately 372,000 residents**. It could also be argued that this demographic is the most likely to be making frequent trips (commuting) and a tendency towards using car more than those other demographic groups.

Considering these points in addition to the overarching purpose of the pilot, there is a **case for limiting participation in the pilot to those aged within this 22-59** demographic group. The main counter argument to adopting this approach is that while the pilot would enable free travel on all modes of public transport, the other age groups in receipt of a NEC card, only receive free bus travel. Therefore, a level of inequity would be introduced in society for the duration of the pilot. While this is a difficult decision, by not limiting participation to this specific demographic is likely to make administering the pilot extremely difficult when considering reimbursement (NEC card reimbursement vs Pilot reimbursement) and unlikely to derive a level of insight for monitoring and evaluation to inform change in travel behaviour, as those out with the 22-59 demographic already have the choice of free bus travel.

Eligibility Summary

In light of the information discussed, the recommendation is to continue the development of the pilot for free public transport on the basis of including **all residents of the City of Glasgow aged between 22 and 59, for all trips made within the Glasgow City Council boundary**.

4.1.5.2 Identifying eligible pilot participants

Having established that the pilot should include Glasgow-based residents aged between 22 and 59 years, this provides a potential pilot population pool of 372,000 people. This will still produce a significantly large cost for a pilot. Again, using just one week's worth of free public transport using the Zonecard for this population would cost **£7.6m.** Therefore, there is a requirement to reduce the potential pilot population size further, to a more manageable and financially feasible number of participants.

Five potential options for reducing the population pool have been identified and analysed.

Option A: Spatial Area

This approach would involve selecting a specific area within Glasgow and include all residents in this geography. The selection process could be determined by a range of characteristics – such as an equal distribution of levels of car and non-car access, or low and high levels of deprivation, or a variety of other indicators / metrics.

As with any option there are both benefits and challenges associated with the selection of this approach.

Benefits	Challenges
● It is a focused area / community, which would make engagement easier and provide a concentrated area in which to calculate benefits of the pilot. ● This option would encompass a range of socio-economic backgrounds and circumstances.	● Potential that there is a small number of public transport operators in an area, and therefore, could introduce unintended consequences such as penalising bus operators if there is a modal shift to rail in the area.

Benefits (cont.)	Challenges (cont.)
● This option would include a wide range of public transport availability – the example above includes rail and bus travel. ● Can use local community groups / councils to promote the pilot and participation in the pilot. ● Smaller area in which to market / promote the pilot (leaflet drops / posters etc).	● Challenging to identify the right spatial area which represents the broad range of characteristics required and provide a sample size big enough to be statistically significant. ● Potential for areas that meet the criteria to already contain a high public transport mode share.

Option B: Targeted Population

This option would look to target a specific population group to participate in the pilot to measure the benefit and wider impacts of providing this group with access to free public transport, for example job seekers. As of March 2023, there were just under 18,000 residents in Glasgow in receipt of job seekers support.

The benefits and challenges associated with this option are as follows:

Benefits	Challenges
● Focused approach to a certain population, which will help inform the calculation of benefits and impacts. ● Sample size is more manageable than other options. ● Broad range of perspectives across the city to inform the evaluation process – different modal choices, frequencies, operators, journey times and levels of connectivity.	● Number of and frequency of trips made might not be reflective of wider population. ● Journey purposes may not be reflective of general use of public transport. ● There could be less of an impact on modal shift, particularly those from car.

Option C: Destination or Employment based

There are several large single-site employment locations within Glasgow which have a significant number of employees and in most cases high car mode share. This approach would require targeting one of these locations to monitor travel behaviour changes because of having access to the pilot. An example of this could be targeting the Queen Elizabeth University Hospital Campus where approximately 17,000 employees are based. The pilot could focus on providing free public transport to all or a proportion of these employees.

The benefits and challenges associated with this option are as follows:

Benefits	Challenges
● Focused approach to a certain population and location, which will help inform the calculation of benefits and impacts.	● Number of the staff at the hospital that are also residents of Glasgow – are there enough to be statistically significant.
● Promotion of the pilot and participation will be easier to manage – collaboration with the hospital using their travel planner, posters, staff roll-calls.	● Shift patterns and availability of public transport to match these shift patterns.
● Can help address other ongoing issues at the hospital in terms of parking.	● Shift patterns of staff may not be representative of wider travel behaviours and frequency (impact of night shift / weekend working).
● Could stimulate future demand for PT at the hospital, leading to discussions on longer-term servicing of the hospital.	● Lack of public transport options from some areas of Glasgow to the hospital without requiring interchange.
● Broad range of perspectives from staff members from across the city – differing service provision, travel	options, journey times, interchanges, etc.

Option D: Socio-Demographics / Socio-Economic Indicators

This approach would use indicators or metrics to highlight populations for inclusion within the pilot that represent a variety of socio-economic characteristics across the city. An example of this approach could be selecting a percentage of participants from each SIMD category (1-10) that have poor public transport connectivity and then likewise for those with good public transport connectivity. This method would then ensure that a percentage of the population is included across each SIMD decile with corresponding good and bad PT connectivity. Using this approach, a proportion of these areas would be included within the pilot, either by selecting one of these locations, or sampling a certain number of people across each area highlighted.

Benefits	**Challenges**
• This option would provide a city-wide sample (representative of both geography and demography) and is the most scientific approach. • Would include representation across all ranges of socio-economic status and levels of public transport connectivity. • Provides a greater level of analysis of travel behaviours and public transport provision – comparison between levels of deprivation and public transport provision (does provision relate directly to levels of deprivation).	• This option is most likely the most challenging to implement. • Engagement and promotion of the pilot would need to be wide ranging, and it will be difficult to get participants involved and engaged. • Cost of promotion would be more than the other options – maybe a requirement for radio adverts, website promotion to check eligibility, leaflet drops. • Difficult to determine the cut-off on the number of participants and where these apply (geography controlled). • Would require significant GCC human resources to manage and operate throughout the pilot.

Option E: Pathfinder Project + Public Sample

The final option is a variant of the targeted approach outlined earlier, however, with the inclusion of a specific project population. GCC currently manage and maintain a number of 'pathfinder' projects which seek to support various groups across the city, for example supporting single parents with access to childcare. This option would look to construct a pilot population through including one of these GCC operated pathfinder projects, which would reflect groups suffering from a form of social inequality, in addition to then supplementing this group with a number of wider residents of Glasgow who are not in one of these projects but reflect characteristics such as high car use for example.

For the purposes of this exercise, this could include a similar sized sample within each population group providing an equal representation.

Benefits	**Challenges**
• Would provide a representation across both key research areas. • Easier to engage with pathfinder project participants through existing contacts. • More manageable sample size. • City-wide sample which reflects various public transport options available and socio-economic backgrounds. • Sample would provide a focused group in which to evaluate the impacts of the pilot.	• Ensuring a statistically significant sample size from the pathfinder project groups. • Identifying the other participants will likely involve the need of a market research company. • Some behaviours may not be representative of wider public transport usage.

Pilot Population Summary

At this stage it is recommended to undertake an assessment of duration and cost before looking to determine the appropriate option for population selection.

4.1.6　Step 6: What should the duration of the pilot be?

Ideally, the pilot would operate for a sufficient period that affords the collation of a rich source of data to inform the monitoring and evaluation process and subsequent decision-making on the back of these outcomes. However, available budget is likely to dictate what the duration of a pilot should be. A benefit of the Zonecard is that tickets receive greater levels of discount if taken over a longer period. For example, purchasing an annual ticket for two zones costs £815,

whereas buying 52 weekly tickets for two zones would cost £1,086, £271 more than the annual price.

It is also important to be cognisant that a pilot of this nature is unlikely to witness any long-term change in travel behaviours due to its inferred lack of permanency. The removal of the restrictions of off-peak fares by Transport Scotland is a six-month pilot project. Adopting a similar timescale on this project would cost[10] either £473 per person, £493 per person or £543 per person depending on the combination of ticket types purchased (1 week / 4 week / 10 week). This could see the cost of the pilot increase significantly and if this **was offered to all 372,000 residents, would cost £175.9m for six months**.

Having discussed the implications of duration on budget with Glasgow Council and taking cognisance of the likely short-run responses associated with a pilot, **a decision was made to consider a nine-week pilot period consisting of two blocks of four weeks and a further one-week evaluation period**. This would provide a cost of **£171 per person**[11].

4.1.7   Step 7: Costings

A costing model has been developed to calculate the estimated cost of operating the pilot in Glasgow. To arrive at these estimates, there are several parameters to consider:

- **Uptake rate** – While a population sample can be identified, it may be unlikely that everyone would take part in the pilot. We have, therefore, identified five uptake rate values to be used in the costing exercise. **68%** has been identified as average uptake rate on comparable studies in Scandinavia and the concessionary fare schemes. The remaining rates are used as sensitivity

values to provide a broad cost envelope, these are 25%, 50%, 75% and 100%

- **Duration** – As discussed, to provide a timescale long enough for some travel behaviours to become "bedded in" and to act as prompt for continued involvement in the pilot through survey completion as part of the monitoring and engagement exercise, a **nine-week period** has been selected.
- **Ticket Costs** – Costs of the new Zonecard are yet to be published at the date of reporting, with discussions with SPT pointing towards increases in line with inflation[12]. This has been applied at **14% based on RPI** uplifting costs from 2019 to 2023[13]. Additionally, a **£2 flat card fee** has been included for the purchase of a physical Smartcard.
- **Back office** – Difficult to quantify at this stage in the process as this would require knowledge of Glasgow City Council staff resourcing and any implications for SPT.

Applying each of the five options for selecting pilot participants, in combination with the parameters listed opposite, the following table and charts provide the estimated costs of operating a pilot of free public transport. The values are provided across five distinct variables:

- **Number of Pilot Participants** – this includes the total number of pilot participants at the 68% uptake rate. The numbers presented in the () indicates what % this number is of all people in Glasgow aged between 22 and 59. Illustrative samples have been selected using a variable under each option.
- **Smartcard Cost** – the total cost of purchasing a Smartcard for all pilot participants.
- **Total Ticket Option Cost** – the total cost of the ticket product for eight weeks' worth of travel

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[10] Based on 2019 prices
[11] Based on 2019 prices

[12] Zonecard prices have been frozen since 2019
[13] Zonecard prices have been frozen since 2019.

- **Evaluation Cost** – the total cost of the additional one week worth of travel provided for completing the final survey.
- **Total Cost** – the total cost of the option including all costs indicated above.
- ***Note that these costs do not include back-office costs to GCC, SPT and other transactional costs***

Table 4-2: Potential Pilot Option Costs

Option	Description	No. of Pilot Participants	Smartcard Cost (2023 Prices)	Total Option Cost (2023 Prices)	Evaluation Cost (2023 Prices)	Total Cost (2023 Prices)
Option A	Spatial Area	25,784 (6.9% of 22-59)	£52k	£5.9m	£0.8m	**£6.7m**
Option B	Targeted Population	12,077 (3.2% of 22-59)	£24k	£2.7m	£0.3m	**£3.1m**
Option C	Employment Based	11,560 (3.1% of 22-59)	£23k	£2.6m	£0.3m	**£3.0m**
Option D	Socio-Demographics / Socio-Economic Indicators	26,048 (7.0% of 22-59)	£52k	£5.9m	£0.8m	**£6.8m**
Option E	Pathfinder Project + Public Sample	1,000 (0.3% of 22-59)	£2k	£0.2m	£0.03m	**£0.2m**

The graph opposite highlights the broad cost envelope of each option based on the sensitivity uptake rates. As can be seen in the graph both the *Spatial Option (Option A)* and *Socio-Economic Option (Option D)* are highly sensitive to changes in uptake rate, with just a 50% uptake rate (yellow square) costing more than the top-end of the other options. **Option E**, using a Glasgow City Council pathfinder project supplemented with a public sample has the lowest costs. However, this is **due to the much lower population sample** than the other options. The final numbers presented below highlight the cost to GCC of running the pilot for everyone in Glasgow aged 22-59, i.e., not taking forward any of the options noted above. As can be seen, **to provide everyone in this demographic group with free public transport for nine weeks, is estimated to cost approximately £95.7m** <u>excluding back office and admin costs</u>.

Figure 4-2: Option Cost Envelopes
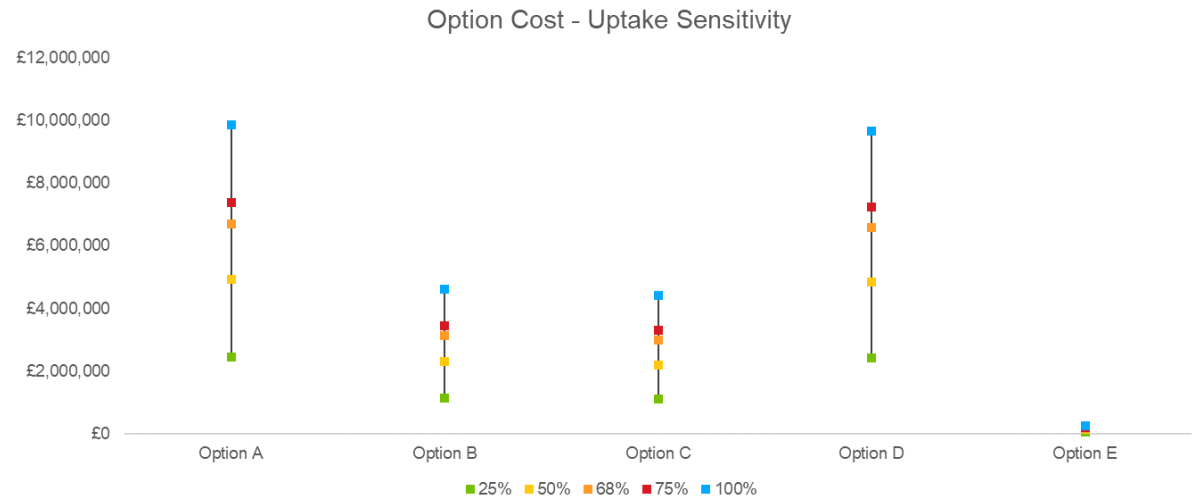
Table 4-3: Cost of providing Free PT to all between 22-59

Option	Description	No. of Pilot Participants	Smartcard Cost (2023 Prices)	Total Option Cost (2023 Prices)	Evaluation Cost (2023 Prices)	Total Cost (2023 Prices)
Full	Everyone (22-59) – 100% uptake	372,117 (100% of 22-59)	£0.7m	£85.5m	£10.2m	**£95.7m**
Full	Everyone (22-59) – 68% uptake	253,040 (68% of 22-59)	£0.5m	£58.1m	£6.9m	**£65.1m**

4.1.8   Step 7: What is the Preferred Option?

Having discussed and presented the various options to GCC and elected members, it was decided that the most feasible and beneficial option for GCC is to select **Option E Pathfinder project + Public sample** and include **1,000** participants in the pilot. This decision has been made on the basis of:

- Uncertainty over securing funding for a pilot or larger roll-out of the pilot.
- 1,000 participants provide a more manageable sample size both in terms of management of the pilot and through engagement (surveys, questions, helpline etc).
- The participant group would be split to include 500 participants from the pathfinder project and 500 participants from the public.
- The split between the groups provides a good mix of socio-economic backgrounds, diversity, and experiences across Glasgow.
- SPT believe 1,000 participants is the maximum population size for deploying the pilot from their resource perspective. Going above this figure would have both resource and cost implications and could potentially require additional staff.
- 1,000 participants are also the maximum size of participants before having an adverse impact on public transport operators in terms of lost revenue.

This selection is further validated when comparing each of the options against the multiple criteria established for the pilot. While each of the five options perform positively across most of the criteria, to varying degrees of success, ultimately **Option E performs strongest** against the affordability criteria.

Table 4-4: Pilot population Options vs Criteria Framework

Criteria	Option A – Spatial Area	Option B – Targeted	Option C – Destination / Workplace	Option D – Socio-Demographic / Socio-Economic	Option E – Pathfinder Project + Population
C1: The pilot should be universal	✓	✓	✓	✓	✓
C2: The pilot should be multi-modal	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
C3: The pilot should include a mix of car and non-car owning households	✓✓	✓✓	✓✓	✓✓	✓✓
C4: The pilot should remove existing barriers to mobility	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
C5: The pilot solution should be technology based	○	○	○	○	○
C6: The pilot should operate for a sufficient period of time	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
C7: The pilot should look include a representative sample across the diverse geography of Glasgow	✓✓✓	✓✓	✓	✓✓✓	✓✓✓
C8: The pilot should look to minimise unintended consequences	○	○	○	○	○
C9: The pilot should be affordable	✗✗✗	✗✗	✗✗	✗✗✗	✓✓

4.1.8.1   What are the risks and uncertainties of this option?

The list below outlines several risks which could potentially impact the feasibility and deliverability of the pilot.

- Zonecard related risks:
  - Issues with the launch of the Zonecard and this is put back beyond timeline for pilot.
  - New Zonecard product does not perform as expected and is withdrawn / discontinued or replaced by alternative product.
  - Operator withdraws from Zonecard Forum.
  - SPT Forum reject the use of the product for the pilot.
  - Zonecard prices increase to a greater amount increasing the cost of the pilot beyond budget.
- The Transport Scotland Fair Fares Review indicates wider and holistic changes to fares, ticketing and policy before the pilot commences.
- Glasgow City Council does not secure funding for a pilot.
- Glasgow City Council does not secure support to operate the pilot.
- SMR fails to identify a representative sample population to participate.
- Pathfinder project does not have enough participants to join the pilot.
- Pathfinder project contains people who already hold a Zonecard.
- Low uptake rate in the pilot.
- Low usage levels.
- Low number of survey responses, premature end of pilot.
- Short-term responses / behaviour changes due to the short operational time of the pilot – i.e., there will be no longer term travel behaviour changes (sell car, move house, move job etc).
- Does not match ambition of initial brief for the pilot or that shown by the local campaign groups.

5.0   HOW WILL THE SUCCESS OF THE PILOT BE DETERMINED?

5.1.1   Monitoring and Evaluation

The purpose of monitoring and evaluation is to determine the success of an intervention to achieve project objectives and forms an essential part of the project lifecycle, demonstrating what has been achieved with public resources and providing evidence and learning points for future decision-making and investment. This process is split into two steps:

- **Monitoring** – is essentially the process of collating data and interpretation of the findings on the performance of intervention.
- **Evaluation** – is generally reserved for the post implementation of the intervention to identify whether the intervention is or has performed as originally intended.

A Monitoring and Evaluation Plan (M+E Plan) should be developed ahead of the introduction of any intervention and includes for the provision of how the outcomes of the intervention will be monitored and evaluated throughout the lifecycle of the intervention.

5.1.2   How could the pilot be monitored and evaluated?

The M+E Plan should set out how and when the metrics for the pilot will be captured and measured. Monitoring performance allows a measurement of whether a project has been successfully implemented or not. The evaluation of

the pilot will use information gathered for monitoring purposes but will also include data gathering and analysis that is specific to the evaluation practice itself. Evaluation is always carried out against any indicators / metrics that have been derived from the criteria and objectives. This will include (i) a 'process' evaluation at any early stage of the pilot to determine how well the pilot has been implemented and (ii) an 'outcome' evaluation which will be carried out once the pilot has been operating for a sufficient period as to provide information to compare actual performance against objectives and (iii) an 'impact' evaluation to determine whether the scheme offers value for money.

The need for free public transport in Glasgow has been defined by two policy objectives:

- Achieving Glasgow's Net Zero Carbon ambitions
- Reducing socio-economic inequalities prevalent within Glasgow by improving access to opportunities of life

The indicators and metrics should be focused and targeted to enable an assessment of the pilot in contributing towards these objectives. The M+E plan will be built around these objectives, establishing various metrics that can be assigned to each one.

There is a significant caveat in that the monitoring and evaluation process will only capture **'short-run' responses** and changes in travel behaviour due to the limited duration of the pilot. It is unlikely that this pilot would deliver the full range of potential travel behaviour changes in its current form as people are less likely to change their long-term behaviours based on a short trial[14].

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[14] People are unlikely to sell their car, move home or job, continue to make new trips based on pilot process.

6.0   THE PILOT AND ROUTE TO DELIVERY

6.1.1   The Pilot Proposal

The pilot for free public transport can be defined as follows.

Proposal:	Free Public Transport
Modes:	Bus, Rail and Subway
Geography:	Glasgow City Council Boundary
Duration:	Nine Weeks: • Initial four-week period. • Second four-week period. • Final one week period.
Demographics:	Restricted to those aged 22 to 59 and not already in receipt of a NEC card.
Pilot Population:	1,000 Participants consisting of: • 500 members of the public to be selected by a market research company. • 500 members from a spread of Pathfinder projects managed by GCC (Single Parent, Job Seekers etc).
Delivery Mechanism:	SPT Smartcard Zonecard
Geography of Travel:	Limited to journeys within Glasgow City Council area as defined by SPT Zones 1 and 2.
Qualifying Criteria:	Participation in and completion of, travel survey after weeks 4 and 8.
Working Partnerships:	SPT, SPT Zonecard Forum
Travel Survey Deployment:	Two online surveys. Survey questions provided in Appendix to Detailed Report. Paper versions to be made available on request.
Estimated Budget:	£250,000 (excluding back-office and administration fees)

The **Proposal** is to manage and operate a pilot project providing 1,000 residents of the City of Glasgow, aged between 22 and 59 years, access to free public transport for a nine-week duration. These participants will be sourced from the public (500) identified by engaging with a market research company and a range of qualifying criteria (car and non-car ownership, live and work in Glasgow) and 500 members from a range of Pathfinder projects operated by GCC. The team overseeing these pathfinder projects can provide a pool of participants across each of their programmes to provide a wide and diverse representation of the population of Glasgow.

Working in partnership with SPT and the SPT Zonecard forum, 1,000 Zonecard smartcards (herein Zonecards) will be purchased by GCC and distributed to pilot participants. The Zonecards will be preloaded with an initial four weeks' worth of travel, providing unlimited access to all modes of public transport in Glasgow and more specifically contained within zones 1 and 2.

Subject to completion of a travel survey after the initial four-week period, pilot participants will be provided with a further four weeks' worth of travel, activated remotely by SPT. Upon completion of a further survey after this second four-week period, pilot participants will be rewarded with a final one week worth of free travel.

Zonecard usage data during the pilot, in addition to the responses from both travel surveys, will be used to inform the evaluation of the pilot, and subsequently feed into wider decision-making on the future of public transport within Glasgow.

6.1.2   Pilot Delivery Route-map

6.1.2.1   Preparatory Phase

Pre-Pilot Preparations

Phase 1: Project Management and Set-up

This phase should take approximately **one month** to complete.

Weeks 1-2:

- **Task 1 –** Identify key stakeholders and establish a pilot project team
  - As the pilot sponsor, GCC would be responsible for assembling a project team to manage the pilot throughout its lifecycle. This would include stakeholders including;
    - GCC officers (relevant departments) – manage and provide support throughout the project.
    - SPT Zonecard and Subway Team – technical support and guidance. Also, to provide public transport operator representation.
    - Transport Scotland – provide overarching support and guidance. Information share with regards to Fair Fares Review and Rail schemes.
    - ScotRail – provide technical support and guidance with the railway. Provide information on validation of Smartcards.
    - Chair of Glasgow Bus Alliance and Glasgow Bus Partnership – feed back on views and concerns of operators / passengers.
    - If appropriate, external consultancy support – provide project support, survey support and analysis.
  - Each of these various team members will provide information and insight to ensure the pilot operates as intended and challenges mitigated.

- Discussions on data privacy and management – GDPR compliance and sign NDAs on data sharing between pilot project team.
- Appoint GCC Pilot Project Manager to oversee day-to-day running of the pilot. It is likely the PM will need support of at least two further staff members to assist in the overseeing of the pilot. The PM should take responsibility for overseeing the delivery of each subsequent task and sub-task. Where appropriate source external support to undertake elements of the pilot development / deployment / ongoing monitoring and evaluation. The task list below can be adapted to form a brief to go to tender.

- **Task 2 –** Define and confirm project goals, objectives and success criteria
  - GCC should clearly define and confirm the overall goals, objectives and criteria to measure the success of the pilot. These should be agreed with the pilot project sponsors and will be used to inform the monitoring and evaluation of the pilot. Examples of each of these could be:
    - **Pilot Goals:** To assess the feasibility and impact of providing free public transport in Glasgow.
    - **Pilot Objectives:** To evaluate the effects on transport usage, patronage, modal shift, environmental impacts and impacts of residents' quality of life.
    - **Success Criteria:** Increased public transport usage, positive feedback from pilot participants, reduced car use, improved accessibility, improved connectivity, wider societal benefits.

- **Task 3 –** Establish budget and secure necessary funding
  - Confirm the estimated budget to operate the pilot for the nine-week period, including:
    - With SPT: cost of physical Smartcards and two zone ticket products
    - Internal GCC: marketing costs, back-office costs, support line costs, staff costs, any costs associated with distributing and printing surveys,

further data analysis (Smartcard use, secondary data), project management and staff resources.

– Secure the necessary funds from sponsors within GCC to ensure a swift exchange between GCC and SPT.

– Agree with SPT Zonecard Team payment terms and conditions.

● **Task 4 –** Develop Communication Plan

– GCC Pilot PM to develop a communication plan to engage with key stakeholders and pilot participants for the lifecycle of the pilot.

– This should clearly record who to engage with, lines of communication and key personnel responsible for the engagement process.

– The plan should also communicate the parameters of the pilot, including the anticipated benefits, eligibility criteria and ongoing qualification for participation.

● **Task 5 –** Confirm Pathfinder Group Participants

– Confirm with various pathfinder project managers, the number of participants, details of participants and lines of communication.

– Review selection criteria to ensure pathfinder group participants provide a diverse range of perspectives from across the city.

– Make initial communication with participants to raise awareness of likely start dart of pilot and to confirm their participation in the pilot. Respective pathfinder PMs to advise on best communication methods.

● **Task 6 –** Identify General Public Group Participants

– Engage Social Market Research (SMR) company to identify potential participants from the wider public in Glasgow. Companies such as Intellisurvey have access to large databases of customers to participate in surveys, trials and pilots.

– Agree the criteria of participants to ensure they represent a range of ages, residency status, occupation, car ownership, income bands etc. GCC Pilot PM to provide specification to SMR.

– Authorise SMR to contact and engage with potential participants and on that basis enrol 500 participants.

Week 3-4:

● **Task 7 –** Establish partnerships and agreements

– Collaborate with SPT to ensure the availability of Smartcards and technical support for the pilot project.

– Establish agreements with relevant stakeholders, such as public transport operators, to ensure the necessary infrastructure and support is in place for the period of the pilot. This should include points of contact for both GCC and operators. A contacts register should be created and maintained.

– Confirm data sharing agreements for the purpose of monitoring and evaluation. This agreement should be between GCC, SPT and public transport operators to ensure access to Smartcard information for the pilot, for pilot participants only.

● **Task 8 –** Prepare data collection and evaluation framework

– Review preprepared surveys to ensure they are still fit for purpose, in addition to other feedback mechanisms to gather data on participants' experiences, usage patterns and perceptions of public transport.

– Appoint consultant or SMR to undertake survey production and associated analysis if appropriate.

– Set up a process to collate and analyse survey responses throughout the pilot, ensuring data privacy and security.

– Prepare framework structure for effective and efficient visualisation of survey responses. A test survey could be completed by GCC member to

identify format of data outputs to assist in the development of a process – PowerBi dashboard for example.

– Produce a process for working with HOPS data which will present Smartcard usage data. Speak to SPT to confirm data format and content to ensure process is developed to make best use of the data provided. This could be integrated into the PowerBi dashboard to provide an overarching monitoring and evaluation data report.

– Establish secondary data sources to measure the impact on other modes and any unintended consequences. This should include consideration of cycling data, pedestrian footfalls, traffic counts, journey time analysis and PT journey time reliability data.

– Review metrics designed as part of the monitoring and evaluation plan to ensure appropriate data sources and analysis from the dashboards.

● **Task 9 –** Kick-off meeting

– Inception meeting between pilot project team to review and approve the outputs from the above tasks and to once again confirm the objectives, roles, governance and responsibilities of each party throughout the pilot lifecycle.

– Further review of project timescales, budget allocation and reimbursement procedures, and approval of communication plan.

– Establish a regular team meeting schedule for the period of the pilot, every two weeks. This meeting should be used as the mechanism to monitor progress of the pilot, mitigate risks, address any challenges / issues that have arisen and ensure continued effective coordination of the pilot.

Phase 2: Zonecard distribution

This phase should be scheduled for the week before pilot launch and take **two weeks**.

Weeks 5-6:

● **Task 10 –** Purchase SPT Zonecards

– Agree payment terms with SPT for the purchase of 1,000 Zonecards, preloaded with four weeks worth of travel availability for Glasgow City Zones only[15].

– Receive Zonecards from SPT and create a log of all unique Zonecard ID numbers.

– Assign each Zonecard against each participant in the pilot, logging contact details and unique Zonecard number. This will be used for monitoring and evaluation and for checking validity of survey responses.

● **Task 11 –** Distribute SPT Zonecards and Pilot Instructions

– Coordinate the distribution of each Zonecard to each individual member of the pilot. This will likely require the posting of Zonecards to participants home or arrange a specific pick-up location for those who would rather that approach.

– Develop user-friendly guides and materials explaining how to use the Smartcard throughout the period of the pilot. This should include the rules of participating in the pilot and the requirement to participate in the survey process to assist in the monitoring and evaluation of the pilot.

– If required provide orientation sessions or provide online tutorials to familiarise participants with the use of Smartcards on Glasgow's public transport network. This would be particularly beneficial for those who have not used PT before or Smartcards.

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[15] These zones numbers to be confirmed upon the publication of the new SPT Zonecard map.

  – Confirm communication channels with all participants in the circumstance that there is an issue with the Smartcard (technical fault, loss, damage) and any other challenges / questions that may arise. This may involve a dedicated helpline or specific support channel within GCC.

6.1.2.2 Pilot Phase

Pilot Operation

Phase 1: Initial four weeks

This phase will last four weeks and is the initial travel period within which participants can travel for free across Glasgow.

Weeks 7-10:

- **Task 12 –** Pilot Kick-off
  – Launch the pilot project and officially begin the use of the free public transport for all 1,000 participants in the pilot.
  – Provide ongoing communication to participants regarding any updates, changes or additional instructions as the pilot progresses.
  – Monitor support channels to identify any reports of issues or difficulties faced by the pilot participants.
  – Monitor communication channels between pilot partners to identify any issues faced by operators, infrastructure, capacity, service interruptions.
  – Assign a dedicated team to address technical or operational issues, in line with roles and responsibilities, to promptly address any issues and provide any further support to pilot participants or operators.

- **Task 13 –** Ongoing monitoring
  – Monitor and track Smartcard usage by participants. Analysis of data on usage including frequency of travel, routes travelled, modes used and times of day of travel.
  – Review other secondary data sources to determine any unintended impacts on other modes such as walking and cycling. Assess traffic count data to determine any changes in flows (likely to be marginal due to scale of pilot).

- **Task 14 –** Initial Project Team Meeting
  – Hold a pilot project team meeting in week 5 to review current progress and operation of the pilot, evaluate any challenges or opportunities and make adjustments to monitoring and evaluating criteria where necessary.
  – Identify any emerging issues, lessons learned and potential improvements ahead of the second four-week phase of the pilot.

- **Task 15 –** Initial Feedback Survey
  – In week 7 distribute link to online survey[16] to all participants to collect feedback on their experiences, travel behaviours and impact of free public transport on their daily lives to date.
  – Hold further project team meeting to discuss any further issues or to assign / agree actions.

Phase 2: Initial Travel Survey

This phase should take a week to complete.

Week 11:

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[16] Provide paper copies for those who request

- **Task 16 –** Analyse Survey Data
  - Check survey response rate against pilot participant IDs to determine those who have completed the survey.
  - Follow up with those who have not yet completed the survey to encourage them to do so and highlight that a response is required for continued participation within the pilot.
  - Collect and collate survey responses for quantitative and qualitative analysis.
  - Identify common themes and patterns in responses, and where possible identify any improvements for future engagement as part of the pilot process.
  - Evaluate the impact of the pilot on public transport use and participants travel behaviours.
  - Analyse the data collected against monitoring and evaluation metrics to determine the effectiveness of the pilot to date against the goal and objectives of the pilot.
  - Compare responses on pre-pilot travel behaviours against pilot travel behaviours.
  - Where possible compare survey responses against Smartcard usage to determine the validity of responses.
  - Schedule / arrange focus groups to gather further insights / feedback from participants where required to support the monitoring and evaluation process.
  - Produce initial reporting to date on pilot progress to share with project sponsors and pilot partners.

Phase 3: Second four weeks

This phase should last four weeks and cover the second travel period covered within the pilot.

Weeks 11-14:

- **Task 17 –** Implement any Changes / Improvements
  - Make any changes to the pilot participant group based on survey response rate. Remove those from the pilot who elected not to continue.
  - Arrange the next four weeks' worth of travel to be added to each of the remaining Smartcards of pilot participants who have remained in the pilot with SPT.
  - Arrange payment for tickets to SPT.
  - Initiate any further improvements or changes identified through the initial phase of the pilot, including addressing any common issues faced by participants.
  - Engage with key stakeholders to ascertain any issues or comment on the pilot to date.

- **Task 18 –** Conduct Project Team Meeting
  - Hold next team meeting to discuss any ongoing issues, comment on progress of the pilot and provide pilot updates. Adjust any strategies as required.
  - Discuss the effectiveness of any implemented improvements identified from initial meetings and surveys. Identify any other areas that need further attention.

- **Task 19 -** Continued Monitoring
  - Continued monitoring of Smartcard data on patronage and usage.
  - Further analysis of secondary data.
  - Review communication channels and address any ongoing issues experienced or recorded.
  - Conduct Focus Groups

● **Task 20 –** Second Survey Distribution
  – Issue second travel survey to pilot participants. Again, this would be an online survey with paper copies available on request.
  – This survey should be reviewed in line with any previous feedback from pilot participants to ensure it incorporates any changes that can / should be implemented.

Phase 4: Second Survey and Reporting

This phase should take approximately four weeks to complete and involves analysis of the second survey and reporting on the pilot.

Weeks: 15-18

● **Task 21 –** Analyse Survey
  – Check survey response rate against pilot participant IDs to determine those who have completed the survey.
  – Follow up with those who have not yet completed the survey to encourage them to do so and highlight that a response is required for reward of further weeks' worth of travel.
  – Collect and collate survey responses for quantitative and qualitative analysis.
  – Identify common themes and patterns in responses, and where possible identify any improvements for future engagement as part of the pilot process.
  – Evaluate the impact of the pilot on public transport use and participants travel behaviours.
  – Analyse the data collected against monitoring and evaluation metrics to determine the effectiveness of the pilot to date against the goal and objectives of the pilot.

– Compare responses on pre-pilot travel behaviours, initial phase of pilot and second phase of pilot travel behaviours.
– Where possible compare survey responses against Smartcard usage to determine the validity of responses.
– Schedule / arrange focus groups to gather further insights / feedback from participants where required to support the monitoring and evaluation process.

● **Task 22 –** Analyse All Data
  – Analyse the data collected throughout the pilot project to evaluate its success and potential for informing future decisions on expansion / further roll-out.
  – This should include in depth analysis of Smartcard usage against key metrics identified in the Monitoring and Evaluation Plan.
  – Drawing down on conclusions from the public surveys to determine the impact of peoples' everyday lives.
  – Measure the impact of the pilot project on public transport usage, traffic congestion, residents' commuting patterns, travel patterns across the city and overall satisfaction and opinion on public transport.
  – Consider the feedback and insights provided by participants throughout the pilot project to assess the success, including value for money, and potential for expanding the initiative wider, especially the wider societal benefits of the pilot.

● **Task 23 –** Reporting
  – Prepare a comprehensive report summarising the findings of the pilot including recommendations for future discussions / implementation. The reporting should include:
    ○ A summary of the data analysis, drawing out the insights obtained from the pilot and the data collected and analysed.

- ○ Provide recommendations based on the evaluation of the pilot project, addressing areas for improvement, potential challenges, and opportunities for future implementation.
- ○ Insights on the feasibility of scaling up the initiative and considerations for the financial, operational, and logistical aspects of expanding the pilot.
- ○ Consider the costs associated with providing free public transport to a larger population, potential revenue sources, and overall budgetary and value for money impacts.
- ○ Consider the impact on public transport operators of providing free public transport over a longer period and larger population base, including reimbursement mechanisms.
- ○ Evaluation of the capacity of the public transport network in Glasgow to accommodate increased patronage and the necessary infrastructure upgrades or adjustments required to facilitate the movement of a larger population group.

- **Task 24 –** Report Findings
  - – Present the report findings to key stakeholders and assess feedback.
  - – Share the report with GCC, elected members, SPT, public transport operators and other relevant stakeholders involved in the pilot project.
  - – Present the findings, recommendations, and potential next steps to gather input, insights and support for future implementation of free public transport in Glasgow or the need for further studies.

6.1.2.3 Post Pilot Phase

Pilot End Phase

Phase 1: Post Pilot Engagement

<u>**Week 15:**</u>

- **Task 25 –** Pilot Participant Reward
  - – Reward those participants that have responded to each survey throughout the pilot with a final week of free public transport.
  - – Arrange the tickets to be added to those Smartcards that are valid for the reward.
  - – Arrange payment to SPT.

<u>**Weeks 19-20:**</u>

- **Task 26 –** Post-Pilot Engagement
  - – Follow up with those who indicated that they would be willing to engage further to determine any changes in travel behaviours since the end of the pilot. This should include consideration of:
    - ○ Have they continued using public transport?
    - ○ Have they switched from another mode?
    - ○ Have they increased the amount of travel that they undertake?
    - ○ Have they gone back to their previous travel behaviours?
    - ○ What has caused them to return to their old behaviours?
  - – Collate responses and produce a short summary note on the findings of this follow-on engagement to feed into the decision-making process on the future expansion of free public transport in Glasgow.

	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20
Pre-Pilot Preparations																				
Phase 1: Project Management and Set-up																				
Task 1: Identify Key Stakeholders and Project Team	■																			
Task 2: Define and confirm Pilot Goals, Objectives and Success Factors	■	■																		
Task 3: Establish Budget and secure funding	■	■																		
Task 4: Develop communication plan	■	■																		
Task 5: Confirm Pathfinder group participants	■	■																		
Task 6: Identify general public group participants	■	■																		
Task 7: Establish partnerships and agreements			■	■																
Task 8: Prepare data collection and evaluation framework			■	■																
Task 9: Kick-off meeting				■																
Phase 2: Zonecard Distribution																				
Task 10: Purchase SPT Zonecards					■	■														
Task 11: Distribute SPT Zonecards and Pilot instructions					■	■														
Pilot Phase																				
Phase 1: Initial Four Weeks																				
Task 12: Pilot kick-off							■													
Task 13: Ongoing monitoring							■	■	■	■										
Task 14: Initial Project team meeting								■												
Task 15: Initial feedback survey										■										
Phase 2: Initial Travel Survey																				
Task 16: Analyse survey data											■									
Phase 3: Second Four Weeks																				
Task 17: Implement changes / improvements											■									
Task 18: Conduct project team meeting												■								
Task 19: Continued monitoring											■	■	■	■						
Task 20: Second survey distribution														■						
Phase 4: Second Survey and Reporting																				
Task 21: Analyse survey															■	■				
Task 22: Analyse all data															■	■				
Task 23: Reporting																	■	■		
Task 24: Report findings																		■		
Post Pilot Phase																				
Phase 1: Post Pilot Engagement																				
Task 25: Pilot participant reward																■				
Task 26: Post-pilot engagement																			■	■