Miles better

Improving public transport in the Glasgow City Region

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About the partner

Get Glasgow Moving is a grassroots public transport campaign founded in 2016 by local people. Their objective is to help expand Greater Glasgow's economy, address inequality and social isolation, reduce toxic levels of air pollution and tackle climate change, by campaigning for a world-class, fully-integrated & accessible, publicly-owned & accountable, public transport network for everyone in the region.

This research was funded through the Smarter Choices, Smarter Places (SCSP) Open Fund managed by Paths4All. The fund aims to encourage people to change their everyday travel behaviours, help cut Scotland's carbon emissions and improve air quality. It will also help reverse the trend towards sedentary lifestyles and will tackle health inequalities.

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Executive summary

Glasgow accounts for 20 per cent of Scotland's economy. The underperformance of the city's economy relative to European peers is therefore an issue for both Scotland and the wider UK economy, making both economies £7 billion pounds smaller each year than they should be. It is for this reason that addressing this underperformance should be a priority for both local and Scottish government.

Transport is important for the functioning of a city economy because it links people to jobs. The more people it is able to connect, the more attractive a city becomes because of the greater choice it gives to both workers and businesses. Public transport is particularly important because transporting many people into areas with high concentrations of jobs, such as city centres, by private transport is impractical.

While Glasgow performs well in UK terms for how its public transport system links people to jobs, it doesn't do particularly well in comparison to large European cities. This is because the network doesn't reach as far as it could, and because there aren't many people living around public transport stops. This suggests that improving public transport is one of a number of interventions that should be prioritised to boost Glasgow's contribution to the Scottish economy.

There are two policies that can be introduced to improve Glasgow's public transport and help Glasgow reach its economic potential:

1. Invest in new transport infrastructure and densify around public transport stops to make the system more sustainable. Glasgow is doing some of the former with the Clyde Metro, but both approaches, while necessary, are long-term policies.
2. Improve the performance of the existing network by increasing the frequency of bus services and integrating transport modes. These are both more immediate ways to improve the system.

The introduction of the Transport Act 2019, coupled with Strathclyde Partnership for Transport (SPT) considering how it should be better resourced, and what powers it needs, present opportunities to improve the existing public transport system for Glasgow and its surrounding areas. This report models what the benefits could be through using the powers in the Transport Act to improve bus frequencies and integrate public transport modes, showing 300,000 people could be better connected to Glasgow city centre (the region's single largest area of employment) through making these more immediate improvements.

The Act opens up three ways to do this – through the franchising of bus services, through Bus Service Improvement Partnerships, and through the creation of municipally-owned bus companies. This report recommends bus franchising as the most effective way to boost both the frequency of bus services and their integration with other forms of public transport.

To do this, it recommends improving the public transport system in three phases:

- In the first phase (within the next 5 years), the Scottish Government supports SPT with funding and powers to establish and lead a franchised bus system. It should also provide funding for capital investment in public transport infrastructure.
- In the second phase (between 5 and 10 years), local leaders should put in place a combination of revenue-raising tools (for example, congestion charging, workplace parking levies or council tax precepts) to reduce the system's dependence on national government subsidy. A council tax precept or other broader tax intervention will require a change in the legal status of SPT.
- In the final phase (10 to 20 years), policymakers should look to bring commuter heavy rail lines into SPT's control alongside the future Clyde Metro. This would have two benefits: it would create an even more integrated system; and it would raise extra revenue to cross subsidise the network through the rental of commercial property in their associated train stations.

Bus deregulation in the UK since the 1980s is widely seen as a failure. The Transport Act in Scotland opens up the opportunity to reverse it. Given the importance of Glasgow to the Scottish economy, this legislation should be used to improve the coverage and performance of the transport network and should be backed with the resources to implement it effectively, with the goal of strengthening Glasgow's economic performance, better linking people to amenities in an area that has low car ownership, and reducing carbon and other transport-related emissions.

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Introduction

Public transport has become a much-discussed topic in UK policy. It is frequently presented as an important lever to achieve net zero carbon emissions, improve air quality and improve the economic performance of places. Reflecting this, there have been a number of local and national policy announcements in recent years designed to improve public transport networks.

Scotland and Glasgow are no exception. The Scottish Government has set out three main policies for public transport. First, it has set a target of reducing driving in Scotland by 20 per cent by 2030.[1] Second, it has passed the Scottish Transport Act 2019 that allows bus franchising, municipal bus provision and the creation of Bus Service Improvement Partnerships (BSIPs) – models that, if implemented, move away from the deregulated bus system currently in place across most of Britain (except London). And third, it identified the multi-billion-pound Clyde Metro project as a key investment priority that will expand rail infrastructure in and around Glasgow in the coming decades.[2] At the regional level, Strathclyde Partnership for Transport (SPT) is also considering its role in improving Glasgow's public transport network.[3]

There are three main reasons for Scottish policymakers to focus on improving public transport in Glasgow in particular. The first is that Glasgow's economy underperforms relative to cities of a similar size on the Continent and in the United States, meaning the Scottish and UK economies are £7 billion pounds smaller than they should be each year.[4] Centre for Cities estimates that the gap between how Glasgow currently performs and how it would if it was in line with international peers is akin to the size of the entire oil and gas industry in Scotland (4.6 per cent of Scottish GDP).[5] Public transport in particular is likely to play a role in this.

1 For further details, see: https://www.transport.gov.scot/publication/a-route-map-to-achieve-a-20-per-cent-reduction-in-car-kilometres-by-2030/

2 For further details, see: https://www.glasgow.gov.uk/index.aspx?articleid=26965

3 Strathclyde Partnership for Transport, A Call to Action: The Regional Transport Strategy for the west of Scotland 2023-2028

4 Swinney P (2021), So you want to level up? London: Centre for Cities

5 Swinney P, What levelling up should mean for Scotland, 20th October 2021

The second is that Glasgow has one of the lowest rates of car ownership in the UK: 41 per cent of households didn't own a car in the 2011 Census, well above Britain's average of 26 per cent. This makes the city more dependent on the performance of its public transport network.

Third, transport choices have environmental implications, with air pollution in particular being a problem in big cities like Glasgow compared to more rural neighbours.[6] Poor air quality and road-related injuries and deaths disproportionally affect the poorest in Glasgow, who are also the people least likely to drive.[7] Modal shift from cars to public transport is one way of reducing these outcomes.

The purpose of this report is to assess the current performance of the public transport network in and around Glasgow, what improvements could be made and how many more people these could connect to the transport network. Given the long timescales required to deliver big infrastructure projects like Clyde Metro, it looks at what can be improved more immediately. First, it analyses how well public transport in Glasgow performs in comparison with other large cities in the UK and abroad. Second, it models the potential connectivity gains from greater regulation of the network, by both improving existing routes and setting new ones. Finally, it analyses the necessary steps to improve and integrate public transport and sets out what this means for funding and local governance structures.

Box 1: Methodology

Definition of a city and region

This paper will focus almost entirely on Glasgow. Typically, the Centre for Cities classifies a city as its Primary Urban Area (PUA), using a measure of the built-up area of a large city or town, which spans beyond the Glasgow City local authority. As Glasgow and surrounding areas have different governance structures like the Glasgow City Region Cabinet (which manages the City Deal funding) and the Strathclyde Partnership for Transport (SPT), those areas will be used when appropriate (e.g. SPT-related discussions will use that geography). Table 1 shows the definitions and differences among them.

6 Centre for Cities (2020), Cities Outlook 2020, London: Centre for Cities

7 Massey-Chase, Frost S, Ranking L and Murphy L (2022), Fairly Reducing Car Use in Scottish Cities: A just transition for transport for low-income households, Edinburgh: IPPR Scotland

Table 1: Geographies used in this report

Region	Local authorities	Population, million (2021)	GVA, £ billion (2021)
Glasgow City Council	Glasgow City	0.6	22.3
Glasgow Primary Urban Area (PUA)	Includes the above and East Dunbartonshire, Renfrewshire and East Renfrewshire	1.0	28.8
Glasgow City Region	Includes the above and Inverclyde, North Lanarkshire, South Lanarkshire and West Dunbartonshire	1.8	46.2
Strathclyde Region	Includes the above and South Ayrshire, East Ayrshire, North Ayrshire and part of Argyll and Bute	2.2	54.8

Source: ONS.
For domestic and international comparisons, the PUA definition of Glasgow will be used. When suitable and possible, data will be provided for the three geographical units. The transport metrics are based on actual connectivity (e.g. total number of people who can reach a specific point) so no specific geography is taken into consideration. The term 'Glasgow and surrounding local authorities' is used interchangeably across geographies, unless otherwise stated.

Data used for this research

This paper uses several public datasets. Public transport connectivity is from appendix tables of Conwell, Eckert and Mobarak (2022).[8] Commuting take-ups by mode of transport and car ownership data are from the Scottish Census 2011. Data on economic performance are from ONS' Subregional productivity: labour productivity indices by local authority district. Population data at the local authority level are provided by the ONS and data on international peers are taken from the Eurostat's Urban Audit database.

Modelling section – definition of urban core

This paper includes a modelling section to estimate the potential gains of public transport integration. The modelling will focus on accessibility to 'Glasgow's urban core' where jobs and services are concentrated (see Figure 5 for further details). There are around 230,000 jobs in Glasgow's urban core: 22.9 per cent of all jobs (on 0.2 per cent of the land) in the 12 local authorities that are part of SPT.

8 Conwell, Eckert and Mobarak (2022), More Roads or Public Transit? Insights from Measuring City-Center Accessibility, Yale University: EGC Discussion Paper

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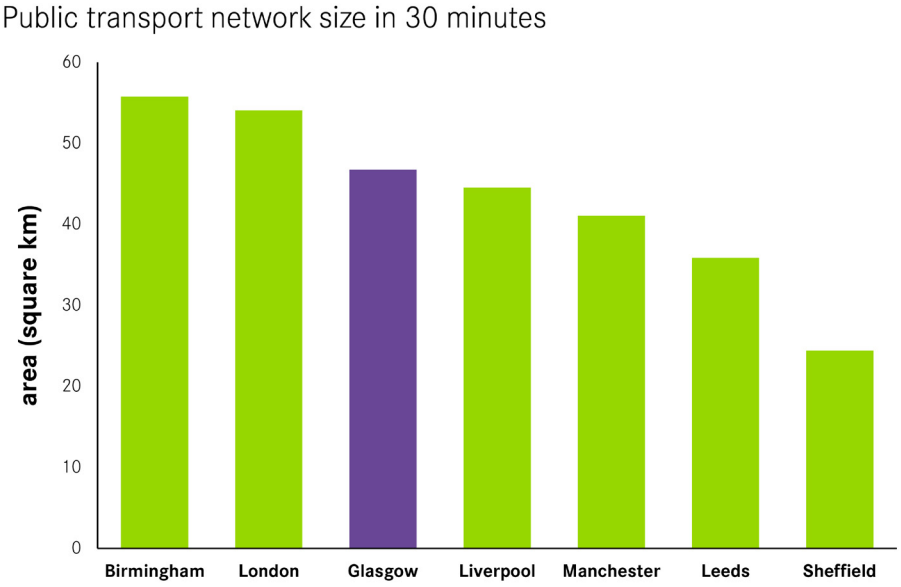
How Glasgow's public transport network performs today and what can be improved

There are three main factors that determine how well public transport connects people in a place: its coverage, the density of development across its catchment area, and the integration of services within it. This section assesses how well Glasgow performs on these metrics compared to UK and European peers.

Glasgow's public transport network is relatively large in the UK context but it underperforms in an international context

When comparing Glasgow to other UK cities, its public transport network comes out favourably. Its greater range of modes – a more extensive heavy rail system and a subway system in addition to its bus network – sets it apart from most other big cities. This is likely to explain why only Birmingham and London have networks that cover a greater area (measured by the distance that can be covered in 30 minutes from the city centre) than Glasgow (see Figure 1).

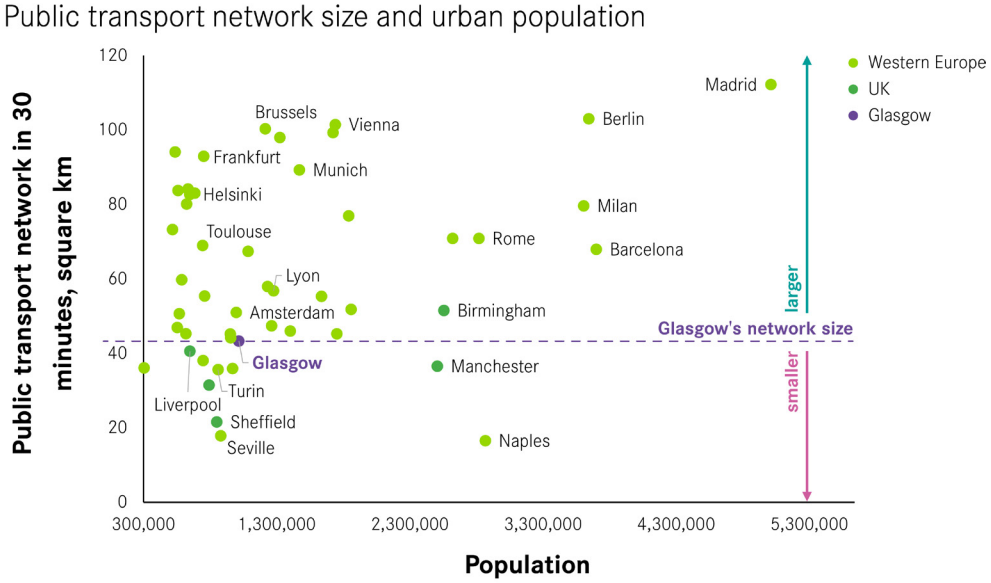
Figure 1: Glasgow's public transport network is relatively large for a British city



Source: Conwell, Eckert and Mobarak (2022). These estimates were calculated using Google Maps, on a Wednesday 8:30am.

The city comes out less favourably on this measure, though, when comparing it to Western European cities. Figure 2 shows that of the 44 Western European cities analysed, only six have smaller public transport networks, in terms of distance covered, than Glasgow.

Figure 2: Glasgow's public transport network size, like most British cities, underperforms



Source: Conwell, Eckert and Mobarak (2022), ONS and Eurostat. Population for British cities using PUA definition, for remaining cities using Eurostat's urban audit. For most cities analysed, population data is for 2019. If population data is not available for that year, the most recent year is used.

Glasgow is not particularly dense, which makes serving it by public transport more difficult

High-density neighbourhoods are easier to serve by public transport. They increase both the number of people within easy reach of a public transport stop and the viability of the network by increasing the size of the population that it can serve. The increased likelihood of congestion in high density neighbourhoods, due to the greater volume of people to road space that exists within them, also makes public modes of transport more attractive relative to private modes.[9]

Glasgow is not very dense by both UK and European standards. Around 17.7 per cent of its residents live in areas with more than 6,000 residents per square km, which is below the UK's urban average (32.3 per cent); and not as much as cities like Liverpool (35.6 per cent) or Edinburgh (36.5 per cent). Meanwhile, Turin or Seville have many more residents than Glasgow living in their urban core: Glasgow has around 152,000 living in the urban core, compared to 335,000 in Turin or 394,000 in Seville.[10] This means that, while they are two of only six European cities in Figure 2 to have a smaller public transport network footprint than Glasgow, they are able to connect more people within this network.

While Glasgow has more public transport modes than most other UK cities, these modes are not especially integrated

Integration becomes important to the performance of a public transport network when a passenger needs to use more than one bus or train to complete their journey. In Glasgow, the three modes of public transport are run by different bodies:

- **Heavy Rail:** ScotRail, an arm's length company controlled by Transport Scotland, which has been owned by the Scottish Government since April 2022.
- **Metro:** Glasgow Subway, owned and managed by Strathclyde Partnership for Transport (12 councils are part of the executive).[11]
- **Buses:** more than 40 different private operators, which manage their routes individually to compete in the market, alongside some services subsidised by SPT where there are no commercial services.[12]

9 Rodrigues G, Breach A and Evans J (2021), Measuring Up: Comparing public transport in the UK and Europe's biggest cities, London: Centre for Cities

10 Urban core is defined as a 3km radius from its city centre, figures show estimated populations in 2025 instead of current population.
For further details, see: https://www.tomforth.co.uk/circlepopulations/

11 The councils are Argyll and Bute (Helensburgh and Lomond ward), West Dunbartonshire, East Dunbartonshire, North Lanarkshire, South Lanarkshire, City of Glasgow, South Ayrshire, East Ayrshire, North Ayrshire, Inverclyde, Renfrewshire and East Renfrewshire.

12 For further details, see: https://www.spt.co.uk/bus/all-services/bus-operators/
https://www.spt.co.uk/travel-with-spt/bus/all-services/subsidised-bus-services/

Given the first two are under public control, in principle they can be joined up. However, this is not the case for buses which, as in most parts of Britain, have been deregulated since 1986. This deregulation has brought with it a number of problems for the operation of the network:

1. It has created local monopolies, where existing operators have the market power to set higher prices and provide a lower-quality service.[13]
2. It has led to a confusing array of ticket prices, making journeys more expensive. Box 2 shows one example of this in Glasgow.
3. It has removed the ability to plan the network – the Strathclyde Passenger Transport Executive (now the Strathclyde Partnership for Transport, SPT) lost the ability to set bus routes and the frequencies of services, affecting the coverage of the network and the coordination between modes. It has even led to operators running different services using the same route number, making navigation confusing for users.[14]
4. It has affected the local government's ability to use profitable routes to cross-subsidise other routes that are considered important, as they no longer receive the fare income directly.
5. The lack of overall control has reduced the incentive for local authorities to introduce long-term pro-bus policies like bus lanes, as increased profits are retained by the operators.[15]

Despite the deregulation of buses in the UK, there are some cities where public transport is better integrated. London is the best-known example. Instead of deregulating buses, the Capital moved from a municipally-owned system to the current franchised model.[16] Bus ridership has grown since deregulation while it has continued to fall elsewhere in England and Scotland, and London has been world-leading in introducing initiatives such as integrated ticketing.[17]

Other examples of relatively integrated transport systems are found in cities where, despite bus deregulation, the market is mostly dominated by a municipally-owned company. Edinburgh and Nottingham follow this model, where the council-owned bus operators can cross-subsidise services and integrate its buses with the publicly-owned tram networks.

The deregulated and non-integrated public transport system is uncommon across Western Europe, where public transport outcomes tend to be higher. For example, most French cities have integrated networks that include buses and trams

13 Competition Commission (2011), Local bus services market investigation A report on the supply of local bus services in the UK (excluding Northern Ireland and London), London: Competition Commission

14 For example, two different operators run buses with the route number 38. Both pass through Glasgow city centre but they go to completely different destinations.

15 Jeffrey S (2019), Delivering change: Improving urban bus services, London: Centre for Cities

16 As a result of the 1982 London Transport Act, and later the Greater London Authority Act 1999.

17 Jeffrey S (2019), Delivering change: Improving urban bus services, London: Centre for Cities

and affordable fares are achieved with local revenue support schemes such as *Versement Transport* (VT).[18]

Box 2: Baillieston to Partick case study – the quickest and the cheapest routes

The journey from Baillieston to Partick is a good example of the issues with non-integrated public transport. The cheapest option would be to take a single bus (£2.85), a journey lasting more than one hour, which requires crossing Glasgow's city centre. Much shorter journeys, without using roads in the city centre, can be made by combining the bus with rail (40 minutes) or the subway (42 minutes). However, those trips are much costlier, with a price of at least £6.75 (see Table 2).

Table 2: The current system nudges people towards long and congested routes, instead of making the most of the existing infrastructure

Main street, Baillieston (G69 6SL) – Partick Station (G11 6BU), options available and prices without a ZoneCard:

Mode	Duration	One way price (£)
Single bus (Route 2)	1h10 minutes	2.85
Bus (Route 2) and Rail (from Shettleston)	40 minutes	6.75
Bus (Route 900, intercity bus) and Subway (from Buchanan Street)	42 minutes	4.85
Walking and Rail (from Easterhouse)[19]	40 minutes (17 minutes walking)	4.20

Source: Google Maps, data collected on 24th July morning.

In a scenario where public transport fares were set by journey (e.g. Amsterdam has a one hour multi-modal single ticket; Barcelona has a similar system) instead of mode (as in Glasgow today), it is a fair assumption that most users would opt for more modal changes, because it would be faster without additional costs.[20] There is a weekly public transport pass that can be used on different modes and operators (*ZoneCard,* managed by SPT), but this has some limitations, discussed in Box 3.

18 See, for example: To fix public transport in Britain, we should copy France, The Independent, 31st March 2022.

19 Currently ScotRail has scrapped peak fares between 2nd October 2023 and 29th March 2024 part of the ScotRail Peak Fares Removal Pilot. For further details, see: https://www.transport.gov.scot/news/peak-fares-removal-pilot-dates-confirmed/

20 For further information about Amsterdam and Barcelona, see: https://www.amsterdamtips.com/transport-tickets and https://www.tmb.cat/en/barcelona-fares-metro-bus/single-and-integrated/t-casual

Box 3: The ZoneCard

It is possible to integrate ticketing in a deregulated market, as shown by the *ZoneCard*, a weekly and monthly multi-modal pass, between subway and rail and later expanded to buses.

However, this pass is relatively limited compared to the integrated ticketing offered in London, for example. The current *ZoneCard* does not include all services, excluding some night services.[21] And there is not an option of a daily pass with a cap across multiple operators making public transport less competitive against the car. While there are daily and monthly passes provided by different operators, they only apply to their routes. Multi-operator ticketing options (such as the *ZoneCard*) are often more expensive than single operator tickets in a deregulated market, due to each private operator requiring a share of the proceeds and being able to undercut prices with their own single operator tickets.[22]

There are also some operational frictions for *ZoneCard* users. The card requires a passport-sized photo and can only be purchased at a staffed ScotRail station. The renewal can be done either at a staffed ScotRail station or online, but orders can only be placed between 16:00 Friday and 12:00 Tuesday. The weekly pass always activates from Sunday to Saturday, regardless of when it is used for the first time.[23] Pricing is also relatively complicated: there are nine separate regions and 77 pricing zones in total across the whole SPT area, and central Glasgow is divided into two distinct zones. In comparative terms, London has only nine zones.

The underperformance of the transport system relative to European comparators contributes to Glasgow's broader economic underperformance

Previous Centre for Cities' work has shown that Glasgow, along with most other large cities in the UK, trails well behind its European comparators.[24] Large cities in the UK don't play the same role in their national economies that places like Lyon and Toulouse do in France and Frankfurt and Munich do in Germany.

In most OECD countries larger cities are more productive, as agglomeration effects increase with size. This is because, as economic activity concentrates in a place, the benefits of a city location multiply. This relationship does not hold in the UK, meaning that the UK economy is smaller than it should be.

21 For further details, see: https://www.spt.co.uk/tickets/zonecard/

22 For further details, see: https://www.urbantransportgroup.org/system/files/general-docs/Buses%20position%20statement_final.pdf

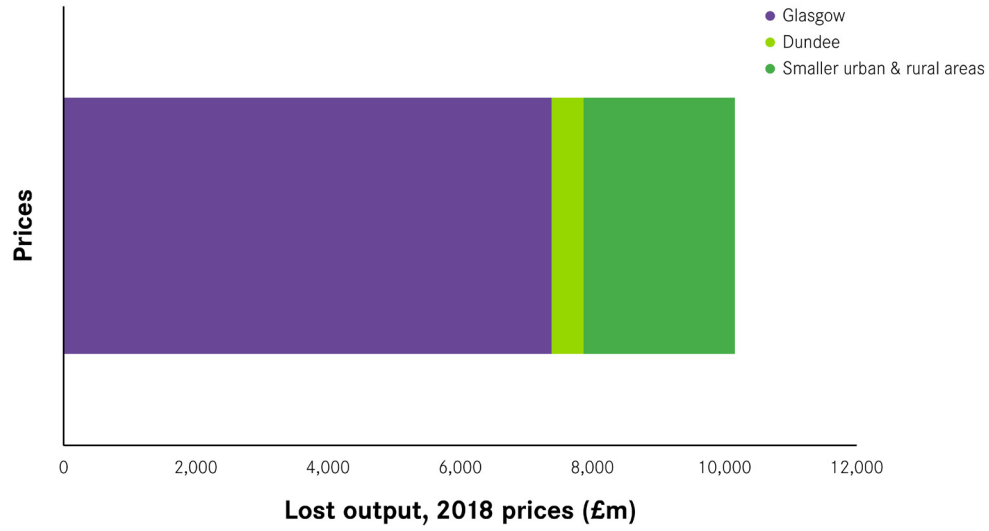
23 For further details, see: https://zonecard.online/

24 Swinney P (2021), So you want to level up? London: Centre for Cities

Centre for Cities' estimates show that Scotland is £10 billion a year below its economic potential.[25] As shown in Figure 3, the Glasgow urban area accounts for 73 per cent of this output gap, which represents an underperformance of £7.3 billion annually. In contrast, Dundee accounts for £500 million of this gap (Edinburgh and Aberdeen both overperform for cities of their size), while the remaining smaller urban and rural areas in Scotland account for the remaining £2.3 billion lost output. Addressing Glasgow's underperformance in particular will be crucial to helping the Scottish economy be more prosperous.

Figure 3: Glasgow drives Scotland's output gap

Contribution the different areas to Scotland's estimated lost output



Source: ONS, Centre for Cities' calculations

Public transport is not the only factor behind Glasgow's lost output. But transport (both public and private) is important for linking people to jobs. A poorly performing network reduces the size of the pool of workers available to employers, making a city smaller in effect than its population suggests. Given the parallels between Glasgow's public transport underperformance with European comparators and its broader economic underperformance, this makes improving its public transport network worthy of national interest.

The report now turns to what improvements could be made, and how this would affect the reach of the public transport system in and around Glasgow.

25 Swinney P (2021), So you want to level up? London: Centre for Cities

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How much could Glasgow's public transport connectivity improve with better integration?

There are two main ways to respond to the challenges above. The first is to invest in new infrastructure, like the Clyde Metro, alongside increasing the number of potential passengers by increasing the density of housing around public transport stops. And the second is to better integrate transport modes.

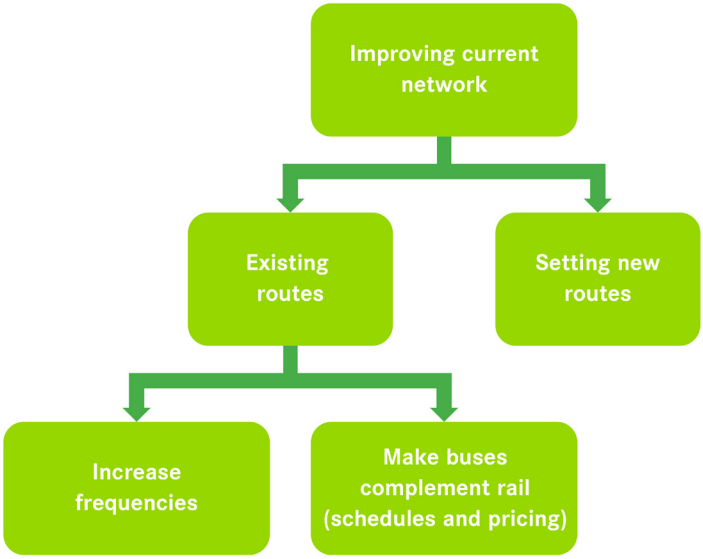
The first set of interventions are necessarily long term – the Clyde Metro is timetabled to take 30 years to complete, and house building around public transport stops will be a long-term process. With the introduction of the 2019 Scottish Transport Act and the options this opens up, the second is potentially more immediate. This section models how many extra people could be better connected in and around Glasgow if the system were better integrated across all public transport modes.

Modelling possible improvements under bus regulation: selected geography and assumptions

One way of making urban connectivity better, without major infrastructure investments, is planning the existing network at an integrated level. This can bring benefits, as illustrated in Figure 4, in the following ways:

- Improving the quality of **existing routes (frequency, schedules and complementarity)**
- Setting **new routes**

Figure 4: Model to measure the impacts of bus regulation



Source: Centre for Cities.

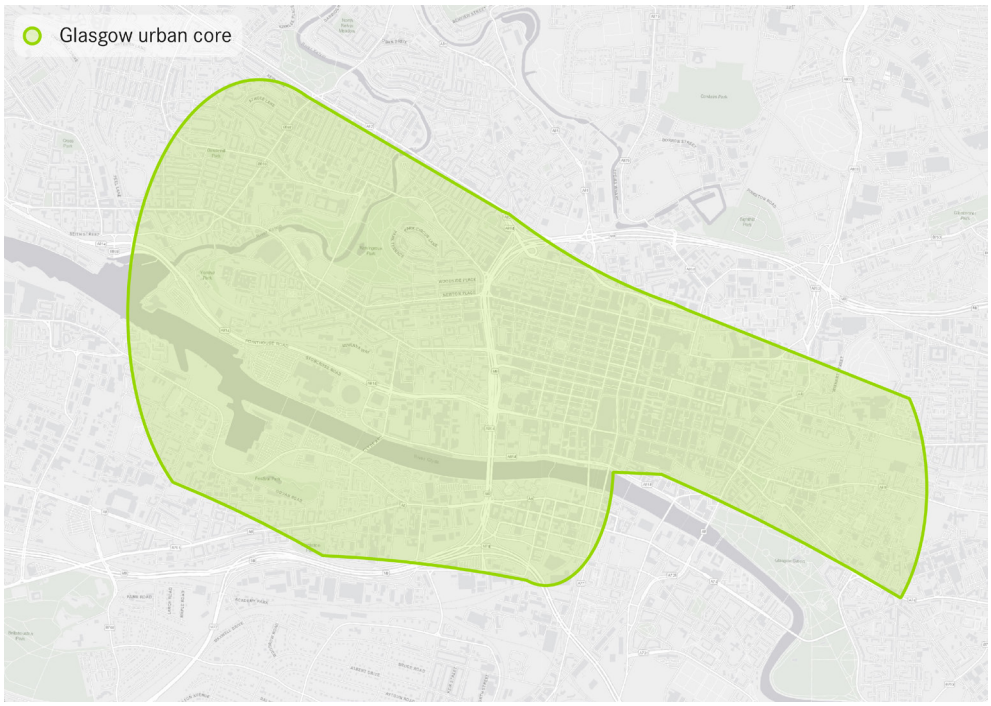
This section models the potential of improving these two components separately. To do so, it adopts these assumptions:

Assumption 1: Geography – connectivity to central Glasgow

First, to model the role of public transport integration, an accessibility area and time threshold are defined:

- Public transport accessibility is measured by the number of residents that can reach Glasgow's 'urban core' in 30 minutes by public transport.
- The urban core of Glasgow is defined as the area within the subway circle and areas east of the subway with easy access to heavy rail like High Street and Bellgrove (Figure 5). This area is home to around 230,000 jobs, 41 per cent of all jobs in the Glasgow primary urban area.

Figure 5: Glasgow's urban core



Source: Centre for Cities and ESRI maps.

Assumption 2: The definition of accessibility under a non-integrated system

The model considers three connectivity factors: commuting time, type of journey and service frequency. Under the current non-integrated system good public transport accessibility to the urban core is defined as meeting the following criteria:

- **Reach:** Areas within 30 minutes of the Glasgow urban core at peak time (where congestion is the highest at 5pm) using one mode of transport only.
- **Type of journey:** Journeys must be done using a single mode of transport (e.g. single train; a single bus; etc) only.
- **Frequency:** A frequent service is defined as having at least four bus services an hour, or two services per hour for rail.

Assumption 3: The definition of accessibility under an integrated system

A better regulated bus network could change the three factors defined in Assumption 2. An improved version of the network is further defined as meeting the following assumptions:

- **Increased frequencies:** If one route can be within a 30-minute commute at peak time (5pm), it is possible to run a service on it at least four times per hour. Evidence from Edinburgh (see below) suggests it is possible to make significant gains on this front.
- **Type of journey:** Any routes that can be done in 30 minutes including those with a modal change. With integration, these changes can be coordinated both in fares and schedules.

To note, the objective of the exercise is to show how much the network could benefit from bus franchising and integration and not to set out a full description of what a future network should look like. The potential impacts of setting different new routes will be analysed later in the second part of this section.

Results: improving existing routes

Around 900,000 residents are defined as well-connected today

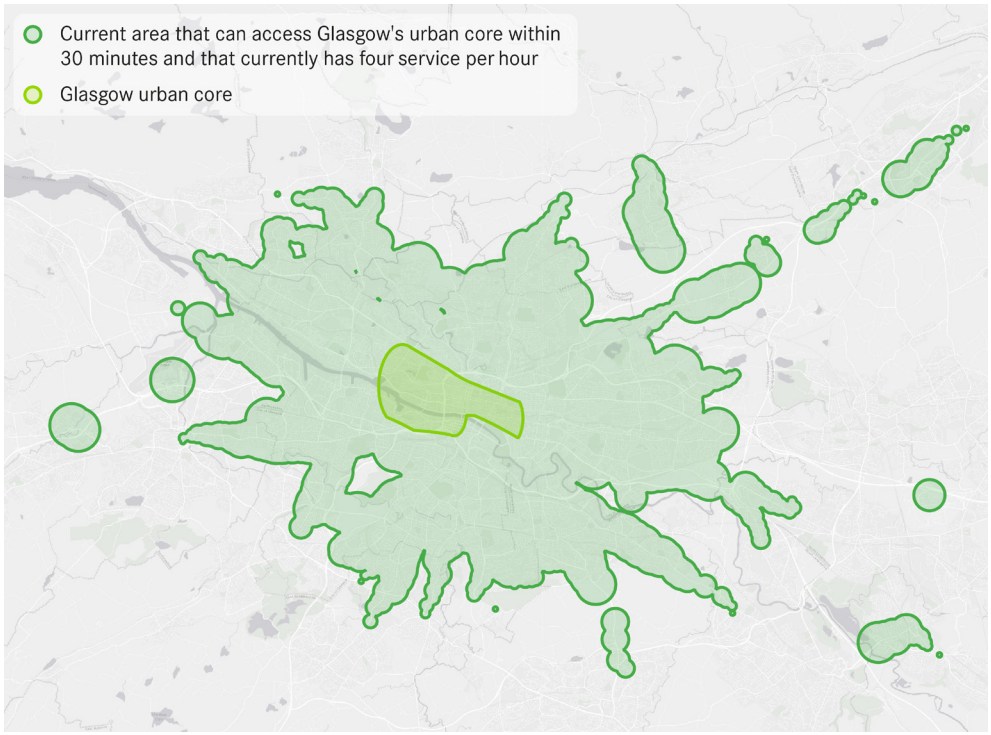
Centre for Cities' modelling estimates that there are 880,000 residents well-connected to Glasgow's urban core in 30 minutes by bus and rail at best.[26] Based on schedule data,[27] those areas include most of Glasgow's local authority area (except edges of the local authority like Darnley and Carmunnock), and some parts of Motherwell, Renfrew, and Paisley. This means that areas like Coatbridge, Erskine and Dalmuir are excluded from the best-connected areas (see Figure 6).

26 Based on timetable data as real=time bus data is not available through the open UK Open Bus Data Service in Scotland. Analysis from English cities shows that real-time buses underperform when compared to scheduled ones. Also includes based on how far you can travel from the urban core using rail within 30 minutes, using Network Rail timetable data, with a walking buffer. Walking speed is assumed to be 80 metres per minute, and limited to 800 metres (How far do people walk?, G Wakenshaw and N Bunn, July 2015). See, for example: Brandily P et al (2023), A Tale of Two Cities, London: Resolution Foundation.

27 These estimates are based on schedule data, due to the lack of real-time data. Schedule data often covers a larger catchment area than real-time data because it doesn't always factor in congestion at peak times. Given this, these should be seen as upper bound estimates.

Figure 6: The best-connected areas of Glasgow exclude some parts of its built-up area

Areas that can reach Glasgow's urban core in 30 minutes peak time with frequent services



Sources: Regional and National Timetable Data, UK Bus Open Data Service. Centre for Cities calculations.[28]

More frequent bus services could increase the number of well-connected residents by 25 per cent

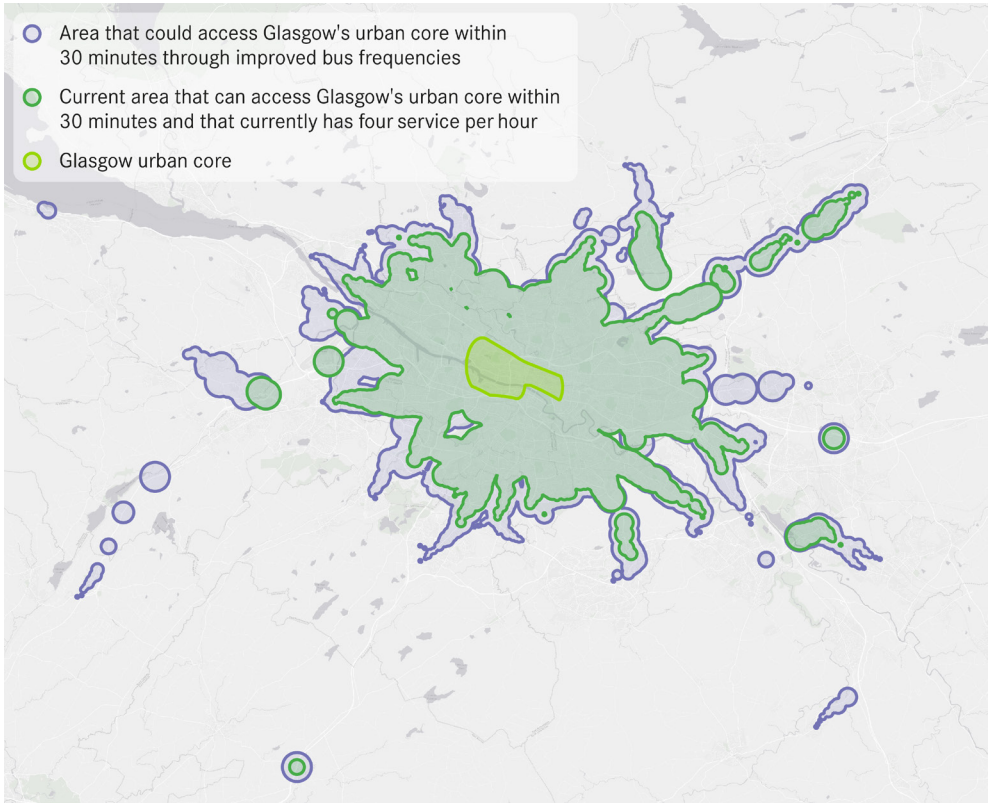
The modelling of higher bus frequencies alone suggests that this improvement could increase the number of well-connected residents to Glasgow's urban core by 210,000 (a 24 per cent rise).[29] Figure 7 shows how the network coverage would expand by making buses more frequent. The model estimates that areas like Dalmuir and a large part of Motherwell would become well-connected within 30 minutes. Today, these and other neighbourhoods have some services that can reach Glasgow's urban core in 30 minutes but not with the necessary frequency to be a competitive service against the car.

28 Calculations are based on timetable data through UK Bus Open Data Service. The area is based on the time it takes to travel from bus stops across the Strathclyde Region to a bus stop within the Glasgow urban core. As bus users are likely to combine their bus journey with walking, buffer zones have been added to demonstrate the areas accessible. It is assumed that bus users will walk no further than 800 metres to their bus stop (based on: How far do people walk?, G Wakenshaw and N Bunn, July 2015), and will walk at a maximum of 80 metres per minute. Therefore, the total journey time combining bus and walking is 30 minutes. Frequent bus services have been defined as four or more per hour, and so the bus stop will only be included if it has four or more services going to the Glasgow urban core in the hour. This methodology is likely to provide an optimistic estimate due to real-time data not being available, and street layout not allowing for the whole buffer zone to be easily accessible.

29 This assumes scheduled buses mostly run on time. Evidence from the Greater Manchester and West Midlands urban areas suggest that this is a conservative estimate. See, for example: Brandily P et al (2023), A Tale of Two Cities, London: Resolution Foundation.

Figure 7: Improvements that can be achieved with increased bus frequencies

Areas that can reach Glasgow's urban core in 30 minutes peak time if bus services were more frequent



Sources: Regional and National Timetable Data, UK Bus Open Data Service. ESRI map. Centre for Cities calculations.

The current performance of Edinburgh's buses, where most buses are run by Lothian, a municipally-owned company, suggests that such improvements are possible. Unlike Glasgow, most people within 30 minutes of Edinburgh centre by bus have a frequent service. Lothian runs buses at a much greater frequency on average (at least four services per hour), and this means that around 88 per cent of all of Edinburgh's residents can access the city centre within 30 minutes at peak time using a frequent service.

Modal integration could lead to an increase in the number of well-connected residents by 90,000

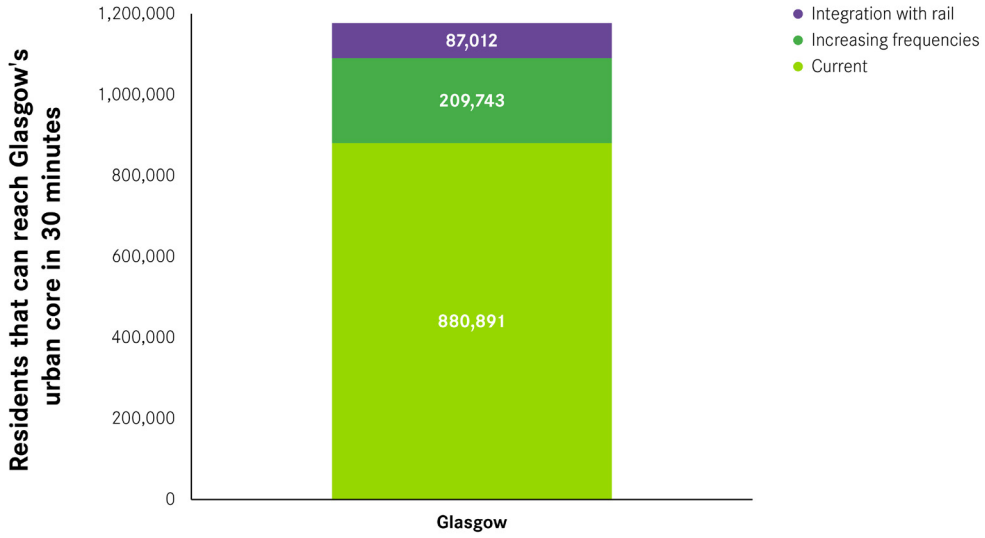
The benefits modelled so far do not consider the additional benefits of fully integrating buses with rail and subway. Therefore, the second step of the model considers how many people could access the urban core if they were able to use both the rail and bus network in 30 minutes. A conservative estimate shows a further 90,000 residents become well-connected. The result of better integration alongside increasing bus frequencies would increase the number of well-

connected residents at least by 300,000.[30]

Figure 8 shows that the number of residents living within 30 minutes from the urban core by public transport would be more than one million as a result.

Figure 8: Bus regulation, even without new routes, could considerably increase the coverage of the public transport network

Public transport connectivity



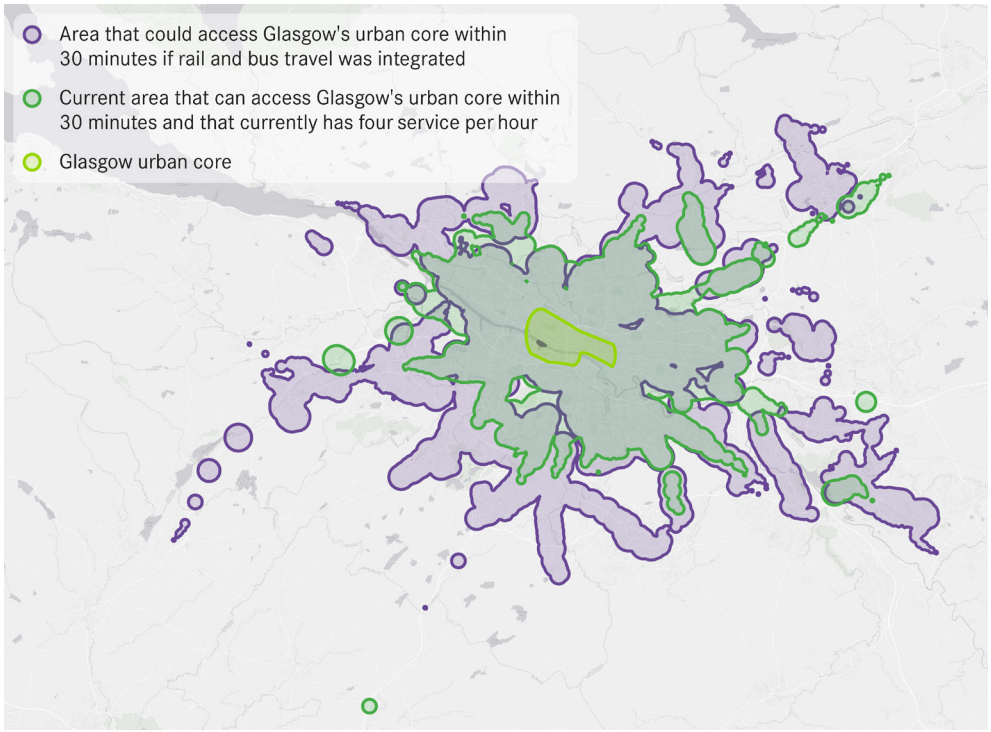
Source: Regional and National Timetable Data, UK Bus Open Data Service. Mid-2021 Small Area Population Estimates for 2011 Data Zones, National Records of Scotland. Centre for Cities calculations.

In visual terms, Figure 9 shows that most of Glasgow's built-up area could be well-connected within 30 minutes from the urban core if these improvements were made. Extensive parts of the south (Newton Mearns or Barrhead) and west (Johnstone or Castlehead) of the urban area would become well-connected. Most of the area around Motherwell and Coatbridge would also become well-connected.

30 Assuming scheduled buses mostly run on time. Evidence from Greater Manchester and West Midlands urban area suggest that this is a conservative estimate. See, for example: Brandily P et al (2023), A Tale of Two Cities, London: Resolution Foundation.

Figure 9: Improvements that can be achieved with better integration

Current well-connected network (green) vs improved version (purple)



Source: Regional and National Timetable Data, UK Bus Open Data Service. Train Schedules, Open Data Feeds, Network Rail, Centre for Cities calculations.[31]

To stress, this does not mean that all the extra people will use the services but instead shows how the size of the potential market could increase with these improvements.

Results: Setting new routes

The previous analysis focused on improving the existing network with better frequencies and integration. Under bus franchising, new services can be put in place that aren't currently offered by private operators.

Improving accessibility to Queen Elizabeth University Hospital is a good example of what could be done with the bus regulatory powers in the franchising legislation. The hospital provides care for more than half a million people and employs 14,300 workers. A third of Glasgow residents in SPT's 2019 Regional Transport Strategy survey said that access to healthcare was an issue, with the

31 Area is first based on how far you can travel from the urban core using rail within 30 minutes, using Network Rail timetable data, with a walking buffer. Walking speed is assumed to be 80 metres per minute, and limited to 800 metres (How far do people walk?, G Wakenshaw and N Bunn, July 2015). If an individual were to use a bus as part of the journey, a five-minute buffer is added to change transport modes. All the bus stops users change at are within a 250-metre radius of the train station. Using timetable data from the UK Bus Open Data Service, it is calculated how far the individual would be able to get by bus in the remaining 30 minutes. A walking buffer is also applied if the user is to alight from the bus before the 30 minutes is complete.

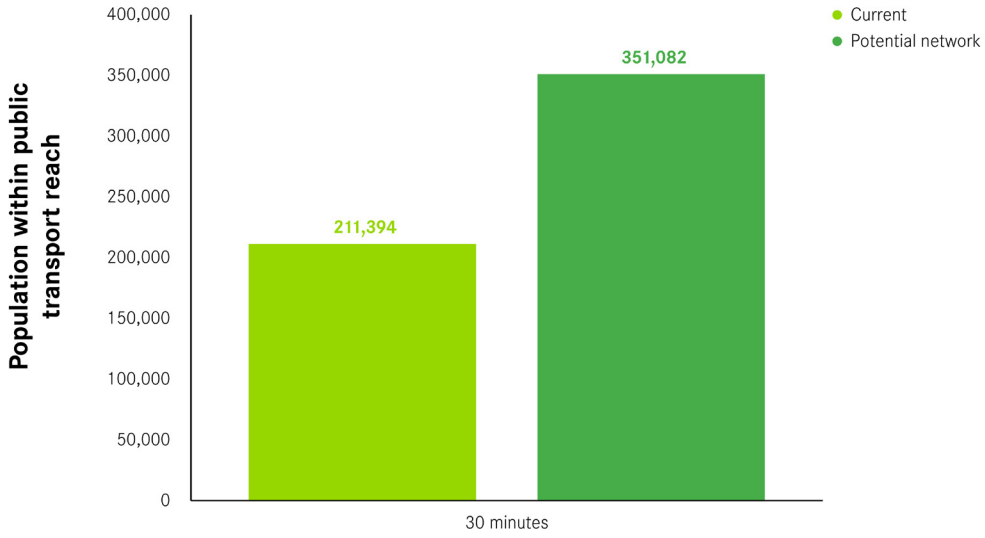
lack of direct public transport, frequency and cost being cited as main barriers.[32]

Currently, bus provision to and from the hospital is not as good as it could be. There are few buses connecting Cardonald station and the hospital (a five-minute drive, but a 22-minute walk). And other areas within 15 minutes by car – e.g. parts of Pollokshaws and Paisley – do not have a quick and regular service to the hospital within 30 minutes. In addition, existing bus services often either stop operating after a certain hour (a problem for shift workers) or do not run frequently outside peak times.[33]

Centre for Cities' estimates show that there are around 211,000 residents well-connected to the hospital today at peak time in 30 minutes. By integrating modes of transport, adding new routes and reducing the number of changes, this could increase by 66 per cent (to around 351,000 people) as shown in Figure 10.

Figure 10: Setting new routes and integrating modes can make the hospital more accessible

Queen Elizabeth University Hospital accessibility



Source: Google Maps Direction API. Calculations based upon working out journey time between Queen Elizabeth University Hospital and areas within Strathclyde Region, measured in a 1km grid and then intersected with population.

32 Cited in: Case for Change (Final): Glasgow's Transport Strategy 2021-31, Glasgow City Council, June 2021. For further details, see: https://www.glasgow.gov.uk/CHttpHandler.ashx?id=53543&p=0

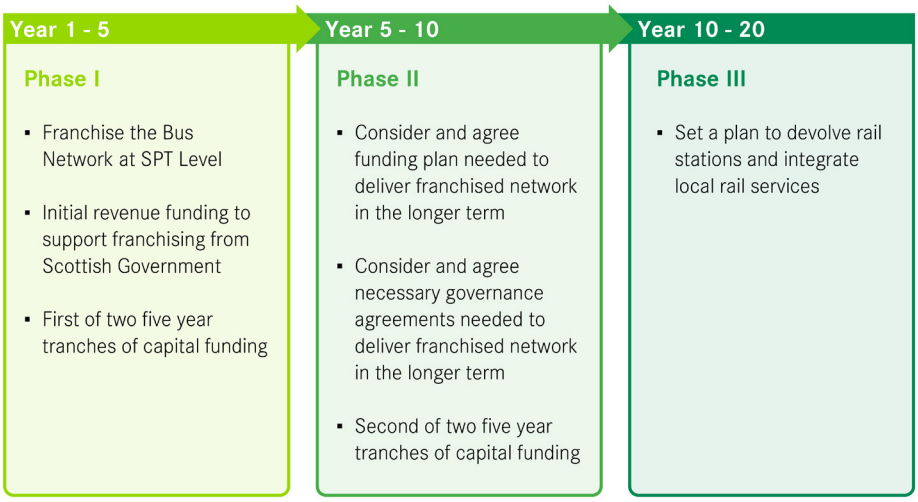
33 See, for example: https://www.nhsggc.scot/downloads/directions-to-the-queen-elizabeth-university-hospital-map/

04

What needs to change

This section sets out a three-phase plan over 20 years to improve transport in and around Glasgow in the coming decades. These three phases should be seen as policies to make the most out of the existing transport system as well as building a much larger network that will include Clyde Metro in the future. This is summarised in Figure 11.

Figure 11: Miles better – Three phases to improve public transport in the Glasgow City Region



Phase 1: Franchise the bus network at the SPT level with support of a decade-long funding deal from Scottish Government

Time horizon: In the first 5 years

Phase 1a: Enable secondary legislation and establish SPT as the lead authority to set up the franchised network

Franchising is more effective than BSIPs, with or without municipal ownership

To better integrate services, there are three options that are now available due to the Transport Act 2019 – bus franchising, Bus Service Improvement Partnerships (BSIPs) and local authority-run services (municipal bus ownership).

Under bus franchising, transport authorities have exclusive rights to award the operation of a bus route (or a package of routes) for a set period to the most competitive bidder. This allows the authority to define new routes, frequencies, service standards and fares, and directly receive the fare income. These changes open up new possibilities, for example:

- Duplication can be removed from popular routes (a conservative estimate is that 10 to 20 buses across the existing commercial network in Glasgow could be redeployed to boost existing services or service new routes[34]).
- Routes that aren't served by private operators but are important for non-economic reasons can be created.
- Income from profitable routes can be used to cross-subsidise these services.
- Data generated on network patronage is collected by the public sector which can be used to better inform its performance and where investment is required.

Some of these changes could be achieved under Bus Service Improvement Partnerships, but they are much more limited in their scope. Under a BSIP, authorities can specify service standards including minimum frequency of services, maximum fares, and the pricing of multi-operator cards for operators involved. However, they would be unable to set the routes, unable to specify fares, would not directly receive the fare income and, in the long term, could not integrate with other modes of transport which will be important to make Clyde Metro a success. They also rely on the cooperation of local bus operators. If a "sufficient" number of private operators were to object to the partnership, it could

34 See, for example: Options Assessment Study, Final Report, Glasgow & Strathclyde Transport Act Scoping Study (2022), Systra.

not go ahead.[35]

BSIPs also do not allow authorities to benefit directly from bus infrastructure improvements as they do not directly receive the fare income. For example, under franchising local authorities are incentivised to invest in new bus lanes as they benefit from increased ridership brought about by the improvements, reducing the risks of investing in new support infrastructure.[36]

A municipally owned bus company is another option, either as part of a franchised network or as the sole operator. To operate as the sole operator, there would have to be no other competitors in the market which can be a challenge (for example, Lothian Buses had to undergo significant restructuring after substantial losses in competitive "bus wars"[37]). However, a municipal bus company could operate within a franchised system, which would help retain the competition that franchising provides. Establishing a municipal bus company would require significant capital and revenue investment. Given the pressure on public budgets, franchising is a more practical and deliverable option.

Given this, **bus franchising should be the preferred option because it bakes in co-ordination,** either with or without a municipal bus company, as part of the franchised network.

Secondary legislation to enable franchising needs to be enacted for this to happen

The Transport Act 2019 aims to empower transport authorities to create bus franchises. However, in terms of the bus provisions of the Act, only the municipal bus element of the legislation has been enacted to date. In September 2023, the regulations for the other two powers were laid before parliament, but they are not yet enacted (they are scheduled for 4th December 2023), so that will need to happen for franchising to be possible.[38] [39] Transport Scotland has also highlighted that substantive regulations will be required to give these powers full effect, and their intention is to introduce these throughout 2024.[40]

SPT should be the leading authority in the process

In order to maximise integration across the region, bus franchising should be done at the SPT level rather than the individual local authority or other lower tier level. SPT has already considered this as part of its 'Transport for Strathclyde' discussion paper.[41] The region is highly interconnected and has a large volume

35 Explanatory Notes, Transport (Scotland) Act 2019

36 Greater Manchester's franchising assessment highlights the lower value for money to the city of investing in bus priority outside of franchising. See further details: https://issuu.com/greatermcr/docs/greater_manchester_proposed_bus_franchising_scheme

37 See further details: https://www.focustransport.org/2019/03/edinburgh-bus-war.html

38 Robertson A, Campaign to revolutionise bus network a 'once-in-a-generation' opportunity, The National, October 2023

39 See, for example: Sweeney P, Glasgow could have a world-class public transport system, Glasgow Times, July 2023

40 For further details, see: https://www.spt.co.uk/media/4eapnkmz/p290923_agenda8.pdf

41 Transport for Strathclyde: A new public transport network (2021), Strathclyde Partnership for Transport. For further details, see: https://www.spt.co.uk/media/52odqn5w/transport-for-strathclyde_a-new-public-transport-network_print.pdf

of commuting taking place between local authorities. For example, East Dunbartonshire and East Renfrewshire have more residents working elsewhere than in their own local authorities. Even in Glasgow city, one-fifth of residents commute out of the local authority. And almost half of Glasgow city workers live in other local authorities in the Strathclyde Region (see Table 3).

Table 3: Cross-border flows between local authorities in SPT are high

Local Authority	Working in own local authority (% of total)	Other SPT local authority (% of total)	Rest of Scotland (% of total)
Argyll and Bute	82.9	14.8	2.3
East Ayrshire	54.2	44.1	1.7
East Dunbartonshire	24.8	70.0	5.3
East Renfrewshire	18.6	78.8	2.6
Glasgow City	76.6	20.2	3.2
Inverclyde	66.9	31.9	1.2
North Ayrshire	55.6	43.1	1.3
North Lanarkshire	53.5	37.5	8.9
Renfrewshire	52.8	45.5	1.7
South Ayrshire	69.0	29.4	1.6
South Lanarkshire	50.7	43.8	5.5
West Dunbartonshire	46.9	50.9	2.1

Source: Scottish Census 2011.

Having SPT as the authority for transport planning would also reduce the duplication of responsibilities (e.g. SPT and local authorities all designing their own transport plans) and potential issues around coordination across local authority boundaries. Local transport teams, who will continue to have an important role, should monitor SPT plans and their implementation, while providing local knowledge to the regional transport authority. SPT has existing institutional capacity and the expertise necessary: it owns and operates the subway system and Buchanan bus station and other strategic bus stations and interchanges across Strathclyde; it already plans and contracts out hundreds of socially necessary bus routes; it manages the *ZoneCard*; and it leads on regional transport planning.[42]

That said, the modelling in Figures 7 and 9 shows that the area covered within 30 minutes covers the authorities of Glasgow City, North Lanarkshire, South Lanarkshire, East Renfrewshire, Renfrewshire, West Dunbartonshire, East Dunbartonshire, East Ayrshire, North Ayrshire and Inverclyde – much smaller than the wider SPT area. Given this, if a phased approach is to be taken in Strathclyde similar to that adopted in Greater Manchester, (see Box 4 for further details), then introducing franchising in these authorities first is likely to be the best approach.

42 Recently, SPT was awarded several Scottish Transport Awards. For details, see: https://www.spt.co.uk/about-us/news/celebrating-scottish-transport/

SPT may need some additional powers over urban infrastructure

One of the ways bus franchising can improve public transport outcomes is by better aligning bus operations with pro-bus policies such as bus corridors. This has been achieved in other cities by the transport authority managing some strategic roads, which allows them to provide bus corridors. For instance, TfL manages five per cent of London's roads, which account for 30 per cent of London's traffic[43] and TfGM manages seven per cent of Greater Manchester's roads, which account for 63 per cent of all traffic on these roads.[44]

Currently, SPT does not have these powers. When planning franchising, SPT should work with its local authorities to identify the roads that it would be beneficial to manage at the region level or work together with local authorities to make the changes desired. The Glasgow City Region Bus Partnership is currently developing plans for five bus corridors across multiple local authority areas through the Bus Partnership Fund. This work should be taken forward by SPT as part of its franchising plans, and consideration should be given to how other strategic roads should be managed in order to improve public transport outcomes.[45]

Phase 1b: Scottish Government should support franchising with a 10 year long funding deal

Better public transport will require initial capital and revenue funding support

In the short term, to get to an integrated public transport network there will be a need for capital investment to both create the required infrastructure for the network and initial revenue support as it gets up and running.

Normally, funding support is given by the central government, local government or a combination of both. For instance, in Greater Manchester – the first city region in the UK to move from a deregulated system towards a franchised one. Initial transition costs are expected to be around £135 million in the first five years.[46] Some of this funding will come from local government: a combination of revenue from the councils (e.g. £5 million from business rate pooling and one-off combined contributions of £18 million) and the Metro Mayor (£34 million from current and future council tax precept). But the majority will come from funds agreed in the devolution deal with the UK Government (£78 million).[47]

The Scottish Government should take the lead and fund most of the upfront

43 Rules of red routes, Transport for London, see: https://tfl.gov.uk/modes/driving/red-routes/rules-of-red-routes

44 Greater Manchester Key Route Network Review, Greater Manchester Combined Authority, November 2020, see: https://democracy.greatermanchester-ca.gov.uk/documents/s10598/17%20Review%20of%20GM%20Key%20Route%20Network.pdf

45 These include Dumbarton Road, Great Western Road, Maryhill Road, Paisley Road West and Pollokshaws Road. See further details: https://glasgow.gov.uk/glasgowbuspartnership

46 See, for example: Greater Manchester bus services to be brought under public control, The Guardian, March 2021

47 See, for example: Greater Manchester Leaders move to decision on bus franchising for the city-region, Greater Manchester Combined Authority, 12th March 2021

franchising process. This is for two reasons. The first is the requirement to boost Glasgow's economic performance (this is part of the reason why the UK Government is supporting Greater Manchester's transport plans).[48] As outlined above Glasgow's performance is important for the national economy. The second is to minimise the time the process takes. Reaching a long-term funding agreement between 12 local authorities or setting up new governance structures (like the ones in Greater Manchester) could delay the franchising process by years. As Greater Manchester shows, franchising the bus network can already be a lengthy process (Box 4).

This will require upfront investment. One study suggests that improving the Glasgow and Strathclyde bus system would require capital investment funding of £300 million.[49] This study does not include the cost of an integrated ticketing system, which Transport Scotland estimates will cost £50-100 million.[50] While costly, it is worth noting that those improvements would be comparatively cheap and quick when compared with delivering new rail infrastructure such as Clyde Metro (£16 billion, a 30-year project) or the Edinburgh Tram (£0.8 billion, 15 years).[51] [52]

The Scottish Government should commit funding for the initial five years of bus franchising to allow SPT to begin franchising its network. Using TfGM's franchising costs and adjusting for population size, this would be around £100 million, but more detailed proposals would need to be worked up to set out what the exact amount would be.[53]

In addition, the Scottish Government should commit to a broader programme of infrastructure funding for a period of ten years to kickstart wider public transport improvements. The UK Government has done this for large cities in England through the City Region Sustainable Transport Settlements to help address the productivity challenges these cities share with Glasgow. Again, using these amounts and adjusting for population size would mean investment of £1.8 billion over the decade (11 per cent of the proposed Clyde Metro project funding). This is clearly a substantial amount of investment. However, due to the scale of the extra economic growth and tax revenues that Glasgow could contribute to the national economy, it is necessary that the region has a better functioning integrated public transport network.

48 Aims of the City Region Sustainable Transport Settlements (CRSTS) programme: "The National Infrastructure Strategy committed to investments in local transport networks to improve productivity in our largest cities. The CRSTS programme aims to deliver transformational change through investments in public and sustainable transport infrastructure in some of England's largest city regions."

49 See, for example: Options Assessment Study, Final Report, Glasgow & Strathclyde Transport Act Scoping Study (2022), Systra.

50 For further details, see: https://www.transport.gov.scot/publication/strategic-transport-projects-review-report-4-summary-report/j10194c-15

51 See, for example: Edinburgh Tram Inquiry: Costs to exceed £13m, BBC News, 30th August 2023.

52 For further details, see: https://www.glasgow.gov.uk/26965

53 This should be considered as part of SPT's Regional Bus Strategy and Delivery Plan expected in March 2024.

Box 4: Bus Franchising process in Greater Manchester

Greater Manchester is the first area in England outside London to move from the deregulated system towards a franchised system – the Bee Network. Some parts of the bus network – mostly in Bolton and Wigan, and parts of Manchester, Salford and Bury – started operating under franchising in September 2023. The whole network is expected to be franchised by the start of 2025.

The franchising process

Greater Manchester Combined Authority began franchising its bus network using the powers under England's Bus Services Act 2017. The whole process, between the Act and the full implementation, is expected to be more than seven years. And Greater Manchester already had some institutional capacity as the Combined Authority existed for roughly a decade before it enacted its bus franchising powers.

The main steps running up to franchising have been:

- Greater Manchester Combined Authority is set up, April 2011
- Bus Services Act 2017, April 2017
- First directly elected Metro Mayor of Greater Manchester, May 2017
- Publication of the Bus Franchising in Greater Manchester Assessment, September 2019
- Public Consultation, October 2019 – January 2020 (repeated in December 2020 – January 2021 due to COVID-19)
- Greater Manchester decides to franchise the network, March 2021
- Legal challenges against Greater Manchester Combined Authority, March 2021
- Court decision in favour of bus franchising, March 2022
- Court rejects the appeal and rules in favour of Greater Manchester Combined Authority, July 2022

Bus franchising implementation phases (2023-2025)

- **Phase 1:** Franchising in Wigan and Bolton and parts of Manchester, Salford and Bury, September 2023
- **Phase 2:** Franchising in Bury, Rochdale, Oldham and parts of Manchester, March 2024
- **Phase 3:** Franchising of the entire bus network of Greater Manchester, January 2025

Other areas considering bus franchising, such as Liverpool City Region, West Yorkshire and South Yorkshire, may be able to implement it quicker than Greater Manchester because Greater Manchester has led the way, especially in relation to the judicial review challenge. It was also delayed by one year due to COVID-19.

The UK government will provide Greater Manchester with over one billion pounds in the next 5 years

The policies and infrastructure improvements involved in bus franchising in Greater Manchester have required significant funding to implement, a large proportion of which has been given by the UK Government in Westminster.

In recent years, the UK Government announced two funding packages to improve public transport connectivity in several English cities. This programme is divided into two 5-year tranches, totalling £14.5 billion. Greater Manchester received £1.1 billion from the first tranche alone.

This funding has enabled Greater Manchester to introduce £2 bus fares for adults and a combined daily cap for buses and tram rides, as well as improving bus lanes and regenerating stations to tackle accessibility issues.

Greater Manchester sees the benefits of integrating with local rail

Once bus franchising is fully implemented, the Combined Authority will have control over its buses and the existing tram system (Metrolink). As part of the 'Trailblazer' devolution deal negotiations, the Combined Authority was awarded a new rail partnership with Great British Railways to support the delivery of the Bee Network with multi-modal fares, ticketing integration, co-branding, better integration of local stations, and greater access to local rail data. This shows that the local government recognises the benefits of deepening integration across all modes of public transport.

Phase 2: Develop the future funding plan and the supporting institutional set up to maintain the franchised network in the longer-term

Time horizon: From years 5 to 10

SPT, local authorities and Scottish Government should come to an agreement on how the network will be funded and operated in the longer-term

Additional funding will be required in the longer-term to support a franchised network

As the system becomes established, it should become less reliant on public subsidy due to increased ridership. That said, some degree of subsidy is likely to still be required – in most places in the world, a good quality, frequent and comprehensive public transport network is cross-subsidised through multiple revenue streams. Even TfL does not run a surplus on its bus network.[54] This shows that running a socially and economically optimal bus network requires subsidy.

TfL as a whole is able to run at an operational surplus, thanks to income from other sources including underground, rail and commercial revenues. To raise revenue, the network in and around Glasgow will need alternative sources of funding beyond fares (an issue already raised by SPT[55]).

Local contributions could be raised through transport policies

Local financial contributions via transport are one way of doing this. A workplace parking levy (WPL) and/or a congestion charge are two levers used by cities in the UK and abroad to raise revenue locally to reinvest in the transport network.

The two main advantages around these policies are that they discourage car use, which can improve public transport quality and promote modal change while raising revenue at the same time. The congestion charge has proven an effective way of reducing car congestion and improving public transport speeds in London and Milan, among others.[56] Box 5 shows how Nottingham's WPL also incentivised modal shift.

The timing of the introduction of these incentives is something to be noted. The introduction of the congestion charge in London was coupled with the addition

54 In 2023/24, it is expected that TfL's bus network along with street and other operations will run a deficit of £641 million. For further details, see: https://board.tfl.gov.uk/documents/s19826/TfL%20Budget%202023-24.pdf

55 Transport for Strathclyde: A new public transport network (2021), Strathclyde Partnership for Transport. For further details, see: https://www.spt.co.uk/media/52odqn5w/transport-for-strathclyde_a-new-public-transport-network_print.pdf

56 Amelsfort D and Swedish V (2015), Introduction to Congestion Charging: A Guide for Practitioners in Developing Cities, Asian Development Bank.

of 300 extra bus routes to provide affordable alternatives to driving.[57] Therefore, local contributions via transport should be timed so far when the franchised network is up and running to provide an alternative option for travel.

Box 5: Workplace Parking Levy

In 2012, Nottingham City Council was the first and still only city to implement a workplace parking levy (WPL). The scheme charges employers who provide 11 or more car parking spaces, with some exemptions (e.g. NHS, delivery vehicles).

The initial charge was £288 per parking space per year and in April 2023 the charge increased to £522. Unlike the congestion charge, the system has minimal operational costs. The revenue is ring-fenced for public transport investments. The WPL contributed to the expansion of the Nottingham Tram system (17km extension), which today has more stations than the Edinburgh and West Midlands tram systems. The revenue has also been channelled towards the bus network (mostly owned by the same authority as the Tram, Nottingham City Council) and active travel. Research shows the levy incentivised a modal shift from driving to other modes of transport.[58]

Centre for Cities' estimates show that between £58 million and £65 million a year (gross revenue) could be raised with a £5 congestion charge in central Glasgow (LEZ area).[59] The implementation of a congestion charge typically has upfront and operational costs, but some of these could be mitigated by using the existing LEZ infrastructure (i.e. cameras).

57 For further details, see: https://centreforlondon.org/blog/financial-incentives-ulez/

58 Dale S, Frost M, Ison S and Budd L (2019), The impact of the Nottingham Workplace Parking Levy on travel to work mode share, Case Studies on Transport Policy, Volume 7, Issue 4, December 2019, Pages 749-760.

59 Conservative estimates based only on the number of people working on the current Low Emission Zone Area. To put into context, London raised £307 million in 2020/21 with congestion charge.
Due to data unavailability at that level, it was assumed that the share of workers driving to work was 46.6 per cent (share of Glasgow city council residents in the latest census). As workers may have the option of working remotely, two scenarios were developed, using ONS's Characteristics of homeworkers, Great Britain (September 2022 to January 2023). As data is only available at the regional level, the model uses the Scottish rate for both homeworkers and workers who are not able to homework.
The first scenario assumes people able to work remotely never go to the office (zero days a week); people unable to work remotely go to the office every day (five days a week). The remaining workers assumed to be going only one day a week. The average worker travels to work 3.8 days a week.
The second scenario assumes people who were fully working remotely never go to the office, and people currently traveling to work (even if they could work remotely) continue going to the office (five days a week). The remaining workers assumed to be going only one day a week. The average worker travels to work 4.2 days a week.
The share of drivers in the central area of Glasgow could be lower than the average resident in Glasgow; and hybrid and remote work in these areas may be higher. This poses risks of overestimation, but these estimates only account for people working in these areas, which is a conservative assumption, as there are many other activities taking place there, such as retail and entertainment.
These estimates have not taken into account the impact of the People First Zone that Glasgow city council has committed to around Queen Street Station and Central Station as its impact on current traffic patterns is not clear. The area currently planned sits within the current LEZ area. For further details, see: https://www.glasgow.gov.uk/index.aspx?articleid=29522

Another option would be to implement a WPL across the whole SPT region. Based on Nottingham's revenue collection, a £400 levy for employers with more than nine workers is estimated to raise around £50 million a year.

Local taxation should be considered as part of local contributions

There are also several means of raising revenue using local taxation. Greater London and Greater Manchester have supported their transport networks using business rates and council tax precepts. For example, in 2022 the Mayor of London added an extra £20 to council tax to raise an additional £172 million for TfL annually.[60]

Another possible revenue raiser is France's *Versement Transport* (VT), an income levy on employers with over 9 employees used to fund public transport operations. Centre for Cities' estimates show that a 0.5 per cent contribution per worker could raise £157 million a year. The levy could vary across different local authorities, so the system reflects different levels of public transport provision (for example, non-urban areas with fewer options paying less).[61] Similarly, Tallinn in Estonia funds its free public transport through an income tax on each of the citizens in its municipality (noting that this still requires an additional €12 million annual subsidy from central government).[62]

Raising additional revenue powers may require additional legislation and possible democratic reform

As SPT has noted in its discussion papers, conversations regarding further sources of income should ensure that "any solution must be locally democratically accountable and shaped to suit the people of Strathclyde."[63]

Additional legislation would be required if it was decided that SPT needed to directly fund the network through precepts on council tax, business rates or income tax. The Scottish Government, SPT and relevant local authorities should consider what additional legislation would be needed to give SPT the necessary funding levers to ensure the provision of public transport to meet the needs of the region.

If SPT was to gain powers that go beyond transport, part of the debate should also look at how suitable SPT's current democratic structure is. Currently its executive board is comprised of 20 councillors from each of the 12 local authorities (with the number of representatives weighted to reflect each authority's population) alongside 6-9 directly appointed members.[64] SPT recognises that its current governance arrangements are not fit for purpose to deliver its ambitions.[65] Unlike

60 For further details, see: https://www.bbc.co.uk/news/uk-england-london-63960235
61 The evolution of public transport contracts in France, The International Transport Forum, OECD, 2017.
62 For further details, see: https://www.eltis.org/discover/case-studies/introducing-free-public-transport-tallinn-estonia
63 Transport for Strathclyde: A new public transport network (2021), Strathclyde Partnership for Transport. For further details, see: https://www.spt.co.uk/media/52odqn5w/transport-for-strathclyde_a-new-public-transport-network_print.pdf
64 For further details, see: https://www.spt.co.uk/about-us/who-we-are/our-team/members/
65 Strathclyde Partnership for Transport, A Call to Action: The Regional Transport Strategy for the west of Scotland 2023-2028

the London or Manchester transport bodies, which are under the remit of elected Mayors, SPT's existing structure would lack a direct democratic mandate. The Scottish Government with SPT and local authorities must consider whether giving SPT tax-raising powers that go beyond transport would require further democratic accountability.

A new structure would not need to mimic England's metro mayors

In terms of creating this new governance structure, there are several options that the Scottish Government and local authorities could explore:

- A local government organisation with responsibilities around transport only (with or without a provost) with some defined revenue-raising powers. This could be inspired by the existing model of police and crime commissioners in England (e.g. a new 'Transport Commissioner' for Strathclyde).
- A combined authority model (like in Greater Manchester and Liverpool City Region) without or with a 'Metro Provost', where SPT would be the transport delivery arm (like TfGM or Merseytravel) but would also have powers over skills, housing and planning.

Another option would be to opt for a new combined authority like model, by expanding the current Glasgow City Region Cabinet to cover the 12 local authorities in Strathclyde (this would bring together the current Glasgow City Region and Ayrshire 'Growth Deal' areas).[66] An advantage of this model is that the body would bring together transport with economic functions, and it could have powers over additional levers, for example, planning, allowing transport and land use policy to be brought together. This would better equip it to address the longer-term challenges around the expansion of transport infrastructure combined with increasing residential density around public transport stops. If achieving these aims of making SPT work more effectively in the longer term requires a smaller geography (i.e Glasgow City Region), this should be considered as a future option.[67]

66 For further details, see: https://glasgowcityregion.co.uk https://www.ayrshiregrowthdeal.co.uk

67 However, the key authorities as shown in the modelling are Glasgow City, North Lanarkshire, South Lanarkshire, East Renfrewshire, Renfrewshire, West Dunbartonshire, East Dunbartonshire, East Ayrshire, North Ayrshire and Inverclyde.

Phase 3: Set a plan to devolve rail stations and integrate local rail services

Time horizon: From 10-20 years

Devolve control of local rail to better integrate services and increase the incentives around land development

A longer-term goal would be to devolve control over local rail services and associated stations to SPT (such as Wemyss Bay - Glasgow Central and the Girvan - Glasgow Central) and associated stations to SPT. This move should go forward once SPT has built its institutional capacity with bus franchising and the other policies set out above. As ScotRail is currently within public ownership this process may be quicker than seen elsewhere due to no franchise currently being in place (e.g., in Liverpool, Merseytravel must wait until the current franchise ends in 2028 before taking full control of their suburban rail).[68]

This would have three benefits. Firstly, it would fully integrate all public transport in the area. Secondly, it would provide an incentive to develop housing and commercial space on land owned around stations, so increasing density of development. Thirdly, it would provide extra revenue from commercial-related activities such as advertising and retail activities in the stations.

68 For further details, see: https://www.modernrailways.com/article/merseyrail-infrastructure-devolution-agreed

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