

Glasgow and Strathclyde Strategic Bus Network Plan – Summary

Document no: 6
Version: 0

Glasgow City Council and Strathclyde Partnership for Transport
B2455100

Glasgow & Strathclyde Strategic Bus Network Plan
12 July 2023



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Client name: Glasgow City Council and Strathclyde Partnership for Transport
Project name: Glasgow & Strathclyde Strategic Bus Network Plan
Client reference: B2455100 Project no: B2455100
Document no: 6 Project manager: CR
Version: 0 Prepared by: TJS
Date: 12 July 2023 File name: GSSBNR – summary
Document status: Final

Document history and status

Version	Date	Description	Author	Checked	Reviewed	Approved
0	12/07/23	Final	RC	TJS	TJS	CR

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Introduction

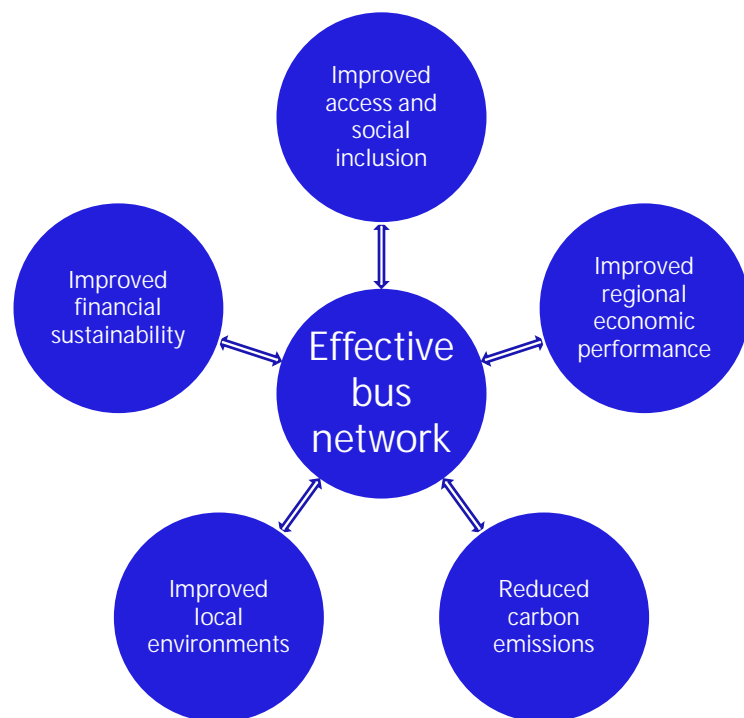
The vision of the Glasgow Bus Partnership Steering Group is of a City and Strathclyde Region where bus services form part of a network of connectivity enhancing the opportunities and wellbeing of those who live or visit; providing safe, affordable, enjoyable connections; and reducing road congestion, noise and air pollution.

The partners recognise that, despite recent and on-going efforts by themselves and others, there is much that needs to be done to improve both services and infrastructure in order for the bus network throughout the region to be convenient, attractive, affordable and aspirational.

The Glasgow and Strathclyde Strategic Bus Network Plan defines the improvements that are required, seeking to deliver a world-class bus network for the region, fully integrated with the rest of the transport system and the region's wider needs. Doing so will realise the wide-ranging benefits that well used bus networks provide:

The network planning process has sought to:

- Strategically reflect on the requirements of a future bus network;
- Develop a concept network for future Levels of Service; and
- Present the general case for Supporting Bus Infrastructure.



The process has a 2030 horizon for change, set to coincide with the timescale for achievement of the Scottish Government's ambitious 20% car kilometre reduction target (at least 30% for Glasgow). However, it is a strategic component part of this review for the proposed network to look both to and beyond this 2030 horizon and set a baseline for the longer-term development of the bus network, ensuring it integrates with other transport modes and the region's wider priorities.

A phased approach to network development has been adopted. This considers the:

- Opening Network, representing what we currently know about the bus network in and around Glasgow in relation to supply, demand and current issues at the time of writing;
- 2025 Network comprising of smaller scale alterations that could be made in the shorter term as a stepping stone towards greater change; and
- 2030 Network, presenting the longer-term view for service levels and infrastructure requirements for the bus network, aligned with the broader aspirations of Clyde Metro.

Need for Change

The need for change

Bus is the primary transport choice for many people in the region. Almost 20% of the labour force in Glasgow rely on bus to travel to work.

However, bus use has fallen more in Glasgow than any other Scottish region since 2009/10, for reasons including:

- Declining quality of bus services and passenger information;
- Many bus vehicles were old (until recent investment);
- Ticket prices were considered to be prohibitive for many passengers; and
- The previous partnership of public and private organisations that oversaw bus provision had foundered.

The frequency of services has declined, and bus speeds have reduced in Glasgow more than anywhere else in Scotland: bus journey times have increased by as much as half an hour over 25-30 years, with others up to 60% longer than they were historically.

Without intervention, it is unlikely that market demand will be sufficient to support many services, and bus use in Glasgow will continue along current declining trends, which will mean a transport environment that fails to support the strategic aims of national, regional and local government.

An evidence-led review

Extensive analysis of baseline data has underpinned this network review. This has highlighted the diversity of needs for bus services that the different communities of the region face, in terms of travel needs and demand, and also of the level of bus service provision. Data themes used in this review have included:

- Car reliance and preference – used to determine propensity to use or necessity of car and whether this is influenced by public transport accessibility/provision;
- Lower-income households with no car – identification of areas which are reliant on public transport due to not being able to afford a private vehicle;
- Bus reliance for travel to work – identification of areas that are reliant on bus services, ensuring the future network caters for these locations;
- Quality of public transport provision – metric to demonstrate the quality of public transport provision;
- Public transport competitiveness versus car – identification of areas which are disadvantaged by poorer public transport journey times to key destinations in relation to car;
- Interchange: reliance on multi-service trips – identification of areas without direct public transport connections to essential services and key destinations;
- Existing and future demand – identification of where existing trips and future trips will be made to/from and the required changes in the bus network to support;
- Impact of COVID on public transport provision – used to determine the impact of COVID on public transport provision, comparing 2019 and 2022 baseline;
- Health: reliance on public transport – used to ensure people with health conditions are able to access healthcare by public transport;
- Reliability – used to determine where buses are delayed on the network.

Approach

The work to form the new Strategic Bus Network Plan has:

1. Analysed demand for and supply of buses in the region;
2. Completed a visioning exercise for the role of bus up to 2030;
3. Developed a spatial network plan and approach to service delivery;
4. Appraised and developed a Strategic Business Case of options for change;
5. Defined a route map to implementation of the preferred network.

The work has benefited from input from the members of the Glasgow Bus Partnership: the eight Glasgow City Region local authorities, Strathclyde Partnership for Transport, bus operators (through their alliance, GlasGo) and bus passenger representative groups.

Although a large amount of data has been analysed to inform recommendations, comprehensive information on extant bus use in the region was not available, which has limited the potential to accurately identify or appraise options for change. This review was also unable to comment on the potential opportunities or risks that any changes to the regulatory environment within which buses operate in the region may bring.

Mission and Objectives

The work identified that the 'mission' for the regional bus network needs to reflect:

- For passengers: the need for reliability, comfort, convenience, affordability, connectivity and accessibility;
- For operators: the need for certainty, efficiency and to reward innovation; and
- For the City Region: the need for cohesion, integration, sustainability, carbon reduction and growth.

To reflect this, the mission for the regional bus network is:

To operate an accessible and affordable bus network that provides reliability, comfort and convenience for passengers, and is a key component of a world-class, sustainable and fully integrated transport network that contributes to regional growth.

The objectives established to enable achievement of this mission are:

- To ensure that all bus services, bus stops and interchanges are fully accessible to all passengers;
- To set and maintain consistent levels of service for passenger on the network, based on defined frequency, reliability, capacity and vehicle quality metrics for each route;
- To provide fully integrated and paperless ticketing across all operators on the network, as part of wider public transport integration with rail, subway and future Metro services;
- To ensure that all communities across the region have convenient and reliable access to the bus network, regardless of the profitability of services in each area, and are well connected by bus to key economic centres;
- To continue to work towards a low emission fleet of buses across all operators on the network.

Key Network Components

Delivering the mission will rely on improvements to a range of factors including bus network coverage, service quality and information. To guide this, the new network has been constructed using a hierarchy of eight service types, to provide a minimum level of service on each route, and giving planners and users a clear expectation of what each bus service will deliver.

<p>Operational Characteristics:</p> <ul style="list-style-type: none"> ▪ Capacity; ▪ Operational spread; ▪ Frequency and headways; ▪ Priority; and ▪ Level of journey time certainty. 	<p>Network Quality Factors:</p> <ul style="list-style-type: none"> ▪ Distance between stops; ▪ Stop quality; ▪ Vehicle comfort; ▪ Information; ▪ Affordability; and ▪ Accessibility
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In summary, the operational characteristics of each level in the hierarchy are:

	Capacity	Operations	Headway	Priority
Regional Express	High	All week	30 mins	Bus lanes & signals
City Express	High	All week – more at peaks	10 mins	Bus lanes & signals
City Spine	High	All week – more at peaks	10 mins	Bus lanes & signals
Local Connector	Medium	All week	20 mins	Signals
Inter-urban Connector	Medium	All week	20 mins	Bus lanes & signals
Local/Town Service	Medium/low	All week	15 mins	Signals
Demand Responsive	Low	On demand	On demand	Limited
Community Transport	Low	On demand	On demand	Limited

And the network quality factors of each level in the hierarchy are:

	Stop spacing	Stop quality	Vehicle comfort
Regional Express	Limited stop	High – shelter, seating, RTPI, fully accessible	High
City Express	Limited stop	High – shelter, seating, RTPI, fully accessible	High
City Spine	>400m	High – shelter, seating, RTPI, fully accessible	High
Local Connector	~400m	Dependant on space but with minimum standard	High
Inter-urban Connector	~400m	Dependant on space but with minimum standard	High
Local/Town Service	~400m	Dependant on space but with minimum standard	High
Demand Responsive	n/a	With minimum standard in pick up/drop off zones	High
Community Transport	n/a	n/a – no fixed stopping points	High

The Network Plan

The development of the Network Plan for the region centred on two distinct approaches:

- A detailed city bus network plan, with identified/agreed cross-boundary bus routes into / out of the city;
- A regional framework for areas of influence outside the city.

The 2025 network

The network vision for 2025 seeks to reinstate those changes which were applied by operators to the Opening Network (2022/2023), respond to new demand resulting from changes to land use, introduce the levels of service hierarchy, and increase service levels on priority corridors for bus infrastructure improvements. The 2025 network is shown, at two scales, on Figure 1 and Figure 2 below.

The 2030 network

The proposed 2030 network seeks to deliver a bus network for the region that is key component of a world-class, sustainable and integrated transport network.

It will deliver substantial increases in bus service provision throughout the region, with many more buses providing additional services and improved Levels of Service. These improvements will be delivered on major existing bus corridors, on connecting routes, and also:

- Filling existing gaps in the network, in particular:
 - East End north-south orbital service;
 - Between Glasgow South and Paisley/Glasgow Airport/Renfrew;
 - Partick – Springburn north orbital, and
- To all major development sites.

These service changes will be supported by:

- Significant improvements to bus priority to improve journey speeds and reliability, with these improvements focussed on the main radial corridors but also through Managed Motorway provision;
- Increased number of access points onto the network (beyond that of individual bus stops) to encourage and enable increased accessibility and movement across the future network;
- Opportunity to access across different service types at key Mobility Hub locations;
- Future Park and Ride sites for high-income areas to transfer between car and future bus (or Clyde Metro) routes;
- Improved bus stations to improve operations and the passenger experience.

The proposed 2030 regional bus network is shown on Figure 3 and Figure 4 below. It is provided at two scales (for Glasgow, and for the wider region), firstly showing the new network, then showing how the new network varies from extant provision.

The figures below show how the 2030 network would differ from the Opening network. The darker lines show the greater increases in the frequencies, whilst lighter pink lines show smaller increases (less than 5 services per hour). Also shown are potential locations / areas for Park and Ride and Hubs and Interchanges:

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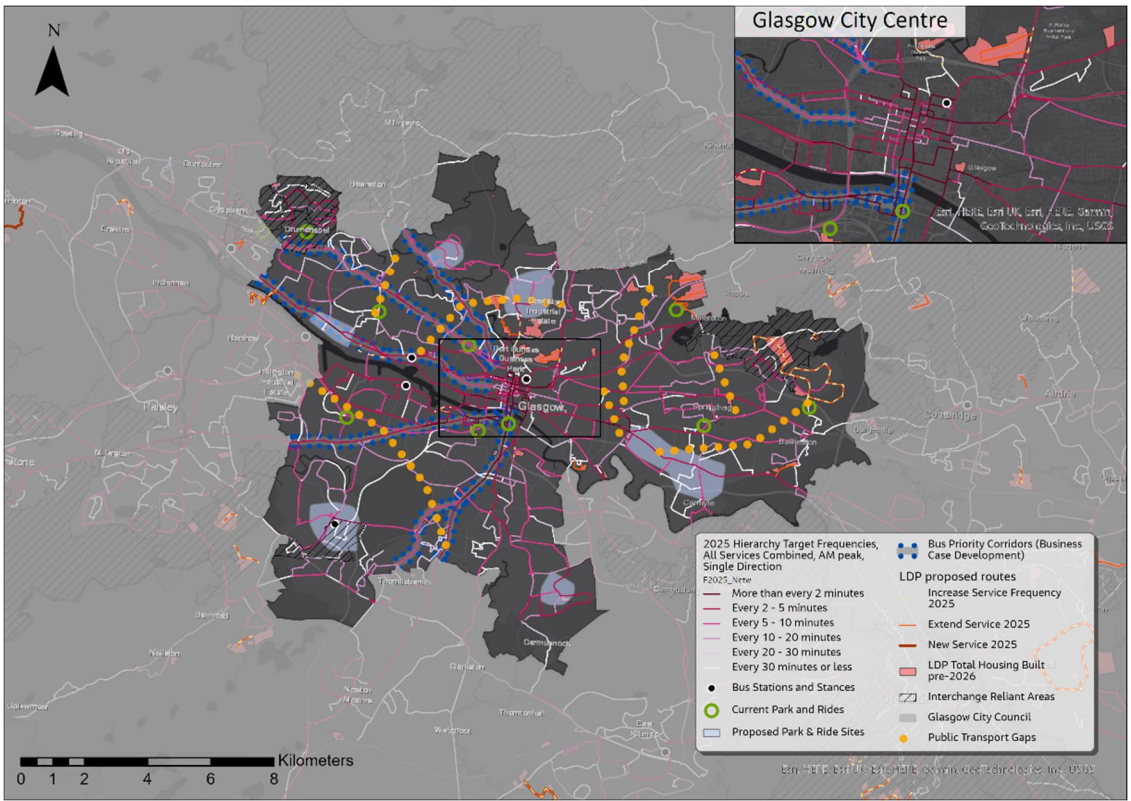


Figure 1: Proposed 2025 bus network service frequencies, with associated infrastructure requirements, at the Glasgow City Council scale

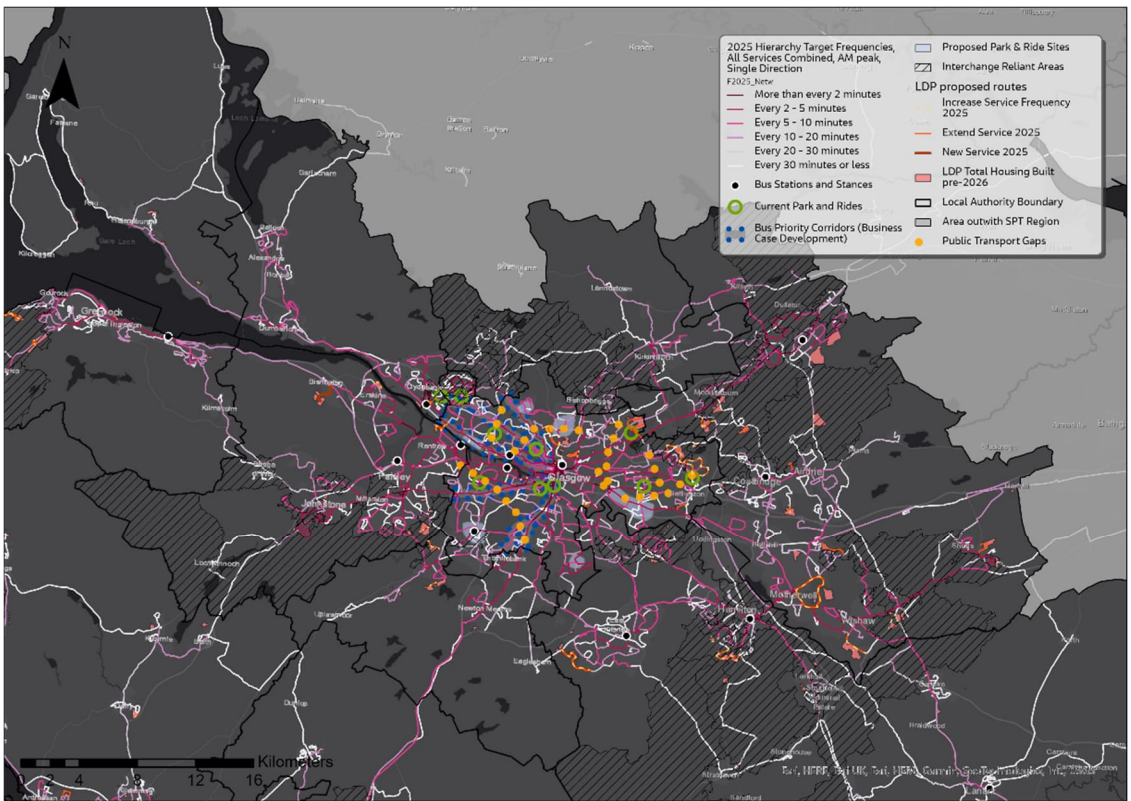


Figure 2: Proposed 2025 bus network service frequencies, with associated infrastructure requirements, at the Cross Boundary scale

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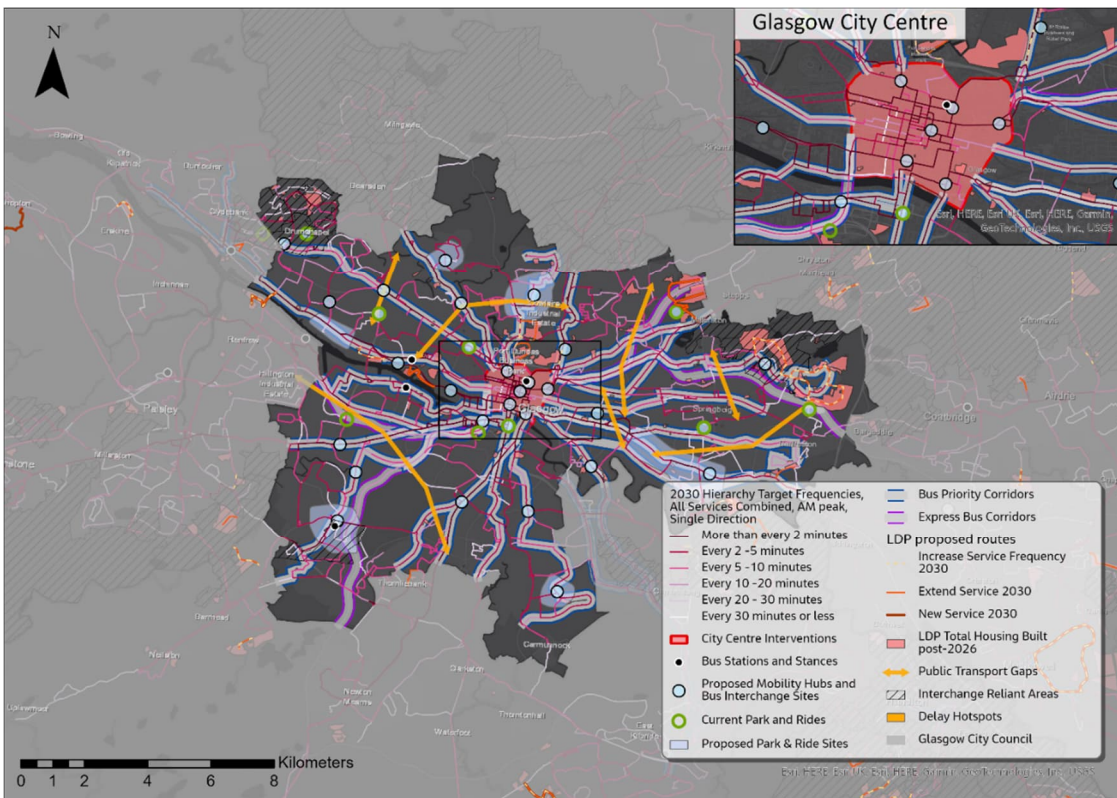


Figure 3: Proposed 2030 bus network based on target service frequencies, with associated infrastructure requirements, at the Glasgow City Council scale

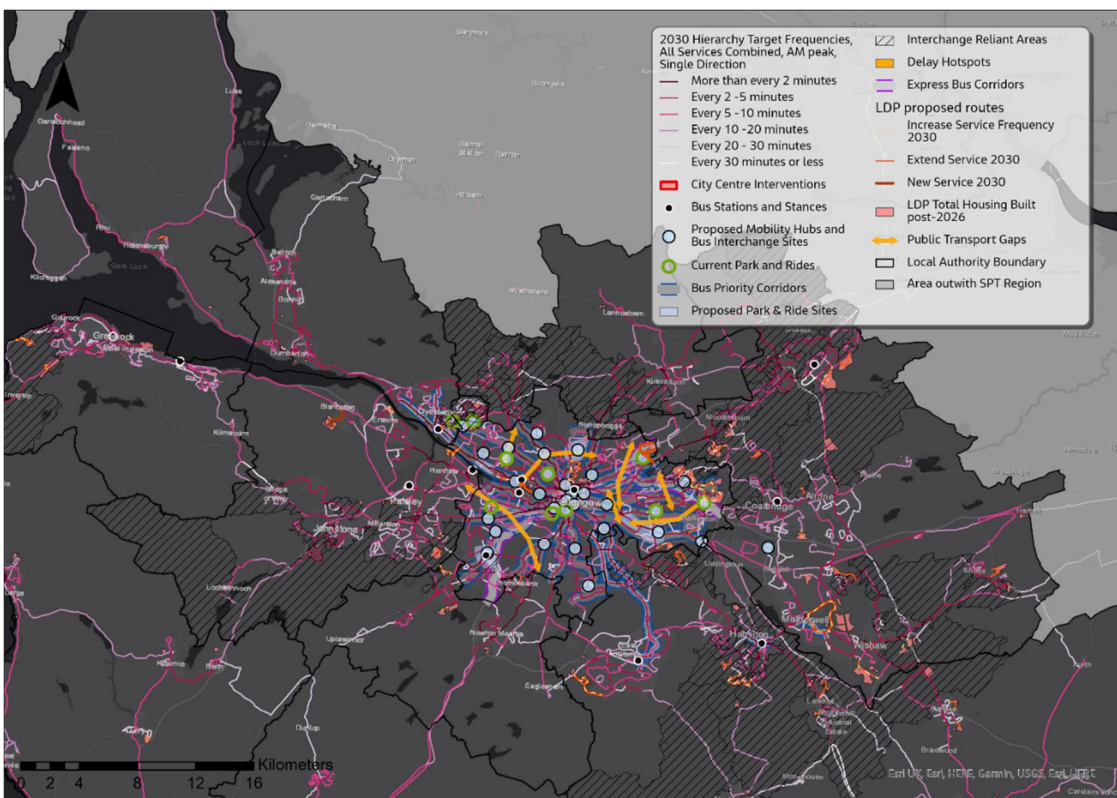


Figure 4: Proposed 2030 bus network based on target service frequencies, with associated supporting infrastructure measures, at the Cross Boundary scale

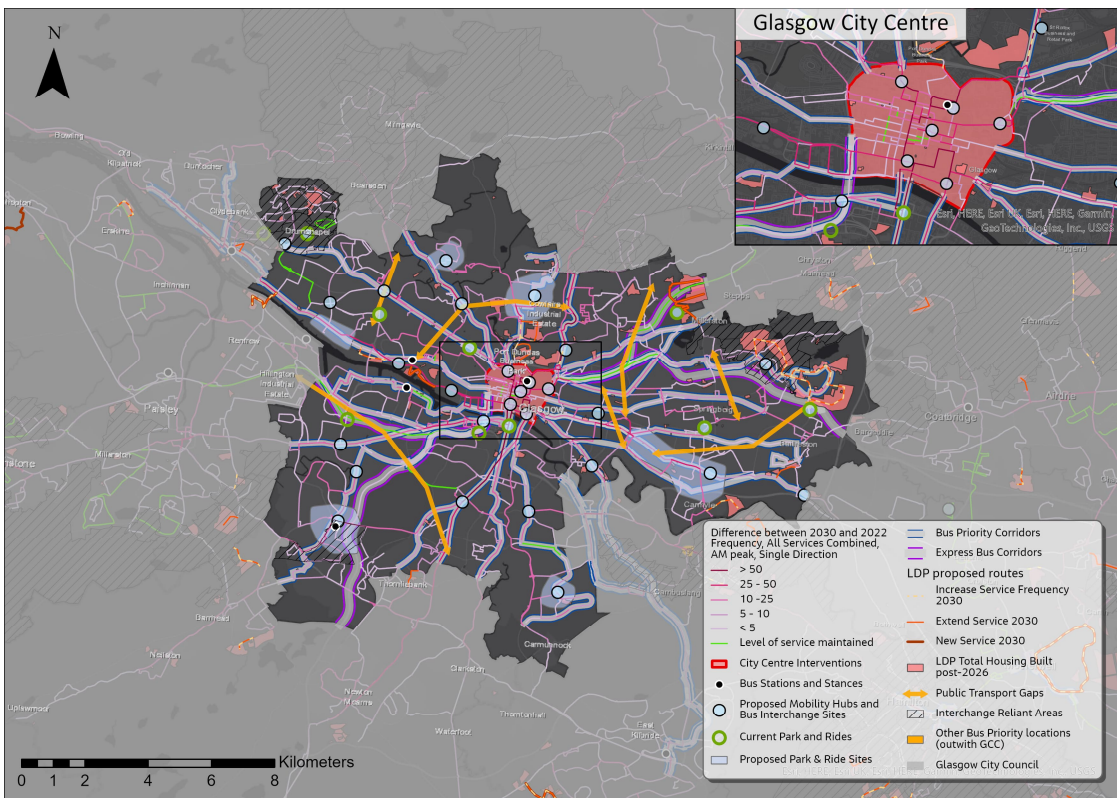


Figure 5: Changes in frequency between the 2030 and 2025 bus networks, with associated infrastructure requirements, at the Glasgow City Council scale

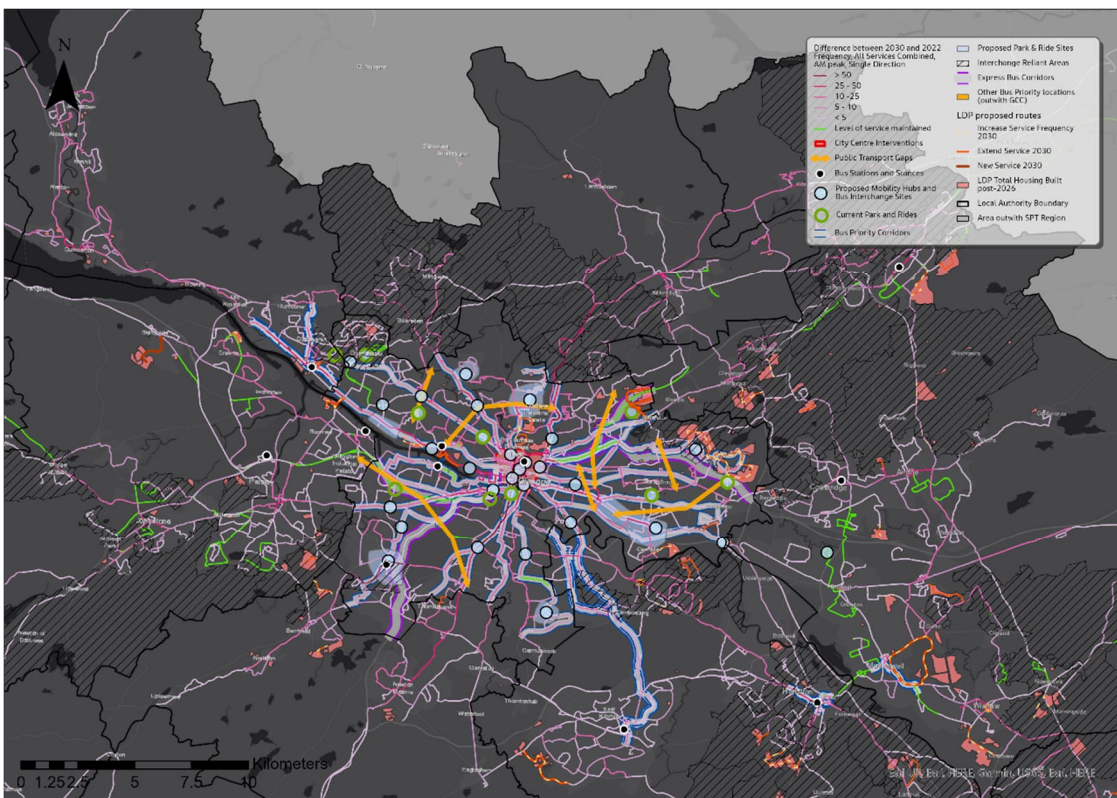


Figure 6: Changes in frequency between the 2030 and 2025 bus networks, with associated infrastructure measures, at the Cross Boundary scale

Strategic Business Case

A Strategic Business Case for the proposed Network plan considered its strategic, economic, financial, commercial and management implications and requirements, in order to test whether the concept is worthy of further development. This has demonstrated that:

- **Strategic Case:** that the proposed network makes strong contributions to its objectives, and also to those of the Regional Transport Strategy, the Glasgow Transport Strategy and other key policy outcomes. Delivery of the world-class 2030 network can contribute to strategic outcomes for improving accessibility and social inclusion, for reducing transport emissions, for improving connectivity and placemaking, and benefit public transport quality and integration;
- **Economic Case:** The proposed network will deliver substantial benefits to the region and its people, but will require significant investment of both capital and revenue funds. The benefits have yet to be quantified, but network operating costs are anticipated to be 100% to 125% greater than those of the current network, and the capital cost requirements estimated to be £800M – £850m for public transport infrastructure (bus priority, interchanges, etc) and £600M – £650M for purchase of new vehicles. A scenario-based approach has been considered as part of the appraisal, reflecting uncertainties in the future ticketing regime. This shows that the 2030 network will make strong positive contributions to objectives, though more so if integrated ticketing can be delivered fully (rather than partially as is the current situation):

Assessment Criteria ¹	Scenario A: 2030 network with fully integrated and paperless ticketing	Scenario B: 2030 network with existing ticketing regime
Objective 1 – Bus Service, Bus Stop and Interchange Accessibility	✓✓✓	✓✓✓
Objective 2 – Level of Service	✓✓✓	✓✓
Objective 4 – Network Access	✓✓	✓✓
Objective 5 – Emissions	✓✓	✓✓

- **Financial Case:** It is envisaged that Bus Partnership Funding will be the main source of funding for infrastructure measures, with match funding provided by Glasgow Bus Partnership partners. Operators may be able to get support with purchase of new vehicles from the ScotZEB fund. Sources for revenue funding requirements remain to be determined, and identifying these will need to be a core focus of future work;
- **Commercial Case:** There are a variety of Operational Models and Procurement Strategies that may be open to the Glasgow Bus Partners to deliver the preferred network. These may need to be different for different elements of the network, relating as they do to both infrastructure and vehicle issues, and located in many different local authority areas. The optimal approach to procurement therefore remains the subject of further investigation and decision;
- **Management Case:** The Glasgow Bus Partnership has an existing governance framework which is overseeing several workstreams of which bus network planning work is one element. However, the Regional Transport Strategy acknowledges the need for the development of a new governance framework at the regional level, which will need to be reflected in the approach adopted for this project. Agreeing the preferred approach to management of the changes is therefore a priority for future work.

¹ ✓✓✓ = major benefit; ✓✓ = moderate benefit

Delivering the Vision

Realising the vision as communicated by the 2030 network will require significant investment in both bus infrastructure and services, and likely need on-going revenue funding as well as capital investment.

The recommended steps to delivery of the network are:

- Infrastructure:
 - Glasgow City Council and local authority partners to continue to lead development work on the corridors currently being considered for Bus Partnership Funding, to complete business case and design stages, then secure funding to enable implementation;
 - Glasgow City Council, Strathclyde Partnership for Transport and local authority partners to continue to lead the development and delivery of Interchange hubs at key points on the periphery of the urban core to support the delivery of a Hub and Spoke services;
- Vehicles and services:
 - Local authorities and operators to work jointly to understand the full cost and revenue implications of the proposed service improvements (based on a comprehensive understanding of extant patronage);
 - Operators to deliver the defined service enhancements, including increased frequency, capacity and levels of priority for those service changes for which a positive financial case is proven, and for local authorities and operators to work jointly to identify sources of financial support for those that need it;
 - Operators to implement the full roll-out of a radial city network (in alignment with the corridors currently being considered for Bus Partnership Funding corridors), plus alignment with Clyde Metro, where known;
 - Operators to deliver provision for future demand, including from build out of development sites; and
 - Local authorities and operators to work jointly to identify opportunities to simplify the network, to reduce operational overlap and remove duplicate services.

All of the steps will need to be undertaken with close engagement with Transport Scotland to maximise their support and help funding potential. The Glasgow Bus Partnership has an important and ongoing role in the coordination of the technical work and engagement to ultimately deliver on the ambition of a world class public transport network.