

Glasgow City Centre Transport Strategy

2014-2024

February 2015



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Executive Summary

Executive Summary

This is Glasgow City Council's strategy for transport in and around the city centre. It forms part of a broader strategy for the city centre, which was launched by the Council in November 2013.

The overall aim of the City Centre Strategy is to ensure that Glasgow's city centre is an attractive and sustainable place for residents, visitors and businesses. Transport obviously plays a key part in helping to deliver that aim.

This strategy has been developed using the Scottish Transport Appraisal Guidance (STAG). This is an objective led process which enables the development of a balanced strategy through extensive consultation and taking account of existing policies. As a result, this strategy is based on the best available evidence.

The strategy acknowledges that the city centre is always changing. It seeks to achieve a balance between the varying transport needs and preferences of different users of the city centre. In that light, the main areas where we know that there are challenges are as shown on the next page.

Executive Summary

Walking and Cycling

- Pedestrian Environment Issues
- Poor Conditions for Cycling
- Poor Air Quality

Public Transport

- Public Transport Network Impacts
- Quality of Public Transport Provision
- Poor Air Quality

Traffic and Parking

- Traffic Movement Restrictions
- Traffic Demand Issues
- Accidents
- Poor Air Quality
- Parking

Objectives

Five objectives have been defined which are consistent with the wider strategic context, designed to address the issues above and have also been developed taking account of the feedback received from consultation. The five objectives, presented in no particular order and each carrying equal weighting, are:

- 1. Improve the health of Glasgow's citizens** by increasing the modal share of trips to/from and within the city centre by active travel modes (walking, cycling and public transport);
- 2. Support the growth in economic vibrancy of the city centre**, by ensuring access for residents, blue badge holders, tourists and traffic essential to sustain economic functions;
- 3. Enhance the quality of main pedestrian spaces**, key development areas and main access routes;
- 4. Reduce harmful traffic emissions and noise**; and
- 5. Enhance road safety and personal security** for all city centre users.

Executive Summary

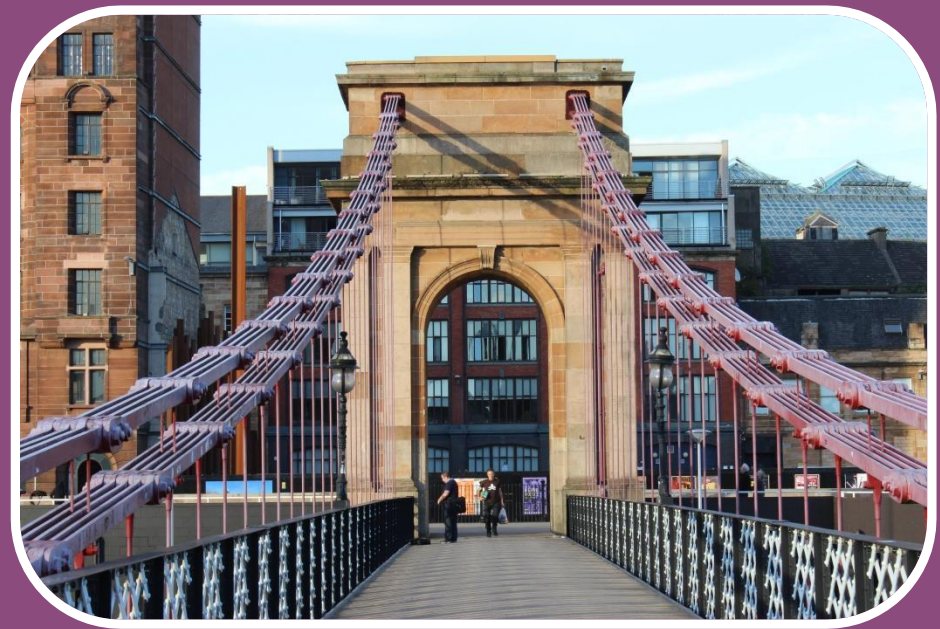
Strategy Summary

Key actions contained in the strategy include:-

- Facilitate the introduction of the 'Avenues' concept on a number of streets commencing with Sauchiehall Street. This may include the removal of some on street parking to allow the widening of footways and introduction of cycle facilities;
- Implement a series of cycle routes through the city centre mainly segregated from traffic;
- Restrict traffic access to Gordon Street between Renfield Street and West Nile Street;
- Investigate the implementation of a 20mph zone in the city centre;
- Undertake a review of loading and servicing facilities;
- Undertake a review of disabled parking provision;
- Undertake a strategic review of parking facilities;
- Review and improve signing and information provision for all users of the city centre;
- Promote the introduction of bus gates/traffic management measures on the main north/south bus routes through the city centre on Renfield Street and Oswald Street;
- Investigate the introduction of infrastructure improvements on Union Street to facilitate bus operations and improve the pedestrian environment;
- Review bus stops and usage throughout the city centre and in particular on the Renfield Street/Union Street corridor; and
- Consider ways to introduce a Low Emissions Zone within an emerging national framework.

Ongoing consultation will take place on particular proposals as they are brought forward. The strategy itself will also be subject to review and potential amendment as it is developed. Taken together, the challenges and proposed solutions described in the rest of this document represent a significant contribution to the continuing vibrancy of the city centre and its sustainable growth as one of Europe's great centres of urban life.

1.



Introduction

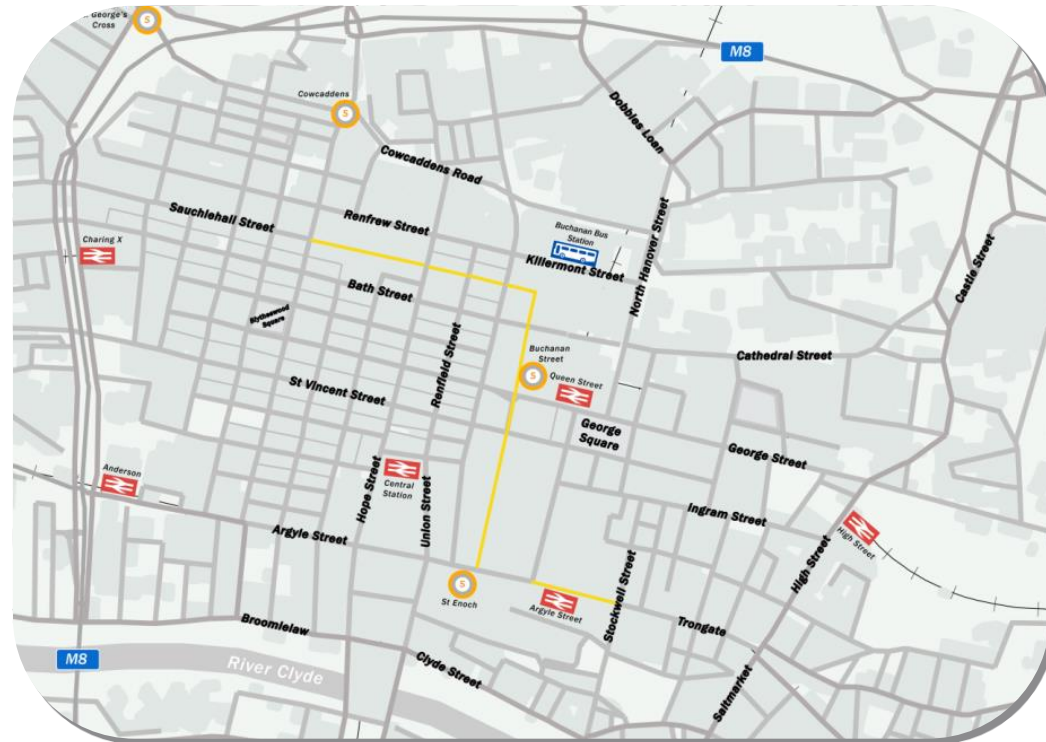
Purpose of the Strategy

Introduction

In November 2013 Glasgow City Council launched a City Centre Strategy aimed at tackling the city centre's economic, planning, environmental and traffic issues in November 2013. The development of a Transport Strategy was a key action of the overall Strategy. A fundamental aspect of the City Centre Strategy is the Districts Strategy, which involves dividing the city centre into nine distinct Districts and the establishment of an individual Regeneration Framework for each. The interaction with the Transport Strategy will play an important role in how each Regeneration Framework is developed. The City Centre Transport Strategy has sought to:

- **Identify Problems** that currently affect travel in and around the city centre and that could affect it in the future;
- **Understand Development Proposals** and their implications for transport in the city centre; and
- **Identify Solutions** to improve and promote more sustainable travel in and around the city centre.

The area covered by the City Centre Transport Strategy is broadly contained within the boundaries of the M8, High Street and the River Clyde as illustrated in the figure opposite.



Context

City Centre Transport Strategy

Glasgow City Council has produced this City Centre Transport Strategy to give clear guidance on how all forms of transport will be delivered in the city centre for the next 10 years, including the role that transport will play in supporting wider economic prosperity for Glasgow, by making the city centre an attractive place to work, shop and visit.



Consultation

The final strategy has been developed following a comprehensive consultation process, which included a public consultation exercise in April/May 2014. It was approved by Executive Committee on 5th February 2015.

Preparation Process



Scottish Government's Transport Appraisal Guidance

The City Centre Transport Strategy has been developed using the Scottish Transport Appraisal Guidance (STAG). This best practice guide provides a framework for comparing potential transport schemes and strategies to assist in identifying preferred solutions. It is an objective led process which enables the development of a balanced strategy. However, conflicts of interest are inevitable and it is not always possible to fully resolve these. Instead the STAG process seeks to highlight where these conflicts exist and minimise them as much as possible.

There are four elements to the STAG process:

- **Pre-appraisal:** understanding what problems and issues need addressed and what opportunities there are to improve transport;
- **Part 1 appraisal:** where potential solutions are assessed at a high level and any that are not suitable are discarded;
- **Part 2 appraisal:** where remaining potential solutions are assessed in more detail, including transport modelling where appropriate, to determine which provide the greatest benefits and least disbenefits;
- **Post appraisal:** developing a monitoring and evaluation plan to assess how well the potential solutions deliver the anticipated benefits.

A key part of the STAG process is widespread and ongoing consultation with those likely to be affected by the proposals. The preparation of this strategy has involved a comprehensive consultation process, including regular consultation with key organisations during the process of preparing the strategy.

Strategy Context

The Transport Strategy is just one component of a much wider City Centre Strategy and fits into a broad strategic context. This includes the existing Local Transport Strategy covering the entire council area, Glasgow City Plan 2 (the adopted Local Plan) and the emerging Glasgow City Development Plan which will replace it, as well as the suite of Air Quality reports which set and report levels of emissions which are closely related to transport.

Future Glasgow Vision

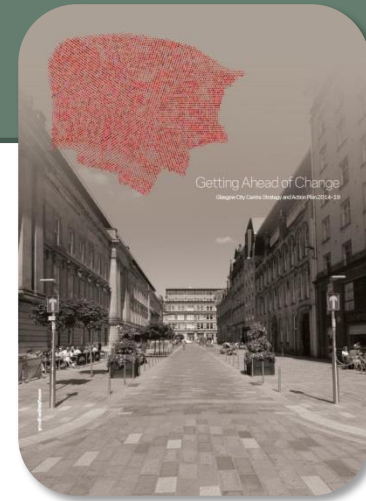
In 2011, Glasgow made a strong statement of intent about the city's future, encapsulated in Future Glasgow, a vision of what kind of place the Council, partners and the people of Glasgow would like the city to become over the next fifty years.

It is a vision of a leading European city, where creativity, enterprise and cultures will flourish. Everyone will have the chance to enjoy an active, healthy and fulfilling life and neighbourhoods will break free of the problems caused by the industrial decline during the twentieth century.

The Council is committed to promoting active and sustainable travel as part of a healthy lifestyle through greater use of walking, cycling and public transport. This is a core part of the future vision for Glasgow.

The city centre has been declared as an Air Quality Management Area (AQMA) since 2004. The AQMA covers both NO₂ and PM₁₀, pollutants closely linked to transport, and its boundary generally coincides with the City Centre Transport Strategy area. The city centre AQMA is bounded to the west and north by the M8 motorway (with its high traffic flows). In the city centre, Hope St, Renfield St and Union St are predominately street canyons where airborne pollutants are slow to disperse.

Summary of Glasgow City Centre Strategy and Action Plan 2014-2019



City Centre Strategy

The City Centre Strategy aims to lay the foundations of the Future Glasgow Vision to allow it to compete within Scotland and the UK and with other leading European cities.

The City Centre Strategy has adopted a comprehensive, integrated, approach to address the many dimensions of city life with over 55 defined actions.

Transport has a fundamental role to play facilitating and supporting initiatives within it, and each potential transport intervention has been assessed with the City Centre Strategy firmly in mind.

Integrating Transport with the City Centre Districts

City Centre Districts

A fundamental component of the City Centre Strategy will be the establishment of nine new city centre Districts (shown adjacent) and the creation of a Regeneration Framework for each of these Districts. The Districts strategy is designed to be an overarching, long-term urban planning framework for Glasgow city centre's public spaces and neighbourhoods.

The key principles underpinning these frameworks are:

- Good transport linkages;
- Balanced priorities for all city centre users;
- Lighting and safety;
- Integrated green infrastructure;
- Active street frontage, particularly on south facing sides of the street;
- Flexibility in land-uses in parts of the city centre; and
- Proactive incentive schemes for short and medium term land-uses.

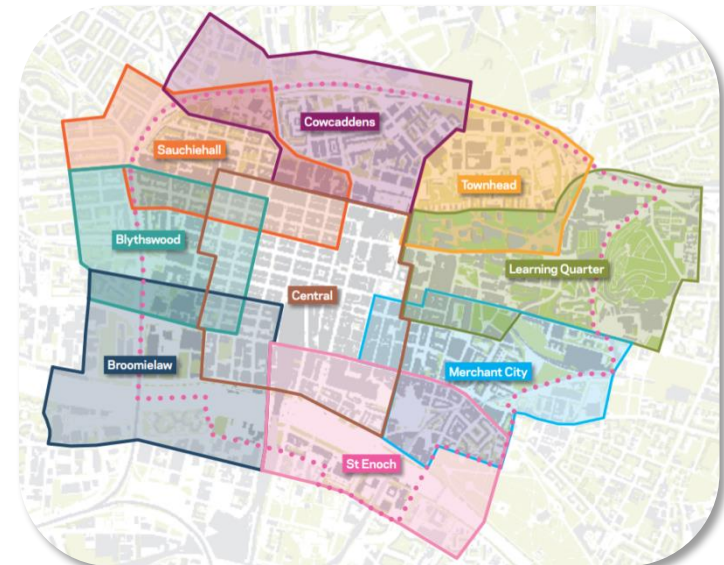
The Transport Strategy therefore gives particular emphasis to supporting these seven principles and helping to deliver the specific vision for each part of the city centre. The Transport Strategy shows how the transport proposals support close integration with the relevant Regeneration Frameworks for each district.

Based on "Getting Ahead of Change:
City Centre Strategy and Action Plan 2014–19" (November 2013)

At the same time, it is recognised by the Glasgow Economic Commission, a partnership of public and private leaders, that it is vital that the attractiveness to private sector investment is maintained and enhanced for the benefit of the economy.

As such, it must enhance its connectivity – both real and virtual – and exhibit high place quality – for the benefit of businesses and the city's people, workers, shoppers and visitors. The city centre is Glasgow's shop window – and it needs to be 'well dressed' and maintained.

Transport needs to play its part in supporting the District Strategies and contributing to Glasgow's continued economic vibrancy



Policy Linkages

The City Centre Transport Strategy has not been developed in isolation. As well as the **Future Glasgow Vision** and the associated **City Centre Strategy**, other government and council policies will influence development and delivery of the strategy, the most notable of which are summarised below.

City Development Plan

The Plan aims to ensure that Glasgow is a connected city characterised by sustainable and active travel, by:

- Supporting better connectivity by public transport;
- Discouraging non-essential car journeys;
- Encouraging opportunities for active travel;
- Reducing pollution and other negative effects associated with vehicular traffic; and
- Optimising the sustainable use of transport infrastructure including the River Clyde and Forth & Clyde Canal, and supporting economic development.



The **Glasgow Central Conservation Area Appraisal** (March 2012) has established Character Areas which have guided preparation of the City Centre Strategy.

The **Glasgow City Centre Transport Strategy** reflects all of these documents and, in particular, takes a clear direction from the **City Development Plan**.

Glasgow City Council is also developing an **electric vehicle policy** to promote and support the use of plug in vehicles.

How is the city centre currently used, and what are the Aspirations for the Future?

Transport is a Derived Demand

People move around for a wide variety of reasons, for example to access leisure opportunities, travel to work, or for retail and shopping purposes. Very few people travel simply for enjoyment without some other ultimate purposes. Consequently, transport is a derived demand – the need to travel is caused by some other need.

There are many reasons why people travel into and through the city centre, and the Transport Strategy needs to take all of these purposes into account. For example, the needs of commuters may be very different to those of shoppers, and people travelling late at night will have very different concerns to those travelling during the day. Discretionary travel (ie where the traveller has a genuine alternative, for example to shop or undertake leisure activities elsewhere) must meet different quality goals to that for commuting.

The City Centre Transport Strategy reflects that fact, and has been developed in such a way that it supports the wider ranging vision of the City Centre Strategy.

Supporting Transport for All Purposes

As well as catering for people travelling for a variety of purposes, the strategy recognises that there is a need to retain access for essential services such as deliveries and cleansing activities, for those people who live in the city centre, for those with particular travel needs such as mobility impaired people, as well as for the emergency services.

*City Centre Strategy
and Action Plan 2014-
2019
Core Principles*

ECONOMIC GROWTH

Attract investment, expertise and entrepreneurship.

INCLUSION

Increase the access and attributes of the city centre for all.

SUSTAINABILITY

Support initiatives and activities that provide long-term opportunities while protecting our natural resources.



2.



A Changing City Centre

Transport and Development Proposals

The city centre is constantly changing and evolving as land-use developments are taken forward and economic activity generates turnover in existing land-uses. This can change the need for transport, as the demand to travel to different parts of the city centre may increase or decrease accordingly. Understanding the likely impacts of the major land-use development proposals is therefore critical to developing a City Centre Transport Strategy.

Alongside this there are also proposals for significant transport schemes which will have a major impact on the accessibility of various parts of the city centre as well as possibly leading to some major transport routes shifting to new corridors. Understanding how these relate to existing and future demand to travel is crucial.

The land-use and transport proposals affecting Glasgow city centre in the short to medium term include:

- **Fastlink:** a bus rapid transit (BRT) service that will link the city centre with the new Southern General Hospital. Within the city centre Fastlink will serve Central Station, Queen Street Station and Buchanan Bus Station. Fastlink is due to become operational in 2015;
- **Expansion of Fastlink** to other routes from the city centre will be explored once the initial route is complete;



Transport and Development Proposals

- **Buchanan Galleries:** proposals are being progressed to extend the Buchanan Galleries Shopping Centre and relocate the multi-storey car park to the site of the existing Queen Street station car park on North Hanover Street;
- **Strathclyde University:** have aspirations to move the focal point of their campus to the north around Cathedral Street and to reduce the severance caused by the high levels of traffic on Cathedral Street; and
- **Public Realm:** there is an ongoing programme of public realm enhancements within the city centre.



Context for transport and development in the Proposed City Development Plan

KEY AIM 1

Creating and maintaining a **high quality, healthy** place



KEY AIM 2

Developing a compact city form that supports **sustainable** development



3.



Transport Issues in the City Centre

Transport Issues in the City Centre

Summary of Transport Issues in the City Centre

The city centre faces a number of transport problems which this strategy seeks to address. These issues have been identified through extensive analysis and consultation and have been summarised as:

Walking and Cycling

- Pedestrian Environment Issues
- Poor Conditions for Cycling
- Poor Air Quality



Public Transport

- Public Transport Network Impacts
- Quality of Public Transport Provision
- Poor Air Quality

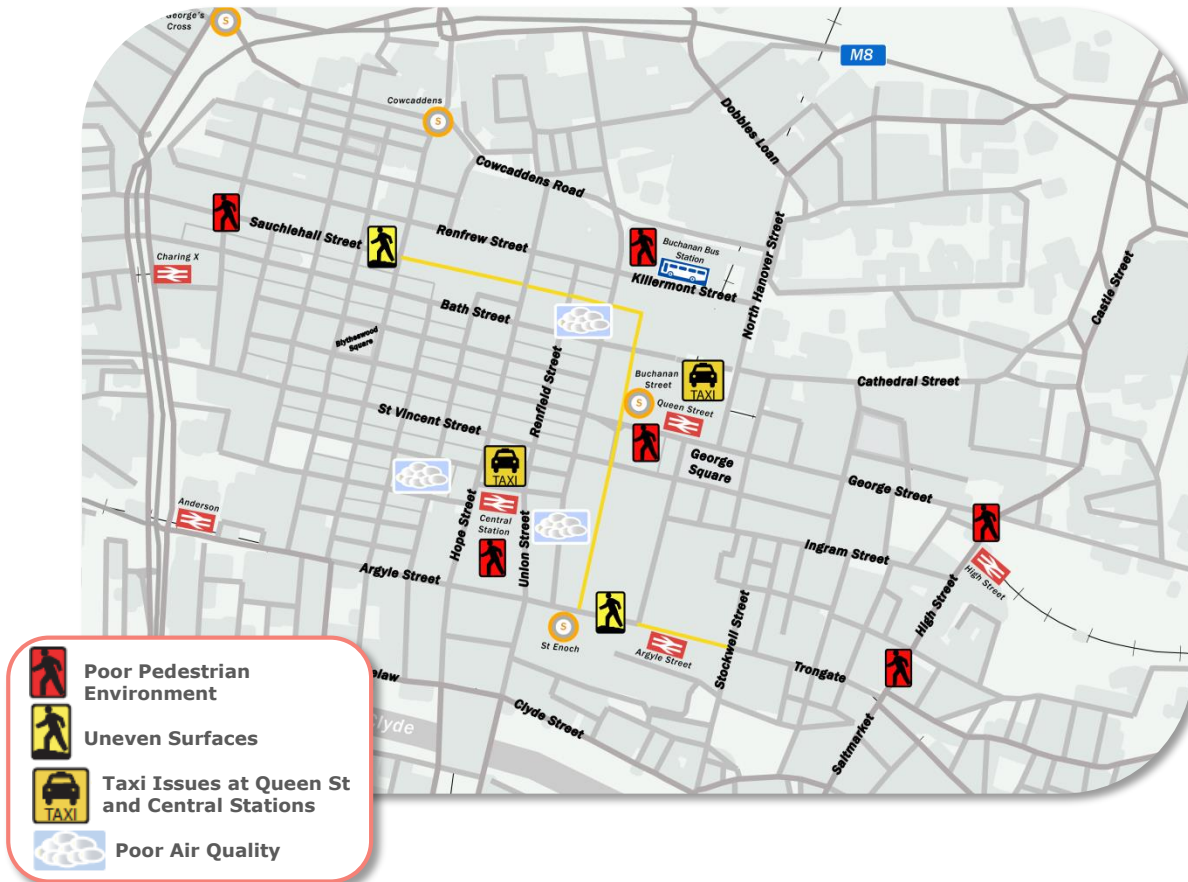


Traffic and Parking

- Traffic Movement Restrictions
- Traffic Demand Issues
- Poor Air Quality
- Accidents
- Parking



Pedestrian Environment Issues



- **Poor Pedestrian Environment:** in some areas around the city centre the streetscape is of a low standard making these unattractive locations to pedestrians. Contributing factors to the poor quality environment include poor footway surface, poor lighting, and conflicts with vehicles. Problem locations have been identified at Sauchiehall Street, Glasgow Central Station, Queen Street Station, Buchanan Bus Station, Argyle Street, High Street and in the International Financial Services District (IFSD).
- **Conflicts with Taxis:** Glasgow Central and Queen Street stations are focal points for conflicts between high numbers of pedestrians and taxis.
- **Air Quality Issues:** poor air quality from high traffic flows makes streets like Hope Street, Renfield Street and Union Street unattractive to pedestrians.

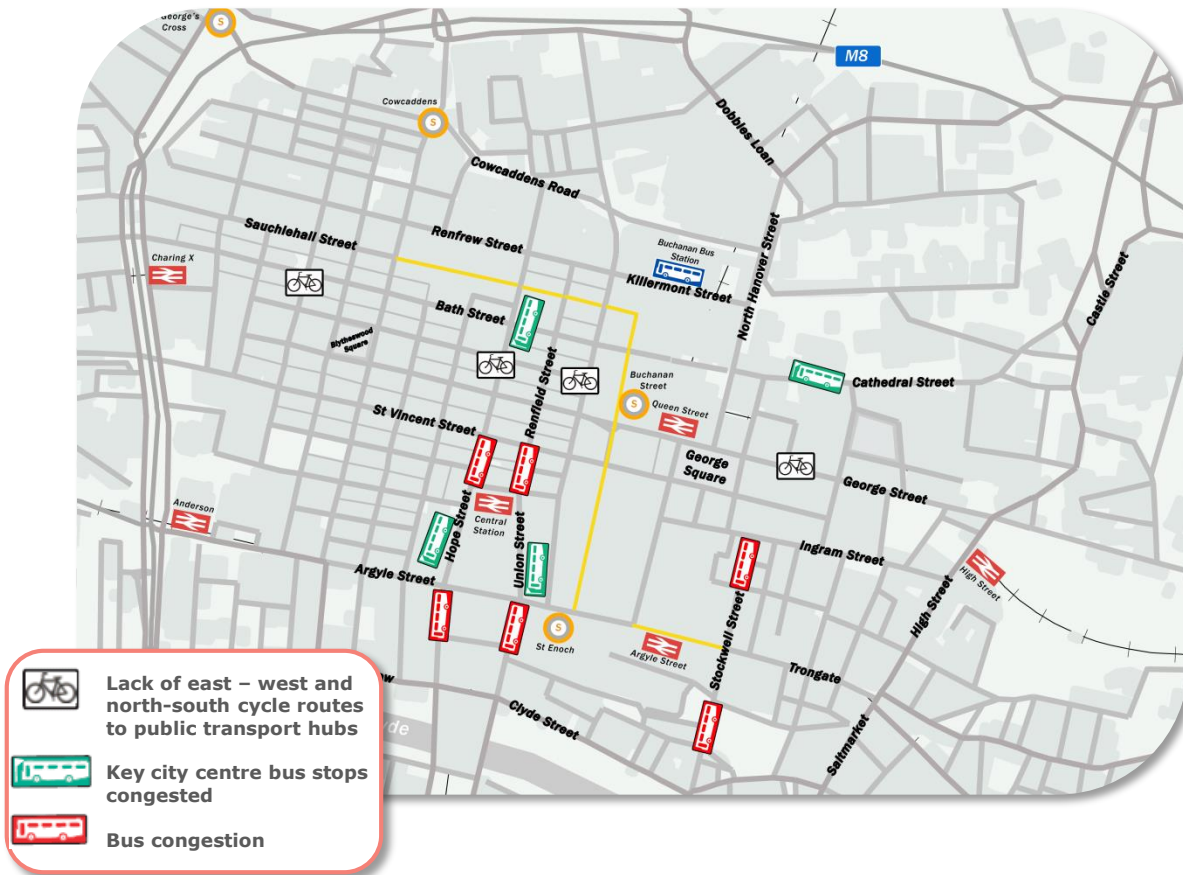
Poor Conditions for Cycling



- **Poor Links between Routes:** the map shows that current cycling provision in the city centre area is limited. The existing routes don't provide integrated, continuous links through the city centre, to key facilities like shopping and transport hubs or to the wider cycle network (including the National Cycle Network - NCN). The lack of a coordinated network also means it is difficult for cyclists to travel across the city centre from east to west or north to south.
- **Safety Concerns:** high traffic volumes create safety issues for cyclists which makes it unattractive for them to mix with general traffic on the busiest traffic routes.
- **Gradients:** the city centre has many steep hills which make cycling on some streets difficult with little signage to direct people onto more attractive routes.
- **Air Quality:** high traffic volumes create poor air quality for cyclists.

Public Transport

Public Transport Network Challenges



- **Bus Congestion:** many bus routes are concentrated on a small number of streets creating congestion and pinchpoints on the main bus corridors like Hope Street, Renfield Street, Union Street, Jamaica Street, Argyle Street and Stockwell Street. Resulting congestion affects bus journey times and service reliability with bus operators often compensating by running more buses to maintain their timetable creating even more congestion.
- **Bus Stop Congestion:** many key bus stops are congested from a combination of the volume of passengers waiting at them and narrow pavements. Problem areas include Hope Street, Union Street and Cathedral Street.
- **Cycle & Pedestrian Links:** there is a lack of cycle and pedestrian route integration with main public transport hubs.

Public Transport

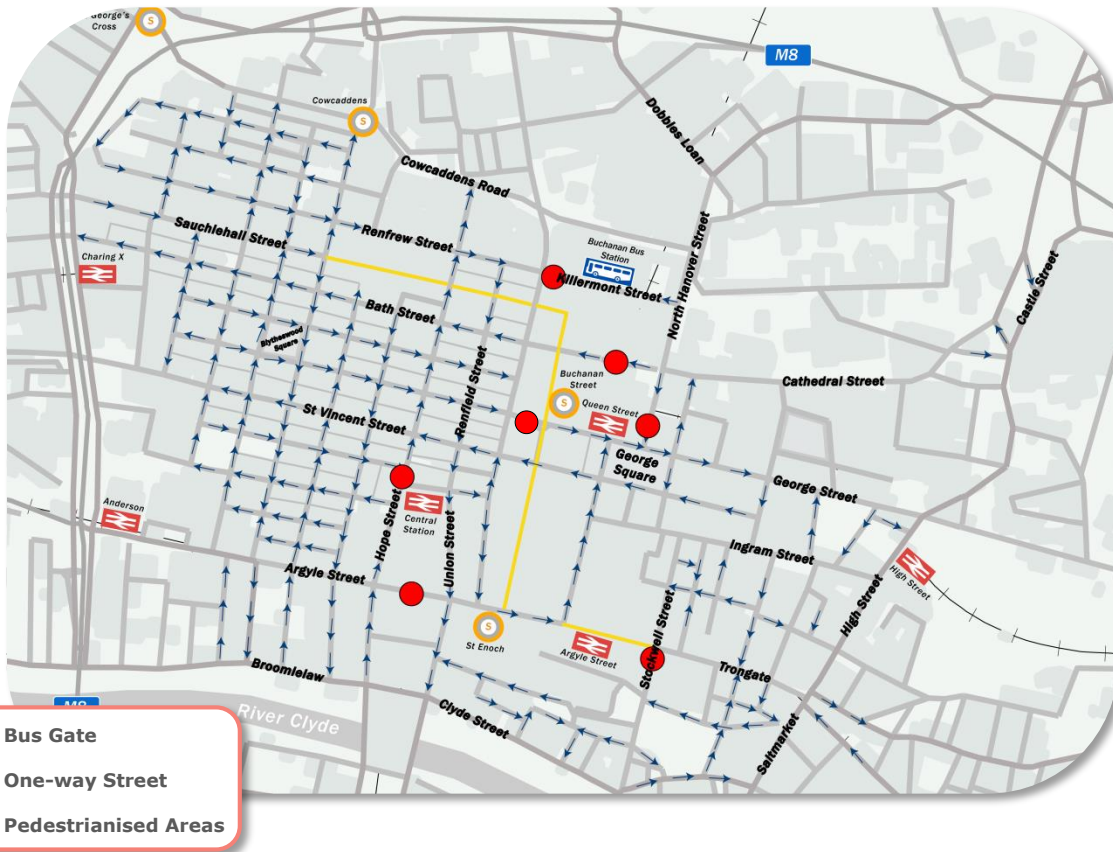
Quality of Public Transport Provision



- **Bus Routes:** private operators choose which routes to run leading to overlaps and gaps in provision occurring. Limited influence over operators makes it difficult to manage the network and ensure good integration with other modes of transport. A focus on main corridors means that there can also be a lack of accessibility to buses in some areas.
- **Railway Stations:** there are poor linkages between Glasgow Central and Queen Street stations as they serve separate rail networks to the south and north of the city centre. Queen Street station is also operating at capacity.
- **Information:** there is sometimes no, or out of date, information provided on public transport services.
- **Ticketing:** there are few integrated ticketing options available, with Strathclyde Partnership for Transport (SPT) Zoncard being the only ticket allowing travel on all public transport.
- **Infrastructure:** as well as specific examples described above, in some parts of the city centre infrastructure for buses is of low quality, including bus stops and the areas immediately around them. It is essential that intending passengers are presented with an attractive, safe waiting environment.

Traffic and Parking

Traffic Movement Restrictions



- **One-way System:** there is a complicated and confusing network of one-way streets which can make getting around and across the city centre difficult, especially for those unfamiliar with the area.
- **Servicing & Deliveries:** the city centre depends on deliveries to operate but in some areas difficulties in accessing premises by goods vehicles can cause problems for delivery drivers and lead to illegal parking. This causes congestion and frustrations for other drivers, and issues for pedestrians and cyclists as well.



Traffic and Parking

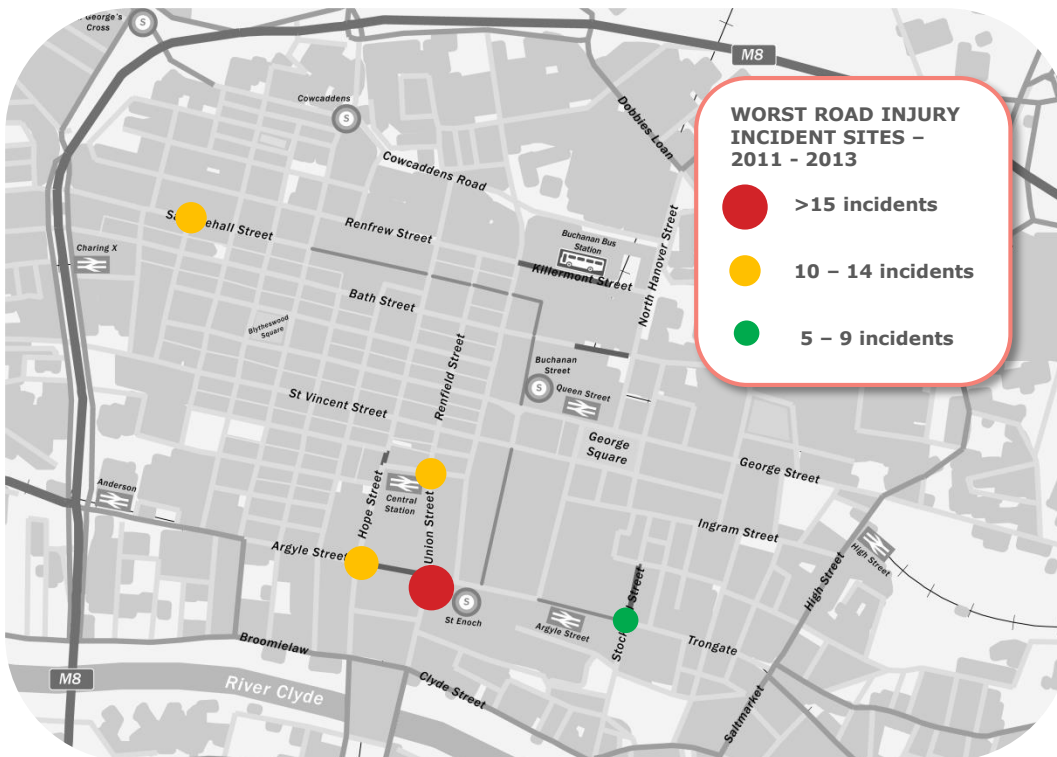
Traffic Demand Issues



- **Peak Period Demand:** many key streets into and out of the city centre experience high levels of traffic during the morning and evening rush hours. Some key through routes in the city centre also experience high traffic flows at rush hour.
- The map shows morning rush hour flow with high levels of traffic noticeable on many streets including St Vincent Street, Broomielaw/Clyde Street, Saltmarket/High Street, George Street, Cathedral Street, Union Street and Hope Street amongst others.
- The resulting congestion makes it difficult for motorised traffic to get around the city centre and for the local economy to function efficiently and effectively. This congestion also has a negative impact on the pedestrian and cyclist environment, as well as bus passengers.

Traffic and Parking

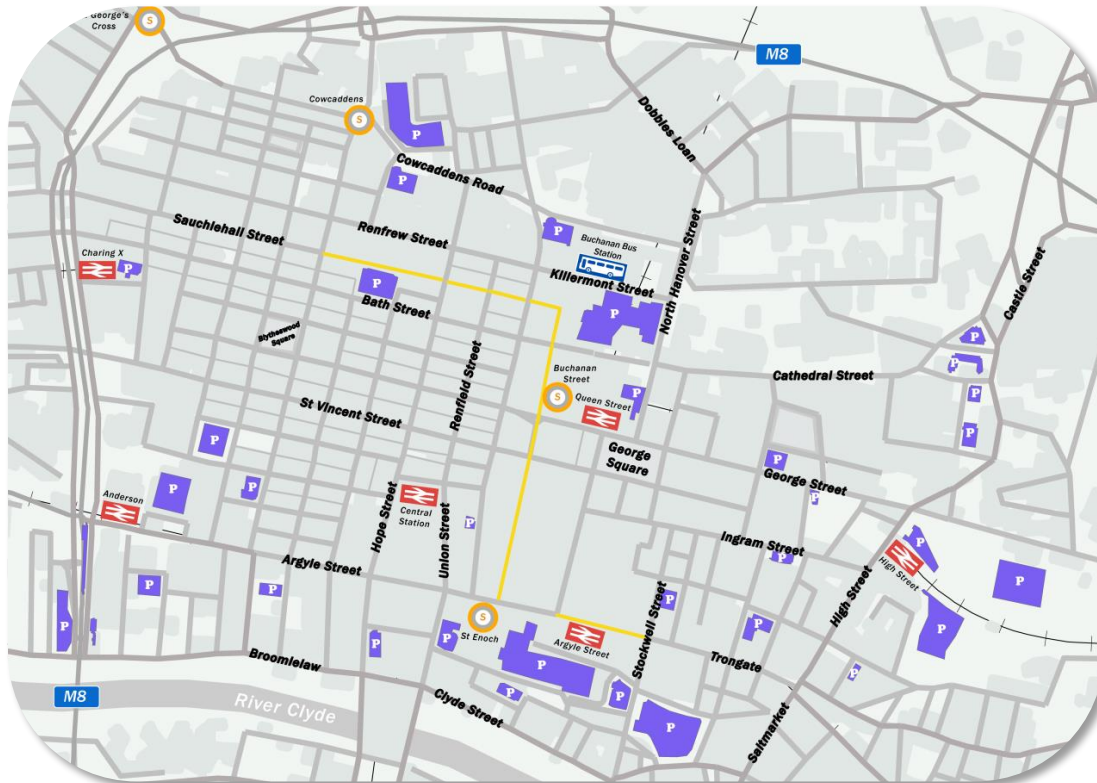
Road Safety



- **Accident Cluster Sites:** the map shows traffic accidents in the city centre over the last 3 years (to the end of 2013).
- It can be seen that there is a particular accident cluster site at Argyle Street/Union Street/Jamaica Street junction. Two other junctions close to Central Station also experience significant clustering of accidents.
- Most of the problem junctions experience high traffic flows and/or pedestrian flows creating a conflict between different users leading to a cluster of accidents in that location.
- Vehicle conflict is a persistent problem affecting other vehicles, cyclists and pedestrians which results in both real and perceived safety issues.
- Nevertheless, accidents have been declining in recent years and the Council is committed to continuing this trend.

Traffic and Parking

Parking



- **Parking Provision:** in recent years the number of car parks in the city has increased and there are now approximately 10,000 spaces available in over 25 dedicated car parks across the city centre. In particular, inexpensive temporary car parks have sprung up across the city on vacant land as building work slowed in response to economic conditions. On-street parking is also available throughout the city centre.
- The Council has limited control over private car parks making it difficult to manage the supply and cost of parking in the city centre.

Strategic Objective: will be to improve access to the city centre's peripheral car parks whilst still making the city centre a more attractive place for business, retail and leisure activities.

4.



Vision for the City Centre

City Centre Vision

“Glasgow: a resilient, creative and enterprising city of opportunity and diversity, where citizens and businesses thrive and visitors are always welcomed”

Future Glasgow – A 50 Year Vision for the Future

In summary, the **City Centre Vision** stresses that in fifty years’ time the city centre will still be the heart of the city, and sets the following ambitious targets:

- A city centre ranked among the top European centres for international business and visitors;
- An attractive and vibrant city centre accessible to everyone;
- A city centre that every Glaswegian and visitor feels has something to offer them; and
- Glasgow will still be the top UK retail centre outwith London’s west end.

Glasgow City Council has been working to develop the city centre for a number of years. Numerous pieces of work have been carried out that set strategic direction for the city’s transport network, and have informed the development of objectives for the Transport Strategy. The objectives are consistent with the wider strategic context, including the Future Glasgow Vision, and reflect what that strategy is setting out to achieve and the issues it seeks to resolve. They have also been developed taking account of the feedback received from consultation.



Transport Aims and Objectives

Taking account of the vision for transport in the city centre, and the comprehensive consultation feedback five objectives were identified, presented in no particular order and each carrying equal weighting, are:

1. **Improve the health of Glasgow's citizens** by increasing the modal share of trips to/from and within the city centre by active travel modes (walking, cycling and public transport);
2. **Support the growth in economic vibrancy** of the city centre, by ensuring access for residents, blue badge holders, tourists and traffic essential to sustain economic functions;
3. **Enhance the quality of main pedestrian spaces**, key development areas and main access routes;
4. **Reduce harmful traffic emissions and noise**; and
5. **Enhance road safety and personal security** for all city centre users.



Transport's Role in delivering the City Centre Vision

The **City Centre Strategy** has established six over-arching Objectives to guide the successful future development of Glasgow, and the Transport Strategy will play its own role in ensuring that transport supports and enhances the objectives shown below.



Taking the six City Centre Strategy objectives in turn, transport's role in delivering the City Centre Vision can be summarised as follows.

- THE CENTRE TO **SHOP & PLAY**
 - Enable easy access for retail and leisure
- THE CENTRE TO **VISIT & ENJOY**
 - Enable easy access and create attractive points of entry and key corridors
- THE CENTRE TO **WORK & CREATE**
 - Enable easy access for commuters
- THE CENTRE TO **LEARN, DISCOVER & INNOVATE**
 - Support enhanced campus access
- THE CENTRE TO **STAY & LIVE**
 - Ensure an adequate level of supporting infrastructure for residents
 - Green the city through the provision of quality landscaping and environments
- THE CENTRE TO **INVEST & BUILD**
 - Support the establishment and promotion of city Districts
 - Facilitate commercial, retail & leisure property development
 - Provide consistent and attractive public realm

5.



City Centre Transport Strategy

Transport Concepts

Framework for Actions

The Transport Strategy for the city centre has been developed based upon two key concepts overarched by a hierarchy of transport modes. These provide the framework for the schemes which will be taken forward to resolve the problems and deliver the aims and aspirations identified previously. These concepts are broadly defined under two headings below. Underneath these, there are a series of delivery measures which will be used to implement the concepts as summarised below.

Concept 1: Priority for Pedestrians, Public Transport and Cyclists

Concept 2: Minimising the Impact of Private Cars

City Centre Transport Hierarchy

1. Pedestrians
2. Public Transport
3. Cyclists
4. Freight
5. Car/Motorcycle

Priority for Pedestrians, Public Transport and Cyclists

Delivery:

- Avenues
- Network of linked Cycle Routes and Infrastructure
- Network of linked Bus Corridors
- Supporting Rail and Subway

Minimising the Impact of Private Cars

Delivery:

- Traffic Management
- Encourage Parking at Periphery of city centre
- Access for Essential Users

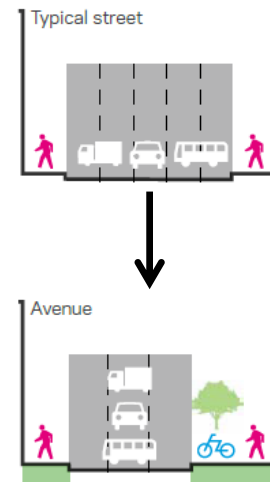
Priority for Pedestrians, Public Transport and Cyclists

Avenues

The concept of Avenues was developed through the Public Spaces and Neighbourhoods element of the City Centre Strategy. Their key function was defined as:

- An integrated network of continuous pedestrian and cycle priority routes to connect key areas and transport hubs to surrounding neighbourhoods;
- To act as a binding mechanism to integrate regeneration and urban realm initiatives; and
- To transform the quality of the environment and its readiness for climate change.

Concept image of an Avenue for Sauchiehall Street creating a more pedestrian and cycle friendly environment. City Centre Strategy and Action Plan 2014-2019.



Design Components:

- Promote sustainable modes of transport by providing good quality paths, on road cycle routes, bus priority measures, benefits for motorcycles and safe places to cross
- Integrated network linking key areas across the city centre
- High quality street design with active frontages and street trees
- A slow and friendly pace with a focus centred around people

Priority for Pedestrians, Public Transport and Cyclists

Cycle Routes and Infrastructure

A network of linked cycle routes will be developed to enable seamless travel to, through and within the city centre. These will link to existing cycle routes at the periphery of the city centre to provide a coordinated network. This will be achieved by providing high quality cycling facilities on key streets that run from north to south and east to west across the city centre.

The detailed design of cycle routes will be related to their specific locations, but the presumption will be for two-way, segregated lanes located on one side of the road, similar to the existing Waterloo Street arrangement. Where the road currently isn't wide enough to accommodate the introduction of cycle lanes the existing on-street parking will be removed from one side of the road to provide the necessary space. The routes will be designed to be safe and of high quality including measures such as coloured cycle lanes, good lighting, clear signage and priority for cyclists at junctions either through dedicated traffic signal stages or Advanced Stop Lines (ASLs).



Route Selection Criteria:

- Closely coordinated with the Avenues
- Links to existing cycle routes around the city centre
- Gradient along the length of the route
- Existing and predicted future levels of traffic on the route
- Ability to link to key locations and attractions in the city centre
- Potential conflicts with other road users (e.g. pedestrians, buses, cars, etc.)

Priority for Pedestrians, Public Transport and Cyclists

Bus Corridors

To support sustainable access to the city centre the need for a coordinated network of bus corridors that enable access to and through the heart of the city was identified. There is also a need to provide connections with other modes of transport, including train services at Glasgow Central and Queen Street Stations, and to key transport hubs like Buchanan Bus Station. Similar to the cycle routes, a network of linked north to south and east to west bus corridors will be implemented to enable this although their usage will depend on them being economically viable for bus operators.

In selecting corridors a number of key considerations were taken into account including:

- Existing bus routes across the city centre, how they serve passengers but also the pressures that high numbers of buses put on key streets;
- Allowing buses to penetrate the city centre and manoeuvre through it whilst minimising impacts on the ambiance and the environment;
- Proposed bus schemes like Fastlink; and
- Minimising conflicts and safety concerns between road users (e.g. pedestrians, cyclists, cars, etc).

Detailed design will be a matter for specific locations, but where necessary bus priority measures such as bus gates and other traffic management solutions will be consulted upon. These measures, if implemented, will also benefit taxis and private hire vehicles which will be able to access them. Improved bus stops will be used to improve the flow of buses along these key corridors and improve the passenger experience. Ensuring the effectiveness and efficiency of the existing bus priority measures will also be a priority.

Glasgow City Council supports SPT's 'Ten Point Plan for Bus', which sets out to improve the quality of bus service delivery for users. This would help to give greater comfort that the council's initiatives in support of buses in the city centre would be complemented by supporting action by bus operators.



Priority for Pedestrians, Public Transport and Cyclists

Supporting Rail and Subway

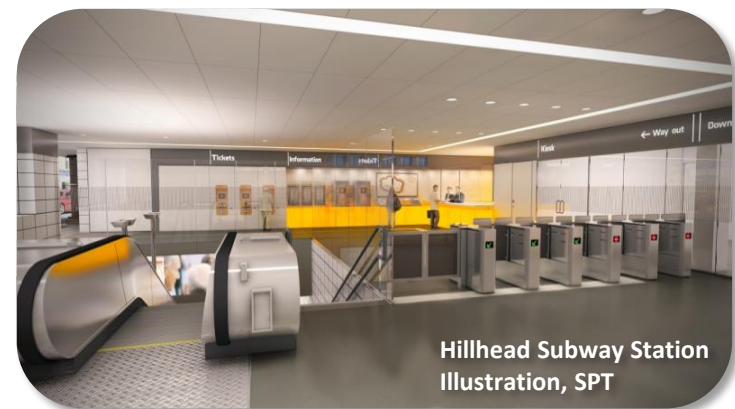
The Council will continue to support enhancements to the rail network which will improve access to the city centre including:

- A rail link to Glasgow Airport from Glasgow Central.;
- The Glasgow City Union scheme which could enable direct travel from Ayrshire and Renfrewshire to Lanarkshire and West Lothian. It could also complement airport rail services and enable direct services from Glasgow Airport to the north Glasgow suburban network. Glasgow Cross and West Street stations as part of the City Union proposal would offer additional accessibility and interchange opportunities.;
- High Speed Rail between Glasgow and Edinburgh to support the promotion of Scotland's central belt as an integrated area for economic development. This could link to a future Anglo-Scottish high speed rail network, and require a suitable terminus in Glasgow city centre;
- The redevelopment of Glasgow Queen Street to accommodate longer trains and a predicted increase from 20 million to 28 million passengers a year by 2030; and
- Relocated High Street station to allow access for mobility impaired, a more attractive entrance to the city centre, assist further regeneration of the Collegelands area, and better integration with other transport modes.

The Subway also provides a vital public transport link to and from the city centre. It was used by over 14.1m passengers in 2012 with Cowcaddens, Buchanan Street and St Enoch stations all serving the city centre.

SPT is carrying out a full-scale modernisation of the Subway. It will see the introduction of smartcard ticketing, new trains and signalling with automation, refurbished stations with improved accessibility as well as renewed rail and tunnel infrastructure. The modernisation is transforming the system and will ensure the Subway remains at the heart of life in Glasgow for future generations.

As well as specific enhancements to existing stations and other infrastructure, the Strategy recognises that the public realm surrounding transport hubs must also be well designed and encourage interchange, and this will be taken into account in developing the detailed design of the strategy's pedestrian proposals



Hillhead Subway Station
Illustration, SPT

Minimising the Impact of Private Cars

Traffic Management

Traffic will still require access to the city centre but measures will be put in place to manage demand, particularly where congestion and high levels of traffic create 'pressure hotspots' as outlined in Chapter 3. Where congestion remains an issue attempts will be made to minimise the impact this has by encouraging the use of other modes of transport on nearby Avenues, Cycle Routes and Bus Corridors instead.

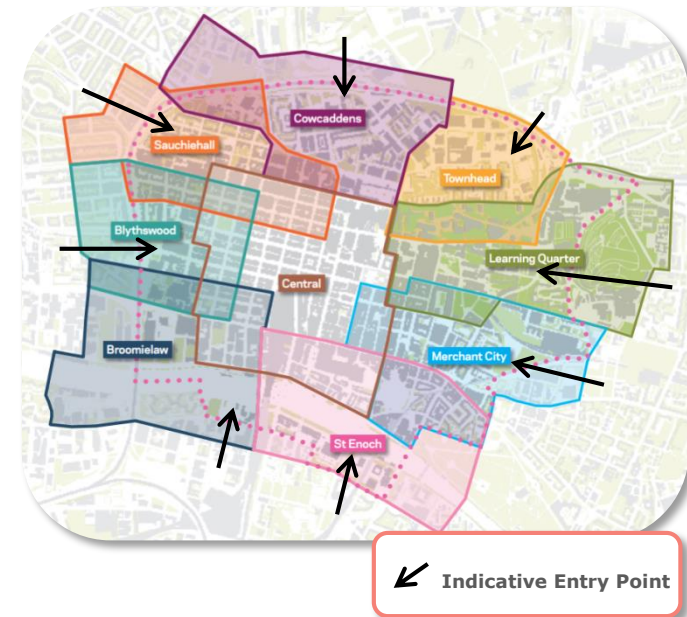
To support the role of the nine districts across the city centre, traffic flows will be managed to discourage through trips through the heart of the city centre by making through routes more circuitous and less appealing to drivers. Instead, people will be encouraged to stay within the area of their point of entry to the city centre supporting the function of each district as a distinct location and destination in its own right.

Encourage Parking at the Periphery of the City Centre

Closely related to this will be encouraging people to park their cars at the periphery of the city centre. This will be encouraged by using signage to direct people approaching the city centre to their nearest car park, reducing the number of people travelling unnecessarily through or around the city centre to reach a car park. The approach will be handled sensitively, because the role of the car in supporting visits for business, retail and leisure activities is recognised.

The transfer of some under-utilised on-street parking to cycle lanes should help to encourage the use of the existing off-street car parks which are available at the periphery of the city centre. The Council is undertaking a strategic parking review of the total amount of off street public car parking as contained in the City Development Plan and a review of the spatial distribution of off street car parking spaces. This will produce a recommendation regarding any redistribution of spaces, optimum utilisation of the car parks in terms of business need, and the different roles of city centre parking in supporting the daytime and night time economies.

Access to the city centre for essential users like residents, blue badge holders and for servicing will be maintained.



Minimising the Impact of Private Cars

Electric Vehicle Charging Points



Glasgow City Council has installed 64 charging points across the city centre over the last few years utilising grant funding from Transport Scotland. These include: on-street locations, sports venues, leisure centres, multi-storey car parks, museums, and arenas. All of these points are connected to the National Charging Network.

To date the 8 on-street charging points account for 48% of all the overall charging sessions. Due to this success, Glasgow City Council is currently in the process of expanding its on-street infrastructure by installing another 8 on-street charging bays, in prime city centre locations, by March 2015, and it is envisaged that further expansion of these facilities in the city centre will continue in future years.

To encourage the uptake in Electric Vehicle charging, Glasgow City Council continues to lead the way in allowing free parking and charging for all of its EV parking bays, the first local authority in Scotland to do so.

City Car Club



The City Car Club offers short-term vehicle hire to its members as an alternative to car ownership. This is being extended to include electric vehicles with exclusive charging points at key locations around the city centre.

Noise Management Areas

Since the implementation of the European Noise Directive and the subsequent publication of local Noise Action Plans, Glasgow City Council has declared one Noise Management Area (NMA) within the city centre at the Cowcaddens area and will soon declare another three in the Sauchiehall Street, High Street and Saltmarket areas. The Council will manage these NMAs to avoid, prevent or mitigate, the harmful effects of environmental noise exposure on the residential population.

6.



Delivering the Transport Strategy

Overview of Delivery

This chapter describes how the transport concepts will be delivered in the city centre. The key delivery measures set out in this chapter include:

- **Avenues:** a network of high quality streets that support a range of functions and access by a variety of modes of transport;
- **Pedestrian Infrastructure:** improving the wider pedestrian network in the city centre;
- **Cycle Routes and Infrastructure:** a network of linked cycle routes and supporting infrastructure like cycle storage and hire bikes;
- **Bus Corridors:** a set of coordinated bus corridors that enable access to the city centre;
- **Traffic Management & Parking:** reducing through traffic by facilitating access to car parks via peripheral access routes whilst still allowing access for essential users like residents, blue badge holders and for servicing. A 20mph speed limit across the city centre; and
- **Complementary Measures:** a range of additional measures to support travel in the city centre including improved signing, Low Emission Zones, improved information provision, integrated ticketing, integration across modes and partnerships with local transport operators.

The Strategy establishes proposals for a number of key locations in the city centre including Argyle Street, Cathedral Street, Union Street, Hope Street, Gordon Street, and West Nile Street.

The impact of the proposals on traffic circulation both within and around the city centre has been considered using a specialist transport modelling simulation, which illustrates impacts that would not otherwise be readily apparent (eg traffic re-routing onto different roads), as well as the impact on emissions. Whilst inevitably delivering the strategy's objectives means changes to existing traffic patterns, there is no evidence that traffic circulation will be disproportionately affected compared to the wider benefits for the city centre.

All traffic management options and many of the cycle route and bus corridor options would be subjected to statutory consultation processes prior to implementation. At that point, the specific details of each scheme would be available for public consultation and comment.

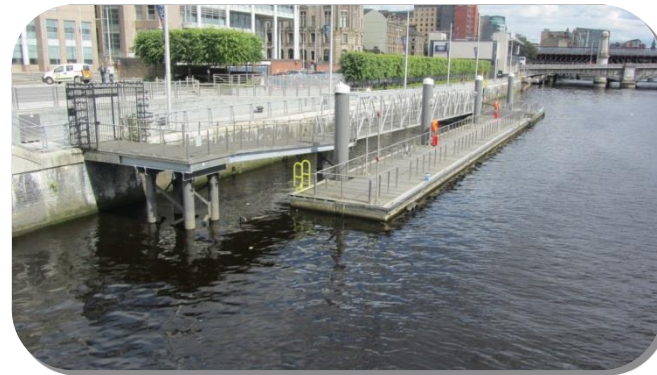
Overview of Delivery

Other options were also considered but have been sifted out as being unfeasible. This has been based on the findings of the STAG appraisal and previous studies. Further details about the reasons for these options being sifted out can be found in the separate STAG Report and the documents that support it.

For example, the potential for river transport on the Clyde was subject to an extensive study previously but was deemed unfeasible at this time on the grounds of cost. The appraisal showed that a river bus could deliver limited positive benefits and that journey times may be uncompetitive compared to existing land-based public transport. In addition, to provide a level of service that may be sufficient to attract passengers from land-based public transport it could require extensive investment in infrastructure and vessels. Therefore, river transport is not regarded as a priority at this time but will continue to be kept under review as a potential intervention in the future.

Continued Consultation

All of the proposals taken forward within this Strategy will be the subject of ongoing consultation with relevant stakeholders; in some cases statutory consultation will be required (eg before the introduction of additional traffic restrictions). The development of delivery plans actions in each District will be the subject of location-specific consultation.



Recognising differences by time of day

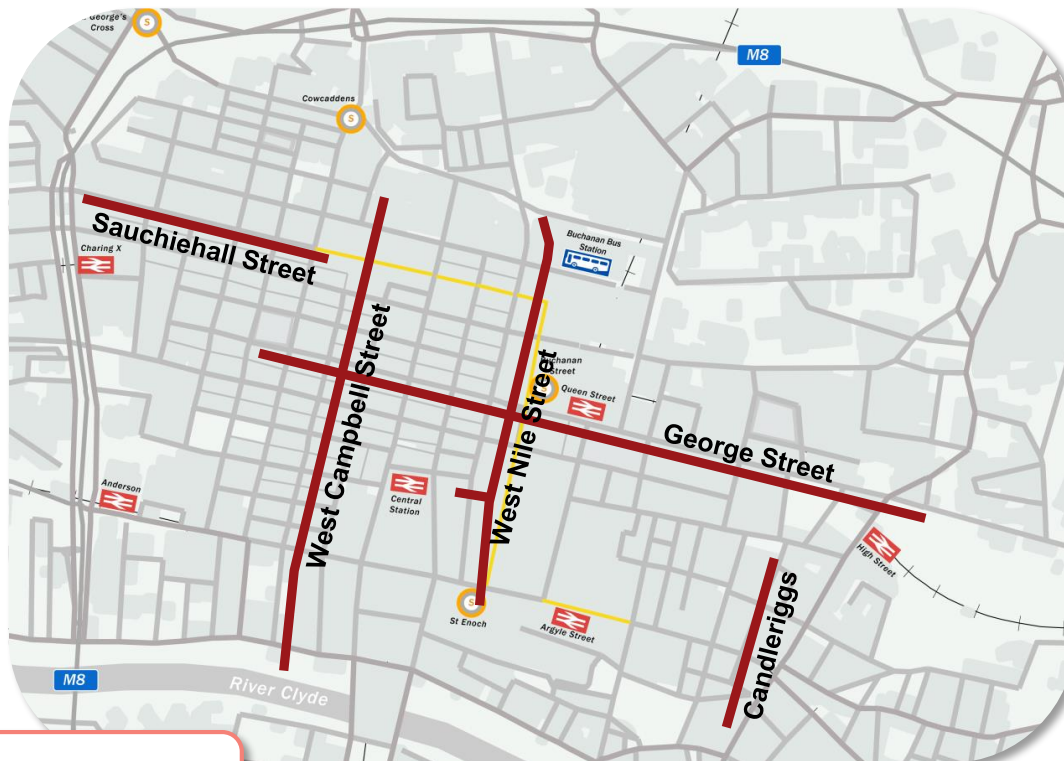
Feedback noted that the city has distinct functions throughout each day and can change on different days. The strategy recognises and endorses this.

Measures recommended in the following pages will only be introduced following detailed consultation to deliver the objectives while minimising local inconvenience. For example bus gates could be operational during daytime but allow general access during evenings.

Precise details will emerge through the District Strategy consultation to help deliver the city centre and district strategy objectives.

Avenues

Location of Avenues



A series of linked Avenues running from east to west and north to south are proposed including:

- Candleriggs;
- George Street (via George Square);
- Gordon Street;
- Sauchiehall Street (connecting to the existing pedestrianised area);
- West Campbell Street; and
- West Nile Street

These streets have been identified as particularly suited to conversion to Avenues due to their existing character, levels of traffic, ability to connect across the city centre and links they provide to key locations in the city centre like the shopping facilities on Sauchiehall Street and Buchanan Street as well as the main transport hubs at Glasgow Central Station, Queen Street Station and Buchanan Bus Station. In the case of Sauchiehall Street, this will also support its role in the night-time economy.

However, not every city centre street can be designated an Avenue; there is still a need for some motorised traffic to have less restricted access to parts of the city centre and, in some cases, pass around and through it. The selection of initial Avenues is therefore a balance between conflicting demands of motorised traffic and other modes. Nevertheless, the potential to designate additional Avenues will be kept under review.

Pedestrian Infrastructure

Wider Pedestrian Improvements

Every local authority in Scotland is required to draw up a plan for a system of paths giving the public reasonable access throughout their area (**Core Paths**).

The existing Core Paths network in the city centre provides a good starting point for targeting pedestrian infrastructure improvements, to make it both attractive and safe for all people, including those with mobility problems, to move around. This will be achieved by providing enhanced pedestrian facilities at key locations including wider footways, dropped kerbs at every junction to ease crossing and raising the road level to the same as the pavement at the entry to lanes so pedestrians are seen to have a more obvious right of way. A review of pedestrian crossing green times at signalised junctions will also be undertaken with extra time given to pedestrians where this is appropriate. More crossings will be adapted for people with visual impairments.

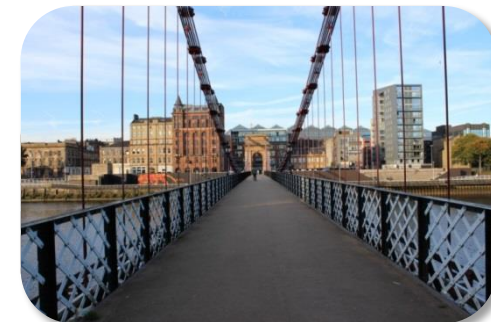
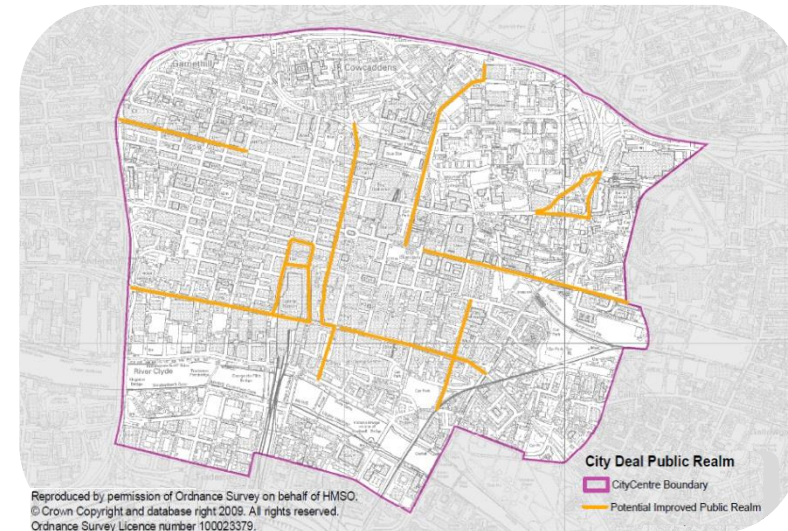
In particular, improved pedestrian infrastructure will be targeted on key walking routes and Core Paths where problems have been identified including the pedestrianisation of part of Gordon Street, and improvements on Hope Street, Queen Street, Cathedral Street and Union Street. This will complement the Avenues described in the previous section, and incorporate enhanced public realm.

Detailed design will follow best practice, and particularly prioritise pedestrian safety and security (including at night). The needs of disabled and other vulnerable groups will be paramount, and have been identified via an Equalities Impact Assessment (EqIA).

The improvements will be supported by:

- **Improved Signaging:** to make it easier for people to find their way round the city centre; and
- **Improved Information Provision:** make people aware of the transport options available to them for getting in and around the city centre by publicising journey planning facilities like Traveline and ensuring public transport information at stops is kept up to date.

The map illustrates the principal public realm improvements envisaged as part of the City Deal initiative.



Cycle Routes and Infrastructure

Location of Cycle Routes



The proposed Cycle Routes include:

- Candleriggs;
- George Street (via north side of George Square);
- Miller Street;
- Sauchiehall Street;
- West Campbell Street; and
- West Nile Street.

These Cycle Routes were selected to closely mirror the Avenues, create a coordinated network of routes through the city centre and to link into the existing cycling routes which are already available at the periphery of the city centre enabling continuous movement for cyclists throughout the area. They also reduce the extent to which cyclists face steep gradients, which are a particular issue on north to south routes, with West Campbell Street and West Nile Street being chosen to minimise these impacts.

Cycle Routes and Infrastructure

Supporting Cycle Infrastructure



As well as the specified Cycle Routes there will also be **improvements to cycling infrastructure** on other key cycling corridors across the city centre. These will mainly be to upgrade the existing infrastructure where necessary and to fill in any local gaps in the city centre cycling network.

To further encourage people to cycle there will be a rollout of **cycle storage** at transport hubs like train stations and bus interchanges, as well as other key areas around the city centre (eg car parks). This will also help to facilitate transport integration.

A **Mass Automated Cycle Hire (MACH)** scheme has been implemented in the city centre with 400 bikes at 31 stations around the city, 18 of which are located in the city centre. Further expansion of the MACH scheme will be investigated.

Encouraging Active Travel: promotion and marketing campaigns and activities such as cycle training are important, taking advantage of the improved infrastructure to encourage people to cycle and travel more actively

Detailed design of all Cycle Routes will reflect best practices and be suitable for the particular locations, for example taking into account interaction with other road users such as buses, and will require a suitable maintenance regime.

Bus Corridors

Overview of Bus Options

Buses serve a variety of different passenger needs, and the Strategy will support targeted, appropriate responses such as continued provision of late-night buses alongside safe and secure waiting areas, suitable infrastructure and bus priority measures.

Overarching these options is the aim of creating a set of linked, streamlined north to south and east to west bus corridors that enable buses to cross the city centre whilst minimising congestion and environmental impacts created.

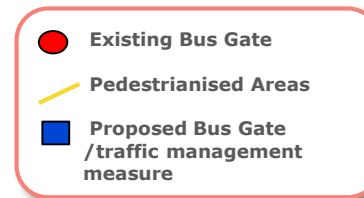
All the bus corridor proposals have been subjected to traffic modelling. In line with the transport hierarchy for the city centre, where it has benefits for reliable bus operation on-street parking will be reduced and/or restricted to essential users.

Some options have wider impacts on other road users, and their implementation will need careful design and ongoing consultation with stakeholders. These particularly affect two locations:

- Argyle Street; and
- Cathedral Street .

Detailed design of bus priority measures will reflect best practice and be appropriate to the specific location, taking into account interactions with other road users including cyclists.

To provide additional priority for buses on key city centre streets, further measures to improve bus movements will be considered, as shown on the adjacent map.



However, as buses operate in a deregulated market, operators are free to choose which routes they run and can only therefore be expected to make use of corridors where passenger demand is at its greatest. The Strategy therefore supports co-operation with bus operators through a Statutory Quality Partnership (SQP), which places legal obligations on both Glasgow City Council (to provide the relevant facilities) and the bus operators (to operate their services to the prescribed standards).

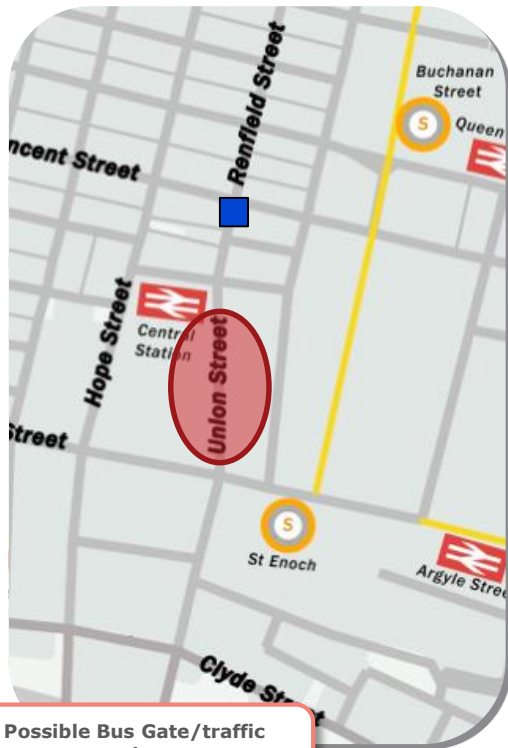
To support the efficient operation of the key bus corridors a review of bus stop usage will also be undertaken to identify whether there is scope to rationalise stops or reduce the number of services using each stop.

The scope of the strategy is the city centre; however it is obviously sensible to consider the wider needs for bus priority, and the city centre bus corridors will be planned in conjunction with the wider network of priority measures outwith the city centre, in partnership with SPT and operators.

Finally, implementation of the Fastlink route, as described in Chapter 2, is a key priority for the City Council, and supporting measures are planned with a bus gate already implemented in Nelson Mandela Place.

Bus Corridors

Union Street



To overcome congestion and overcrowding at bus stops on Union Street, it is intended to investigate the introduction of infrastructure improvements to facilitate bus operations and improve the pedestrian environment.

In order to deliver the above improvements it is necessary to reduce the current level of traffic to allow potential widening of footways and enhanced bus performance.

Options to achieve this include consulting on the introduction of a bus gate to restrict general traffic, liaising with bus companies regarding the potential for reducing the number of buses, and reviewing the number and usage of bus stops. This process has commenced, and finding a suitable solution for Union Street will be a key early action in the delivery of the Strategy.

In addition, a wider programme of improving the public realm in Union Street and making it more attractive for pedestrians will complement the investment in the bus facility, and take advantage of the reduced traffic volumes on Union Street.

Reduced traffic at the junction with Argyle Street will also assist in reducing accidents at that location.



Existing Union Street – too many buses at stops cause congestion



Existing Union Street – need to upgrade the waiting facilities and bus stops

Bus Corridors

Southern Bus Hub

The possibility of developing a southern bus hub near to the St Enoch Centre remains a long-term aspiration, but more detailed investigations are required to identify the optimum site. During consultation, bus operators were supportive of improved terminal facilities in the area, but would not commit to reducing bus journeys through the city centre by terminating buses from the south at a southern hub.



Current situation on Glassford Street

Current bus congestion close to east side of St Enoch Centre



Argyle Street

Reopening the existing pedestrianised area between Queen Street and Glassford Street to buses was not generally supported by consultation respondents. There was some long term merit in allowing access to a restricted number of buses provided they were the lowest possible emission vehicles to ensure minimal adverse impact on pedestrian circulation.

The main benefit offered by this option would be some easing and simplification of bus movements in the area as currently eastbound buses are required to route firstly north on Queen Street, then east on Ingram Street then south via Glassford Street/Stockwell Street. This causes lengthy journey times and can delay services. Another benefit is potential complementary links to the Southern Bus Hub option.

Restricting the volume of movements and placing a high threshold on acceptable emissions standards would offer the opportunity to retain many of the existing benefits of this pedestrianised shopping area, but more detailed design and consultation with stakeholders is necessary before any definite decision to proceed is taken.

Bus Corridors

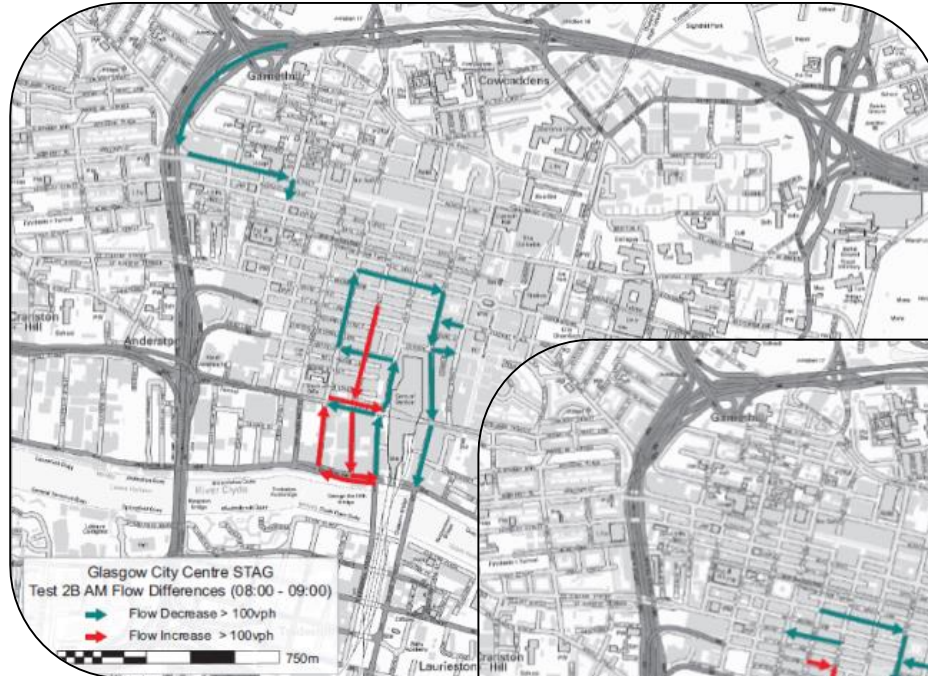
Bus Corridor Options Appraisal

The main bus corridor proposals have been tested using transport modelling.

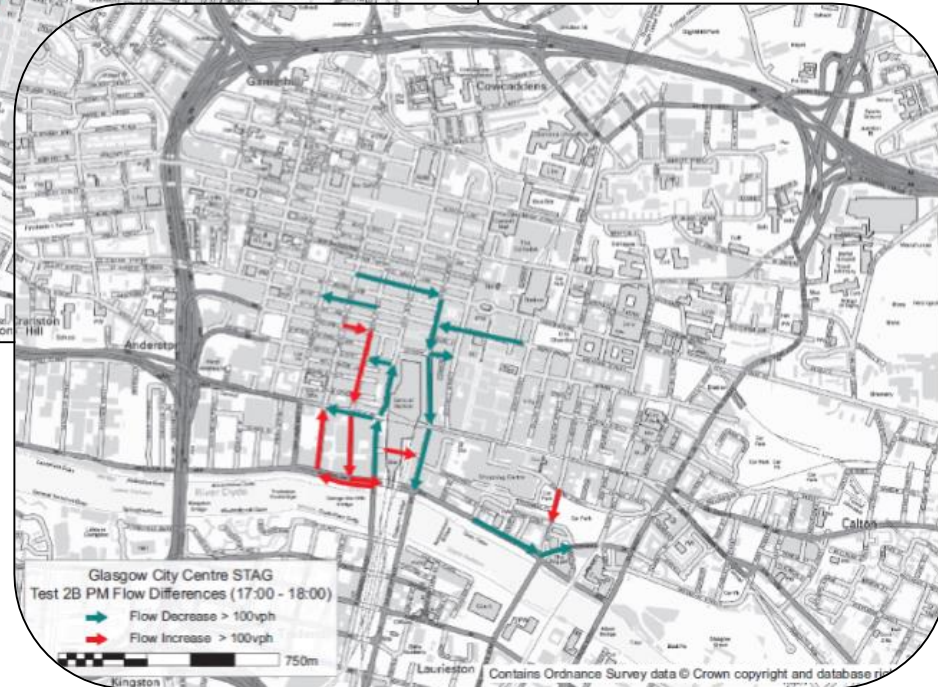
All the options were tested assuming the implementation of the Avenues and Cycle Routes as well as Fastlink. The Avenues and Cycle Routes were generally found to increase journey times and decrease average speeds for motorised traffic on affected corridors with some re-routing as well. The modelled Fastlink bus service benefitted from improved journey times under all scenarios. The introduction of bus gates/traffic management measures on Renfield Street and Oswald Street provided benefits to buses on these corridors but led to re-routing and longer journey times for general traffic.

Traffic travelling through the city centre is anticipated to fall by up to 9% as a result of the measures contained in the Strategy.

As described later, this has a positive impact on air quality.



General traffic speeds fall by up to 6% across the city (PM peak period, 1600-1900), but bus speeds increase by up to 7% in the same time period; changes in the AM peak period (0700-1000) are slightly less pronounced.



Illustrations of changes in traffic flows within the city centre during AM peak (left) and PM peak (below)

Complementary Measures to support Public Transport

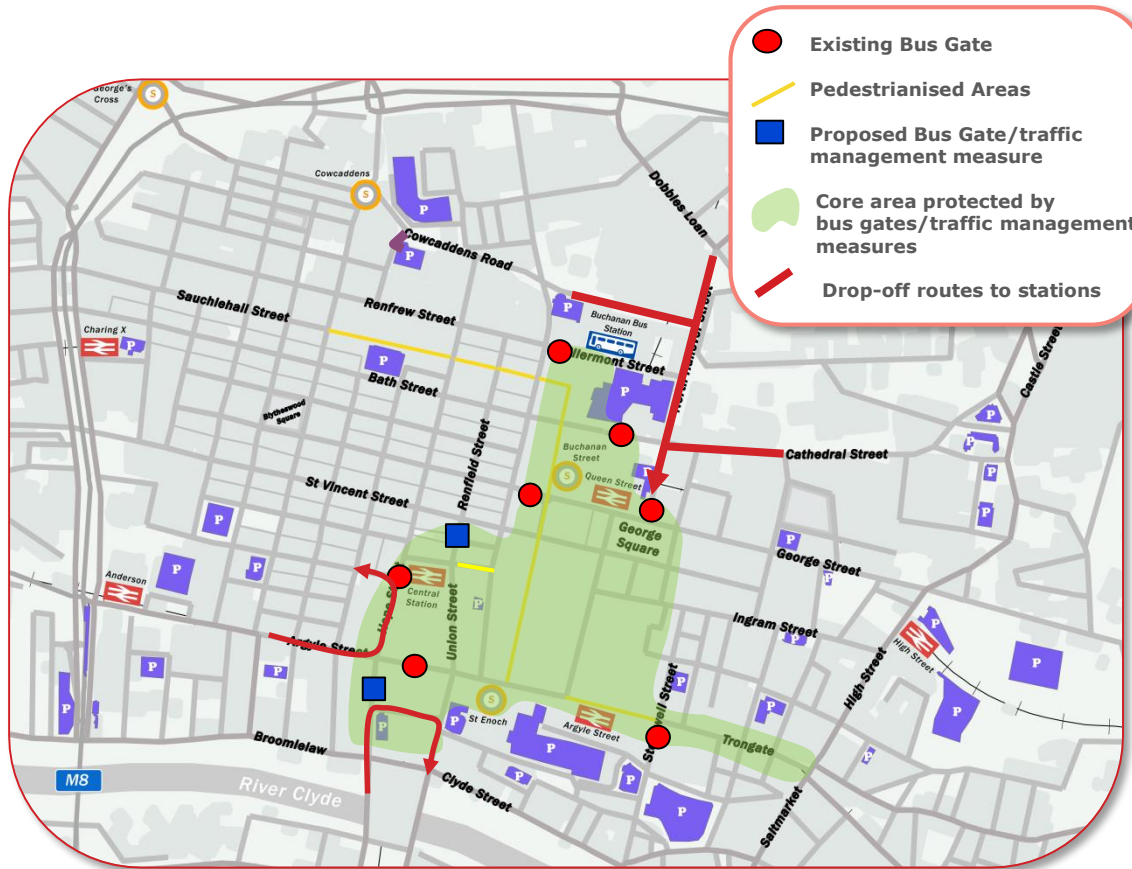
As well as physical measures to improve the circulation of buses within the city centre, and enhance the experience of bus passengers waiting for buses, public transport will also benefit from a series of softer measures which are equally as important in delivering the vision for transport in the city centre:

- **Integrated Ticketing:** a range of integrated and SMART ticketing measures, like SPT's recently introduced measures on the Subway, that will enable travel on a variety of public transport modes, making use of public transport easier and more attractive;
- **Integration Across Modes:** ensure integration of all modes of transport like walking, cycling, public transport and private transport. This will include integration with possible future infrastructure like rail links to Glasgow Airport and High Speed Rail (HSR);
- **Partnerships with Local Transport Providers:** to ensure transport services are coordinated; and
- **Strategic Park & Ride:** most journeys into the city start outwith the city centre, and opportunities to encourage sustainable travel need to consider strategic interventions such as park and ride to influence travel behaviours within the city centre.



Traffic Management and Parking

Access to Central Station and Queen Street Station



Maintaining Access to Central Station and Queen Street Station

The need for traffic access around the two principal stations is recognised.

Although there is a preference for minimising general traffic around Central and Queen Street stations, to allow an improvement to the public realm and in line with a preference for access by more sustainable modes, there will remain a need for drop-off facilities.

Any traffic management proposals have been designed to support Fastlink, and other important bus priority measures have been designed in such a way that access for drop-off is still retained. The adjacent map indicates the available access routes.

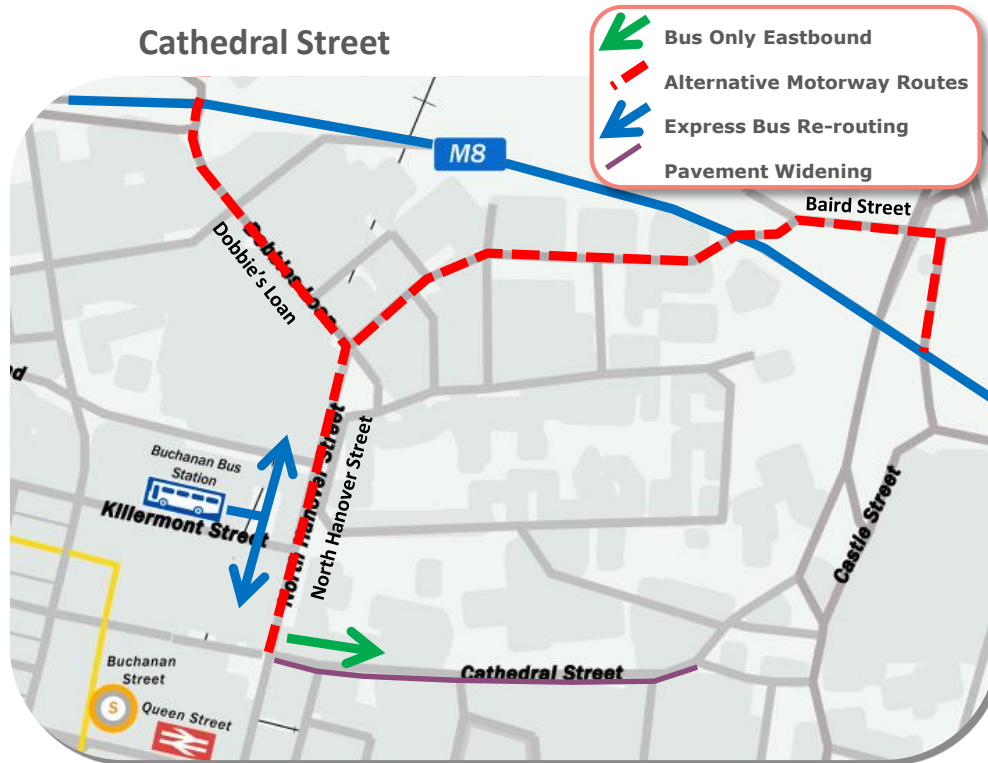
Place-Making

The concepts brought forward through the City Centre Strategy envisage identifying the principal function of each District, and then designing the public realm accordingly.

The City Centre Transport Strategy supports this approach, with the proposals intended to secure a central core which features reduced general traffic in keeping with the place-making concepts.

The adjacent map highlights this central core and how it would be protected by bus priority measures and Avenues, whilst the more peripheral areas remain more accessible for general traffic.

Traffic Management and Parking



Cathedral Street is a gateway and major bus corridor. However it faces issues arising from its position as a key route between the city centre and the M8. This has led to high traffic flows which cause pedestrian severance.

Strathclyde University set out aspirations in their Campus Plan 2011 to move the focus of the University north to centre around Cathedral Street as part of a wider strategy to develop a Learning Quarter in the area. This places more emphasis on reducing severance from Cathedral Street.

There are no easy solutions to the problems on Cathedral Street, as a careful balance needs to be struck between aspirations to improve the public realm on Cathedral Street, and its continued function as a key link to/from the M8. A specific study to investigate options that may reduce traffic volumes in Cathedral Street without adversely impacting on the wider road network will be taken forward in conjunction with Transport Scotland – the City Development Plan specifically identifies M8 junctions 15 (Townhead) and 19 (Anderston) for investigation.

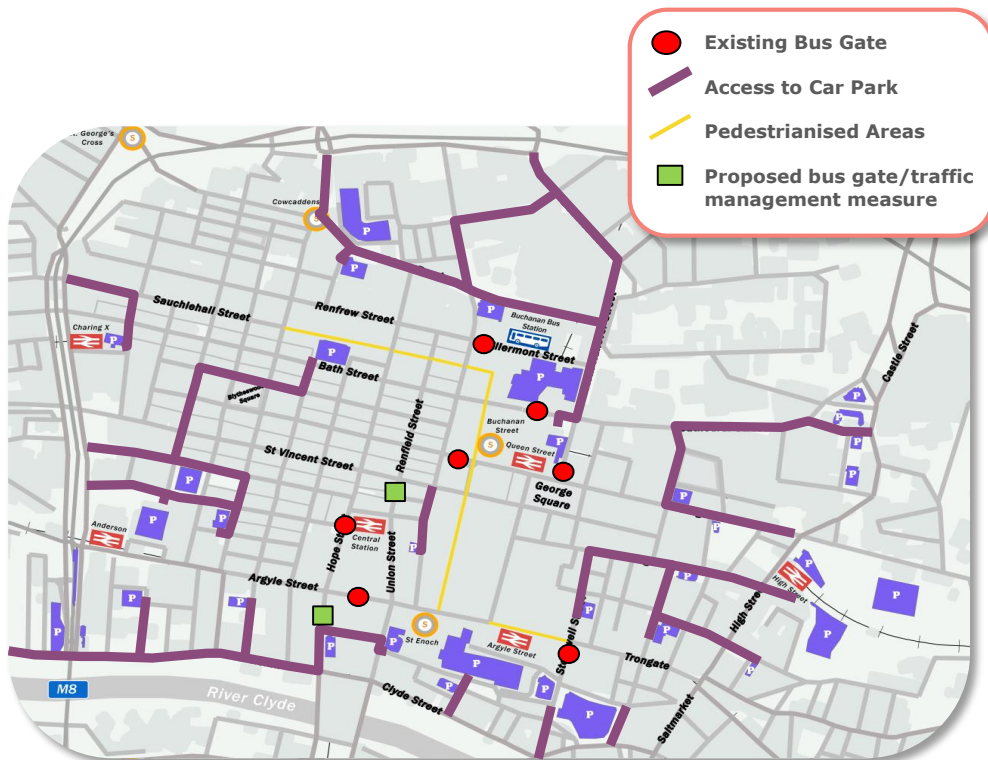
Whatever is decided, it will require a long-term strategy of complementary measures to address these issues. Potential strategy components include:

- Narrow the road and widen the pavement on the southern side of the road to increase space for pedestrians;
- Buses only eastbound along Cathedral Street to reduce traffic;
- Encourage express buses which don't stop at the bus stops on Cathedral Street to use alternative routes;
- Encourage motorway traffic to route via Dobbie's Loan and/or Baird Street rather than Cathedral Street; and
- A bus hub facility in the vicinity of Stirling Road and Castle Street.

Traffic Management and Parking

Access to Peripheral Car Parks

The Strategy has been developed following consideration of a range of potential approaches to traffic management in the city centre. Traffic management measures in the city centre are mainly linked to the proposed bus corridors and include the possibility of a number of bus gates/traffic management measures that restrict access to buses, taxis, cycles and emergency vehicles. They provide a dual role of delivering bus priority whilst also managing the demand from private traffic on key sections of the road network around the city centre. This helps to reduce the conflicts between buses and general traffic as well as discouraging through routing across the city.



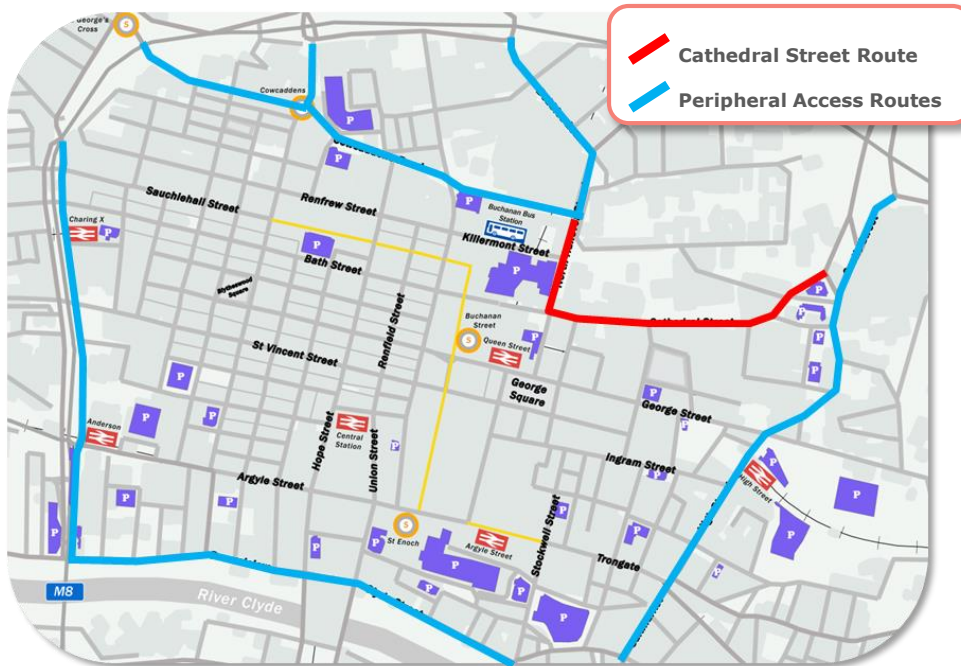
A **Strategic Parking Review** will consider the current ceiling on the total amount of off-street public car parking contained in the City Development Plan. A review of the spatial distribution of off-street car parking spaces will be undertaken and a recommendation made with regard to any redistribution of spaces. It will include consideration of the issues that influence motorists' choice with regard to use (or not) of the city centre car parks (eg ease of access, cost, location, acceptable walking distance etc), and make recommendations to achieve optimum utilisation of the car parks in terms of business need, and with regard to the different roles of city centre parking in supporting the daytime and night time economies.

The general principle will be for cars to be encouraged to park at the periphery of the city centre, at the existing off-street car parks which are available. The adjacent map shows routes to car parks from the periphery taking into account the traffic management changes proposed to reduce cross city movements. Access to all car parks will be maintained as shown on the map. Actions will be brought forward to deliver enhanced access/egress for pedestrians to support onward access on foot to the city centre by car users.

Consideration will also be given to the creation of sustainable transport hubs which will provide charging points for plug in vehicles.

Traffic Management and Parking

Peripheral Access Routes



To enable access to the peripheral car parks it is likely that the main traffic routes around the edge of the city centre will be required to carry additional traffic. Modelling has shown likely increases in traffic flows on the main Peripheral Access Routes including:

- Cowcaddens Road;
- Dobbie's Loan;
- High Street/Saltmarket;
- Broomielaw/Clyde Street;
- Newton Street; and
- Cathedral Street.

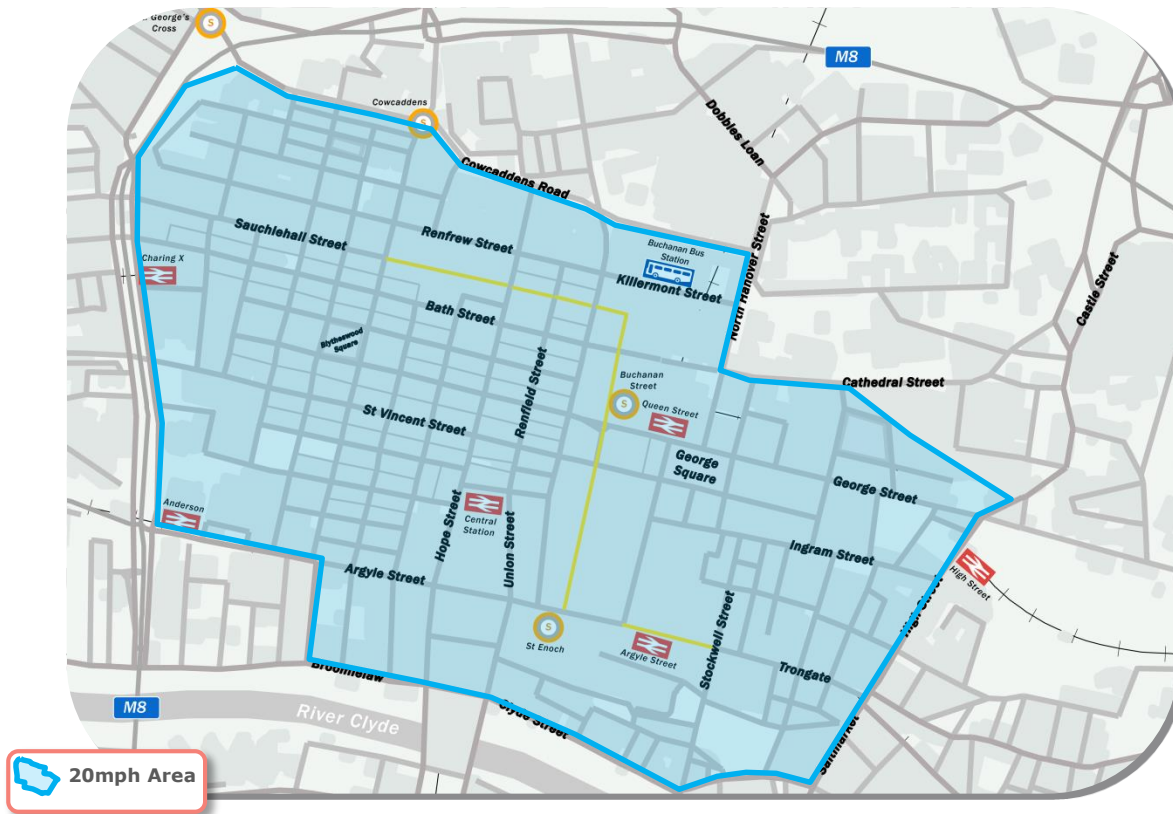
Traffic modelling has suggested potential initial additional congestion at the periphery of the city centre resulting from the proposed Avenues, Cycle Routes and Bus Corridors. However, these measures will improve accessibility to the city centre and evidence suggests that congestion would reduce over time as people switch to other modes.

Barras Development Route – with regard to the High Street/Saltmarket corridor, the potential construction of a road to improve access to Collegelands and the wider Barras/Calton area is being investigated. The formation of this north/south route would lessen the growth of further development traffic on Saltmarket and High Street, and divert some existing traffic away from them. This in turn would allow pedestrian improvements to Glasgow Cross to be implemented.

Cathedral Street faces issues which are not easily resolved. As well as a focus for development, with associated aspirations for enhanced public realm, it is also a Peripheral Access Route. Given physical constraints in the area, and an absence of alternative routes, it will be difficult to simultaneously deliver improvements for pedestrians and cyclists whilst maintaining its role as a Peripheral Access Route.

Traffic Management and Parking

20mph Speed Limit



Following detailed investigations and speed surveys commenced in 2012, it has been identified that the introduction of a 20mph speed limit across the majority of the city centre area would be beneficial in managing traffic flows and ensuring safety for all users of the city centre. In practice this will formalise what already occurs across much of the city centre where traffic rarely has an opportunity to exceed 20mph. The introduction of Avenues will also help to reduce speeds.

The speed limit would be posted on signs and on road markings upon entry to the 20mph area but repeater signs would not be placed throughout the city centre as this would cause unnecessary street clutter. There would be no traffic calming measures used to enforce the speed limit as it is not felt that these would be necessary to ensure the speed limit was adhered to.

Traffic Management and Parking

Access for Essential Users

Whilst through traffic in the city centre is being discouraged, access will still be maintained for essential users like residents, blue badge holders and for servicing. A review will be undertaken of disabled parking facilities to ensure that parking facilities are sufficient, appropriately located and adequately signed. The existing level of disabled parking provision will be maintained as a minimum, although its location may be changed to take account of the emerging Districts strategies.

Continued access for goods deliveries and servicing is acknowledged as critical for local businesses. A review of loading and servicing bays will be undertaken to ensure that sufficient provision is in place. This will take into account known problem areas where on-street parking causes problems for loading and unloading. As with the review of disabled parking provision, the existing level of loading and servicing will be maintained as a minimum, and a safe deliveries code of practice will help to maximise segregation between pedestrians and delivery vehicles.



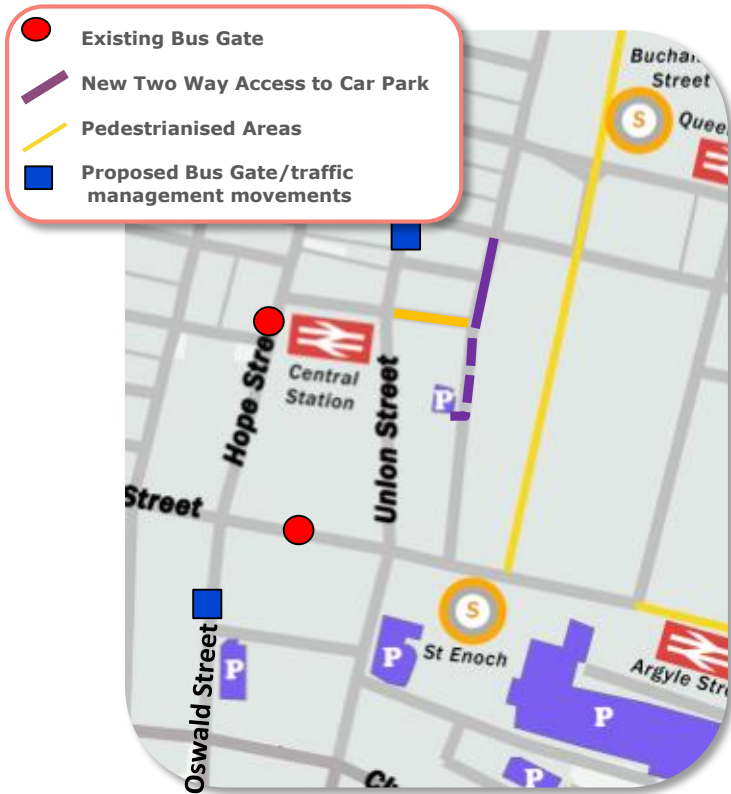
Access will also be maintained for residents of the city centre. No changes are proposed to existing residents parking arrangements and all the proposed measures will maintain existing access arrangements to the main residential areas in the city centre. Residents will also be able to benefit from the measures being put in place to improve access by sustainable transport.

Consideration will also be given to the access needs of tourist coaches to ensure visitors have suitable facilities for drop off/pick up, and operators are offered suitable parking places.

Where appropriate, additional provision will be made for motorcyclists, for example by specific parking provision.

Traffic Management and Parking

Gordon Street, West Nile Street and Oswald Street Car Park Accesses



As part of the improvements to the pedestrian environment the section of Gordon Street between Union Street and West Nile Street would be pedestrianised as an extension of the existing pedestrianisation of Gordon Street. This would have minimal impact on traffic flows around the city centre. However, in order to maintain access to the multi-storey car park on West Nile Street it will be necessary to make West Nile Street two-way between Gordon Street and St Vincent Street. Traffic would consequently enter and exit the car park using St Vincent Street and West Nile Street.

Improving Air Quality



The environmental challenges facing some parts of the city centre are acknowledged. The traffic simulation modelling shows that the measures recommended in this strategy would help to support the city centre's vibrancy whilst still delivering a reduction in harmful emissions (which will be further reduced by the introduction of less-polluting buses over time), and the strategy's emphasis on active travel, priority for sustainable travel modes, and support for walking, cycling and public transport will all help to deliver improvements in air quality. In turn, improved air quality will make Glasgow a better and healthier place to visit, shop, work, do business and spend leisure time. However, it is important to lock-in these benefits, and accordingly the Strategy supports further investigation of a low emission zone for the city centre.

Significant expansion in the use of electrically-powered vehicles would make a very positive impact on air quality in the city centre, and the Council is already supportive of increasing the number of electric charging points. Encouraging use of electric vehicles could also be supported by ensuring charging points are at attractive parking locations, and the introduction of a Low Emission Zone.



A Low Emission Zone (LEZ) sets minimum emissions standards – vehicles that do not meet those standards are excluded from the LEZ. In that way, air quality is improved within the designated LEZ, even if traffic volumes remain the same. LEZ standards can be targeted at particular pollutants and/or types of vehicles and can help cities to achieve statutory air quality standards.

Work is currently underway to develop a national LEZ Framework for Scotland and Glasgow will undertake an LEZ feasibility study when the framework is in place.

Any LEZ specification would be the subject of consultation, as would the precise zone covered. There might well be a phased introduction of the quality standards to allow vehicle owners time to adjust their fleets. The LEZ could be supported by measures such as encouraging electric or low emission vehicles.

Taxis and Nite Zones

Taxis

Taxis and private hire cars provide a valuable service to the people of Glasgow and those visiting the city centre. They are particularly important late at night when there are fewer transport alternatives available. The limit on the number of licenses available is set annually, based on information collected on any unmet demand for taxis. The Council sets the minimum safety standards for all of Glasgow's licensed taxis and private hire cars and assesses vehicles to ensure they meet these standards. As well as regular safety inspections on all existing licensed taxis and private hire cars, ad hoc inspections are carried out on vehicles on the streets of Glasgow and legal action is taken against licensees whose vehicles fail to meet the required standard.

The location of taxi ranks is also the responsibility of the Council. The location and design of ranks takes into account the often competing requirements of taxi operators, local residents, businesses, disability groups and the maintenance of traffic flow. The Council will undertake a review of taxi facilities and operations throughout the city centre to ensure they conform to current and future requirements, and contribute to wide strategic objectives such as improving air quality.

Nite Zones

Safer Streets 'Nite Zones' have been operating each weekend in Gordon Street and Sauchiehall Street since 2005 and more than 2 million people to date have been safely marshalled while queuing for night transportation. Opportunities to expand and enhance Nite Zones will be investigated.



7.



Strategy Summary and Action Plan

Strategy Summary

Introduction

All of the measures set out in the strategy have been subject to detailed transport appraisal using the Scottish Transport Appraisal Guidance (STAG) best practice guidance. The options which have emerged from this process and that are presented in this strategy have all been found to offer potential benefits, although some disbenefits are inevitable in developing a balanced Transport Strategy.

All the proposals have been developed with the intention of resolving the existing and anticipated future problems in the city centre. They have also been appraised to ensure they are consistent with the objectives set out in Chapter 4.

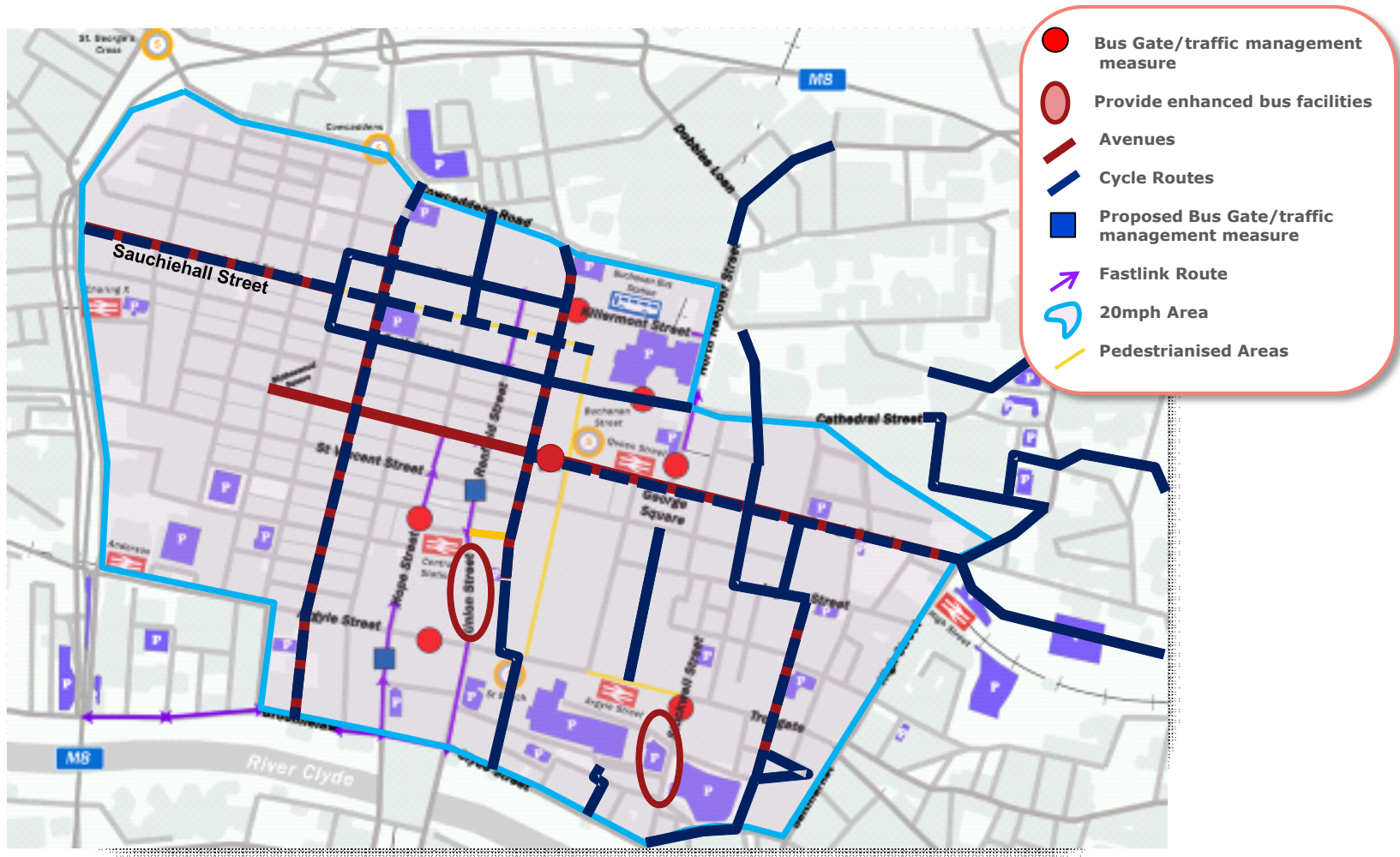
Traffic modelling indicates that the various Bus Corridor proposals will assist in reducing journey times and improving reliability. However, the trade-off for this may be some initial increase in congestion around the periphery of the city centre before the Barras Development Route, traffic redistribution, and switching to other modes of transport reduces this over time.

The proposed strategy delivery measures are summarised in the following table and plan. This is followed by a table showing the link between the strategy delivery measures and the problems they seek to resolve, followed by conclusions and an outline implementation programme.

Strategy Summary

Delivery Measures	Options
Avenues	<ul style="list-style-type: none"> ▪ Candleriggs; George Street; Miller Street; Sauchiehall Street; West Campbell Street; West Nile Street
Pedestrian Improvements	<ul style="list-style-type: none"> ▪ Footway enhancements on Hope Street; Queen Street; Cathedral Street; Union Street ▪ Pedestrianise Gordon Street between Renfield Street and West Nile Street ▪ Review and improve signing and information provision
Cycle Routes	<ul style="list-style-type: none"> ▪ Candleriggs; George Street; Miller Street; Sauchiehall Street; West Campbell Street; West Nile Street
Removal of On-street Parking	<ul style="list-style-type: none"> ▪ Renfield Street/Union Street and Hope Street to accommodate waiting passengers ▪ On Bus Corridors and Avenues
Traffic Management and Parking	<ul style="list-style-type: none"> ▪ 20mph Zone ▪ Review of loading and servicing bays ▪ Review of disabled parking provision ▪ Review and improve signing and information provision ▪ Cathedral Street – Take forward review of access to/from M8 Motorway in conjunction with Transport Scotland ▪ Review need for additional provision of motorcycle facilities (eg parking)
Bus Supporting Measures	<ul style="list-style-type: none"> ▪ Investigate the introduction of infrastructure improvements on Union Street to facilitate bus operations and improve the pedestrian environment ▪ Bus Gates or other traffic management measures on Renfield Street and Oswald Street ▪ Review of bus stop locations and usage on Renfield Street and Union Street ▪ Argyle Street – Review opportunities for limited bus access to pedestrianised section for low emission vehicles
Public Transport	<ul style="list-style-type: none"> ▪ Integrated multi-modal ticketing ▪ Expanded and enhanced integration between modes ▪ Partnerships with local transport providers
Improving Health	<ul style="list-style-type: none"> ▪ Consider ways to implement Low Emissions Zone within emerging national framework ▪ Encourage active travel
Taxis	<ul style="list-style-type: none"> ▪ Review taxi facilities and operations to ensure they meet current and future requirements ▪ Investigate opportunities to expand and enhance Nite Zones

Strategy Summary



Strategy Summary

The following table summarises how each of the principal components of the Strategy helps to tackle the main problems and issues identified in Chapter 3.

	Avenues	Pedestrian Infrastructure	Cycle Routes & Infrastructure	Bus Corridors	Traffic Management & Parking	Complementary Measures
Pedestrian Environment Issues: Poor Pedestrian Environment, Conflicts with Taxis, Air Quality Issues	✓	✓			✓	✓
Poor Conditions for Cycling: Poor Links between Routes, Safety Concerns, Gradients	✓		✓		✓	
Public Transport Network Impacts: Bus Congestion, Bus Stop Congestion, Cycle & Pedestrian Links	✓	✓	✓	✓	✓	
Quality of Public Transport Provision: Bus Routes, Railway Stations, Information, Ticketing				✓		✓
Traffic Movement Restrictions: One-way System, Servicing & Deliveries					✓	✓
Traffic Demand Issues: Peak Period Demand					✓	
Accidents: Cluster sites	✓		✓	✓	✓	
Parking: Excess Parking Provision					✓	✓

Strategy Summary

Conclusions

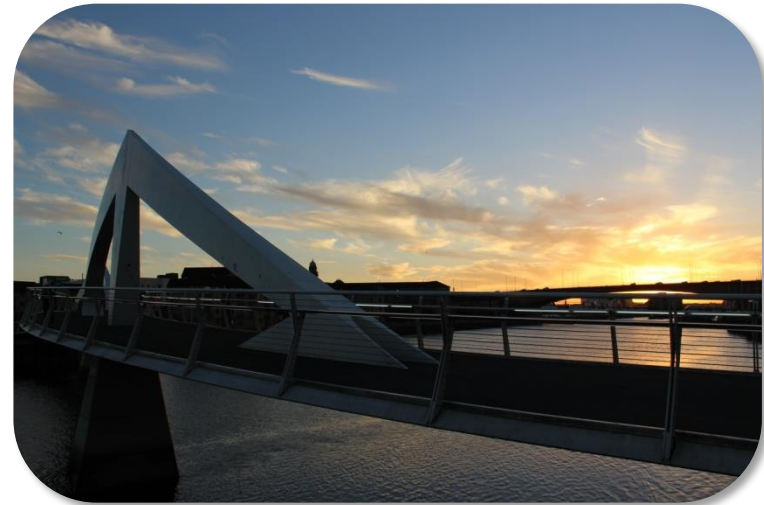
The proposed strategy has been developed to address the identified problems described in Chapter 3 and achieve the objectives set out in Chapter 4. It is proportional to the problems that have been identified and does not suggest any actions that are out of step with the scale of issue that needs addressed.

The City Centre Transport Strategy complements the wider City Centre Strategy, and will be taken forward for delivery in conjunction with the emerging Districts Strategies. It will therefore help Glasgow to achieve the ambitious targets set by the City Centre Strategy:

- A city centre ranked among the top European centres for international business and visitors;
- An attractive and vibrant city centre accessible to everyone;
- A city centre that every Glaswegian and visitor feels has something to offer them; and
- Glasgow will still be the top UK retail centre outwith London's west end.

The strategy has been developed to reflect the tone of the consultation responses received which supported improvements to pedestrian, cycling and public transport facilities in the city centre.

The trade-off for improving facilities for these modes is some potential disbenefits for general traffic, but access for all key users of the city centre has been maintained, and the public's overall experience of the city centre will be enhanced.



Benefits of the Strategy

The City Centre Transport Strategy has been specifically developed to support the wider vision for Glasgow set out principally in the **City Centre Strategy** and the **City Development Plan**.

It will deliver enhanced movement around the city centre by pedestrians, cyclists and public transport users, without significant adverse impacts on users of other modes, as demonstrated by the modelling that has been undertaken of traffic movement within the city centre. It is anticipated that this will, in turn, support a **modal shift** to active travel, with benefits for **health** and the **environment**.

In addition, the revised traffic flow supports the reallocation of existing space from cars and on-street parking to pedestrians and cyclists as envisaged in the City Centre Strategy, thus improving the **quality and legibility** of many key areas, and supporting an improvement in **road safety and personal security**.

At the same time, the proposals would support continued growth of the city centre **economy** as envisaged by the City Centre Strategy.

The strategy therefore positively delivers against the five objectives established in the Vision for the city centre (Chapter 4).

**City Vision is supported
by the Transport Strategy**

Shop and Play
Visit and Enjoy
Work and Create
Learn, Discover and
Innovate
Stay and Live

Funding

Delivery of many elements of this Strategy are dependent on available funding.

A variety of funding sources are available to the City Council, including the City Deal which includes elements associated with transport such as improved public realm and other major infrastructure projects (see adjacent box).

As well as its own internal resources, the City Council will pursue external funding, particularly given that many of the proposed actions will have positive benefits for many stakeholders. External funding bids will be pursued with public bodies such as Transport Scotland, Strathclyde Partnership for Transport, and Sustrans. In addition, opportunities to secure private sector funding and support will also be identified.

However, many of the projects are relatively inexpensive despite releasing significant benefits for city centre. Many of the pedestrian and cycling proposals should only require moderate funding, and can be delivered in conjunction with the wider Districts Strategies.

City Deal

The recently announced City Deal will be used to fund major infrastructure projects, drive innovation and growth through the support of key sectors such as life sciences, and address challenges in the local labour market.

These projects will allow a programme of work to go ahead which will greatly add to the value of the local economy over the next twenty years.

The UK Government will give the City Region £500million in grant funding, and the Scottish Government is matching this. The local authorities involved will borrow a further £130million.

This flagship funding in the £1.13 billion Glasgow and Clyde Valley Infrastructure Fund which will be used to take forward up to 20 infrastructure schemes across the city-region.



Action Plan – Priority for Pedestrians

Ref	Action	Timescale		
		Short 0-2 years	Medium 3-5 years	Long 6-10 years
PED1	Deliver Avenues on Candeleriggs, George Street, Gordon Street, Sauchiehall Street, West Campbell Street and West Nile Street		●	
PED2	Improvements to pedestrian facilities at key locations (including wider footways and dropped kerbs), particularly on Hope Street, Queen Street, Cathedral Street and Union Street		●	
PED3	Increase green-time for pedestrians at signalised junctions where appropriate		●	
PED4	Adapt more crossings for people with visual impairments		●	
PED5	Expansion of pedestrianised area to include Gordon Street		●	
PED6	Reduction of general traffic on Trongate to allow enhancements to public realm		●	
PED7	Improved way-finding to/from peripheral car parks	●		
PED8	Improved signage around city centre	●		
PED9	Improved information provision (eg information points in city centre)	●		
TVL1	Encourage active travel	●		

Action Plan – Priority for Public Transport

Ref	Action	Timescale		
		Short 0-2 years	Medium 3-5 years	Long 6-10 years
BUS1	Support delivery of Fastlink	●		
BUS2	Delivery of improved infrastructure for buses on Union Street	●		
BUS3	Delivery of bus gates/traffic management measures on Renfield Street and Oswald Street	●		
BUS4	Minimise unnecessary use of Cathedral Street for buses not stopping			●
BUS5	Investigation of potential to allow limited number of low emissions buses access to currently pedestrianised section of Argyle Street			●
BUS6	Investigation of potential southern bus hub			●
BUS7	Rationalisation of bus stops, particularly on Renfield Street/Union Street	●		
BUS8	Support co-operation with local bus operators through a Statutory Quality Partnership (SQP)	●		

Action Plan – Priority for Public Transport

Ref	Action	Timescale		
		Short 0-2 years	Medium 3-5 years	Long 6-10 years
PUB1	Integrated, multi-modal ticketing covering all transport providers		●	
PUB2	Partnerships with all local transport providers	●		
PUB3	Give priority to strategic Park & Ride to encourage use of public transport to access city centre			●
PUB4	Encourage integration across all modes		●	

Action Plan – Priority for Cycling

Ref	Action	Timescale		
		Short 0-2 years	Medium 3-5 years	Long 6-10 years
CYC1	Implement principal cycle routes on Candleriggs, George Street, Miller Street, Sauchiehall Street, West Campbell Street and West Nile Street		●	
CYC2	Improvements to cycling infrastructure on other key corridors, including infill of existing gaps	●		
CYC3	Additional cycle storage at key transport hubs, including car parks	●		
CYC4	Investigate expansion of the Mass Automated Cycle Hire (MACH) scheme	●		
TVL1	Encourage active travel	●		

Action Plan – Provision for Freight, Taxis and Motorcycles

Ref	Action	Timescale		
		Short 0-2 years	Medium 3-5 years	Long 6-10 years
FRT1	Maintain access for loading and servicing for all premises in the city centre	●		
LEZ1	Introduce Low Emission Zone (LEZ)		●	
TAX1	Continue to review and, where necessary, amend locations of taxi ranks to ensure they meet current and future requirements	●		
TAX2	Investigate opportunities to expand and enhance Nite Zones		●	
PTW1	Review appropriate provision for motorcyclists (eg specific parking provision)		●	

Action Plan – Minimising the Impact of Private Cars

Ref	Action	Timescale		
		Short 0-2 years	Medium 3-5 years	Long 6-10 years
CAR1	Introduce 20mph speed limit in city centre		●	
CAR2	Enhanced signage to encourage use of city centre peripheral car parks (including way-finding for access to city centre after parking)	●		
CAR3	Complete strategic car parking review	●		
CAR4	Maintain convenient access to peripheral car parks	●		
CAR5	Maintain access for essential traffic, particularly residents and blue badge holders	●		
CAR6	Reduction in available through routes for general traffic by bus gates or other traffic management measures	●		
CAR7	Reduction in general traffic using Cathedral Street			●
LEZ1	Introduce Low Emission Zone (LEZ) if applicable		●	

8.



Monitoring and Evaluation

Monitoring and Evaluation

Performance Indicators

A set of Performance Indicators linked to the established Objectives set out in Chapter 4 have been developed to allow monitoring and evaluation of the Transport Strategy to be undertaken following implementation. These will allow a measure of how successful the strategy has been in achieving the Objectives and are set out alongside.

Performance Indicator	Obj 1	Obj 2	Obj 3	Obj 4	Obj 5
1. Total demand by mode for trips to and from city centre	✓				
2. Air quality/emissions in city centre				✓	
3. Road congestion in city centre		✓	✓		
4. Bus journey times through city centre		✓	✓		
5. Accessibility to city centre		✓	✓		
6. Road traffic accidents					✓
7. Safety and security travelling in city centre			✓		✓

Objectives

- 1. Improve the health of Glasgow's citizens** by increasing the modal share of trips to/from and within the city centre by active travel modes (walking, cycling and public transport)
- 2. Support the growth in economic vibrancy** of the city centre, by ensuring access for residents, blue badge holders, tourists and traffic essential to sustain economic functions
- 3. Enhance the quality of main pedestrian spaces**, key development areas and main access routes
- 4. Reduce harmful traffic emissions and noise**
- 5. Enhance road safety and personal security** for all city centre users

Monitoring and Evaluation

Timescales and Reporting

A two pronged approach to monitoring and evaluation of these indicators will be undertaken including:

- **Process Evaluation:** this is conducted at an early stage in the existence of a strategy and is primarily concerned with how well the strategy is being implemented; and
- **Outcome Evaluation:** this is conducted once the strategy has been implemented for a sufficient period to enable an examination to be undertaken of actual performance against identified targets.

The proposed timescales for carrying out these evaluations are:

- **One year after publication** of the strategy a **process evaluation** will be undertaken to identify if the strategy is being implemented as intended and to set in place any remedial measures required; and
- **Three years after publication** of the strategy an **outcome evaluation** will be undertaken to assess the extent to which the strategy is achieving the targets and objectives set. This process will also be used to identify the next suitable period at which to undertake subsequent monitoring and evaluation – this may be when the strategy is due for review, at another interim interval or may not be required at all if the strategy has been fully and effectively implemented.

These activities will also be fully informed by consultation with key stakeholders affected by the implementation of the strategy.

The findings from these evaluations will be presented in Monitoring and Evaluation Reports, and used to inform changing priorities within the delivery plan (eg continued growth in retail footfall in the city centre).

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