

Edinburgh Waverley Station Concept Masterplan Summary Report



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Introduction

The vision for Edinburgh places people at the centre of the city’s transformation, responding in part to Edinburgh citizens’ support for significant change to the way the city operates. This will involve improving city centre spaces for more efficient and effective public use, embracing active travel solutions, and refocusing the performance and operation of the centre of the city. Waverley Station is at the heart of this transformation, not only by virtue of its central location, but also its vital role as a transportation hub, bringing visitors to the city, connecting businesses to other businesses, and uniting neighbourhoods and communities.

The Waverley Station Concept Masterplan envisions a station that is a vital part of the city, with a major new public space on Waverley Bridge providing views of the striking world heritage city skyline. It will be a station that puts people first, providing easy access for all, and creating vital city connections for walking, cycling and public transport.

The concept masterplan provides a framework for change over the short, medium and longer term. It sets out a vision for the station which, in thirty years time, is predicted to host twice as many annual passengers as it does today. The masterplan proposes a station that is a vital part of the city, providing a world class passenger experience and a fitting gateway to Edinburgh and Scotland.

The masterplan was commissioned by Transport Scotland, City of Edinburgh Council and Network Rail with the support of a wider steering group including Edinburgh Chamber of Commerce, Scottish Enterprise and Visit Scotland. Over 500 individuals and organisations have contributed

to creation of the concept masterplan and their time and interest in the project is greatly appreciated. Further investigation and technical studies will now be undertaken to progress the masterplan from concept to outline design stage with an ongoing commitment to stakeholder and public engagement.

Whilst Covid-19 has increased short term uncertainty, this masterplan is designed to meet the needs of the station, city and Scotland over the long term and the challenges that it seeks to address have not fundamentally changed.

If anything, elements may become more pressing as improving connectivity, the transformation of the city centre and the need to facilitate investment and respond to the growth and success of the city region will be of paramount importance as part of the social and economic recovery from Covid-19.

The Vision

The overarching vision for the masterplan is to create a station for people – both passengers who use the station and people who live, work and enjoy the city.

The steering group set a number of objectives that the masterplan is required to deliver:

1. A Functional Station



A functional station that operates efficiently and effectively as a major railway station

- Significantly improves wayfinding and legibility for passenger orientation
- Simplifies station operations and segregates them from passengers
- Improves accessibility for all
- Includes an appropriate provision of passenger amenities
- Considers how technology and information systems might change and enhance passenger experiences
- Opportunity to improve the station to accommodate the increased numbers of passengers and putting their needs first

2. A Connected Place



A connected place that seamlessly integrates national, regional and local transport modes and optimises connectivity for all users

- Provides multiple entrances to different parts of the city and other transport systems in a legible and understandable way
- Prioritises active travel and public transport and also addresses Market Street taxi provisions
- Complements and aligns with the Edinburgh City Centre Transformation Programme
- Aids permeability through the site for non-station users and considers connection with Princes Street Gardens and North Bridge

3. A Distinctive Gateway



A distinctive gateway that celebrates travel and proudly announces arrival into Edinburgh

- Has greater external visibility as a station
- Provides retail and food and beverage offerings that are distinctly local

4. A World Class Environment



A world class environment that speaks of quality of architecture and design within a historic and urban setting

- Could include striking contemporary architecture to complement the heritage
- Considers the incremental stages to ensure the station is not perceived as a continuous building site
- Provides an opportunity to reinforce the valley setting

5. An Edinburgh Station



An Edinburgh station that recognises the architecture and heritage both of the station and the City of Edinburgh, but also looks to the future and considers all deliverable opportunities

- Provides a sense of place in respect of the opportunity to provide views to an iconic skyline
- Explores the contribution the roof could make to the visual setting

City and Heritage Context

Waverley Station plays a strategic role in Edinburgh occupying a prominent city centre location which significantly influences the way the city operates and the experience residents, commuters and visitors have. Waverley is an intrinsic part of the fabric, the history, the culture and the contemporary operating systems that enable Edinburgh to thrive.

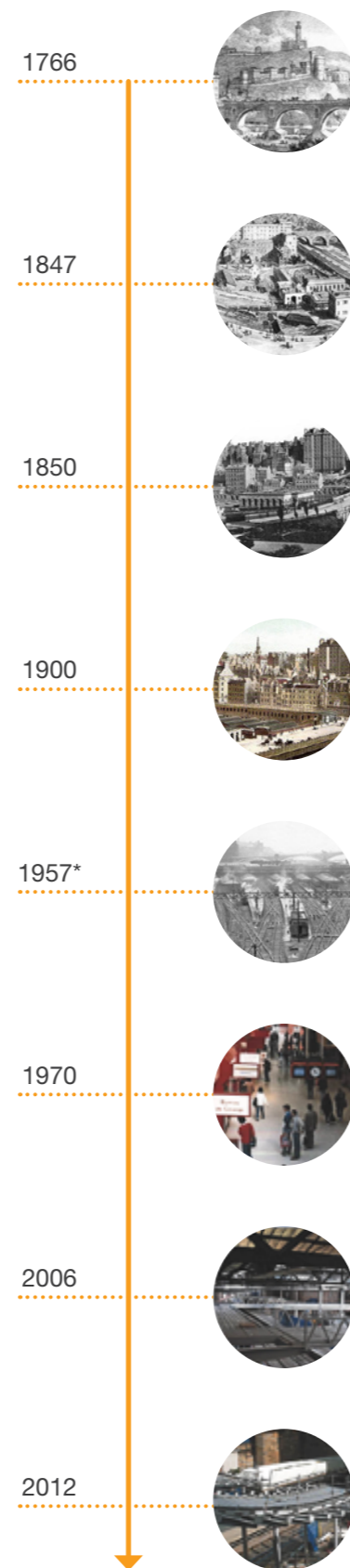
The station is a vitally important operational building serving the Central Edinburgh commuter, long- distance traveller and day trip/visitor excursion markets. It serves as a gateway for visitors to Scotland and to its Capital City. Its location between the Old and New Towns and its rich history and heritage make it unique.

In addition to being an important operational building, the station's perimeter acts as the key interface with the city. Waverley has a large footprint and its presence impacts everyone within the immediate area, whether they are station users or not. The station's position in valley of the former Nor Loch means the station and its immediate surroundings are key to movement on foot between the north and south sides, the Old Town and New Town.

Future plans for Waverley are grounded in the understanding of the importance of this Category A listed building that sits in such a prominent location in the centre of a modern city that is a UNESCO World Heritage site.

Waverley has had a history of adaption to new and growing needs often through ad hoc development. This has resulted in a poorly accessible station that is congested due to constantly growing rail passenger numbers and poor integration with the surrounding city. Stepping away from this approach and setting out a long term vision for the station is vital.

An updated Statement of Significance, which assesses the cultural importance of the station and its component parts, has been prepared as part of the masterplan. Future detailed development must balance heritage value with the need for change and ultimately create a functional station that respects its history.



* Image © Creative Commons

Passenger experience

Railway stations should provide passengers with an environment that is accessible, safe, functional, comfortable and enjoyable.

The passenger experience is further compromised by many different functions occurring in the same place including deliveries, maintenance, bikes and passengers.

At present, Edinburgh Waverley Station suffers from many challenges, including passenger flow constraints at stairs and escalators, level changes and circuitous routes to access platforms and exits. Effectively, there is only a small central concourse.



Difficult to access and get around the station, not accessible to all



Conflicting uses of shared space raise safety and security issues



Congestion causes a poor passenger experience



Surrounding streets busy and constrained, poor transport interchange experience

The case for change

Growth and connectivity

The Edinburgh city region and southeast Scotland is experiencing growth including a predicted city population increase of 16.5% between 2016-2041, plans to construct 70,000 new homes and create 45,000 new jobs by 2030, and rising tourism.

Three new commuter stations, Edinburgh Gateway (complete and fully operational), East Linton and Reston are planned. This is accompanied by a significant reduction of private car traffic in the city centre as driven by The City Centre Transformation Programme.

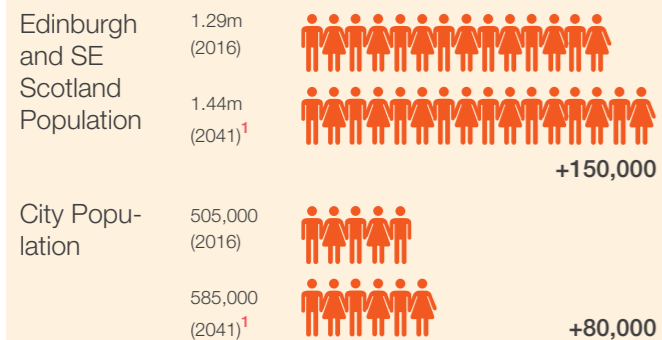
As this growth drives a passenger numbers increase the limitations of the current station will become increasingly evident. These limitations include the insufficient size and quality of public space around the station, the congested and

scarce connections to bus and the tram services, and the difficulty of movement on foot or cycle between the north and south sides of the valley.

Connectivity is commonly understood to be a significant indicator of a city's attractiveness for business, tourists and locals, and thus has a major influence on a city's competitiveness to attract the most talented people and investment. The role that Waverley plays in connecting Scotland's capital with other UK regions and cities contributes significantly to the city's attractiveness and economic growth.

Furthermore, connectivity of the station into the city's infrastructure: pedestrian, bike and buses, trams and taxis was the single biggest issue raised during the public consultation.

Lothian population forecast

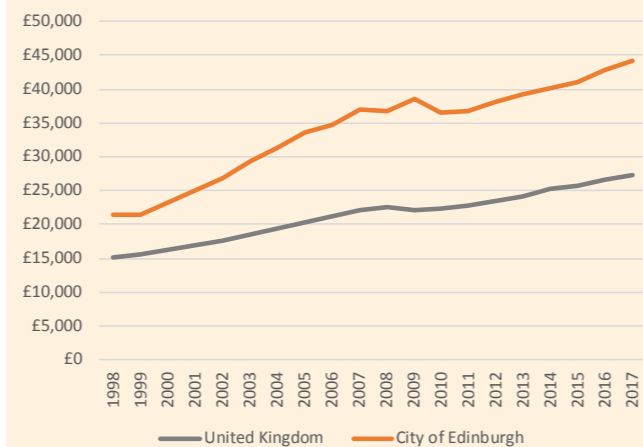


Lothian population forecast to grow by 16.5% between 2016-2041

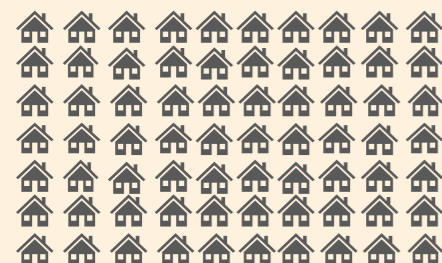
¹ National Records of Scotland Statistics

GVA per head Growth

Source: Office for National Statistics



New Homes in Edinburgh & SE Scotland



~70,000¹ between 2018-2030

¹ SESplan - Proposed Strategic Development Plan Oct 2016

New Commuter Rail Stations

- Edinburgh Gateway, South Gyle (Completed 2016)
- East Linton, East Lothian (due CP6: 2019-24)
- Reston, Borders (due CP6: 2019-24)

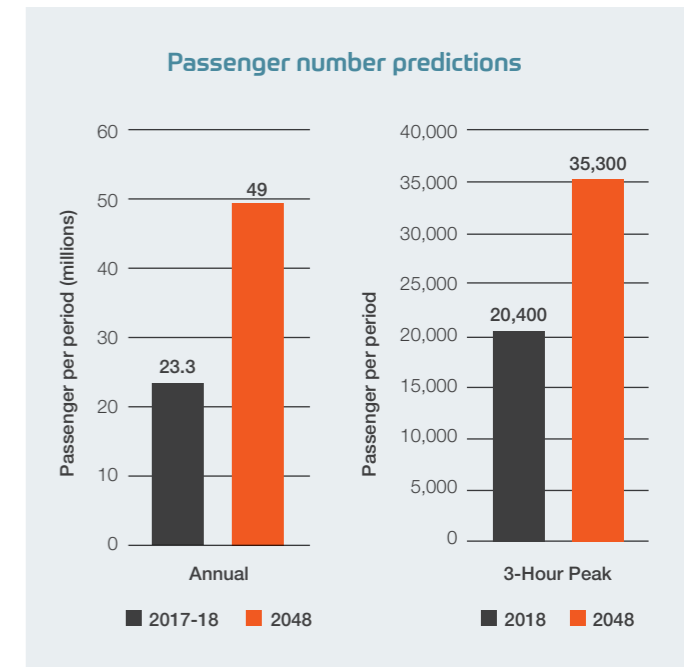
Edinburgh is planning new homes and new commuter rail stations and services

Future demand and capacity

The strong city and regional growth coupled with the drive for sustainable transport will have a significant impact on future rail passenger numbers with throughput estimated to increase significantly by 2048. Annual throughput could more than double from 23.3 million passengers in 2018 to 49 million passengers in 2048. It is likely that, proportionally, the growth will be higher in the off peak part of the day than within the peak period, in part due to likely capacity constraints on the railway in the peak.

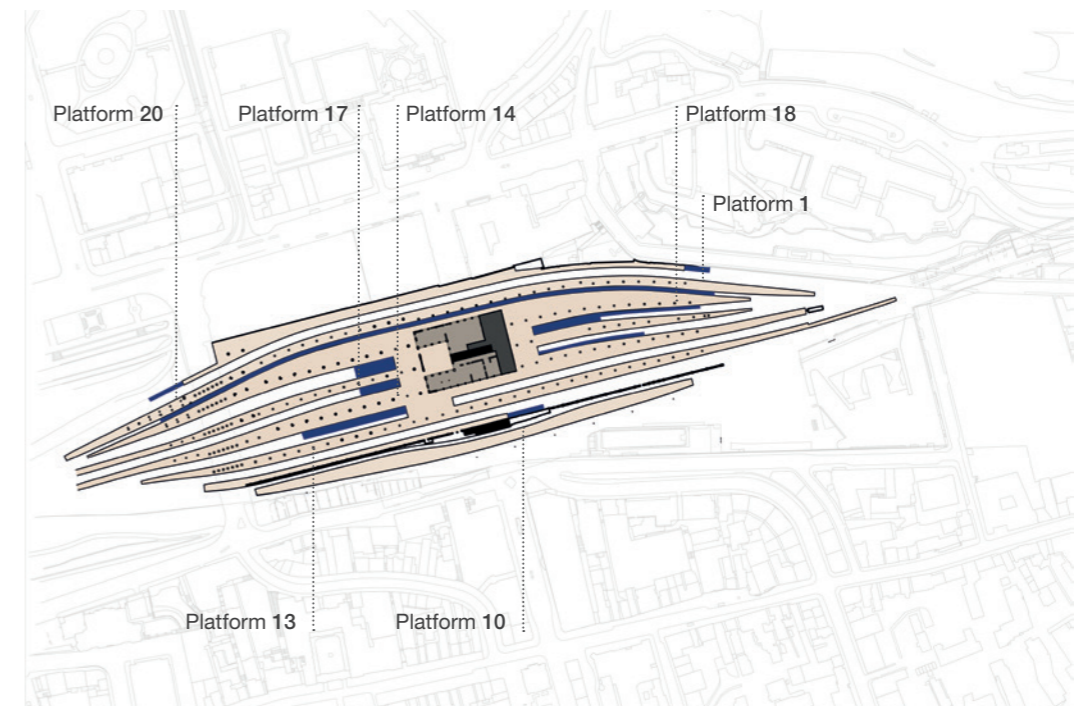
The growth projections are a product of Network Rail's established strategic planning process that includes long term predictions of travel demand endorsed by the Office of Rail Regulation (ORR) in April 2012. Although these predictions have been made prior to the Covid-19 pandemic, the trend for growth is expected to remain and the masterplan is a framework for development over a thirty year period. Current challenges remain and the immediate post Covid implications will include an increase in pedestrian space requirements.

With the forecasted passenger increases, Network Rail has taken action to ensure accommodating this increase is possible. Increased railway capacity will require longer trains rather than more services. The railway is constrained to the east and west by the Calton and Mound tunnels, which limits the number of new services that can be



accommodated. Network Rail has developed a track infrastructure plan that extends some of the existing platforms. These platform extensions significantly reduce the available area for passenger concourse space at platform level. This, combined with the forecasted passenger growth, necessitates creating circulation space and a new station concourse for passengers at a mezzanine level above the platforms.

Proposed platform extensions

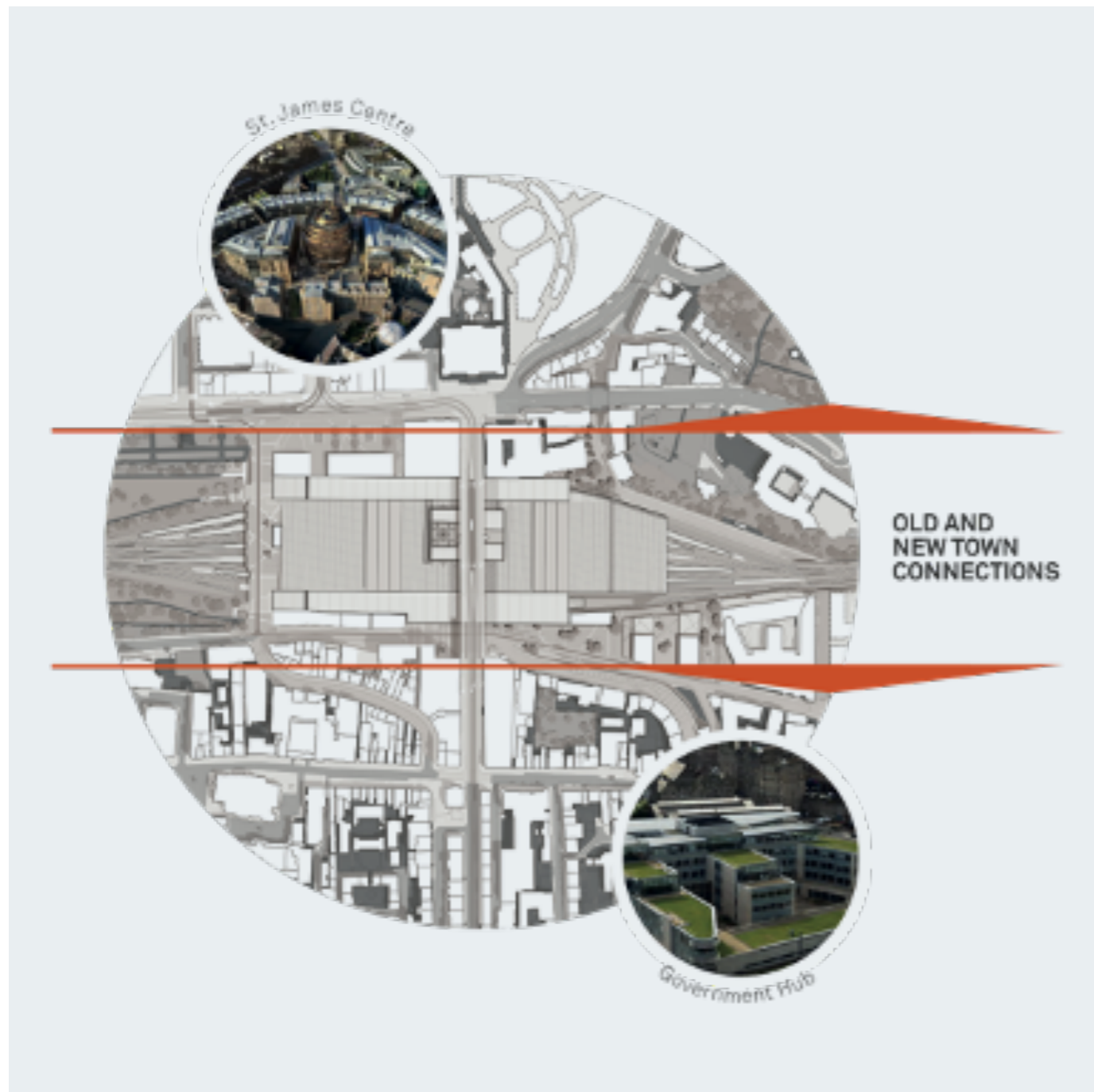


An evolving city

Edinburgh City Centre continues to rapidly evolve with major redevelopment sites including the New Waverley Government Hub, combining City of Edinburgh Council and HMRC into a wider mixed use masterplan, and the new Edinburgh St James nearing completion. These major developments will alter how the city centre functions, the demands placed on the station and how it integrates with the fabric of the city.

The City Centre Transformation Programme will alter fundamentally how the city centre operates. The transformation will prioritise movement by foot, cycle and public transport, reducing the number of vehicles entering the city by around 25%.

Waverley station will have to respond to the evolving role and landscape of the city centre and will be central to facilitating and responding to the growth and success of the city region.



Consultation Feedback

In October 2018 the masterplan process was publicly launched and over 200 interested parties contacted directly. Stakeholders groups were identified with whom more detailed engagement would be beneficial. Heritage, Active Travel, and Access/Inclusion stakeholders were all engaged first to enable issues and opportunities specific to their interest group to be explored, as were transport stakeholders with whom detailed technical engagement was required.

The heritage stakeholder group understandably stressed the importance of the design team fully understanding the heritage significance of the station and minimising heritage impact. An updated heritage Statement of Significance was prepared to inform masterplan options.

Many of the issues raised by the stakeholder groups and the public confirmed the areas that the steering group and design team believed the masterplan needed to address including:

In spring 2019, wider public consultation took place with views sought from members of the public, rail customers and other interested parties. Consultation material made it clear that masterplan concepts and not designs were being consulted on. Three masterplan concept options from minimal to significant development were presented with the significant development option identified as the steering group's preferred approach.

- making access and navigation of the station easier – especially for disabled and elderly users;
- improving connectivity of the station with other modes of transport such as cyclepaths, buses, trams and taxis;
- improving the pavements and public spaces immediately adjoining the station to deal with congestion and areas that could feel unsafe;
- addressing the location and provision of cycle storage and cyclist facilities;
- ensuring that the heritage of the station is respected.



A questionnaire sought to understand consultees current experience of Waverley Station and then asked for views on whether the masterplan options shown represented an improvement and whether proposals to create an upper mezzanine level and the associated impacts would be positive or negative. In recognition of the historic importance of the station, a specific question was asked on whether the compromise between operational needs and respecting heritage had been achieved.

Over 500 responses were received through the public consultation with three quarters of respondents being dissatisfied with their current experience of the station. The main areas of concern raised were connectivity with other transport modes, improving access and providing adequate station facilities.

Whilst 87% of respondents were of the opinion that the heritage of the station is not currently shown to its best advantage, protecting the station heritage was an important theme in feedback with a quarter of

respondents advising they did not believe an appropriate balance had been struck between protecting heritage and the level of development proposed.

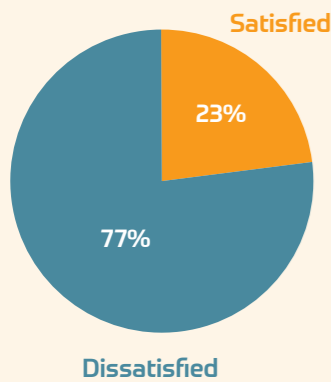
Summarising all feedback, an average of 70% of respondents believed the masterplan concept addressed existing issues well or very well.

Some consultees advised that it had been difficult to comment due to lack of detailed designs. This was understandable due to the “concept” nature of the masterplan. However, it was important to secure public input into the proposals at an early stage.

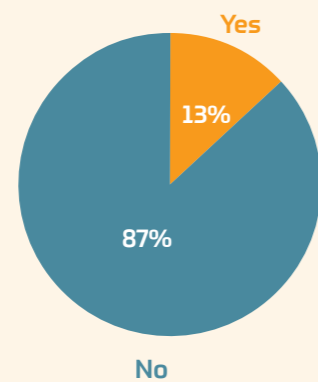
After the public consultation, further engagement was undertaken with stakeholders: both in individual groups and bringing all stakeholders together to enable refinement of the final preferred masterplan option.

As the project progresses, stakeholder and public engagement will continue.

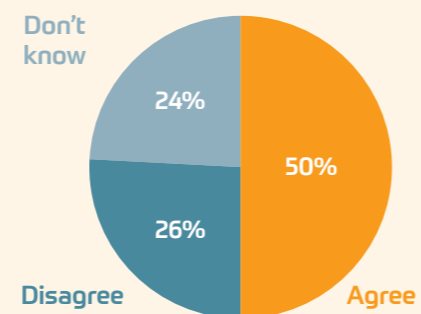
Overall satisfaction with current station situation



Heritage is currently shown to its best advantage



Balancing heritage



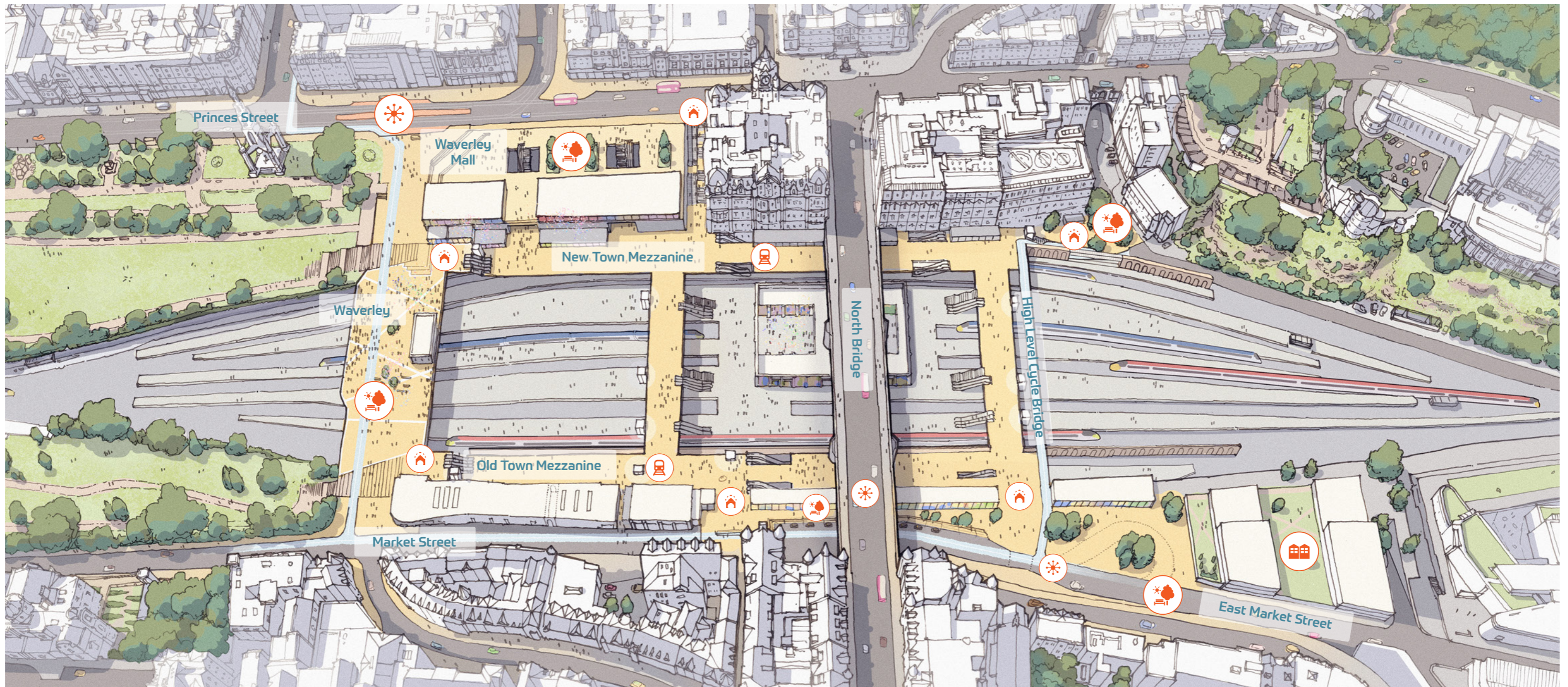
The Masterplan

The unique location of Waverley Station, in a World Heritage Site of Edinburgh’s Old and New Towns, offers an opportunity to transform part of the city centre, enhancing its reputation as world class destination.

The approach to the masterplan has followed three key considerations:

- Respect the location by establishing the right relationships with key views and surrounding landmarks
- Understand how the city is growing and establish the correct links to the city in this context
- Create a masterplan that responds to the complex variation in levels around the station and provides full accessibility from different locations and levels





Station drawn without the roof to enable layout to be shown

Masterplan Components

Ten key components form the Waverley Station Concept Masterplan, each one is focussed on putting the needs of passengers and station users first and ensuring a functional station.



Operations – to accommodate increased passenger numbers and platform extensions, the western ramps require removal. Insufficient passenger space at platform level requires a new mezzanine level.



Station Layout: a mezzanine level solution - allowing connectivity and space for passengers. A southern “Old Town” mezzanine concourse connected by two bridges on a north south axis to a northern “New Town” mezzanine concourse.



The Roof - introduction of a new mezzanine concourse requires greater headroom. The existing roof is of historic value and forms part of the station’s Category A heritage listing. The masterplan concept has considered initial options of roof modification or replacement.



Entrance Strategy - increases the accessibility to and across the station by creating multiple entrances with sufficient capacity and simplified level changes, including step free access.



Accessibility, Walking & Cycling – prioritising those arriving or departing on foot or by cycle with generous pavement widths and new public space. Cycling facilities connect directly into the existing and proposed cycle network with storage for 1,800 bikes at key entrances.



Transport Interchanges – providing improved inter-connectivity by proposing bus and tram hubs on Princes Street and North Bridge and consideration of a new tram stop as part of the Princes Street hub. A vertical “urban lift” is proposed to connect Market St to North Bridge above.



Public Space Strategy - defines five public spaces immediately around the station which create ‘breathing room’ for passengers and city users.



Passenger Amenities –the ticket office will remain within a refurbished and opened up central booking hall with toilets, waiting facilities, quiet spaces, faith and workspace areas at mezzanine level. An improved selection of retail and food facilities is proposed.



Servicing – creating a dedicated new service yard on the site of the current surface car park and redevelopment of the basements of East Market Street removes all service and delivery vehicles from the station.



Development Opportunity- the deck structure over the existing surface car park enables modest development at Market Street level.

 **Station Layout:
A Mezzanine Level Solution**

The preferred masterplan will change the station from one which operates on one level to a station that has two distinct levels with a new mezzanine concourse allowing connectivity and space for passengers across the station.

The northern "New Town" mezzanine enables improved passenger flow and wayfinding and the southern "Old Town" mezzanine creates a permeable edge along a revitalised and reactivated Market Street, connecting to the south end of Waverley Bridge.

Two cross bridges will provide passengers with convenient access from the mezzanine concourses to platforms and will allow other city users to walk through the station with ease.

The centre of the station is kept free of mezzanine floor, allowing daylight to penetrate to the platforms and opening up the area around the Booking Hall building. Clear views from the mezzanines will help orientate passengers, allowing them to see their destination platform.



Sketch showing platform level with views to New Town mezzanine above and Princes Street beyond. A refurbished booking hall is shown on the right.

Final proposals for the roof will be progressed as part of the next stage of technical works.

 **The Roof**

The introduction of a new mezzanine concourse requires greater headroom than is available within the constraints of the existing roof structure. The existing roof is of historic value and forms part of the listing. The masterplan looks to optimise the space in the station concourse and minimise constraints to passengers while retaining the beauty and grandeur of the existing roof structure.

The masterplan introduces two potential solutions: raising the roof by +2m over the mezzanine areas only and retaining as much of the existing roof as possible, or replacing the whole roof, with increased headroom throughout the station.

Whilst a new roof could significantly improve spatial quality within the station, as well as achieve greater architectural consistency and design quality outside the station, it would, also result in greater heritage impact on the Category A-listed station.

The final roof design decision will be informed by detailed design studies, Heritage Impact Assessments and further consultation with key stakeholders and planning authorities.



Modified existing roof



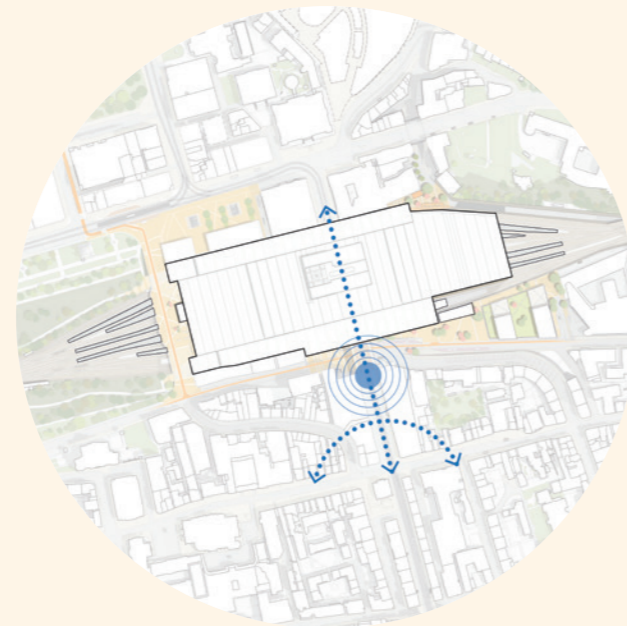
New roof

Entrance Strategy

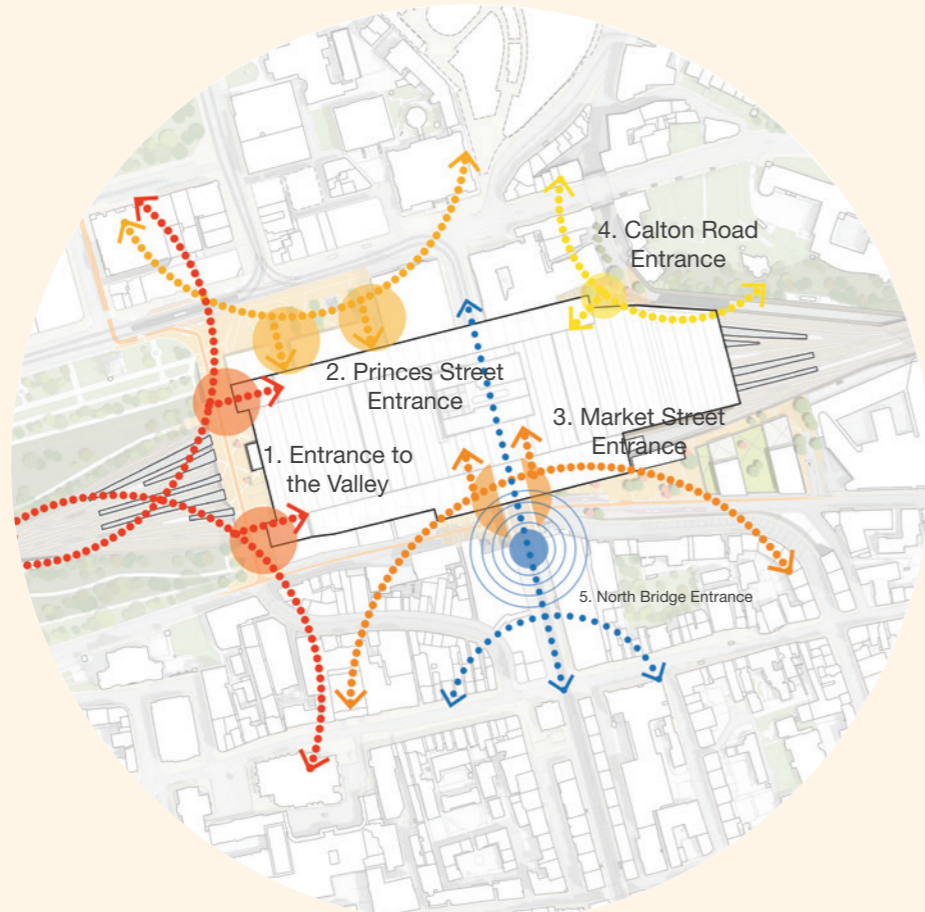
The masterplan increases the accessibility to and across the station by creating multiple entrances with sufficient capacity and with simplified level changes, including step free access. Two new entrances are proposed from Waverley Bridge, replacing the existing ramp routes, providing access onto the two new mezzanine concourses. Market Street will have proposed entrances near reorganised taxi facilities and new urban lifts provide access between Market Street and North Bridge at a high level. Access via Waverley Mall and Calton Road will be improved.

New urban lifts, are proposed on the east side of the south bridge abutment improving connectivity between North Bridge, the Royal Mile and the Old Town at high level and the station at low level.

This new proposed connector will increase accessibility to the station and provide easy access to buses and the future tramline three on North Bridge. The masterplan will allow for a second North Bridge connector if considered feasible



Proposed North Bridge urban lifts location

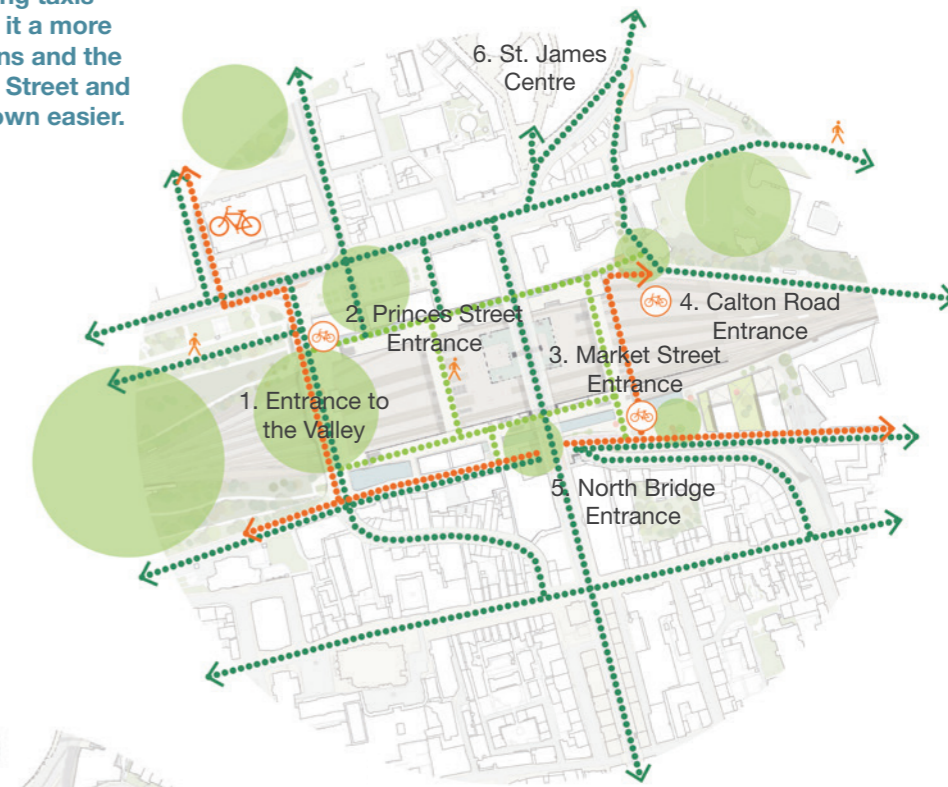


All entrances

Accessibility, Walking And Cycling

The masterplan makes the station highly accessible for everyone and prioritises those arriving or departing on foot or by cycle with the mezzanine concourses simplifying level changes and providing step free access at each level change. Generous pavement widths and new public spaces around the station provide more capacity for pedestrians. In Market Street, giving pedestrian priority, relocating taxis eastwards and reducing traffic will make it a more attractive and secure route for pedestrians and the proposed new urban lift between Market Street and North Bridge makes access to the Old Town easier.

Cycling facilities connect directly into the existing and proposed cycle network with a segregated cycle corridor linking Princes St to Market St, a high level concourse connecting Market St and Calton Road and a cycle lane along Market St. Storage for 1,800 bikes will be located at Waverley Bridge (1,000), Market St (500) and Calton Road (300).



Accessibility, walking and cycling



Illustrative cycling strategy

Improved City Transport Interchanges

The masterplan provides an opportunity for improved inter-connectivity with bus, tram and taxi networks by proposing bus and tram hubs on Princes Street and North Bridge, and new taxi arrangements.

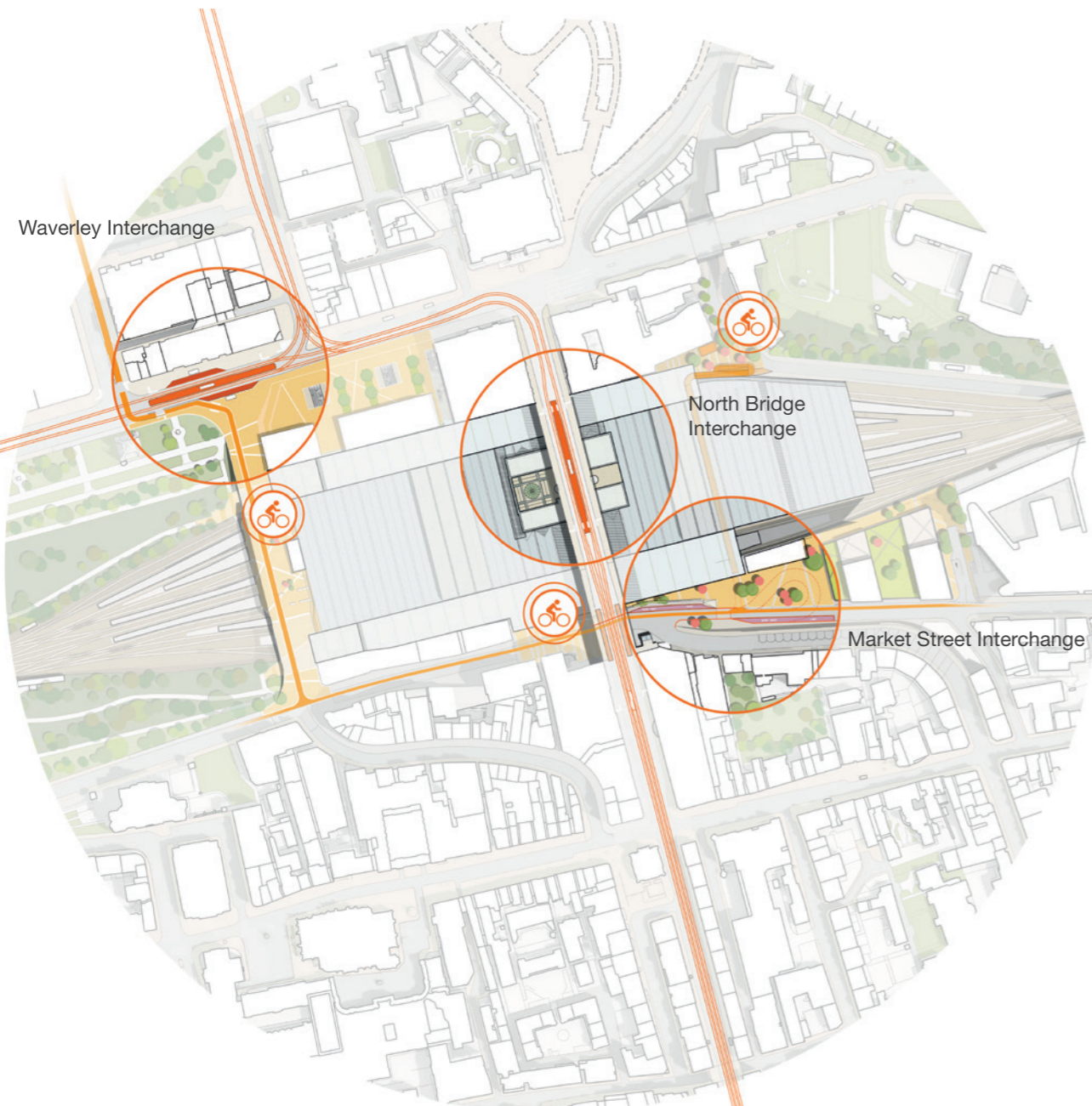
Bus connections are focussed at two locations: Princes Street and North Bridge and all buses are removed from Waverley Bridge and Market Street. A new tram stop is suggested at the junction of Princes Street and Waverley Bridge, reducing the connection distance to the rail station and allowing close interchange with buses on Princes Street.

Dedicated licenced taxi drop off and pick up provision is provided along East Market Street with rank spaces

provided further east and extending into New Street and Calton Road as necessary.

Disabled persons parking spaces are provided on Market Street and longer term parking spaces within the Waverley Court multi-storey car park.

Access to the station by private car is discouraged, in line with the aspirations of the Edinburgh City Centre Transformation Project. Drop off by private car would be possible on Calton Road if this remains open to traffic, and drop off and pick up facilities are included in Waverley Court multi-storey car.



Public Space Strategy

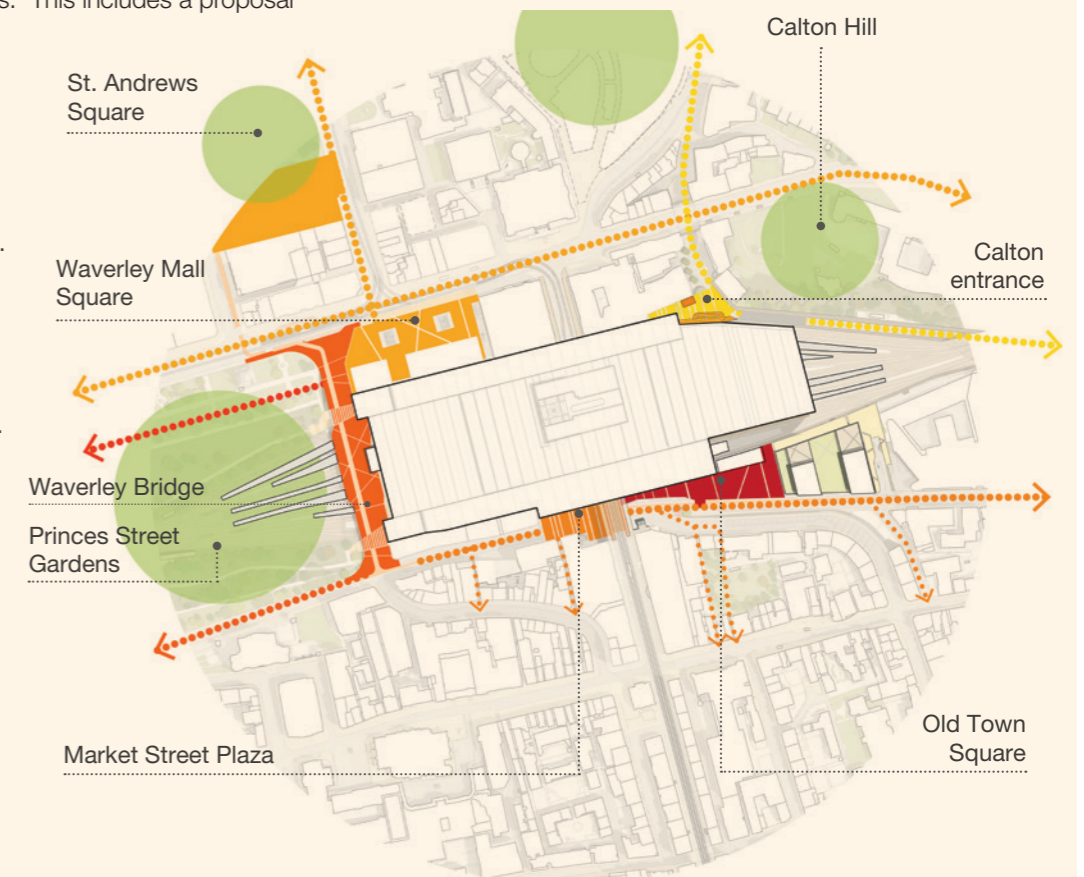
The station's location is close to unique urban public spaces, such as Princes Street Gardens and Calton Hill. However, the connectivity to and relationship with these spaces and the station is very poor. It is surrounded by busy public roads, cutting off easy access to these spaces. There is also a lack of open space around the station entrances, which contributes to severe crowding on the adjacent streets.

The masterplan defines five public spaces immediately around the station which create 'breathing room' for passengers and city users, as well as providing appropriate interfaces with transport systems and the city neighbourhoods. This includes a proposal that Waverley Bridge becomes fully pedestrianised enhancing spectacular views from the new station exits towards the castle and over Princes Street Gardens. High quality public realm treatment around Market Street and Calton Road entrances will prioritise pedestrians and cycles.

Each space will have its own distinct character, linking the station to existing adjacent neighbourhoods and improving the experience for citizens and station users. The five public spaces proposed are:

- Waverley Bridge
- Waverley Mall Square
- Market Street Plaza
- Old Town Square
- Calton Entrance.

Development of the public space strategy and progression of detailed proposals will require close collaboration with neighbours and stakeholders.



Passenger Amenities

The masterplan aims to implement a number of customer-focused improvements in the station aiming to 'put passengers first.'

The ticket office will remain within the existing central booking hall which will be refurbished and opened up to reveal its heritage features to best advantage. Ticket vending machines, toilets and waiting facilities, quiet

spaces, faith and workspace areas are all proposed for the mezzanine level. An improved selection of retail and food facilities is proposed in the refurbished central booking hall and the mezzanine.

More conventional passenger services like luggage storage, car rental and transport and accommodation booking services will also be provided.

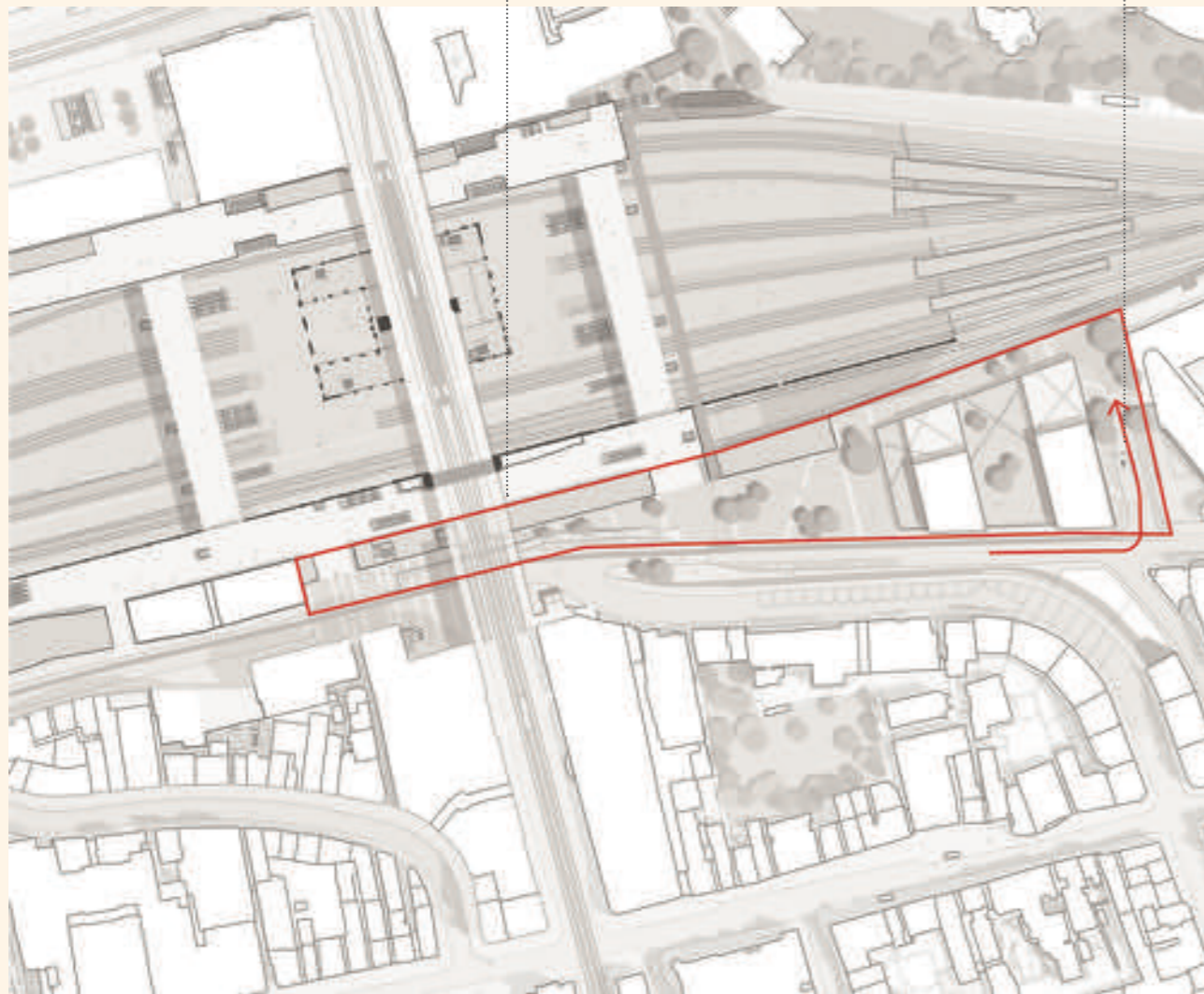
Servicing And Operations

Improved servicing is an important operational issue. A dedicated new service yard is planned on the site of the current surface car park with an access ramp off East Market Street. This removes all service and delivery vehicles from the station. Internal distribution of goods will be via dedicated goods lifts and service corridors.

Removing the western ramps from Waverley Bridge enables platform improvements required for future track operations and refurbishing and opening up the central booking hall improves the east west balance of the station.

Basement below

East Market Street



East Market Street Development Opportunity

A deck structure is proposed over the existing station surface level car park enabling development of a modest scale to occur at Market Street level.

Basements below this deck provide accommodation for station operational activities and for a dedicated service yard and storage areas, accessed off East Market Street.

At deck level, new public realm is created around the two station entrances and taxi facilities. Above deck level there is the opportunity to build a modest sized development which could be for commercial or civil uses. The scale of this would need to consider important views across the valley from Jeffery Street over to Calton Hill.

Taxi drop off area

Servicing access ramp

Active front

Taxi pick up area



Old Town square with indicative coach turning loop

Bike lane

Next Steps

The Masterplan has been presented to the City of Edinburgh Council and the Scottish Government and work will continue to ensure that redevelopment of the station will be included in the relevant City of Edinburgh Council plans and the national Strategic Transport Projects Review.

The progression of the Masterplan is expected to be in line with Scotland's established railway investment strategy (Rail Enhancements & Capital Investment Strategy). This strategy enables the consideration, authorisation and progression of rail improvement proposals from concept through to final design and implementation by means of various staged refinements supported by appropriate business cases.

Due to the scale of the proposed redevelopment it is likely that the final design will be implemented in several phases which will be aligned with other physical rail network

enhancements in south east Scotland, as well as reflecting the availability of funding at any given time. This phasing and alignment would maximise efficiencies and reduce impact for passengers and rail operation.

Network Rail, Transport Scotland and City of Edinburgh Council will now progress the masterplan from concept to outline design.

Further work to be undertaken over 2020/21 will include:

- Technical review and appraisal of masterplan options
- Preferred option selection and outline design
- Outline business case

As we progress we will once again involve key stakeholders, rail users and the public to enable a final preferred outline design.



Find out more and register for updates
www.scotlandsrailway.com/projects/waverley-masterplan

Masterplan Design Team:

ARUP

Allan Murray
Architects
architecture + urbanism

GT GARDINER
& THEOBALD

GRIMSHAW

JLL

streets-uk



Jura CONSULTANTS