

## Executive Summary

### Introduction

Edinburgh and the City Region has a strong and varied economy; however, population and economic growth, together with UK and international investment and an expanding tourist sector, bring challenges, with road congestion and public transport journey times increasing.

The city's brand is strong in terms of education, culture and heritage, but increasing road congestion, rising housing costs and a constrained employee catchment, combined, have the potential to restrict future growth.

Edinburgh has an established and successful public transport system, including an award-winning bus network and the Airport-Newhaven tram line. But as Scotland's fastest growing city, that system must continue to evolve to remain competitive, being fast, efficient, accessible and affordable, while being carbon emissions free.

Building on the success of the Airport-Newhaven tram corridor, this Strategic Business Case (SBC) outlines the rationale for Trams to Granton, BioQuarter and Beyond, a new North-South corridor. The route would run from Granton in the north of the city, via either Roseburn or Orchard Brae, to the city centre, then via The Bridges corridor to Cameron Toll and onwards to Royal Infirmary of Edinburgh and the BioQuarter in the south east (Figure 1). Further extensions into Midlothian (Shawfair Station) and East Lothian (Queen Margaret University/ Musselburgh Station) are being considered as part of SEStran, a study being led by SEStran, which will set out a Programme SBC for mass transit, adopting a region-wide approach, and making the case for improved cross-boundary connectivity.

**Figure 1: Tram Corridor Options**



Investment in tram is integral to the delivery of the city and region's spatial development strategies, addressing inequalities and encouraging sustainable economic growth. Tram will support the development of Edinburgh's industries of the future, including technology and life sciences. Transport connectivity is a key consideration that investors increasingly consider in assessing competing locations to site their business and a major differentiator in attracting a skilled workforce from across the UK and beyond.

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This SBC sets out in detail the Strategic and Socio-Economic case for this investment and the significant benefits expected to result from expansion of the tram network.

The Financial Case sets out capital costs, and allowances for risk and optimism bias. Phasing options are outlined, with funding and financing options to support these explored.

The Commercial Case identifies possible options relating to the procurement and contracting strategy for the project. The Management Case provides an overview of potential governance and organisational structures, and monitoring and evaluation requirements.

### Current Challenges

Edinburgh benefits from one of the strongest public transport networks in the UK. However, continued population growth, economic expansion and ambitious climate objectives are placing increasing pressure on the existing transport system. Evidence demonstrates that a business-as-usual approach will not provide the capacity, connectivity or resilience required to support future growth.

Key challenges include:

- **Public transport capacity constraints:** The city centre bus network is approaching practical capacity, with over 130 buses per hour operating in each direction on Princes Street and many city centre stops already operating at or above recommended service levels
- **Declining journey time competitiveness:** Bus journey times have increased by around 10% over the past decade due to congestion, reducing the competitiveness of public transport against private car
- **Limited strategic connectivity:** Compared with other major UK cities, Edinburgh has a relatively small public transport catchment area, reflecting the absence of a comprehensive mass transit network. This limits access to jobs, education, healthcare and other opportunities
- **Insufficient capacity for future growth:** The population of the Edinburgh and South East Scotland region is forecast to grow by approximately 15% by 2042, more than 215,000 people generating over 30,000 additional peak-hour trips towards Edinburgh and placing significant additional demand on the transport network
- **Supporting major development:** City Plan 2030 and regional growth strategies will deliver substantial housing and employment growth at locations including Granton Waterfront, West Edinburgh, the BioQuarter and Shawfair. These developments require a step-change in public transport provision to realise their full potential, recognising the capacity constraints of the bus network
- **Addressing inequality and transport poverty:** Many communities continue to experience barriers to accessing employment, education, healthcare and other essential services. Improved connectivity is necessary to support inclusive growth and reduce transport inequality, particularly in key areas in the north and south-east of the city
- **Delivering policy commitments:** Achieving ambitions to reduce car dependency, support a 30% reduction in vehicle kilometres and creating a more people-focused city centre will require a higher-capacity public transport network

### The Cost of Doing Nothing

Edinburgh and South East Scotland are expected to experience significant population and employment growth over the coming decades. Major development sites identified through local and regional plans include Granton Waterfront, the BioQuarter and Cameron Toll. Together these represent more than £2.6 billion of investment, including over 6,500 new homes and around 9,000 additional jobs, the latter generating a Gross Value Added (GVA) of £1.12 billion annually.

These developments rely on tram to support higher-density, sustainable communities and reduce dependence on the private car. Tram is a critical piece of enabling infrastructure that will help unlock development, accelerate build-out rates and support wider regeneration objectives.

Without tram, there is a risk that developments are constructed at a slower and lower densities, or that they do not happen at all.

### Why Invest in Tram?

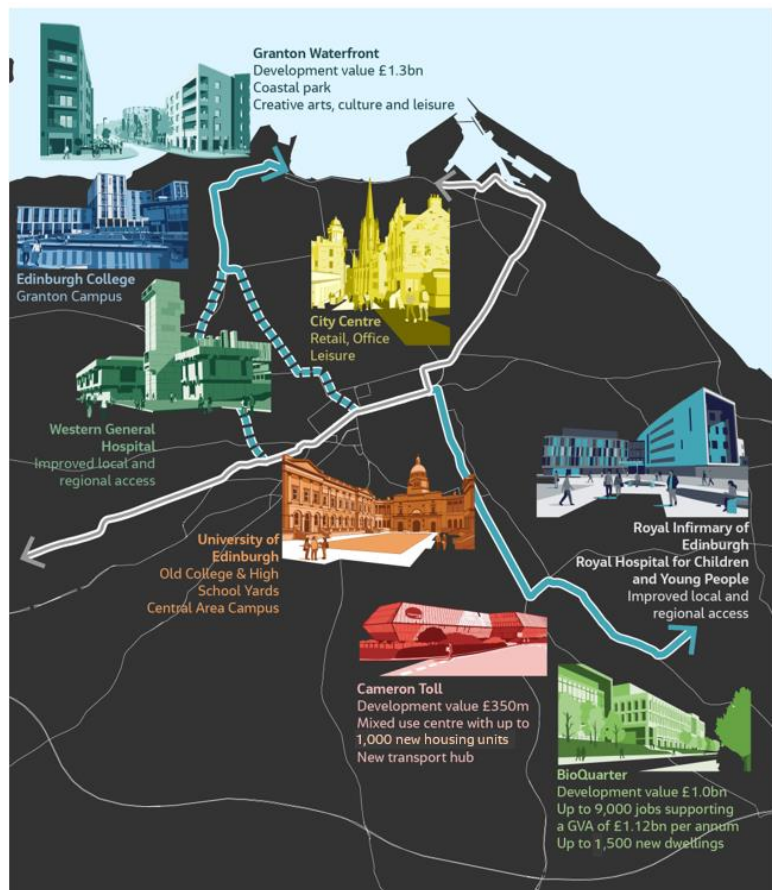
While the ability to unlock growth and development is a key driver for investment, the benefits of tram extend far beyond supporting new housing and employment sites. A high-capacity transit network can reshape how people move around the city and region, improving connectivity between major destinations, increasing public transport capacity, reducing journey times and supporting wider economic, social and environmental objectives.

It can strengthen access to jobs, education and healthcare, support regeneration in disadvantaged communities, and help deliver Edinburgh's ambitions for sustainable growth, reduced car dependency and net zero. These wider benefits mean that investment in tram should be viewed not only as transport infrastructure, but as a long-term investment in the city's competitiveness, inclusivity and quality of place.

The SBC has established the strategic and socio-economic need for North-South Tram. Key benefits include:

- Delivery of a high-capacity public transport corridor, supporting an integrated public transport network for the city and region
- The unlocking of major investment in high value employment markets
- The delivery of new housing, faster, and at higher densities, reducing the need to travel by private vehicle
- Improved access to major hospitals and education sites
- Creation of a sustainable public transport and active travel network that connects some of Scotland's most deprived communities with affordable travel options
- Supporting vehicle kilometre reduction targets and net zero

**Figure 2: Key Sites Connected by North-South Tram**



Major sites, connected by North-South Tram, are illustrated in Figure 2.

### Tram Performance Against Transport Planning Objectives and STAG Criteria

A summary of tram performance by route against project Transport Planning Objectives (TPOs) and standard Transport Scotland STAG assessment criteria is given in Table 1. The appraisal has been undertaken using a seven-point scoring range of +3 to -3 in line with STAG guidance. Each TPO/ STAG criteria has a number of sub-objectives, which have been amalgamated into one overall score for simplicity.

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**Table 1: Tram Performance against TPOs and STAG Criteria**

| TPOs / STAG Criteria                                                           | Roseburn | Orchard Brae | South East |
|--------------------------------------------------------------------------------|----------|--------------|------------|
| <b>Transport Planning Objectives</b>                                           |          |              |            |
| To support inclusive and sustainable economic growth                           | +++      | ++           | +++        |
| To respond to climate change, delivering net-zero                              | ++       | +            | ++         |
| To promote equality and inclusion and help tackle the city's housing emergency | ++       | ++           | ++         |
| To improve health, wellbeing & safety                                          | +        | 0            | +          |
| To protect and enhance our environment                                         | -        | 0            | +          |
| <b>STAG Criteria</b>                                                           |          |              |            |
| Environment                                                                    | -        | -            | +          |
| Climate Change                                                                 | +        | +            | +          |
| Health, Safety and Wellbeing                                                   | ++       | ++           | ++         |
| Economy                                                                        | ++       | ++           | +++        |
| Equality and Accessibility                                                     | ++       | ++           | ++         |
| <b>STAG Implementability Criteria</b>                                          |          |              |            |
| Feasibility                                                                    | ++       | +            | +          |
| Affordability                                                                  | --       | ---          | --         |
| Public Acceptance                                                              | --       | -            | ++         |

Overall, both the Roseburn and Orchard Brae corridor options score positively across a majority of impacts. They will promote sustainable and affordable travel options to encourage a mode shift from private vehicle to public transport, which in turn will improve air quality and the climate. They will also stimulate growth by connecting the Granton Waterfront development sites with the city centre and improve access to the Western General Hospital and Edinburgh College.

Roseburn is anticipated to deliver greater transport benefits. The route directly serves Haymarket and the West End and so has a larger population and employment catchment, resulting in more passengers.

Key negatives concern affordability and public acceptability. Orchard Brae would be more expensive to deliver due to the higher costs and risks associated with strengthening Dean Bridge to accommodate tram.

Public consultation responses were negative, particularly for Roseburn; market research was more balanced, although the Roseburn option was still more negatively perceived.

Environmental impacts on the Roseburn corridor are a result of tree and vegetation loss. Single tracking of the line is proposed between Roseburn and Craighleith tram stops to lessen the impact and retain and improve active provision along the length of the corridor. New landscaping would mature over time. In addition, targeted landscaping improvements are also proposed at Roseburn Station goods yard, Craighleith, Easter Drylaw Park and to the east of the path between Easter Drylaw Park and the Leonardo car park, south of Ferry Road. New lighting and security features would seek make the path more attractive at all times of day and throughout the year.

The Orchard Brae corridor would require the diversion of buses away from Queensferry Street, with an impact on adjacent New Town streets. Structural modifications to Dean Bridge would affect the internal fabric, although external changes would be minor reflecting its Category A listed status. A number of trees on Crewe Road South would require to be cut back or removed, these are subject to a Tree Preservation Order.

The **South East** is considered to deliver a positive contribution against all criteria considered in the appraisal with the exception of affordability. Where the corridor has negative impacts, such as on Heritage surrounding South Bridge, mitigation measures have been identified. The use of battery powered trams will remove the need for Overhead Line Equipment (OLE) between the east end of Princes Street and Newington tram stop, minimising the impact on buildings and protected views. A proposed modal filter on North Bridge will restrict through general traffic, reducing traffic volumes and the impact of vehicle dominance in the corridor.

### Tram Patronage

Modelled tram patronage in 2032 on the existing Airport-Newhaven line is 18.1 million. From this baseline, a new North-South tram line has been modelled, with additional demand anticipated to be:

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- 12.1 million passengers per year via Orchard Brae, and
- 14.5 million passengers per year via Roseburn

If the Granton and South East routes were to be progressed individually or in phases, corridor patronage would be lower than the full North-South Tram route, due reduced network connectivity, but each would still deliver significant passenger volumes and an uplift on the existing network (Table 2).

**Table 2: Tram Patronage by Section**

|                                     | Total Demand Increase | Granton-City Centre | South East-City Centre | Airport-Newhaven Uplift |
|-------------------------------------|-----------------------|---------------------|------------------------|-------------------------|
| <b>Full North-South Route</b>       |                       |                     |                        |                         |
| Granton-South East via Orchard Brae | <b>+12.1 million</b>  | +3.1 million        | +6.3 million           | +2.7 million            |
| Granton-South East via Roseburn     | <b>+14.5 million</b>  | +3.4 million        | +7.4 million           | +3.7 million            |
| <b>Independent Route</b>            |                       |                     |                        |                         |
| Granton via Orchard Brae            | <b>+4.5 million</b>   | +1.8 million        | NA                     | +2.7 million            |
| Granton via Roseburn                | <b>+5.5 million</b>   | +2.6 million        | NA                     | +2.9 million            |
| South East                          | <b>+9.6 million</b>   | NA                  | +6.8 million           | +2.8 million            |

The transport modelling that underpins these forecasts demonstrates that a high-capacity tram network would not only serve new demand generated by future development but encourage mode shift from the car by providing faster, more reliable and higher-quality public transport connections. Importantly, the benefits extend beyond the new corridor itself, with increased usage forecast across the wider public transport network as a result of improved connectivity and new journey opportunities.

## Costs, Funding and Financing

High-level cost estimates have been developed for each tram option. Including optimism bias, a South East route would cost approximately £2.5 billion via Roseburn and £2.9 billion via Orchard Brae.

Construction of a North-South line would be undertaken in phases. Several options are possible and these will be explored in more detail as part of a future Outline Business Case (OBC).

A high-level summary of capital costs by section are given in Table 3.

**Table 3: Tram Capital Costs (Including Optimism Bias and Risk)**

|              | Full Route via Roseburn | Full Route via Orchard Brae | Granton via Roseburn | Granton via Orchard Brae | South East   |
|--------------|-------------------------|-----------------------------|----------------------|--------------------------|--------------|
| Capital Cost | £2.5 billion            | £2.9 billion                | £0.8 billion         | £1.2 billion             | £1.7 billion |

Delivery of a North-South Tram line will require a combination of national and local funding. Consistent with major transport projects elsewhere in the UK, the majority of capital funding is expected to come from the Scottish and/ or UK Governments, supplemented by local contributions from the City of Edinburgh Council and other partners. Initial discussions with the National Wealth Fund have explored how local revenues could support borrowing and form part of a wider funding package.

The SBC identifies a range of potential local funding mechanisms, including parking revenues, developer contributions, visitor levy receipts, land value capture and other fiscal measures. Early analysis suggests that a combination of recurring local revenue streams could support a significant minority share of overall project costs, alongside government investment. Similar funding approaches have been successfully used to deliver major mass transit schemes in Nottingham, Manchester and London.

While funding will be challenging, the UK Government and Department for Transport have shown an increased commitment to mass transit, recently setting up a new taskforce<sup>1</sup> to reshape the future of transport in towns and cities. Currently, factors like planning processes, fragmented funding arrangements and

<sup>1</sup> <https://www.gov.uk/government/news/new-mass-transit-taskforce-to-reshape-the-future-of-transport-in-towns-and-cities>

difficulties in acquiring land get in the way of delivering transit systems, and the taskforce will seek to overcome these by identifying practical reforms to planning, financing and delivery models, making targeted recommendations to government.

Given the above level of interest in, and increasing recognition of the need for mass transit, it's important that Edinburgh makes the strongest case for UK and Scottish Government funding to deliver an expansion of the tram network.

A full cost/ benefit appraisal will be undertaken as part of an OBC, in line with Transport Scotland and HM Treasury Green Book guidance, capturing the full range of benefits of the scheme. But current work acknowledges that Edinburgh Trams is already one of the most successful transit schemes in the UK, based on a Number of Passengers per Kilometre metric. Given the strong performance of the existing tram line, and the potential opportunities along the route, an extremely competitive case for investment in a North–South Line can be made.

### Next Steps

Subject to approval of the SBC and informed by SEstransit recommendations for the region, including North-South Tram and the South Sub railway line, the next stage of development will be the preparation of an OBC. This will provide the evidence required to confirm the preferred route, develop the business case in greater detail, establish a funding and financing strategy, and progress the statutory approvals required for delivery.

The estimated cost of preparing an OBC for the full corridor is approximately £36.6 million, with the cost of progressing individual northern or southern sections estimated at £23-36 million. This work is expected to be undertaken over a period of approximately five years and would include further technical design, transport modelling, environmental assessment, stakeholder engagement and business case development.

Key activities during the OBC stage would include:

- Developing the route and design proposals to a higher level of detail.
- Undertaking Environmental Impact Assessment (EIA) scoping, surveys and assessment work.
- Preparing the Transport and Works (Scotland) Act (TAWS) consenting strategy and supporting approvals process.
- Developing a detailed funding and financing strategy.
- Continuing engagement with communities, businesses, transport operators and statutory consultees.
- Refining integration proposals with bus, rail, active travel and wider regional transport initiatives.
- Progressing procurement, governance and project delivery arrangements.

Ongoing stakeholder engagement will be important to maintain support, address concerns and ensure the project continues to reflect local, regional and national priorities. Further work will be undertaken to refine environmental mitigation measures, understand consenting requirements and establish a clear delivery programme.

In summary, approval of the SBC represents a decision to move from establishing the strategic case for investment to undertaking the detailed technical, environmental, financial and statutory work required to determine how a future mass transit network could be delivered for Edinburgh and South East Scotland.

Investment in an OBC will be the first step in a project that will help to unlock over £2.6 billion worth of development, generate an annual increase in GVA greater than £1.1 billion per annum and provide more than 32.5 million affordable and sustainable journeys annually for people living in some of the most deprived areas in Scotland. With wider economic benefits still to be fully quantified, this represents significant value for the regional and national economy, allowing Edinburgh to retain its standing as one of the UK's leading cities for attracting talent, inward investment and providing a high quality of life for all residents and visitors.