Report
July 2025

Trams to Granton, BioQuarter and Beyond: Economic Narrative

City of Edinburgh Council
Our ref: 23673608
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Contents

Figures

Tables

1 Introduction

Purpose and scope of Economic Narrative

1.1 The core purpose of an Economic Narrative is to articulate why the transport investment is needed to achieve any economic objectives and how it is expected to achieve these.

1.2 The narrative defines the scope of the analysis in terms of the impacts to consider and the mechanisms through which these are expected to occur.

1.3 The Economic Narrative is used as the evidential basis for the assessment and quantification of economic benefits that are additional to those captured by conventional transport appraisal and cost benefit analysis (these are termed Level 1 benefits by DfT). There are a number of different types of potential wider (economic) impacts, which are categorised under 'Level 2' and 'Level 3' benefits.

1.4 This report considers the evidence and case for inclusion of Level 2 and 3 benefits/impacts, and frames these benefits within the three 'Strategic Outcomes' which Edinburgh's Trams to Granton, BioQuarter and Beyond (TGBB) has been developed to support.

Structure of this report

1.5 This report is structured as follows:

- **Chapter 2** provides the baseline **profile of the Edinburgh and South East Scotland City Region economy**, through socio-economic, demographic and economic/ sectoral data and evidence. This provides the regional and local economic context for TGBB.
- **Chapter 3** sets out the forecast **future growth** in employment and housing;
- **Chapter 4** details the **conceptual linkages**, drawing on Department for Transport guidance, between major public transport infrastructure interventions and economic impacts, showcasing the transport drivers of change.
- **Chapter 5 to 8** describe and **evidence the potential economic benefits of TGBB against each of the three 'Strategic Outcomes' from the Economic Strategy** (with a Stronger Economy separated into two strands). These are:
  - Outcome 1 - A **Stronger Economy**: To support economic growth at the city, region and national level;
  - Outcome 2 - A **Stronger Economy**: To support the development and success of Strategic Development Areas;
  - Outcome 3 – **A Fairer Economy**: To promote equality and inclusion; and
  - Outcome 4 - **Greener Economy**: To respond to climate change towards delivering net-zero.
- **Chapter 9** setting out the **conclusions** and **next steps**.

2 The economic context: Economic baseline assessment

Introduction

2.1 This Chapter sets out the current economic baseline of the Edinburgh and South East Scotland City Region. The assessment covers the six local authorities, reflecting the area included in the City Region Deal in 2018. The City Deal area represents the wider city region, where strategic transport investment reflects and can influence the economic geography of the area, and support the future economic growth and spatial development.

The study area

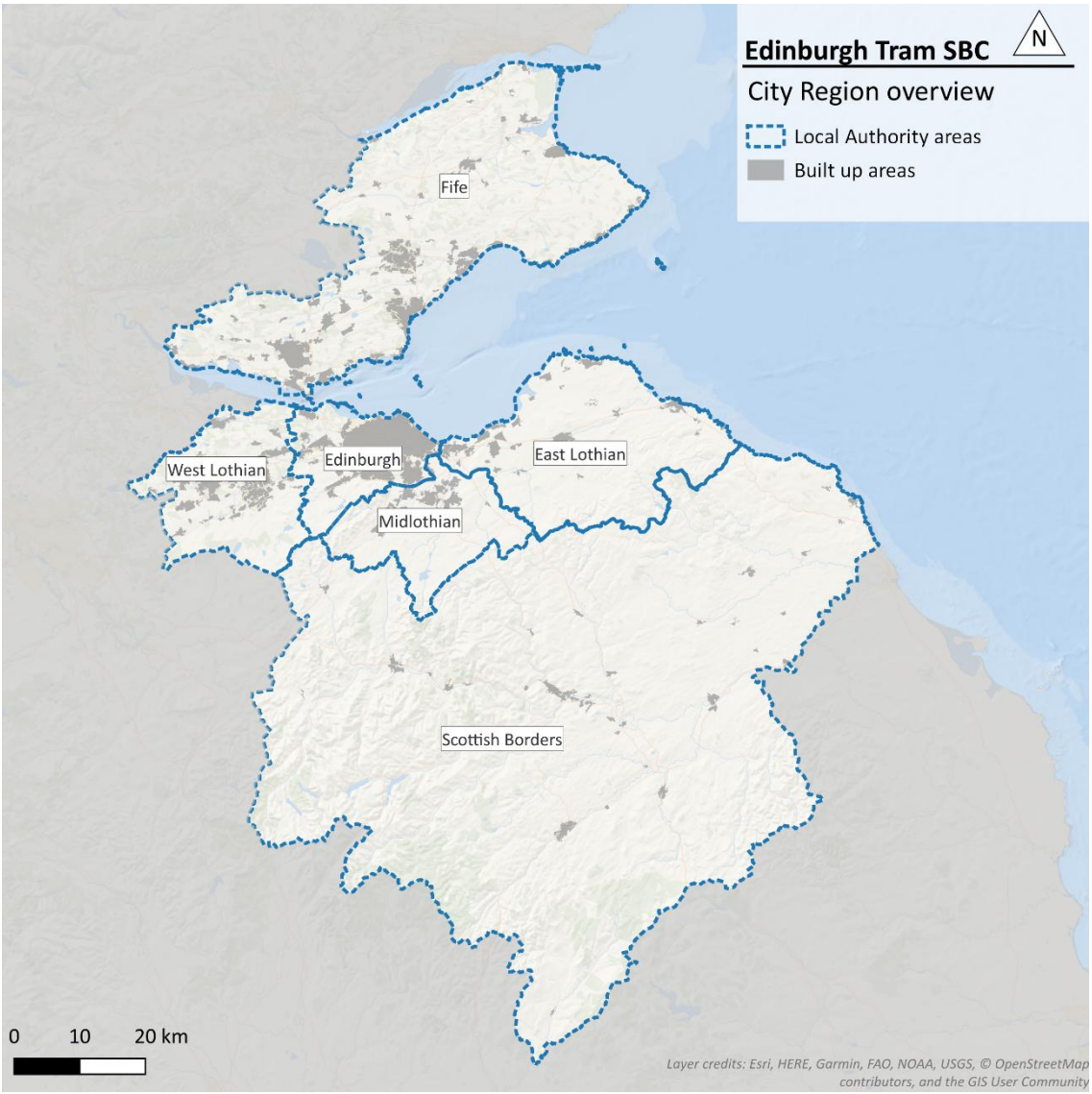
2.2 The study area for this assessment comprises the whole of the Edinburgh and South East Scotland City Region. The City Region focuses on the City of Edinburgh centrally and includes the surrounding local authorities. The City Region comprises of six local authorities:

- City of Edinburgh,
- East Lothian,
- Midlothian,
- West Lothian,
- Fife, and
- Scottish Borders.

2.3 These local authorities have been the focus of the Economic Narrative for the Edinburgh Tram Expansion SBC as illustrated in Figure 2-1.

2.4 This Chapter outlines the strategic context for potential Edinburgh Tram expansion, which informs policy priorities and potential impacts of the proposed TGBB scheme on the local, regional and national economy. It provides the contextual basis for the development of the Economic Narrative, providing an overview of existing living conditions, economic activity, employment and housing.

Figure 2-1: Study area



Socio-demographic profile

Population

Current population

2.5 The Edinburgh and South East Scotland City Region is home to almost 1.4 million people, accounting for 26% of the population of Scotland. Table 2-1 shows the total population and population density in the study area across the six local authorities, the City Region, and Scotland as a whole. The population of the City Region is mainly located in the City of Edinburgh and Fife Council areas. Over 60% of the population lives within these two local authorities and the City of Edinburgh has the highest population density of the six local authorities. Both Midlothian and Scottish Borders each account for less than 10% of the overall region's population and the population of the Scottish Borders is also the most dispersed with only 25 residents per square kilometre.

Table 2-1: Population in 2022, by local authority area

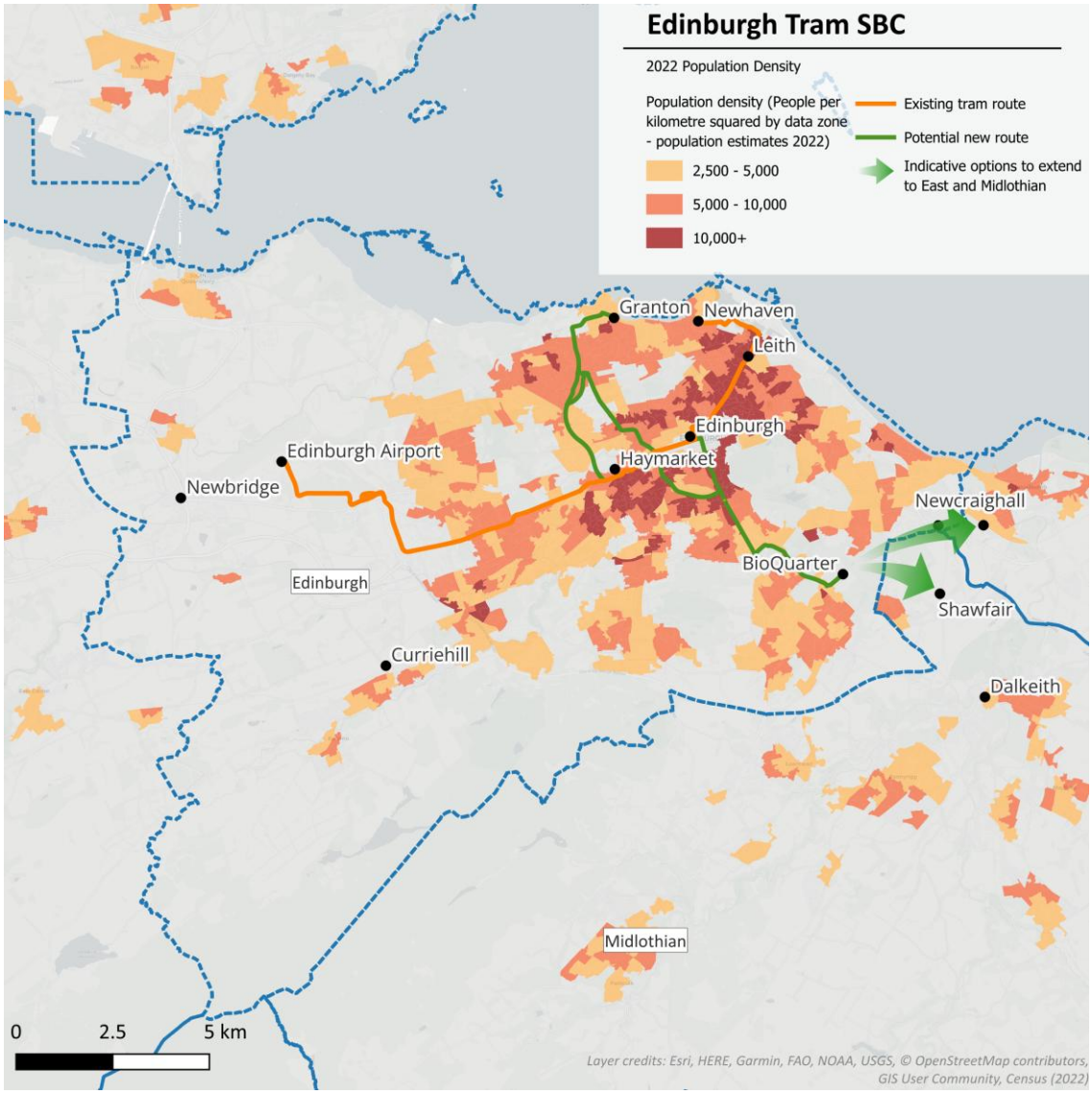
Area	Population (2022)	Population per square kilometre
City of Edinburgh	514,543 (36.9%)	1979
East Lothian	112,284 (8.1%)	169
Fife	371,781 (26.7%)	277
Midlothian	96,527 (6.9%)	276
Scottish Borders	116,821 (8.4%)	25
West Lothian	181,278 (13.0%)	425
City Region	**1,393,234**	**179**
Scotland	**5,439,842**	**69**

Source: Census 2022, Scotland's Census

2.6 The City of Edinburgh is home to just over 500,000 residents. The most densely populated areas are largely situated in the north and east of the area, primarily the large urban areas such as Newhaven, Leith, and the central parts of the city. The east of the area is the least densely populated, with the majority of datazones[1] having population density of below 2,500. The average population density across the corridor is around 2,000 per square kilometre. The population density of Edinburgh is shown in Figure 2-2.

[1] Datazones are composed of Census Output Areas and are large enough that statistics can be presented accurately without fear of disclosure, but small enough that they can be used to represent communities.

Figure 2-2: Edinburgh population density, 2022



Historic population growth

2.7 The population of the South East Scotland City Region has increased by around 6% from 2011 to 2022, shown below in Table 2 2. Population growth over the past decade has varied throughout the region, with the largest growth seen in East Lothian and Midlothian increasing by 12.6% and 16% respectively since 2011.

2.8 Population growth in the City of Edinburgh, which increased by 8% population from 2011 to 2022, accounted for 47% of growth in the region. The population of the City of Edinburgh grew by 38,000 residents, whereas the other four local authorities grew by 42,000 residents combined. Fife and the Scottish Borders had the lowest growth with both their populations growing by less than the Scottish average between 2011 and 2022.

2.9 Future projected population growth is discussed in Chapter 3.

Table 2-2: Population change from 2011 to 2022, by local authority

Area	2011 Population	2022 Population	% change
City of Edinburgh	476,626	514,543	8.0%
East Lothian	99,717	112,284	12.6%
Fife	365,198	371,781	1.8%
Midlothian	83,187	96,527	16.0%
Scottish Borders	113,870	116,821	2.6%
West Lothian	175,118	181,278	3.5%
City Region	**1,313,716**	**1,393,234**	**6.1%**
Scotland	**5,295,403**	**5,439,842**	**2.7%**

Source: Census 2011 & 2022, Scotland's Census

Ethnicity

The population of the City Region is of mixed diversity, with varying levels of ethnic minority population. 'Ethnic minorities' refer to all ethnic groups except for the White British or White Scottish groups[2]. Ethnic minorities include white minorities, such as Gypsy, Roma and Irish Traveller groups. Census 2022 data from Scotland's Census shows that the City of Edinburgh has the largest ethnic minority population with nearly 150,000 residents belonging to ethnic minorities, making up 28.4% of the local authority's population. A breakdown of ethnic minorities population across the City Region is shown below in Table 2-3.

2.10 Overall, 16.3% of the City Region's population are from ethnic minority groups.

[2] Ethnic minority definition outlined in Writing about Ethnicity (2021)

Table 2-3: Ethnic minorities population, by local authority

Area	Population of Ethnic Minority Groups	% of total
City of Edinburgh	146,181	28.4%
East Lothian	9,524	8.5%
Fife	33,669	9.1%
Midlothian	9,410	9.7%
Scottish Borders	7,251	6.2%
West Lothian	21,246	11.7%
City Region	**227,281**	**16.3%**
Scotland	**702,523**	**12.9%**

Source: Census 2022, Scotland's Census

Poverty and deprivation

2.11 Deprivation is measured using the Scottish Government's Scottish Indices of Multiple Deprivation (SIMD) dataset (2024 update), in which each datazone in Scotland is ranked. The datazones are banded into deciles, where the 0-10% is the most deprived and 90-100% is the least deprived. Datazones are composed of Census Output Areas and are large enough that statistics can be presented accurately without fear of disclosure, but small enough that they can be used to represent communities. They are ideally designed to: have roughly standard populations of 500-1,000 residents; nest within council areas; have compact shapes that respect physical boundaries where possible; and contain households with similar social characteristics.

2.12 The Scottish Index of Multiple Deprivation (SIMD) is based on the insight that deprivation consists of more than just poverty (i.e. not having enough money to get by) and refers to a general lack of resources and opportunities. The SIMD considers seven domains – income, employment, health, housing, geographic access to services, crime, and education, skills and training– to provide an overall ranking of deprivation. Table 2-4 below shows the proportion of the City Region's population living in a neighbourhood ranked in the 30% most deprived in the country.

Table 2-4: City Region SIMD, by local authority

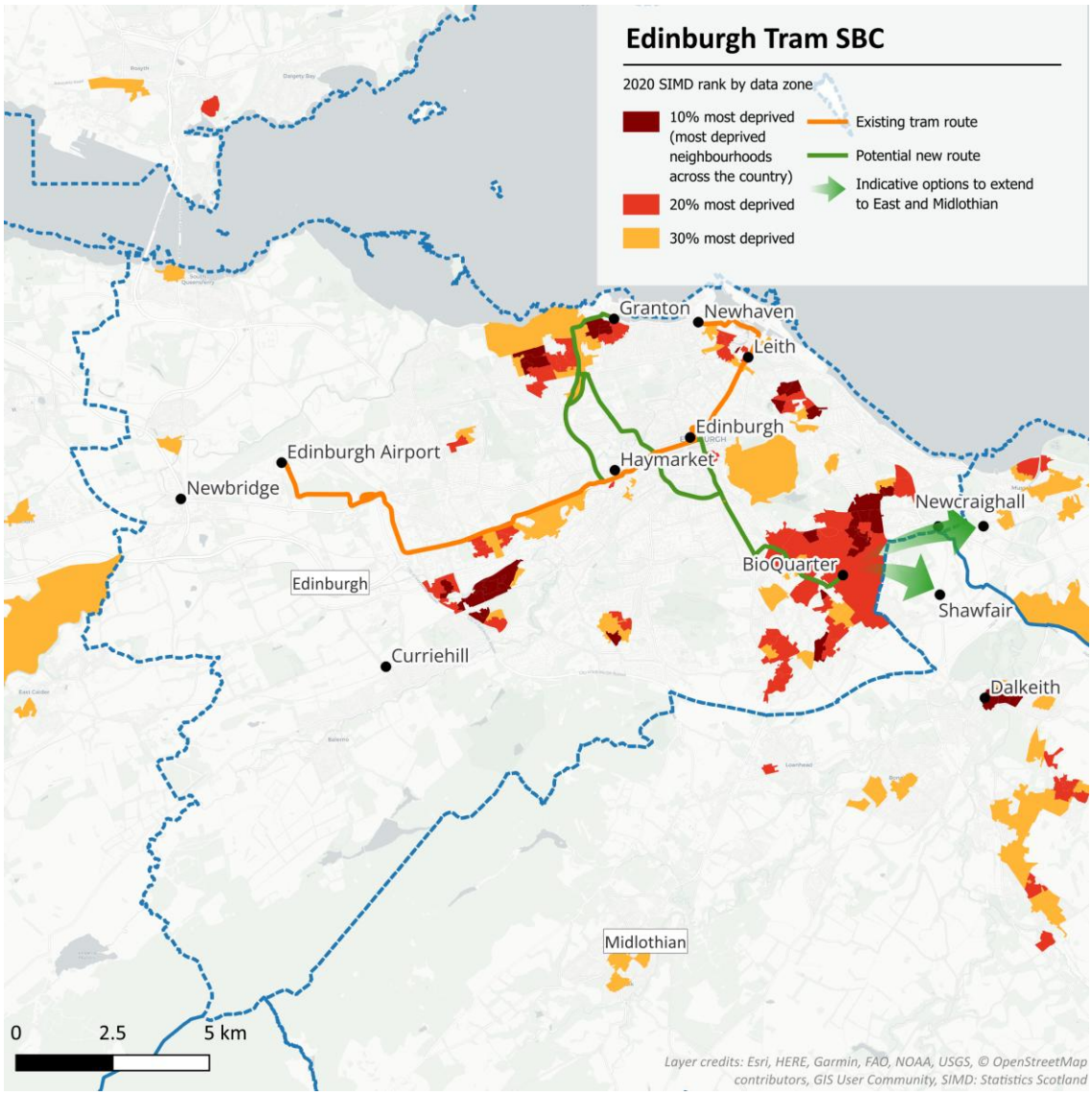
Area	Population living in a neighbourhood ranked in the 30% most deprived across Scotland	% of total population
City of Edinburgh	92,645	18.1%
East Lothian	21,187	20.2%
Fife	109,594	29.5%
Midlothian	23,889	26.5%
Scottish Borders	11,624	10.1%
West Lothian	56,227	31.0%
City Region	**315,166**	**22.9%**
Scotland	**1,584,800**	**29.1%**

Source: Scottish Indices of Multiple Deprivation (2024 update), Statistics Scotland

Deprivation distribution

2.13 Deprived areas in the City of Edinburgh are shown in Figure 2-3. Areas with high deprivation are primarily located to the north and east of the area, with a small cluster of deprived datazones in the centre. The proposed TGBB scheme would serve some of the most deprived areas in the local authority, most notably Granton and South Edinburgh around the Bio-Quarter and Newcraighall.

Figure 2-3: Edinburgh SIMD



Ethnicity and deprivation

2.14 Data from the Scottish Indices of Multiple Deprivation shows that across Scotland the ethnicities with the highest percentage of people living in the 10% of most deprived neighbourhoods are African – African, British, or Scottish African (37.0%), African – Other (27.9%), Arab – Arab, British, or Scottish Arab (22.3%), White Polish (18.6%) and

Caribbean (17.1%)[3]. This suggests that a higher proportion of ethnic minority groups in the region are likely to live in areas characterised by high levels of deprivation.

Unemployment and economic inactivity

2.15 ONS Claimant Count data has used been assessed to determine how unemployment varies across The Edinburgh and South East Scotland City Region. While the claimant count does not attempt to measure unemployment, it does demonstrate the number of people claiming benefits principally for the reason of being unemployed and is shown at local authority level in Table 2-5.

2.16 The claimant count data broadly aligns with deprivation throughout the study area with most areas at a relatively low level of claimant count, which is to be expected as unemployment is a key input into the Scottish Index of Multiple Deprivation. Compared against the national average of 3.4%, the City Region claimant count is noticeably lower at 2.9%[4]. Fife has the highest claimant count, and the only claimant count higher than the national average for Scotland.

2.17 Transport plays a key role in connecting places where lower skilled people live with the jobs they seek, and low connectivity can limit access to employment opportunities. The combination of limited connectivity, high costs and low incomes can perpetuate the poverty cycle in areas of high deprivation through the reduction in affordable access to healthcare, education and employment.[5],[6]

Table 2-5: Claimant Count (January 2024), by local authority

Area	Claimant count of those aged 16 – 64	Population aged 16 - 64	% of total populated aged 16 - 64
City of Edinburgh	9,640	370,769	2.6%
East Lothian	1,720	66,154	2.6%
Fife	8,135	232,429	3.5%
Midlothian	1,390	57,917	2.4%
Scottish Borders	2,205	66,818	3.3%
West Lothian	3,280	117,143	2.8%
City Region	**26,370**	**911,229**	**2.9%**
Scotland	**117,185**	**3,446,618**	**3.4%**

Source: Claimant Count (August 2024), Office for National Statistics

Education and skills

2.18 Education levels have been reviewed in the context of the SIMD Education, Skills and Training Deprivation domain as it measures the lack of attainment and skills in the local population, as shown below in Table 2-6. This metric measures both attainment of

[3] Scottish Indices of Multiple Deprivation (2020), Statistics Scotland (2024 update)

[4] Claimant Count (January 2024). Office for national Statistics.

[5] Health Inequalities Impact Assessment (HIIA) Final Report, Transport Scotland, 2022

[6] Social and Equality Impact Assessment (SEQIA), Transport Scotland, 2022

children, young people and adult skills. Just over a quarter of residents in the City Region reside in areas ranked in the 30% most deprived in the country, outlining that qualification levels in the Region are above the national median. Fife, Midlothian, and West Lothian are the areas with most education related deprivation, with over 30% of the population in these local authorities residing in areas ranked in the 30% most deprived in the country for education and skills. This metric signifies that overall in the City Region, and notably in the City of Edinburgh, attainment levels and skills of the local population are above the national median.

Table 2-6: Education, Skills and Training Deprivation in Edinburgh and South East Scotland City Region, by local authority

Area	Population living in a neighbourhood ranked in the 30% most deprived for education across the UK	% of total population
City of Edinburgh	118,924	23.2%
East Lothian	25,004	23.8%
Fife	116,827	31.5%
Midlothian	31,858	35.4%
Scottish Borders	12,682	11.0%
West Lothian	59,799	33.0%
City Region	**365,094**	**26.5%**
Scotland	**1,584,568**	**29.1%**

Source: Scottish Indices of Multiple Deprivation (2020), Scottish Statistics

2.19 A lack of connectivity especially in the public transport network can materially limit access to education and training opportunities. Similar to employment opportunities, without a well-connected and reliable public transport network, residents are unable to access new education and training opportunities. Lower income households are especially vulnerable to being at risk of lack of education opportunities due to being least likely to have access to a car. Transport barriers is a key cause of low participation in post 16 education in deprived communities[7].

Employment and productivity

Employment and jobs density

2.20 There were just under 700 thousand jobs in the City Region in 2022. Table 2 7 shows the total number of jobs in 2022 for each local authority, Scotland as a whole and the whole City Region.

2.21 The City of Edinburgh is the main employment hub in the region with 354,000 jobs, which is 52.4% of all jobs in the region. In comparison, East Lothian, Midlothian, and Scottish Borders account for just 110,000 jobs, this equates to 16% of the total number of jobs in the region. Elsewhere, 20% of the region's jobs are located in Fife.

[7] Inequalities in Mobility and Access in the UK Transport System, 2019. Government office for Science

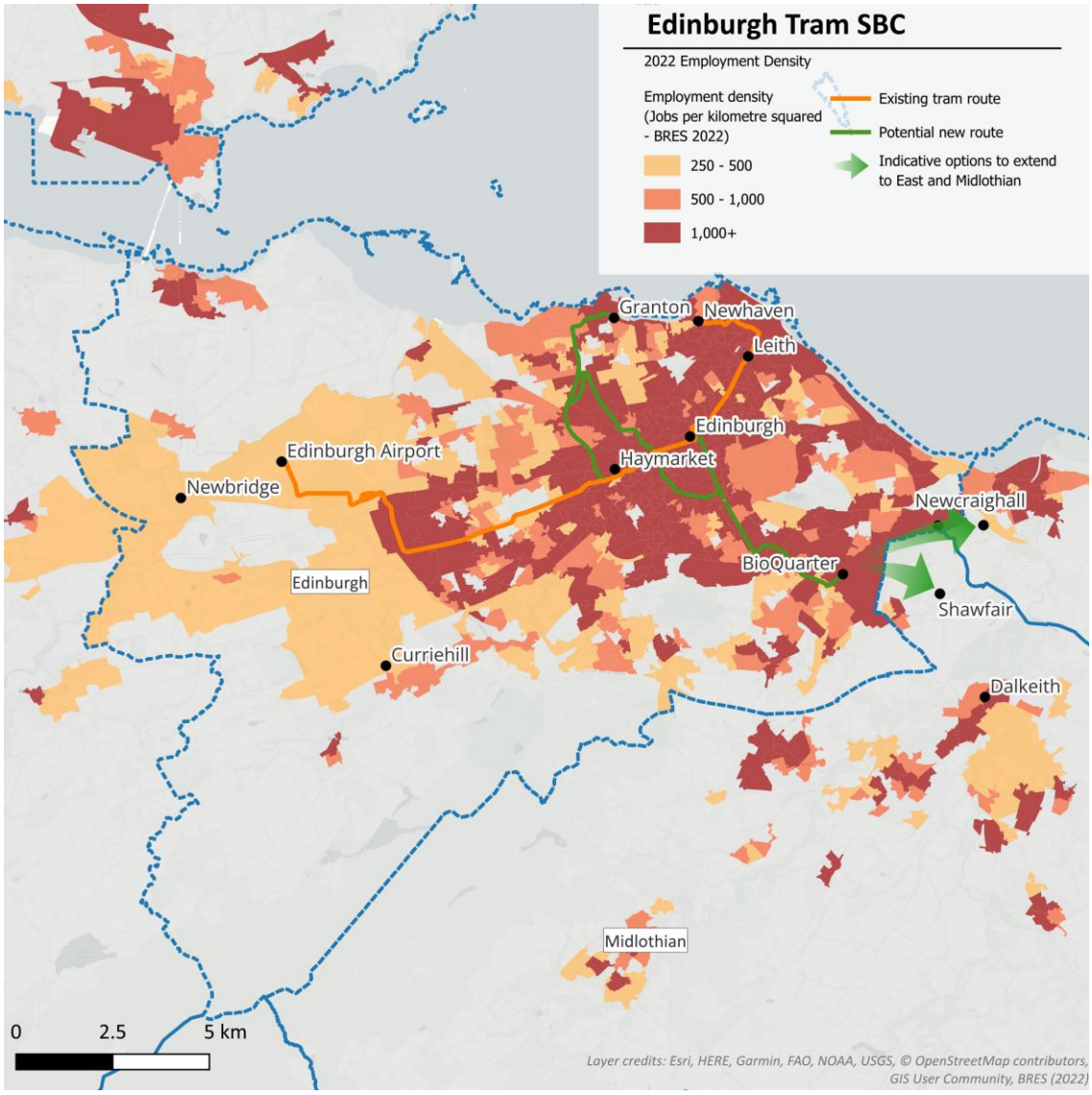
Table 2-7: Employment in Edinburgh and South East Scotland City Region, by local authority

Area	Jobs in 2022 (% of total)
City of Edinburgh	354,000 (52.4%)
East Lothian	34,000 (5.0%)
Fife	136,000 (20.1%)
Midlothian	33,000 (4.9%)
Scottish Borders	43,000 (6.4%)
West Lothian	76000 (11.2%)
City Region	**676,000**
Scotland	**2,523,000**

Source: Business Register and Employment Survey 2022

2.22 Figure 2-4 illustrates employment density across the region. Edinburgh city centre is the area of densest employment, with the majority of jobs being located in the city centre. Elsewhere, employment is other areas of high population density, such as Granton and Musselburgh.

Figure 2-4: Edinburgh employment density, 2022



2.23 There is a positive relationship between employment density and labour productivity, with high-value knowledge-based sectors having the greatest productive benefit from clustering. Transport networks directly dictate the 'effective density' (the measure of agglomeration) of businesses, and therefore good network coverage and performance is vital for strong economic performance.

Employment growth

2.24 Recent employment growth trends suggest job growth in the region, with the number of FTE jobs growing in the region growing by around 7% from 2015 to 2022 as detailed in Table 2-8 and illustrated in Figure 2-5.

2.25 East Lothian has outperformed the rest of the region in term of job growth at 21% compared to 7% in the rest of the region. Despite this, the City of Edinburgh has experienced the highest actual jobs growth in the region, while with only the third highest percentage growth.

Table 2-8: City Region Employment Growth (2013 – 2022)

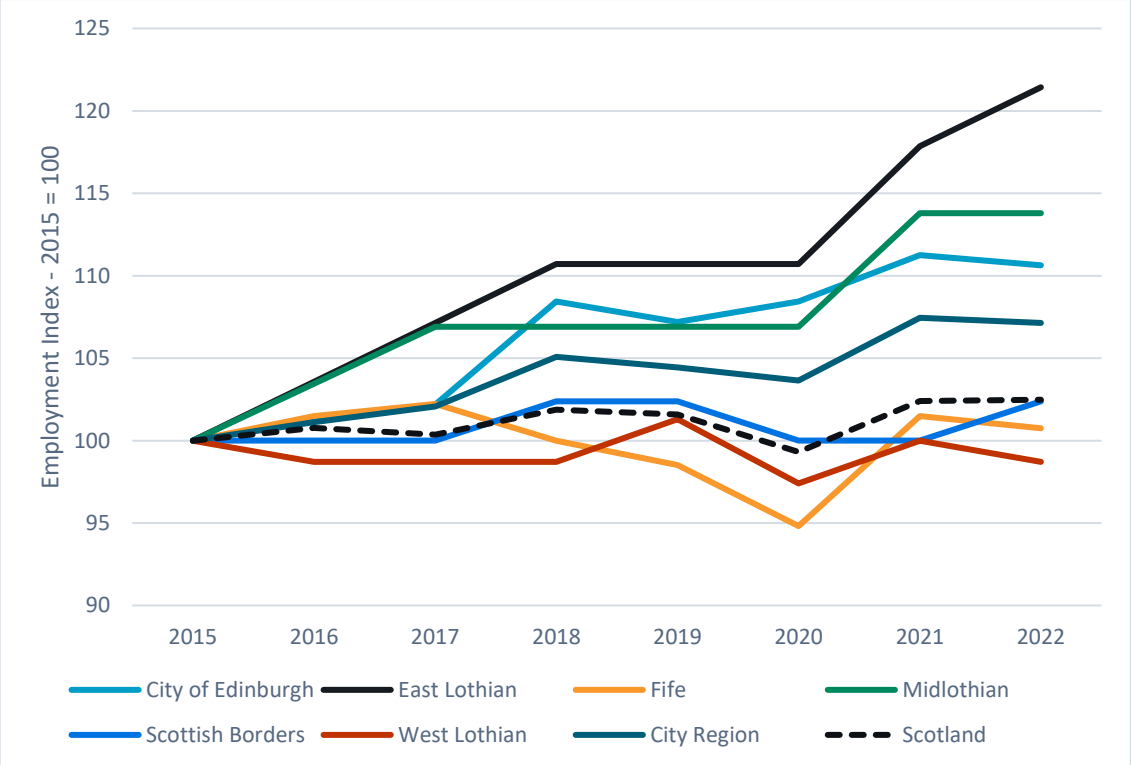
Area	2015 Employment	2022 Employment	% Change
City of Edinburgh	320,000	354,000	11%
East Lothian	28,000	34,000	21%
Fife	135,000	136,000	1%
Midlothian	29,000	33,000	14%
Scottish Borders	42,000	43,000	2%
West Lothian	77,000	76,000	-1%
City Region	631,000	676,000	7%
Scotland	2,462,000	2,523,000	2%

Source: Business Register and Employment Survey 2015-2022

2.26 The City of Edinburgh has also increased its percentage share of total jobs in the region. In 2015, Edinburgh was accountable for 50.7% of jobs in the region, whereas in 2022 this grew to over 52.4%. This growth is indicative of the likely trajectory for business and employment growth. As the proportion of the region's economic activity based in Edinburgh grows, there will be an increasing need to connect more people to the city centre to ensure this growth is sustained.

2.27 In contrast, across the same period, the number of jobs in West Lothian fell, with the local authority experiencing a 1% reduction in jobs. This is consistent with a low level of population growth noted in West Lothian between 2011 and 2022.

Figure 2-5: City Region Employment Growth (2015-2022)



Source: Business Register and Employment Survey 2015-2022

Productivity

2.28 Gross Value Added (GVA) is a measure of the total value of the economy due to the production of goods and services. GVA per hour worked can therefore be used to measure productivity as it provides a direct comparison between the level of economic output and the direct labour input of those who produced that output. Increasing productivity is critical to increasing economic growth in the long run, as economic output can only be increased by either increasing the inputs (number of jobs) or by raising productivity (output per worker).

2.29 Table 2-9 shows the average GVA by hour worked by job location within each local authority in the City Region, the City Region overall and an average for Scotland.

Table 2-9: Total GVA and GVA per hour worked in 2021 by job location (current prices), by LAD

Area	GVA (£m)	GVA per hour worked (£)
City of Edinburgh	25,419	48
East Lothian	1,936	35
Fife	8,017	36
Midlothian	1,789	34
Scottish Borders	2,560	33
West Lothian	5,150	40
City Region	**44,871**	**38**
Scotland	**149,938**	**37**

Source: Productivity Hours Worked per Week by Local Authority (2021) & UK small area gross value added (GVA) estimates (2024), Office for National Statistics

2.30 The data shows that the City of Edinburgh provides the greatest contribution to the total GVA of the region, contributing over half of the region's total GVA. Fife has the next highest contribution to the region's economy, with just under a fifth of the total GVA arising from Fife. In total, the Edinburgh and South East Scotland City Region accounts for around 30% of the Scottish economy.

2.31 When looking at productivity, the City of Edinburgh also has the highest GVA per hour worked at over £48 followed by West Lothian. The City of Edinburgh is both the most productive local authority in terms of aggregate GVA and most productive per hour worked. The City of Edinburgh plays a key role in the productivity of the whole region, as only the City of Edinburgh and Fife have a GVA per hour worked higher than either the regional average or the Scottish average.

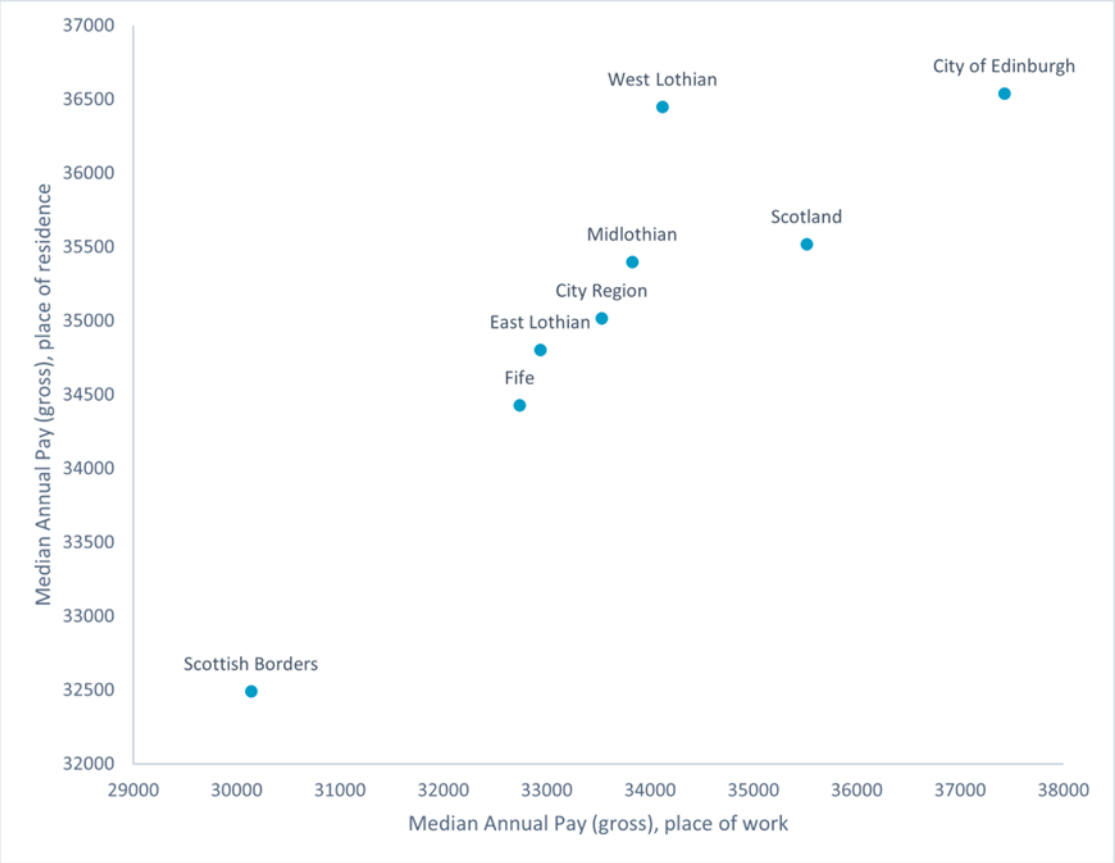
Wages and income

2.32 Figure 2-6 shows median annual pay by place of work and by residence. It demonstrates that except for the City of Edinburgh and West Lothian, all other local authorities in the region have a median annual income below that of the national average. West Lothian, however, has a higher median income by place of residence than the Scottish average, but a lower median income by place of work, indicating that residents of West Lothian tend to work outside of the region they live in. Edinburgh has the highest annual pay both by place of work and by residence, at over £36,000 which is above the national average. The Scottish Borders region has the lowest annual income by a significant proportion at

around £32,500 when measured by their place of residence and just over £30,000 when measured by place of work. In general, the pay by place of residence is higher than pay by place of work across the City Region, indicating a significant amount of travel for work.

2.33 Transport improvements can support residents access higher pay and higher skilled jobs, by providing better connectivity to the large employment hubs such as Edinburgh city centre. Additionally, transport is likely to be a large barrier for low income and low paid workers who are likely to not have access to car. Transport intervention can support these most vulnerable residents have access to a larger pool of jobs.

Figure 2-6: Median annual pay (£), by place of work and residence in 2021



Source: Annual Survey of Hours and Earnings (2018), Office for National Statistics.

2.34 The median wages in comparison to the national average have been reviewed in the context of the Income Deprivation domain, which measures the proportion of the population experiencing deprivation relating to low income and is shown in Table 2-10.

2.35 The definition of low income includes both those people that are out-of-work, and those that are in work but who have low earnings. Indicators which comprise this domain include, but not limited to:

- adults and children in income support families;
- adults and children in income-based Jobseeker's Allowance families; and
- adults and children in income-based Employment and Support Allowance families.

Table 2-10: Income Deprivation across Edinburgh and South East Scotland City Region, by local authority

Area	Population living in a neighbourhood ranked in the 30% most deprived across Scotland	% of total population
City of Edinburgh	92,645	18.1%
East Lothian	21,187	20.2%
Fife	109,594	29.5%
Midlothian	23,889	26.5%
Scottish Borders	11,624	10.1%
West Lothian	56,227	31.0%
City Region	**315,166**	**22.9%**
Scotland	**1,584,800**	**29.1%**

Source: Scottish Indices of Multiple Deprivation (2024 update), Statistics Scotland

2.36 It is evident that the Income Deprivation domain generally aligns with the combined SIMD previously shown in this chapter. An interesting exception to the pattern is in West Lothian. Despite having a higher median income than the national average by place of residence, 28.7% of the region are living in the 30% most deprived areas with relation to income, suggesting a large disparity between the highest and lowest earners in the region. Income deprivation is generally low in the City Region, with just over 22% of the population residing in a neighbourhood ranked in the top 30% most deprived. The area with the lowest proportion of people living in the most deprived areas is the Scottish Borders region.

Economic sectors

Key sectors

The Edinburgh and South East Scotland City Region has a distinctive economic identity in comparison to the rest of the UK. The largest employment industries in the region are detailed in Table 2-11 and summarised in Figure 2-7.

Table 2-11: City Region employment industries by local authority

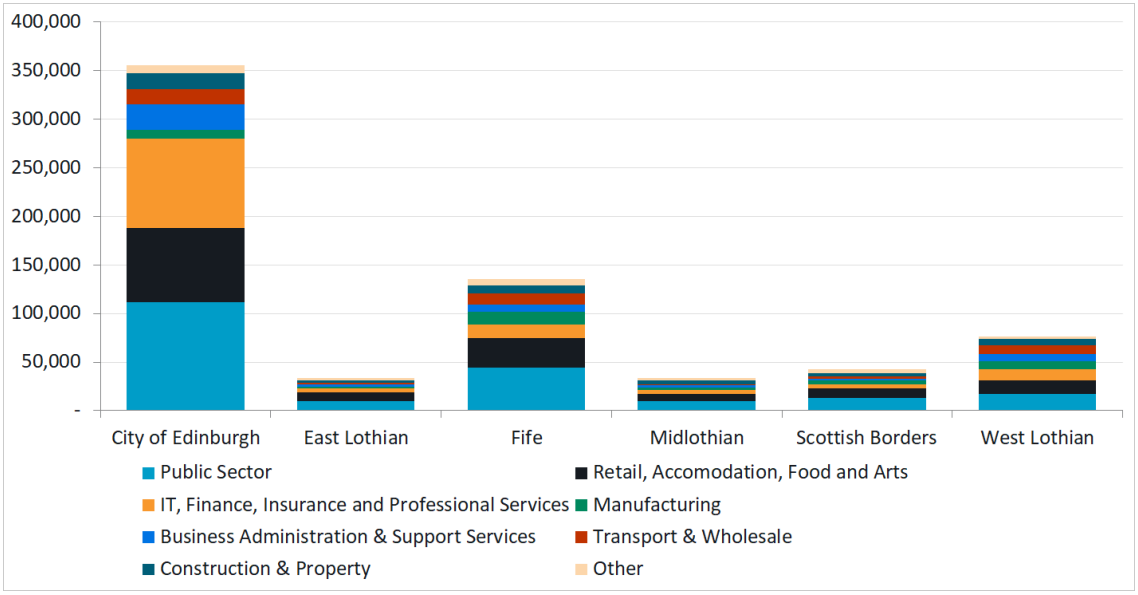
Industry	City of Edinburgh	East Lothian	Fife	Midlothian	Scottish Borders	West Lothian
Public Sector	32%	30%	32%	30%	31%	23%
Retail, Accommodation, Food and Arts	21%	25%	23%	22%	23%	18%
IT, Finance, Insurance and Professional Services	26%	13%	10%	12%	9%	15%
Manufacturing	3%	6%	10%	7%	9%	10%
Business Administration & Support Services	7%	7%	5%	6%	4%	9%
Transport & Wholesale	5%	4%	9%	4%	5%	12%
Construction & Property	5%	8%	6%	12%	8%	9%
Other	2%	8%	5%	6%	10%	4%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Business Register and Employment Survey (2022), Office for National Statistics.

2.37 Edinburgh is the largest local authority measured by employment and has a notably higher proportion (26%) of employees in IT, Finance, Insurance and Professional Services industries than other local authorities in the city region. Key employers in this sector include NatWest Group, Lloyds Banking Group, Standard Life and Royal London.

2.38 Conversely, manufacturing is predominantly based outside of the main urban centres, with over a third of all manufacturing jobs located in Fife. The public sector is the largest industry with over 207,000 employees across the region and makes up largest proportion of the employment profile in each local authority.

Figure 2-7: City Region employment industries by local authority



Source: Business Register and Employment Survey (2022), Office for National Statistics.

Location quotients

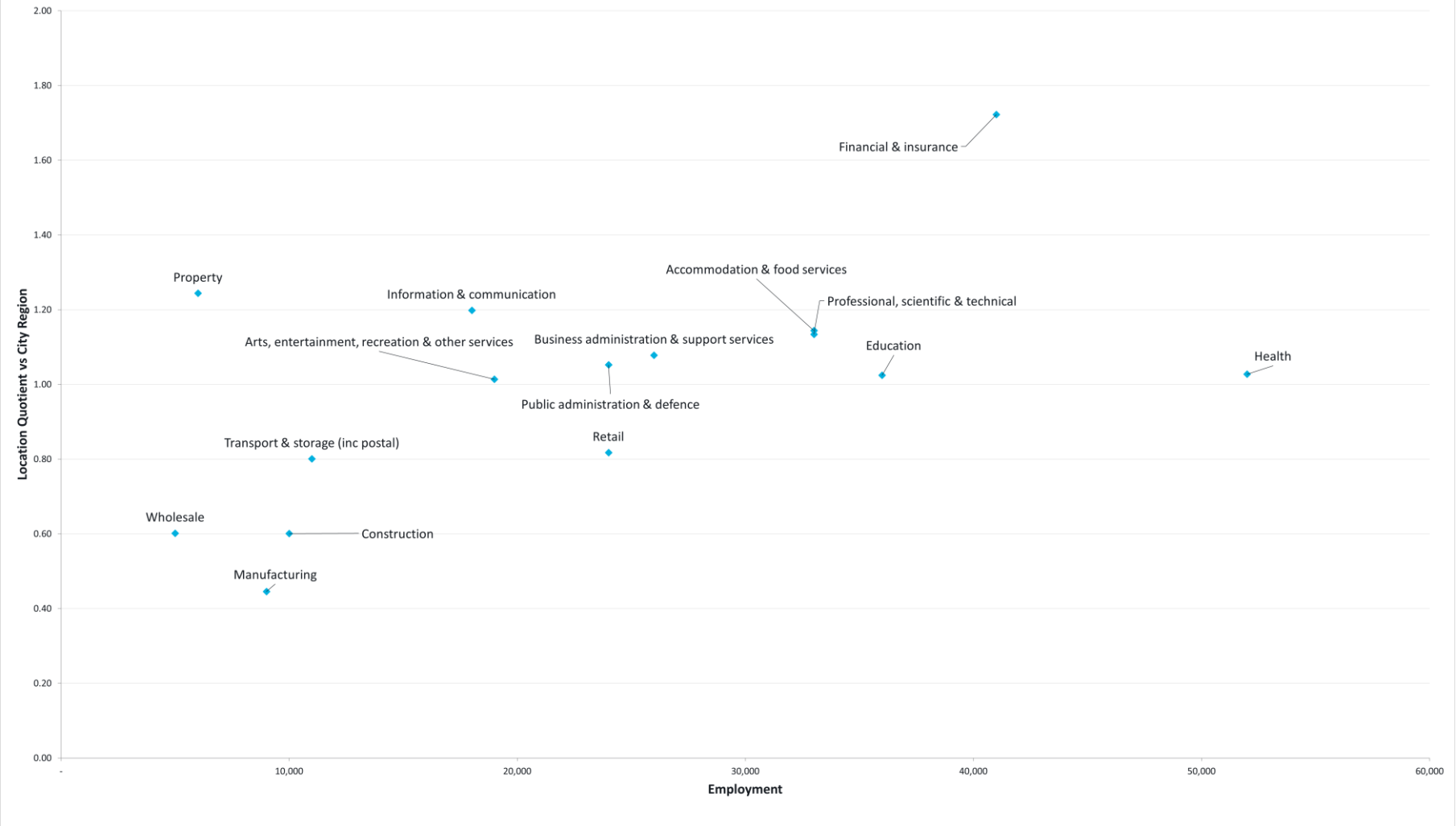
2.39 The location quotient provides an indication of the concentration of employment in a sector when comparing two areas. The quotient is calculated as the ratio between the percentages of total employment in a specific sector in the two areas under comparison.

2.40 Figure 2-8 shows the employment and location quotient of the City of Edinburgh compared with the region as a whole. As shown throughout this baseline assessment chapter, Edinburgh is disproportionately important to the region's economy providing the largest economic output of any urban centre in the region and accounting for over 350,000 jobs.

2.41 As shown in Figure 2-8 Edinburgh has a high proportion of workers in high skilled industries shown by a large number of workers in the financial and insurance, professional, scientific & technical and accommodation & food services industries.

2.42 Improving transport connections to Edinburgh will help support growth in these key industries, to help the city become both a regional and national hub in these sectors helping to foster innovation and improve sustainable access to employment opportunities in these sectors from the wider city region.

Figure 2-8: Employment and Location Quotient for City of Edinburgh vs City Region



Source: Business Register and Employment Survey (2022), Office for National Statistics

Historic business growth

2.43 The number of businesses within the City Region has grown significantly over the last decade as shown below in Table 2-12. Midlothian has seen the highest growth in relative number of businesses over the last decade, increasing by 29%, however the highest actual increase in number of jobs was in the City of Edinburgh. Overall, the number of businesses in the City Region increased by around 16% since 2013 up to over 40,000 in 2023.

Table 2-12: Business Count growth, by local authority from 2013 - 2023

Area	2013 Business Count	2023 Business Count	% Change
City of Edinburgh	15,160	17,880	17.9%
East Lothian	2,700	3,110	15.2%
Fife	7,925	8,980	13.3%
Midlothian	1,950	2,515	29.0%
Scottish Borders	4,650	5,010	7.7%
West Lothian	3,755	4,510	20.1%
City Region	**36,140**	**42,005**	**16.2%**
Scotland	**151,100**	**171,350**	**13.4%**

Source: UK Business Counts - enterprises by industry and employment size band (2023), Office for National Statistics

2.44 Projected future business growth is discussed in Chapter 3.

Housing

Housing stock and prices

2.45 There are significant housing supply issues throughout the United Kingdom, with population growth outstripping housing delivery for many years. All local authorities in the study area have had positive housing stock growth over the past decade, with the housing stock in the City Region growing by 8.5% overall from 2012 to 2022.

2.46 As shown in Table 2-13, Midlothian had the highest growth in housing stock over the past decade with 15% growth which, along with City of Edinburgh (9.6%), East Lothian (12.2%), and West Lothian (9.2%), is a level of housing growth above the national average of 6.6%. Edinburgh has had the largest growth in terms of number of properties increasing by over 22,000 since 2012 and is the most densely populated local authority, with 10 houses per hectare. Improved transport provision can support new housing developments to be less dependent on car travel, and support more sustainable housing growth throughout the region.

Table 2-13: Housing stock from 2012 to 2022, by local authority

Area	2012	2022	Growth in housing stock (2012-2022)	Housing stock per ha (2022)
City of Edinburgh	236,687	259,329	9.6%	10.0
East Lothian	45,489	51,025	12.2%	0.8
Fife	171,221	180,820	5.6%	1.3
Midlothian	37,277	42,862	15.0%	1.2
Scottish Borders	56,931	59,342	4.2%	0.1
West Lothian	76,101	83,108	9.2%	1.9
City Region	**623,705**	**676,484**	**8.5%**	**0.9**
Scotland	**2,520,956**	**2,6871,86**	**6.6%**	**0.3**

Source: Housing statistics: Stock by tenure, Scottish Government.

Housing affordability

2.47 House prices in the City Region are generally quite high, with only Fife and Scottish Borders having median house prices lower than the national average, as shown in Table 2-14.

2.48 Fife also has the lowest ratio of house price to workplace-based earnings, with a ratio of six, which is the same as the national average. East Lothian has both the highest median house price (£283,611) and the highest ratio of house prices to median earnings, with the median house price nine times greater than the median annual income.

2.49 A high ratio of house prices to gross annual earnings highlights constrains finances for other purposes such as commuting. The implications for Edinburgh Tram are that extension of the mass transit network in the City Region would provide low cost, reliable transport opportunities. Specifically an extension to the south, with integration with Borders Rail would improve connectivity between affordable homes in the Scottish Borders, with employment opportunities in Edinburgh.

Table 2-14: Housing affordability in 2024, by local authority

Area	Median house price	Median gross annual workplace-based earnings	Ratio of house price to workplace-based earnings
City of Edinburgh	£272,075	£34,694	8
East Lothian	£275,000	£33,551	8
Fife	£175,000	£30,808	6
Midlothian	£250,500	£32,650	8
Scottish Borders	£179,100	£29,851	6
West Lothian	£205,000	£34,547	6
City Region	**£226,113**	**£32,684**	**7**
Scotland	**£184,137**	**£31,891**	**6**

Source: ASHE (2025), Registers of Scotland calendar year house price statistics 2004 to 2024.

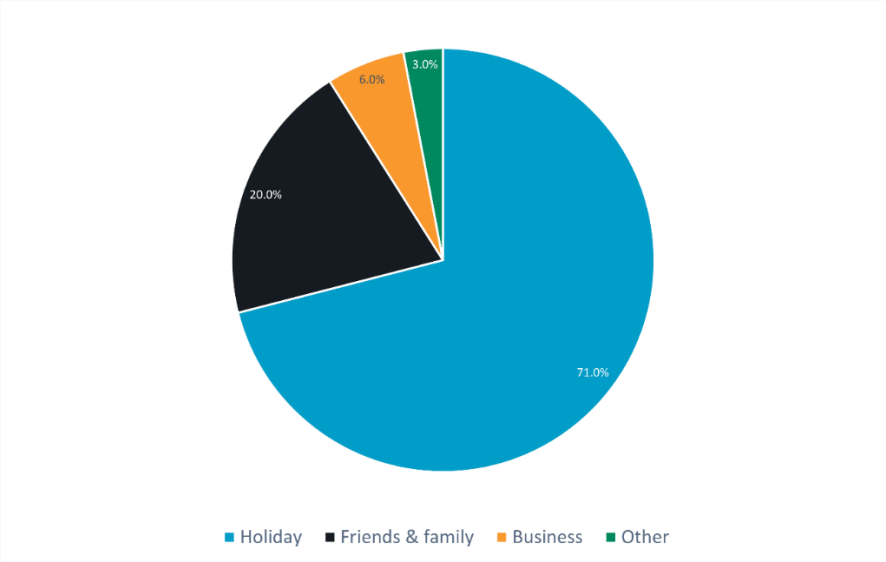
The visitor economy

Introduction

2.50 Edinburgh consistently attracts the highest visitor numbers of any region in Scotland, and the highest in the UK outside of London. Of the 1.8 million visitors to Edinburgh in 2022, nearly 1.3 million were in Edinburgh on holiday, with a further 360,000 visiting friends or family. The proportion of visitors by purpose is shown in Figure 2-9.

2.51 There are numerous tourist attractions that draw visitors to Edinburgh, notably the National Museum of Scotland, Edinburgh Castle, and Edinburgh Zoo. Festivals also play an important part in bringing tourists to Edinburgh, with the Edinburgh Fringe attracting 2.2 million attendees in 2022, with over 1.5 million of those coming from outside of Edinburgh. Tourism plays a significant role in the economy of Edinburgh, bringing in money to the City Region and driving growth through the money spent by external visitors to the area.

Figure 2-9: Percentage of staying visits to Edinburgh by purpose in 2022



Key gateways

2.52 Edinburgh's via key gateways include:

- Edinburgh Waverley rail station;
- Edinburgh Haymarket rail station;
- Edinburgh Gateway rail station;
- Edinburgh Park rail station; and
- Edinburgh Airport.

2.53 Edinburgh Waverley, Haymarket, Edinburgh Park and Edinburgh Gateway are the four stations of highest patronage in City of Edinburgh Council area and provide linkage to the wider local, regional and national rail network.

2.54 Edinburgh Airport is Scotland's busiest airport. In 2024 it served 15.8m passengers and 115,000 aircraft movements. It serves approximately 155 destinations worldwide.

2.55 These patronage values are summarised in Table 2-15 below.

Table 2-15: Key Gateways – passenger numbers per year

Rail gateway	Passenger numbers/year
National rail[8]	
Edinburgh Waverley station	21.31m
Edinburgh Haymarket station	2.98m
Edinburgh Gateway station	0.23m
Edinburgh Park station	0.52m
Air [9]	
Edinburgh Airport	15.8m (2024)

2.56 All these key gateways are already served by the existing tram network, though current connectivity to Edinburgh Waverley requires a short (~250m) walk from St Andrews Square tram stop.

2.57 Extending Edinburgh's tram network would provide improved accessibility for visitors from these key gateways, enabling them reach more of the surrounding areas without additional interchange to other modes.

2.58 The is also a high level of potential to improve integration between tram and train at Waverley Station as well as integration with tram and Borders Rail at Shawfair or Newcraighall stations providing improved connectivity to/from SE Scotland.

2.59 This improved integration support spreading the net benefits of tourism across the city and driving investment and growth to the wider SE Scotland region.

[8] Estimates of station usage April 2023 to March 2024, Office of Road and Rail, November 2024

[9] **Facts and Figures, Edinburgh Airport, 2025**

3 Projected population and employment growth

Introduction

3.1 As indicated in Chapter 2, the Edinburgh City Region has shown strong trends of growth, outpacing the Scottish average. The following section considers projected future growth in terms of overall levels. This growth and increased density is expected to be focussed in Strategic Development areas, discussed further in Chapter 6.

Population growth

Population

3.2 Forecast population growth in the City of Edinburgh between 2022 and 2042, is expected to account for 51% of growth in the region. The population of the City of Edinburgh is projected to grow by around 50,500 households, whereas the other four local authorities are projected to grow by approximately 49,000 households combined. Midlothian and Fife have the lowest projected growth in households.

Table 3-1: Household change from 2022 to 2042

Area	2022 Population	2042 Population	Change (households)	% of all household growth in city region	% change (2022-2042)
City of Edinburgh	229,274	279,810	50,536	51%	22%
East Lothian	41,600	51,116	9,516	10%	23%
Fife	152,873	167,877	15,004	15%	10%
Midlothian	37,301	39,493	2,192	2%	6%
Scottish Borders	47,969	54,571	6,602	7%	14%
West Lothian	67,348	83,453	16,105	16%	24%
City Region	**576,365**	**676,320**	**99,955**	**100%**	**17%**

Source: Trams to Granton, BioQuarter and Beyond, Strategic Modelling Report, July 2025

3.3 This rise in Edinburgh's population will lead to a higher population density, with projections indicating an increase from around 870 households per km^2 in 2022 to

approximately 1,060 households per km^2 by 2042[10]. The increase in density is expected to be most pronounced in Strategic Development Areas, where residential and infrastructure expansion is planned to accommodate growth (Edinburgh Council Demographic Report, 2024). The shift will likely place additional demand on housing, transport, and public services, requiring transport interventions to ensure sustainable development.

Housing

3.4 Edinburgh's City Plan 2030 is a major development strategy that outlines where new homes, infrastructure, and services should be developed up to 2030. Key highlights include:

- Target Housing Delivery: Around 36,000 new homes by 2032, with a focus on sustainable and compact urban development.
- Brownfield Focus: Priority is being given to developing brownfield land to limit urban sprawl and protect green spaces.

3.5 Some notable areas identified in the plan for housing growth and regeneration, and of relevance to the Edinburgh Tram extension:

- Granton Waterfront: A major £1.3 billion development aimed at delivering around 3,500 new homes, along with cultural and business spaces.
- South East Wedge (Shawfair): A strategic development zone near the city bypass with thousands of homes and new infrastructure being built.

Employment growth

Employment

3.6 Forecast employment growth in the city region between 2022 and 2032 is expected to be geographically focussed the City of Edinburgh and Midlothian, as can be seen in Table 3-2. Together these areas account for 96% of jobs growth in the region. The projected rate of employment growth in Midlothian is based on identified strategic sites identified in the Midlothian Local Development Plan[11]. Scottish Borders is forecast to have a 4% reduction in employment.

[10] The total area of Edinburgh is 264 square kilometres (City of Edinburgh Council, 2024-2025). This assumes the area is fixed for the period.

[11] Seven sites in Midlothian total 1.024m sq. foot of office business space comprising of sites EC2, EC3, Ec4, Ec5, Bt1, Bt2 and Bt3. 2032 growth assumed a 50% build out of these sites.

Table 3-2: Employment change from 2022 to 2032, by local authority

Area	2022 Employment	2032 Employment	Change (Jobs)	% of all jobs growth in city region	% change (2022-2032)
City of Edinburgh	290,801	321,695	30,894	48%	11%
East Lothian	25,541	26,080	539	1%	2%
Fife	122,495	123,568	1,073	2%	1%
Midlothian	26,697	57,682	30,985	48%	116%
Scottish Borders	37,585	36,147	-1,438	-2%	-4%
West Lothian	66,731	68,849	2,118	3%	3%
City Region	569,850	634,021	64,171	100%	11%

Source: Trams to Granton, BioQuarter and Beyond, Strategic Modelling Report, July 2025

Employment opportunities

3.7 The region has benefited from several investment opportunities including:

- The Edinburgh and South East Scotland City Region Deal attracts £1.1 billion in investment over 15 years. The deal aims to attract 21,000 jobs in the area, supporting innovation, skills development, and infrastructure (UK Government City Deals Report, 2024).
- Edinburgh BioQuarter is set to play an important role in the city's future economy, with investment in the Health Innovation District projected to support around 20,000 people through new jobs and skills development opportunities. This development will generate £140 million in annual GVA and underscores the strategic importance of the South East Edinburgh corridor, particularly with the relocation of the Princess Alexandra Eye Pavilion, positioning it as a key hub for healthcare and economic growth.
- Forth Green Freeport (2024): This initiative aims to generate approximately £7.9 billion in investment over the next decade and create 34,500 highly skilled jobs, focusing on sectors like offshore renewables and low-carbon industries.

3.8 As a result of strong growth trends to date and these transformative investment opportunities, the city's workforce remains highly skilled, with 52% employed in high-skilled roles, particularly within sectors such as healthcare, financial services, and green technologies. These investments not only align with the region's high-skilled workforce but also create new opportunities for talent development and workforce diversification, strengthening Edinburgh's position as a leading hub for innovation and economic growth (Scottish Economic Briefing, 2025).

4 Transport investment and economic performance: Key linkages

Introduction

4.1 This chapter sets out the conceptual linkages between transport investment and economic performance. These linkages reflect the Department for Transport's Transport Analysis Guidance and are equally applicable in a Scottish Transport Appraisal Guidance (STAG) context. Subsequent chapters then detail the ways in which TGBB has the potential to deliver 'wider impacts' (wider economic benefits additional to those captured in standard transport appraisal) and to support across the range of TGBB 'Strategic Outcomes', all of which are economic in nature to a greater or lesser degree.

Transport investment: Economic benefits

4.2 There has been increasing acknowledgement of the role that transport infrastructure investment can have on achieving wider societal outcomes relating to growth, regeneration, place, health and carbon.

4.3 In the economic sphere, the DfT has a research programme on the economic impacts of transport investment and how these should be identified and presented.[12] This programme informs periodic updates to the Department's Transport Analysis Guidance (TAG). The Transport Investment and Economic Performance Report: Implications for Project Appraisal (TIEP)[13], published in 2014, set out the conceptual linkages between transport investment and economic performance which informed the ongoing development of TAG guidance.

4.4 Transport schemes, and specifically urban transit projects similar to TGBB, can deliver a wide range of economic impacts. As per TAG, the benefits from transport interventions can be considered under three different 'levels' of analysis. These reflect the different economic impacts of transport investment, and the level of confidence in the analytical methods used to appraise these impacts, as outlined in TAG Unit A2-1.[14]

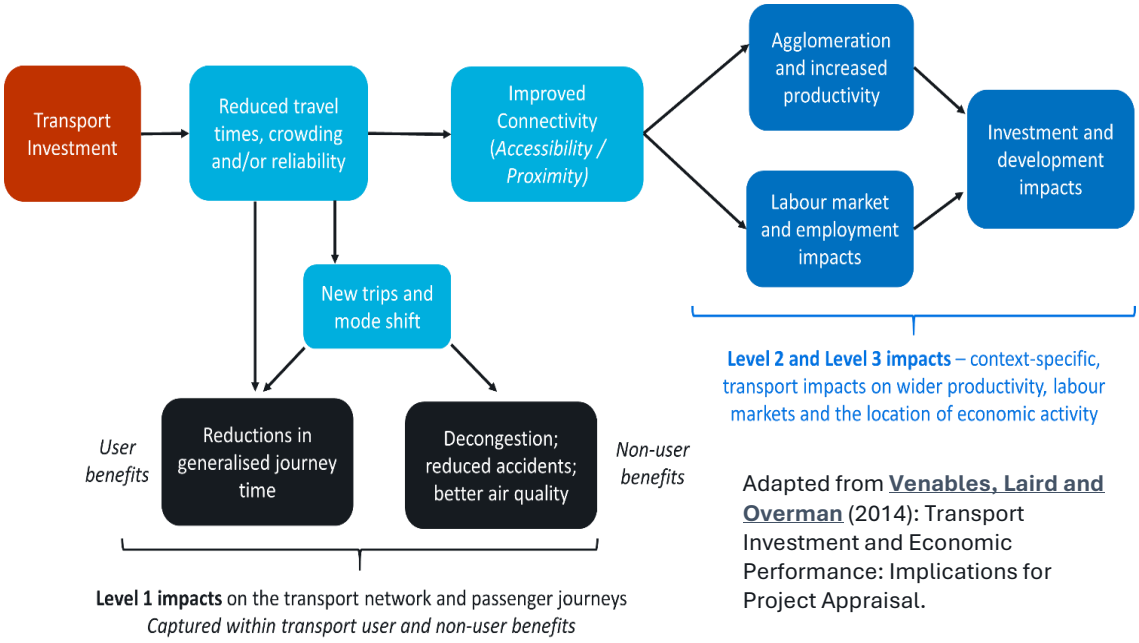
[12] The programme is titled 'Understanding and Valuing the Impacts of Transport Investment'

[13] Venables, Laird, & Overman, 2014. Transport investment and economic performance: Implications for project appraisal Department for Transport

[14] DfT (2018) TAG UNIT A2.1 Wider Economic Impact Appraisal

4.5 These different economic benefits are summarised in Figure 3 1 and represent all major welfare benefits captured within the Economic Dimension and a scheme's Value for Money assessment.

Figure 4-1: Economic benefits of transport investment



Adapted from **Venables, Laird and Overman** (2014): Transport Investment and Economic Performance: Implications for Project Appraisal.

Level 1 benefits (Conventional transport user benefits)

4.6 Level 1 benefits – shown in black in Figure 4-1– include the direct transport benefits of investment. These primarily include 'transport user benefits' – the savings in generalised journey time that accrue to both existing and new users – which amongst others include:

- changes in journey time;
- changed need to interchange;
- journey 'quality' (e.g. a typical individual's preference to travel by rail than bus); and
- changed wait times from increased service frequencies.

4.7 These benefits are valued by monetising the reduction in generalised journey time, based on an assumed value of time sourced from TAG. These typically – but not exclusively – form the largest category of benefits within a transport appraisal.

4.8 They are also supplemented by 'non-user benefits' – which refer to the impacts that arise as a result of changes in the externalities of transport, largely through modal shift effects, including changes to:

- congestion for remaining highway trips ('non-users') as a result of some existing highway users switching to other modes;
- number of accidents;
- air quality; and
- greenhouse gas emissions.

4.9 These benefits can either by captured through a highway model (for congestion time savings, accidents), or through on an established 'unit rate' approach where the externality benefit is proportionate to the change in total car kilometres. They typically make up a small proportion of overall benefits for public transport schemes (though can

be higher for mass transit projects that include elements such as strategic P&R, with a greater potential for modal shift).

4.10 Public transport schemes can also result in negative impacts on 'non-users', where the scheme design includes an effective reduction in highway capacity and increase in congestion.

4.11 For any given transport scheme Level 1 benefits are used to calculate 'core' benefit cost ratio.

Level 2 benefits (Wider impacts, assumed 'fixed' land use)

4.12 Level 2 benefits refer to wider economic benefits that arise from transport investment that do not assume a change in land-use, but instead arise from the greater 'proximity' between firms and workers. These include:

- the **'agglomeration'** or 'clustering' benefits that arise from firms and workers being more productive as a result of being located 'closer' to one another as a result of a transport intervention;
- **labour supply impacts**, where an intervention encourages additional workers into the labour market;
- **output change in imperfectly competitive markets**, where a transport intervention generates additional competition in local markets and hence additional GDP/GVA.

4.13 These benefits are based on well-established economic principles (such as the productivity benefits arising from increased economic agglomeration, for which there has been significant academic research), but there remains a greater degree of uncertainty in their estimation compared to Level 1 benefits. Agglomeration is by far the most significant effect, typically accounting for 80% - 90% of the Level 2 benefits.

4.14 Hence, within the Economic Dimension, they are treated as less 'certain' than Level 1 benefits and can only be included within an 'adjusted' BCR to be presented alongside the 'core' BCR.

4.15 The key feature of Level 2 benefits is the assumption that the location of economic activity is fixed, in terms of land use, job locations and where people live. Level 2 benefits arise from making the economy operate in a more efficient and effective manner, but do not change or affect the economic geography of an area.

4.16 There are established methods in TAG for the assessment of Level 2 impacts.

Level 3 benefits (Change in location of economic activity)

4.17 Level 3 benefits refer to those wider economic impacts where a transport scheme leads to changes to where firms and workers locate, and subsequent changes in land-use and development. They typically only occur for the most 'transformational' schemes, where a transport project generates a sufficiently large change in journey times or connectivity to affect people's choices over where they live, work or locate a business. They include:

- **dependent development** – where transport investment 'unlocks' additional development which would not otherwise have been delivered;
- **employment relocation effects** – where transport investment moves jobs between different locations, or results in additional local employment growth which would not otherwise be delivered;

- **dynamic clustering** – where the increased concentration of economic activity from the above increases the productivity of firms within the areas.

4.18 The following Chapters address the potential nature and scale of different Level 2 and Level 3 benefits as they pertain to TGBB.

Economic linkages: Mapping to TGBB strategic outcomes

4.19 We have sought to frame the assessment of potential economic benefits of TGBB within the stated objectives and outcomes of the scheme.

Strategic Outcomes

4.20 The Edinburgh Economy Strategy (2021) set sets out the Council's vision and approach to ensuring a **stronger, greener,** and **fairer** Edinburgh economy[15]. These priorities directly align with the ambitions set out in the National Strategy for Economic Transformation[16].

4.21 The economic objectives align with the objectives set out in the City Mobility Plan (CMP), and the Transport Planning Objectives for TGBB, as summarised in Table 4-1.

Table 4-1: Trams to Granton, BioQuarter and Beyond Strategic Outcomes

Scotland's National Strategy for Economic Transformation ambitions	Economic Strategy Priority	CMP-based objectives	Transport Planning Objectives for Trams to Granton, BioQuarter and Beyond
Wealthier: Driving an increase in productivity by building an internationally competitive economy founded on entrepreneurship and innovation.	Stronger	To support inclusive and sustainable economic growth	• To support economic growth at the city, region and national level • To support the development and success of Strategic Development Areas • To ensure growth is inclusive and sustainable
Fairer: Ensuring that work pays for everyone through better wages and fair work, reducing poverty and improving life chances.	Fairer	To promote equality and inclusion	• Increase public transport accessibility to housing, jobs, education, healthcare and leisure, especially for disadvantaged and vulnerable users. • Improve mobility through improving the physical accessibility of transport.

[15]Edinburgh_Economy_Strategy_2021.pdf

[16] National Strategy for Economic Transformation, Scottish Government, 2022

Greener: Demonstrating global leadership in delivering a just transition to a net zero, nature-positive economy, and rebuilding natural capital.	Greener	To respond to climate change towards delivering net-zero	• Encourage mode shift to more sustainable modes of transport • Improve the attractiveness of public transport through increased efficiency, journey time reliability and service quality • Support sustainable land-use development, aligned with spatial planning and development policies

Table 4-2: Trams to Granton, BioQuarter and Beyond Strategic Economic Outcomes: Mapping to Wider Impacts

Economic outcome	Economic priority/ theme	Outputs			Economic Benefits / Outcomes					Spatial dimension
		Connectivity	Capacity	Affordability	Agglomeration	Labour Supply	Development impacts	Employment relocation	Dynamic Clustering	
Stronger	# 1: To support economic growth at the city, region and national level	●●	●●	●	●	●	-	●	●●	Increasing employment and GVA growth Edinburgh will be largest single driver, delivering economic additionality to the city region and national economy.
	# 2: To support the development and success of Strategic Development Areas	●●	●●	●	-	-	●●	●	-	Additionality impact through supporting and enabling major regeneration and development of **Strategic Development Areas** along route.
Fairer	# 3: To promote equality and inclusion	●●	●	●●	-	●●	●	●	-	High deprivation **along each corridor.** Tram will expand labour market accessibility to enable greater access to employment/education. Enhanced wellbeing of all residents. Indirect effect will be to make **Edinburgh & the city-region a more attractive place to live and work.**
Greener	# 4: To respond to climate change towards delivering net-zero	●●	●	-	-	-	●●	●●	-	Supports more sustainable land use and transport making mode shift to more sustainable modes more attractive.

Key: ●● = Strong relationship between outputs/outcomes and economic priority/theme ● = Some relationship between outputs/outcomes and economic priority/theme

5 A stronger economy: to support economic growth at the city, regional and national level

Economic drivers

5.1 Economic output is essentially a function of two elements. These are:

- The total number of jobs; and
- The productivity or output per job, measured by Gross Value Added (GVA)

5.2 If follows therefore that the primary ways to increase the size of the economy of the Edinburgh City Region is to increase the number of jobs and/or to increase the GVA per job.

5.3 The main ways in which TGBB can do this is:

- by increasing the productivity of existing jobs through agglomeration, whereby transport increases the 'effective density' of employment in (typically) high-value knowledge-economy sectors;
- by relieving transport capacity constraints that will otherwise limit the ability major employment centres, to accommodate jobs growth for which there is a clear underlying demand; and
- by expanding the labour catchment for employers, enabling a wider pool of residents, including those without a car, to access workplaces

5.4 Edinburgh is the key driver of the City Region economy in terms of its overall employment level, employment density, specialisation in high-value growth sectors and therefore its GVA per worker.

Edinburgh as a driver of the City Region economy

5.5 Edinburgh has among the highest levels of GVA per worker compared to other UK and Scottish cities - around a third higher than Glasgow, Leeds and Bristol, and nearly double that of Birmingham and Sheffield[17].

5.6 'Agglomeration' is the way in which the economic benefits of the concentration of economic activity (clustering effects) are assessed and valued using methods set out in TAG.

5.7 Agglomeration benefits value the productivity benefits of firms being 'effectively' closer together. The concept of 'effective density' is a measure of the employment density of a place and the other places around it, scaled by the distances between them. There is a positive relationship between effective density and productivity.

5.8 Transport investment can increase effective density in two ways:

- First, by reducing transport costs and thereby improving connectivity around and between jobs. This is known as 'static agglomeration', whereby the implicit assumption is that land use is fixed, or constant – in this case with and without TGBB The effect of the reduction in transport generalised costs is, in effect, to bring firms closer together.
- Second, where transport investment brings about changes in the scale or location of employment in an area or between areas, which is known as 'dynamic agglomeration' or 'dynamic clustering'. In this case the change in the number of jobs in an area directly affects the 'effective density'.

5.9 Edinburgh has the economic characteristics and transport constraints that mean TGBB has the potential to support and catalyse significant economic growth in the Edinburgh City Region as detailed in the following sections.

Agglomeration (static)

There are several characteristics of an economy that increase the propensity for a transport improvement to deliver significant agglomeration benefits. These are shown in Table 5-1.

[17] ONS data, reported in Edinburgh_by_Numbers_2023.pdf

Table 5-1: Agglomeration benefits: Key characteristics

Agglomeration benefits: Key characteristics	Edinburgh
The scheme should be located within a Functional Urban Area (FUR). FURs comprise 'core' areas which are cities or large towns that are the focus of employment and 'hinterlands' which represents the wider commuter catchment area of the core.	Edinburgh is the main centre within the wider City Region. The City Region is defined by its economic geography with Edinburgh as the 'core' area and the other authorities representing the hinterland which together comprise a functional urban area.
The scheme serves a dense urban area with high existing employment density showing that businesses are already 'clustered'.	For evidence see: • Figure 2-4: Edinburgh employment density, 2022
High level and proportion of employment within 'producer' and 'consumer' services. These types of business tend to have higher 'agglomeration elasticities', which means that the productivity benefit per given reduction in transport costs will be greater.	For evidence see: • Figure 2-7: City Region employment industries by local authority • Figure 2-8: Employment and Location Quotient for City of Edinburgh vs City Region
That existing level of productivity is high within the area. This is because the wider impact benefit is, effectively, a multiple (derived from the agglomeration elasticity) of the base level of productivity.	For evidence see: • Table 2-9: Total GVA and GVA per hour worked in 2021 by job location (current prices), by LAD

5.10 The above are all key factors that would point to agglomeration benefits representing a material uplift to Level 1 (conventional transport user) benefits.

Employment effects and dynamic agglomeration

5.11 Employment relocation effects – referred to in TAG as a 'move to more or less productive jobs' (MTMPJ) – occur where transport investment, by changing the attractiveness of different areas as places to work or locate a business, results in relocating employment between different local authorities. Due to various 'place effects', such as agglomeration and access to transport networks, jobs may be more or less productive in different locations; hence if employment is relocated between different areas, this can generate a change in productivity at the 'net national' level.

5.12 The existence and scale of any MTMPJ will reflect the degree to which the transport investment can help influence and change the economic geography through changing the location of economic activity. There are several way in which TGBB can support a MTPPJ within the Edinburgh City Region.

Poor transport connectivity and the City Region economic potential

5.13 The NIC work highlights the need for, and potential gains from, improving public transport to increase 'effective density' (bringing firms closer together, expanding effective labour market catchments) and to relieve capacity constraints on future employment and jobs growth.

National Infrastructure Committee Findings: Public Transport and City Region Economies

5.14 The National Infrastructure Commission (NIC) is an Executive Agency of HM Treasury, and provides government with impartial, expert advice on major long term infrastructure challenges.

5.15 The Commission is required to carry out an overall assessment of the UK's infrastructure requirements once every five years. In October 2023 the NIC published its Second National Infrastructure Assessment[18]. The NIC's assessment is guided by the Commission's objectives to support sustainable economic growth across all regions of the UK, improve competitiveness, improve quality of life, support climate resilience and transition to net zero carbon emissions by 2050.

Key Finding: Poor Transport Connectivity Constraints Growth

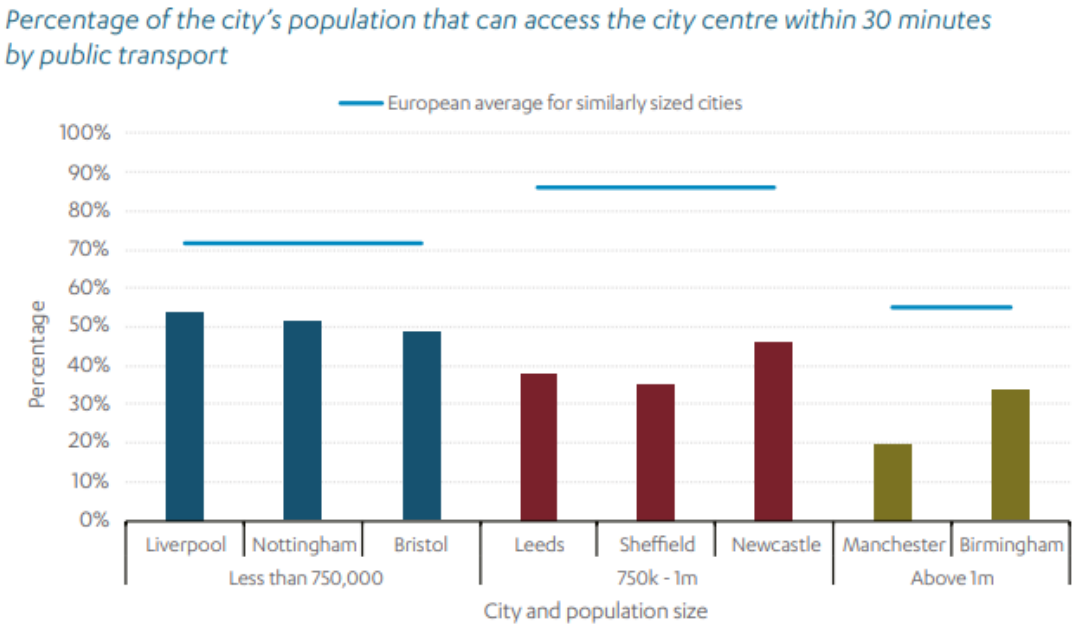
5.16 While the NIC recommendations were focused in Englich cities (as transport is a devolved function in Scotland) the NIC findings in relation to transport connectivity and the productivity of UK cities are relevant in the context of TGBB.

5.17 The NIC highlighted the critical role that poor transport connectivity within UK cities, compared to European counterparts, has on constraining economic performance. One of the NIC's key recommendations was the investment in urban mass transit was imperative to promoting the economic growth and success of the UKs major cities.

5.18 The NIC reported the percentage of city residents within half an hours travel time by public transport to the city centre. For UK cities this percentage was around 50% for cities up to 750,000, around that 40% for those between 750,000 and 1m. This is significantly less than the percentage of the European average for similar sized cities as shown in Figure 5-1.

[18] National Infrastructure Commission. October 2023. Second National Infrastructure Assessment

Figure 5-1: Comparative Public Transport Accessibility



Source: Centre for Cities (2021), Measuring Up

5.19 Centre for Cities argue that this discrepancy in British cities between their population and the 'effective size' of their labour market catchment – due to poor connectivity of their public transport networks – explains why:

- Productivity does not increase (and is poorly correlated) with population in the UK outside London, counter to experience in Western Europe and the USA;
- Large British cities are significantly less productive than their peers elsewhere.

5.20 Taking Leeds as an example, Centre for Cities estimate that, improving transport connectivity to a level comparable with European counterparts could increase the city's productivity by £1.4bn per year.[19]

NIC findings and recommendations

5.21 The NIC identified both that poor transport connectivity undermined the productivity of existing workers (GDP per worker) in UK cities, and that a lack of transport capacity limited the future employment growth potential in cities.

5.22 The NIC identified mass transit investment as fundamental to supporting economic growth and performance:

"Government investment in mass transit is required in the largest regional cities to ensure they have the public transport capacity…to support growth and quality of life".

The NIC also made associated recommendations that there should be a 15-25 percent contribution to scheme costs should be made by cities that directly benefit and demand management interventions to increase modal shift and reduce congestion should be

[19] Centre for Cities cite an overall potential increase on productivity of £2.8bn should Leeds, half of which would be attributable to transport (the other half from higher population density in European cities).

committed to alongside major public transport investment (Recommendations 18 and 19[20]).

In June 2025 the UK Chancellor announced £15.6 billion of funding for local transport projects in England's city regions[21]. This included investments in tram and mass transit in all the major English cities outside London.

- West Midlands: £2.4 billion towards a Metro extension connecting Birmingham City Centre to new sports quarter, unlocking £3bn investment from private investors.
- West Yorkshire: £2.1 billion to start building West Yorkshire Mass Transit by 2028, with aim for first services by mid-2030s.
- Greater Manchester: £2.5 billion to major infrastructure projects to unlock new homes, jobs and better connect communities, including growing and transforming the Metrolink tram network.
- South Yorkshire: £1.5 billion including £530m to renew the tram network, providing a fleet of new, replacement vehicles, modernising tram stops, as well maintenance to improve reliability.
- North East: £1.8 billion: Metro extension linking Newcastle and Sunderland via Washington.
- East Midlands: £2.0 billion towards designing a new mass transit system to connect Derby and Nottingham.
- West of England: £0.8 billion including £200m for Mass transit development between Bristol, Bath, South Gloucestershire and North Somerset.
- Liverpool City Region: £1.6 billion including £100m for 3 new bus rapid transit routes.

Based on the Barnet Formula, which is the mechanism used by the UK government to adjust funding provided to the devolved administration in Scotland, it would be expected that additional funding will be made available for transport projects in Scotland.

NIC findings and implications for Edinburgh

Edinburgh public transport connectivity

5.23 The majority of Edinburgh's public transport travel is by bus with only a small proportion of the network serviced by tram. There are a small number of local stations on the regional rail network and the tram route provides a link between Edinburgh Airport and Newhaven.

5.24 Many European cities of comparable size and population to Edinburgh have more comprehensive mass transit networks. Within the UK, Glasgow and Manchester have significant transit networks. Comparing Edinburgh's public transport travel times to these cities provides an insight into the existing competitiveness of the city.

5.25 Figure 5-2 shows the 30-minute public transport travel time catchment area from Edinburgh City Centre. Overlaid are equivalent catchments from the city centres of:

- Glasgow – which has a larger train network and an underground; and
- Manchester – which has an extensive tram network

[20] Recommendation 18, NIC Second National Infrastructure Assessment, October 2023

[21] https://www.gov.uk/government/news/biggest-ever-investment-in-city-region-local-transport-as-chancellor-vows-the-renewal-of-britain

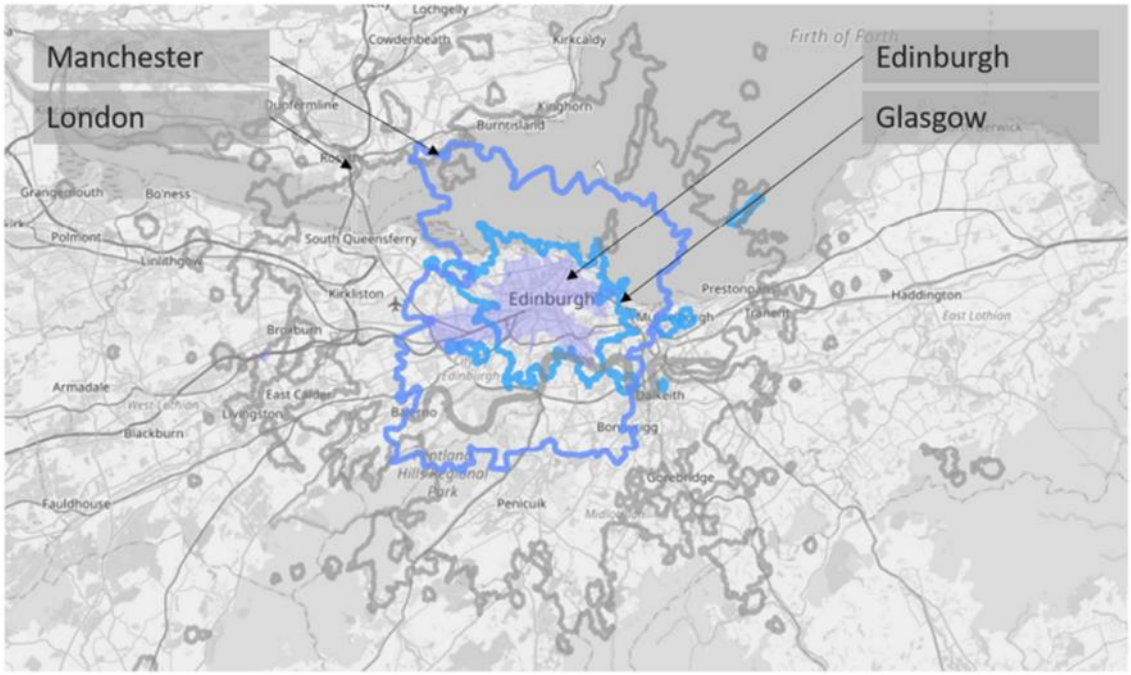
5.26 Although not directly comparable due to its size of population and status, London is also shown to demonstrate the wider connectivity and economic potential of a global city.

5.27 The more comprehensive train and underground coverage across Glasgow is reflected in a 30-minute catchment area that is larger than Edinburgh's. An exception is to the west of the city, towards Edinburgh Airport, where Edinburgh's tram provides quicker travel times.

5.28 The larger number of tram routes means Manchester has a much larger catchment area in all directions. This implies easier access to employment and services, supporting increased economic vitality.

5.29 Within the Edinburgh region, there is significant disparity in journey times accessibility. Within the city, many public transport journeys are slow and timetabled times do not necessarily reflect day-to-day performance. For example, anecdotal information suggests peak period bus journey times from Portobello to the city centre of around 50 minutes. From Dalkeith, peak bus journey times to the city centre are often an 1h 15 mins or more.

Figure 5-2: Benchmarking 30-minute public transport travel



5.30 Edinburgh thus shares similar issues as English cities re constrained labour market catchment because of poor PT connectivity to the city centre. The effect of a more limited public transport network means that Edinburgh's city centre labour market catchment is smaller than that of European counterparts. The implication, and finding from the NIC, is that improving public transport connectivity can make the effective labour market bigger.

Supporting sustainable growth and strategic development areas

5.31 Employment growth in Edinburgh and South East Scotland is planned to take place in identified SDAs as set out in City Plan 2030 and Edinburgh and South East Scotland Strategic Sites Programme.

5.32 The essential role of providing high-quality, attractive and reliable public transport connectivity to and between these SDAs has been rooted in economic and transport policy, whereby the City Mobility Plan 2030 (and its predecessors) have identified tram as an essential component of the development and success of SDAs, which at present are

located in areas of relatively poor public transport connectivity in the north, west and south of the city.

5.33 In the absence of high-quality public transport connectivity the effective labour market catchment of SDA will be severely constrained. Constrained labour market access will affect the attractiveness of these sites to developers and businesses and the ability of businesses to attract the best workers from across the City-Region. This affects both the economic productivity of businesses and limits the opportunity for workers from across the city-region to access jobs.

Overcoming a transport capacity constraint to Edinburgh City Centre

5.34 Over the last decade City of Edinburgh has experienced significant population growth (8.0% between 2011 and 2022 as per Table 2-2) and employment growth (of 10.6% between 2013 and 2023 as per Figure 2-5). This growth in Edinburgh accounts for 47.7% and 75.6% of the total growth within the City Region area for population and employment respectively.

5.35 Over a similar period annual traffic by car or taxi on roads in Edinburgh has increased by 3.6% from 1,402m trips per annum in 2013 to 1,452.5m trips per annum in 2023[22].

5.36 The EY ITEM Club Scottish Autumn Forecast (November 2024) highlights that urban areas in Scotland tend to have better prospects for future economic growth with the Edinburgh City Region a key location for this. GVA in Edinburgh is expected to grow by 1.7% a year between 2024 and 2029, and will support the fastest rate of employment growth in Scotland at 1.1% per year over the same period. Neighbouring East Lothian and Midlothian councils that form part of the Edinburgh and South East Scotland City Region are also expected to grow rapidly. East Lothian's prospects are particularly strong, with average GVA growth of 1.8% per year between 2025 and 2029[23].

5.37 This employment growth will create additional demand on the radial routes into the city centre. These radial routes already experience capacity issues both in terms of road-based congestion and in some cases, such as Borders Rail, passenger capacity issues. Compared with other UK cities, including Glasgow, Edinburgh's suburban rail network is limited both in terms of catchment and in many cases frequency. Bus is thus currently the main mode of public transport, thus impacted on by road-based congestion.

How tram can accommodate growth

5.38 North-South expansion of the Edinburgh Tram network would provide a significant enhancement to Edinburgh's overall public transport connectivity and capacity. The example of Manchester Metrolink provided evidence of how tram can provide the additional capacity required to support employment growth in a sustainable manner.

5.39 Local examples of how Edinburgh Tram's Line 1 and Newhaven extensions have supported development are included discussed in Section 6.34.

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[22] Annual traffic by vehicle type in City of Edinburgh, Road Traffic Statistics, 2000 to 2023

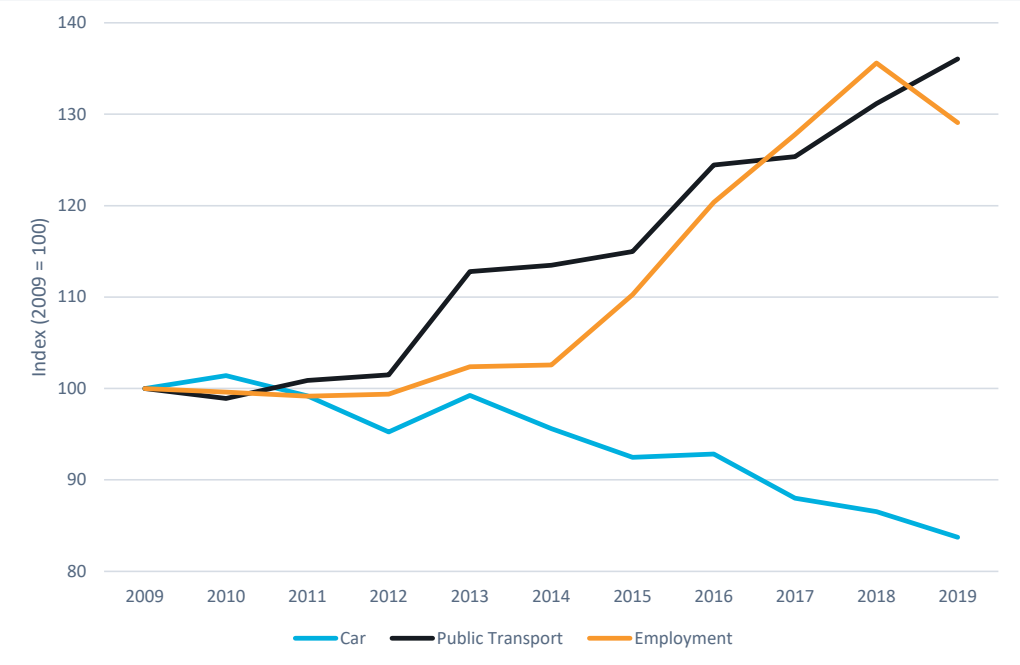
[23] EY ITEM Club Scottish Autumn Forecast, EY, November 2024

Metrolink and Job Growth in City Centre Manchester

Manchester city centre is one of the largest centres of employment outside London, much of it in highly productive office-based knowledge-intensive sectors. Between 2009 and 2019 employment in city centre Manchester has grown from 135,000 to 175,000, a 30% increase. Over the same period, the number of car trips crossing the Manchester city centre cordon in the morning peak period has decreased from 27,000 to 22,500.[24] The use of bus to cross the cordon in the morning peak has also declined. Rail and Metrolink patronage has grown to such an extent that by 2019 public transport accounted for around two-thirds of all inbound morning peak trips crossing the cordon.

As shown in Figure 5-3, there is a strong correlation between the rate of city centre Manchester jobs growth and the rate of growth in the use of public transport. Metrolink has been integral to this growth (Figure 5-4). Rail trips have grown in number, but rail's mode share has not increased. In contrast, Metrolink demand has grown nearly threefold. The conclusion is that the expansion of the Metrolink network and the attractive public transport connectivity to the city centre that it offers has supported and facilitated the level of job growth that has been seen in city centre Manchester. Without Metrolink this could have only happened with increased traffic and the congestion and pollution this brings.

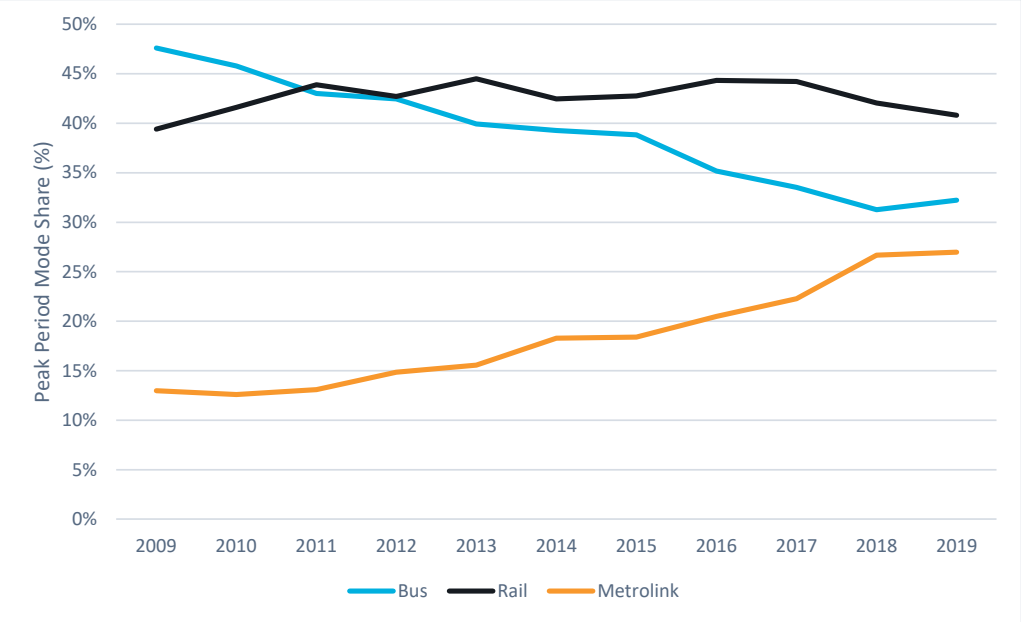
Figure 5-3: Peak Period Trips Crossing Manchester City Centre Cordon and City Centre Employment (2009 = 100)



Data Source: SRAD Report 2040 Transport Statistics Manchester 2019-2020 Key Centre Section (Feb & March 2020) and TfGM analysis of Business Register and Employment Survey

[24] The match between the cordon used for the transport data and the boundary of the city centre used for the employment analysis is not exact, but this does not affect the conclusions drawn from the analysis.

Figure 5-4: Peak Period Mode Share Crossing Manchester City Centre Cordon



Data Source: SRAD Report 2040 Transport Statistics Manchester 2019-2020 Key Centre Section (Feb/Mar 2020)

Dynamic clustering

5.41 Dynamic clustering (or agglomeration) is a second-order impact of dependent development and employment relocation effects. Instead of the transport scheme itself increasing the 'effective density' of an area - as occurs with static clustering – the 'effective density' is increased by increasing the density of firms and employment (as a result of MTMPJs after a transport scheme is delivered).

5.42 The economic benefits from dynamic clustering occur in two ways:

1. The move to more productive jobs means that each ‘relocated’ job will, on average, have a higher level of productivity (GVA per worker) associated with it.
2. That the increase in the overall number of jobs within Edinburgh increases the overall job density which, based on agglomeration theory, will increase the productivity of all jobs within the city.

5.43 However, supporting the expansion of employment in Edinburgh (even if employment at the SE Scotland or national level were constant) would have a significant overall impact on the size of the SE Scotland and Scottish economy due to higher GVA per worker that would accrue.

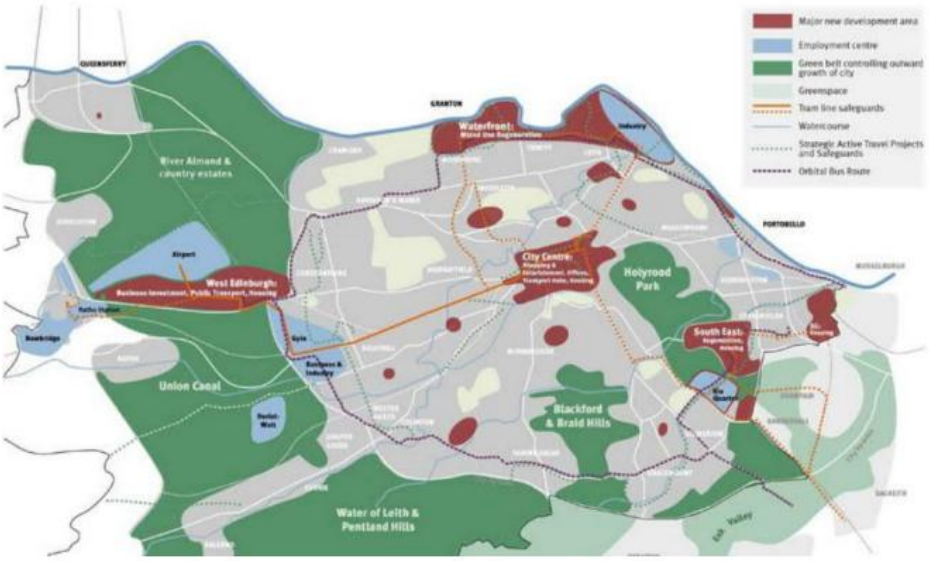
6 A stronger economy: To support the development and success of Strategic Development Areas

City Plan 2030 spatial strategy

6.1 Accommodating future growth in a sustainable manner is at the heart of City Plan 2030 and the City Mobility Plan and will continue to be as City Plan 2040 develops. These strategies aim to fundamentally change how the city grows and how people move around the city.

6.2 Tram is at the core of these strategies, providing improved connectivity, supporting growth, while helping decarbonise public transport and delivering the Council's commitment to net-zero by 2030.

Figure 6-1: City Plan 2030 Spatial Strategy



Source: City Plan 2030, City of Edinburgh Council, 2024

6.3 City Plan 2030 aims to ensure that the planning of housing, employment and services addresses the need for net-zero development, resilience to climate change, quality places and green spaces, delivery of community infrastructure and job opportunities. The

plan supports the delivering a network of 20-minute walkable neighbourhoods and embeds a 'place-based' approach to the creation of high quality, high density, mixed-use and walkable communities, linked by better active travel and public transport infrastructure.

6.4 New development will be directed to, and maximise the use of, brownfield rather than greenfield land, improving and re-imaging Edinburgh's neighbourhoods, and delivering new communities in Edinburgh Waterfront, BioQuarter, West Edinburgh, and other major development sites across the city as shown in Figure 6-1.

National Planning Framework 4 (NPF4)

6.5 NPF4 focuses on creating sustainable, low-carbon infrastructure for Scotland's cities and regions. While it does not explicitly mention trams as a solution to transport issues in the country or locally, it does promote the expansion of sustainable and integrated transport networks. This network includes various modes of public transport such as trams, buses, and active travel. The framework encourages the development of public transport systems that reduce reliance on private cars, improve air quality, and enhance connectivity, which aligns with the broader goals of increasing tram networks in cities like Edinburgh as part of sustainable urban transport solutions.

Strategic Development Areas

Introduction

6.6 There are four Strategic Development Areas (SDA) in the City of Edinburgh. These are:

- Granton Waterfront;
- BioQuarter;
- West Edinburgh; and
- City Centre.

6.7 In addition to these four, Shawfair is a is identified (along with Granton) as one of seven strategic housing sites by the ESESCRD[25].

6.8 These areas are described further in the following section.

Granton Waterfront

6.9 Granton Waterfront is situated around 4.5 kilometres north of Edinburgh city centre. It is adjacent to the existing communities of Pennywell, Muirhouse, Pilton, Trinity and Newhaven. The site comprises around 200 hectares of open green space and parkland (to the west) and around 50 hectares of potentially developable former industrial land. Granton is at the heart of Edinburgh's Waterfront and its successful transformation has the potential to reconnect the city to the Firth of Forth and to build on wider ongoing regeneration projects in the north of the city. The Development Framework sets out a climate resilient, place-based and inclusive approach to regeneration. It offers Edinburgh and the wider region the opportunity to make a step-change in how it develops in a sustainable, resilient and responsible way.

[25] Edinburgh and South East Scotland, Strategic Sites Programme, Finalised Version for Joint Committee Approval V1.0, 2024

6.10 The plan for the area includes[26]:

- around 3,500 new net zero carbon homes;
- business start- up space and commercial opportunities;
- Europe's largest coastal park through creating new and enhanced green spaces;
- creative arts, culture and leisure space; and
- key services including a school and health centre.

6.11 Proposed redevelopment in Granton is shown in Figure 6-2 and Phase 1 of the development was approved in November 2024 including 847 homes[27].

Figure 6-2: Proposed development in Granton Waterfront

Source: https://grantonwaterfront.com/

BioQuarter

6.12 The BioQuarter has grown to become a leading UK centre of excellence for health research and teaching, healthcare and companies based here are responsible for medical and life sciences innovation. The site is home to[28]:

- Royal Infirmary of Edinburgh;
- Royal Hospital for Children and Young People and the Department of Clinical Neurosciences;
- The Queen's Medical Research Institute;

[26] https://www.edinburgh.gov.uk/homepage/10492/granton-waterfront-regeneration

[27] https://grantonwaterfront.com/latest-news/green-light-for-granton-waterfront-regeneration/

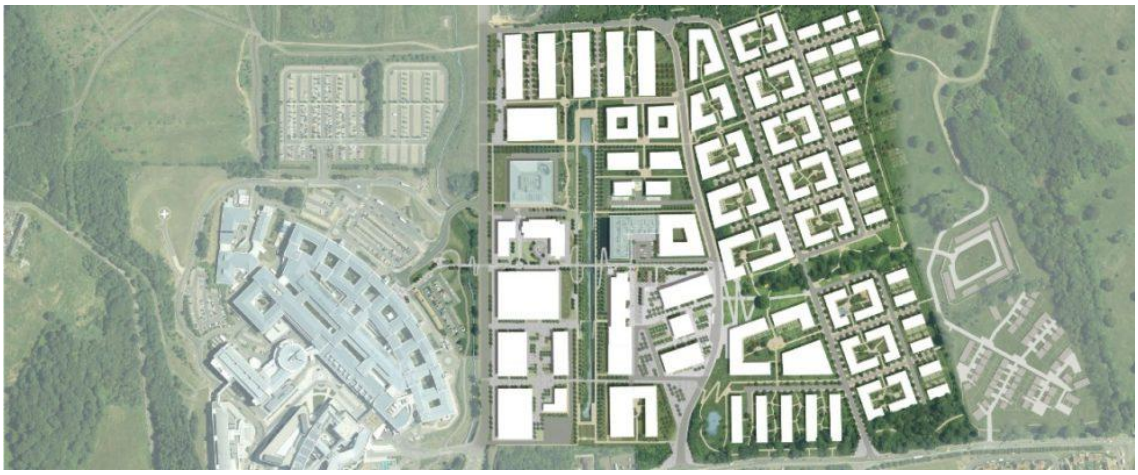
[28] https://edinburghbioquarter.com/about/whats-at-bioquarter/

- The Chancellor's Building, University of Edinburgh Medical School;
- The Institute for Regeneration and Repair;
- The Anne Rowling Regenerative Neurology Clinic;
- Advanced Care Research Centre (ACRC);
- Edinburgh Imaging;
- Edinburgh Clinical Research Facility;
- Nine – Health Innovation Centre;
- The Biocubes;
- Health Data and Bioinformatics at BioQuarter; and
- The Usher Building (due to officially open in early 2025)

6.13 In addition to these facilities, the Princess Alexandra Eye Pavilion is planned to relocate to the BioQuarter though timescales are yet to be confirmed.

6.14 The next stage of the emerging masterplan will support a mixed-use neighbourhood, centred around a world-leading community of healthcare innovators. It has the potential to support a community of 20,000 people and provide up to 9,000 jobs over the longer term. It will be the city's Health Innovation District with the potential to become one of the best locations of this type anywhere in the world. A map of the development plans for the BioQuarter is shown in Figure 6-3.

Figure 6-3: BioQuarter Expansion proposals



Source: https://edinburghbioquarter.com/edinburgh-bioquarter-reveals-1bn-vision-for-expansion/

6.15 To be sustainable, BioQuarter needs to develop into a mixed-use place, helping bring activity to the area and creating a strong sense of community and a place where people will want to be. Excellent active travel links and public transport connectivity, including tram and bus, are crucial in delivering the full potential of the site.

West Edinburgh

6.16 Significant housing and employment developments are proposed in West Edinburgh. The area already includes large employment centres at Edinburgh Park and South Gyle. Future developments which will be served by tram include:

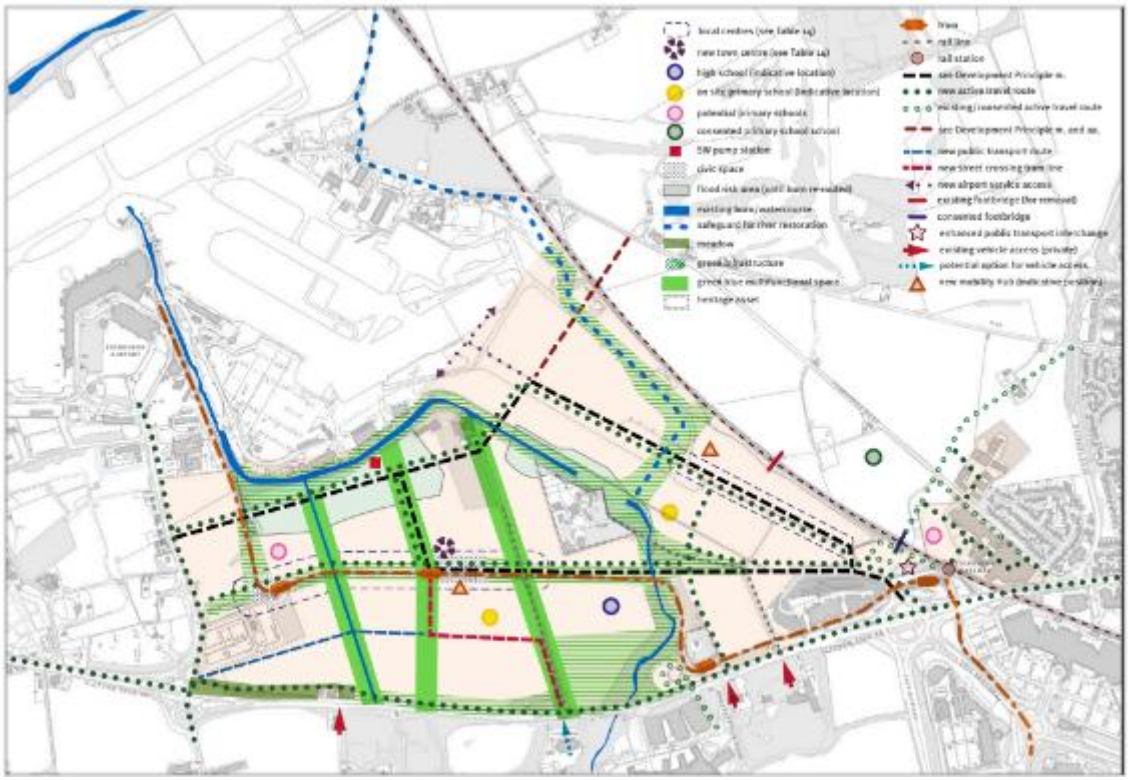
- **Edinburgh Park** (over 1,700 Residential Units and 43,000sqm of Office space)
- **West Town** (~7,000 residential units, accommodation for 300 students, office, hotels, primary and secondary school, retail, professional service, food and drink and storage and distribution.

- **Crosswinds** (~3,000 residential units, plus office, retail, restaurants, café, leisure, hotel and school)
- **IGB2** (~400 residential units, plus business, retail, hotel, and ancillary uses)
- **Saica Pack/MQE** (~1,000 residential units)
- **West Craigs South** (250 residential units)

6.17 Taken together with the ongoing delivery of West Craigs (3,000 retail units), and the proposed Redheughs Farm development to the south of the A8 (1,500 residential units), over 14,500 new houses are planned to be constructed across West Edinburgh.

6.18 Map 24 from the Edinburgh City Plan 2030 indicating developments in West Edinburgh is shown in Figure 6-4.

Figure 6-4: West Edinburgh developments



Source: City Plan 2030 Written Statement, City of Edinburgh Council, November 2024

City Centre

6.19 Significant investment continues across the city centre. The St James Quarter has recently been completed and incorporates 1.7 million sq. ft of retail and leisure space, reinforcing the east end of the city.

6.20 Despite the Covid pandemic, investment in the office market continues with major new developments at Haymarket and Exchange 2 under construction or planned.

6.21 A number of new hotels are also expected in the city centre providing additional hotel accommodation.

6.22 The Edinburgh City Centre Transformation strategy identified six catalyst areas for future development in the area. These are:

- Haymarket
- Lothian Road
- New Town
- Old Town
- Waverley – Carlton Road
- Innovation Mile

6.23 These catalyst areas are shown in Figure 6-5.

Figure 6-5: City Centre Catalyst Areas

Source: City Centre Transformation Strategy, City of Edinburgh Council, 2019

Shawfair

6.24 Shawfair is a is identified (along with Granton) as one of seven strategic housing sites by the Joint Committee[29] and encompasses 700 acres (280 ha), six miles South East of Edinburgh City Centre. The £200 million development will create a new residential and commercial centre with around 4,000 new homes, two primary schools, a secondary school and 1,000,000 sq. ft (93,000 m2) of commercial and retail space. The first phases of commercial and house building were progressed staring in 2018, delivering 1,000 new homes to date.

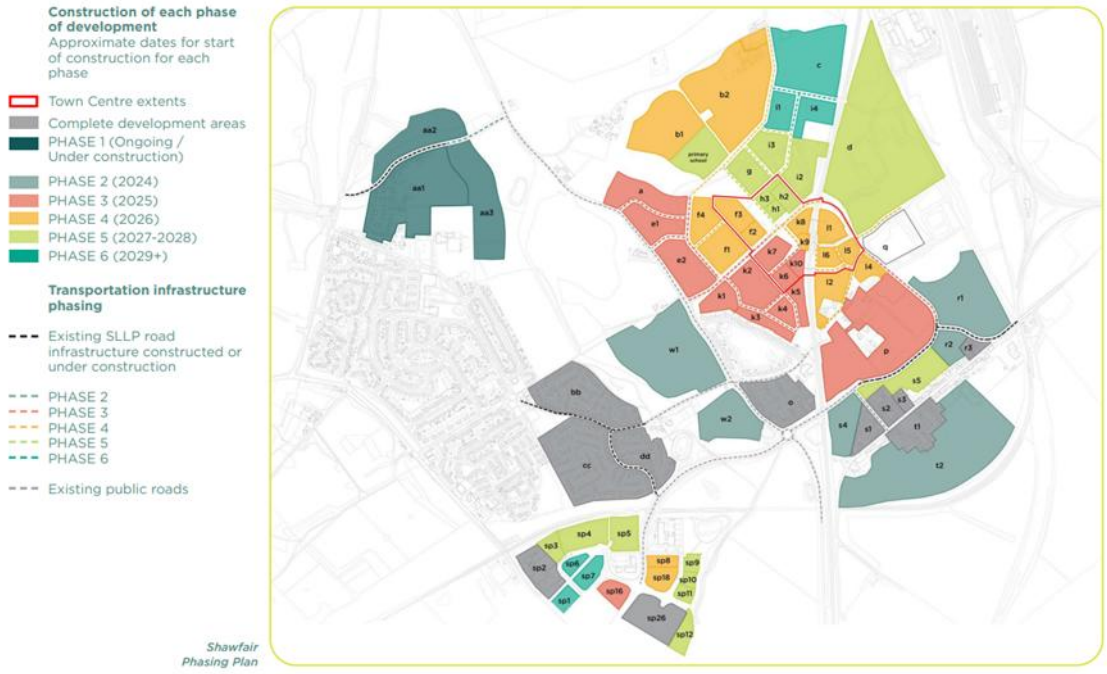
6.25 The Shawfair railway station on the Borders Railway opened in September 2015 and connects what will be a new town centre with central Edinburgh. A network of cycle and

[29] Edinburgh and South East Scotland, Strategic Sites Programme, Finalised Version for Joint Committee Approval V1.0, 2024

walking paths will be developed as well as landscaped green space, woodland and open water.

6.26 Figure 6-6 shows the proposed development sites in Shawfair.

Figure 6-6: Shawfair development plan



Source: Shawfair Consultation, 2024

6.27 The Craigmillar masterplan borders the BioQuarter and Shawfair development sites, and the Fort Kinnaird retail park. The masterplan has aimed to deliver around 3,200 new homes, a secondary school, primary schools and a new town centre. Upon completion, the population is expected to rise from 7,500 to 15,000, and around 6,000 jobs will be created.

Economic 'additionality' through supporting and enabling development

6.28 In terms of economic 'additionality' (based on TAG guidance) supporting major development and regeneration is not generally considered 'additional'; rather it is re-distributive in nature. The exception is where transport infrastructure can be shown to enable 'dependent development', i.e. development could only come forward if the enabling infrastructure is provided. In this case the 'economic additionality' is based on the land value uplift that accrues.

6.29 This form of 'land value uplift' underpinned the Housing Infrastructure Fund (HIF) – a £3bn Government fund which aimed to identify and fund infrastructure (including transport) that enabled greenfield (agricultural) or brownfield (industrial) land to support and be designated for housing development. The value of land that is designated for residential use is typically orders or magnitude higher than that designated for agricultural and industrial use.

6.30 The necessary condition for identifying significant 'dependent' development' is that the transport network could not support the development in the absence of infrastructure. In broad terms, this applied in two main instances. First, where there is a large-scale former industrial brownfield site where public transport connectivity is poor. Second, where there are 'greenfield' sites that could be developed for housing but would require transport enhancements to make the sites accessible. There can also be a link between 'dependent development' and funding for mass transit, through additional development levies, e.g. Community Infrastructure Levy.[30]

6.31 The accessibility, capacity and connectivity that mass transit provides can help bring additionality through:

- **Increasing the value of development** – Previous public transport investments in the North of England have led to large increases in the value of properties in the local area. Since 1995, Manchester Metrolink has supported an average increase of 6.3% in property value in buildings near new stations, compared to comparable areas without stops.[31] The Metrolink line to Manchester Airport led to significant increases of over 20% in residential property value in some areas because of the attraction of two large employment areas at both ends of the lines.
- **Accelerating the rate of development** – Increasing the value of development will make development more viable and, in turn, developers are incentives to bring forward (in time) development.
- **Increasing the scale / density of development** – Enabling developments to be higher density due to their greater public transport accessibility can increase their viability. This aligns with the interests of both Planning Authorities (sustainable development, housing delivery etc.) and developers (more intensive use and value of sites).

6.32 Disentangling the effects above and identifying where mass transit specifically 'enables' development additionality is not straightforward and requires detailed analysis.

6.33 The case for claiming 'additionality' also relies on the existence of 'market failures' which transport, and associated investment can help overcome. Examples include housing market failures (supply-side failures to deliver housing to level of 'need), coordination failures (complex land ownership, limiting ability to 'masterplan' regeneration), or supply-side failures in the commercial/office market (limited supply of commercial space of the quality / in the location to meet potential demand). The existence of 'market failures' is context specific.

[30] The TfL sponsored Northern Line and Barking Riverside extensions were, in effect, funded through the LVU that accrued through dependent development. In each case the respective planning permissions only granted development up to a certain point without the transport infrastructure being in place (these are termed Grampian conditions in planning parlance). The NLE enables the 'dependent' development of 16,000 additional homes and 25,000 jobs, and of 6,800 additional homes at Barking Riverside.

[31] Chapter 4 – in Land Value And Transport (Phase 2): Modelling and Appraisal

Examples of light rail supporting major development and regeneration

Edinburgh Tram (Airport to City Centre)

6.34 Interview evidence from key developers has shown that **Edinburgh Tram** played a role in their decision to invest and in their marketing of developments to potential buyers and occupiers.[32] Regarding the impact on businesses, the same research suggests that as a result of the light rail line, a number of businesses have been able to open new market sectors or increase their resilience and ability to deal with increased growth. Evidence from stakeholder interviews shows that offices located along the light rail line were generally more profitable and attractive for staff and new recruits.

6.35 A major development between the city centre and the airport is the Edinburgh Park business community. Since the tram route to the airport opened in 2014, Edinburgh Park has seen significant developments aimed at enhancing its status as a key business and residential hub. The area has undergone substantial infrastructure improvements, including the expansion of public transport links and the development of new office spaces. Major companies, such as Lloyds Banking Group, have established their presence there, contributing to a growing business ecosystem.

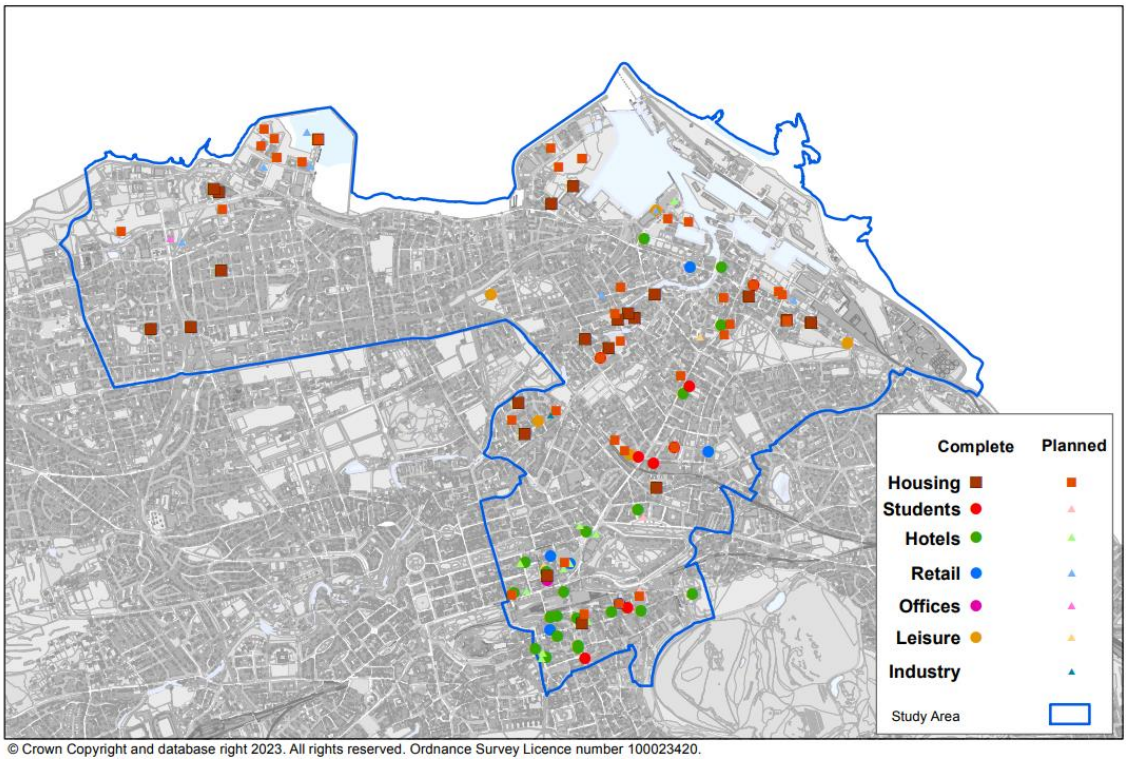
6.36 Residential projects have also been initiated, with new housing developments catering to a mix of demographics. Additionally, there has been a focus on green spaces and amenities to improve quality of life for residents and workers alike. Overall, Edinburgh Park has evolved into a vibrant area that balances commercial growth with community living.

Edinburgh Tram (Tram to Newhaven)

6.37 Significant development as occurred or is planned in the vicinity of the Newhaven tram extension which began operation in June 2023 as shown in Figure 6-7.

[32] Steer (2018) Edinburgh Tram Evaluation Report, City of Edinburgh Council (unpublished)

Figure 6-7: Development in the vicinity of Newhaven tram extension (2018-2022)



Other UK examples

6.38 There are a number of examples of where Light Rail has supported major development and regeneration. The examples below pre-date the development of 'Dependent Development/Land Value-Uplift' guidance, but the underlying rationale – that the introduction of mass transit could catalyse major development and regeneration – is relevant to the examples below.

6.39 There is evidence from across the UK's light rail systems that when light rail is implemented alongside coordinated and integrated land use planning, there can be new development and regeneration which would otherwise not have happened. These can range from large area wide impacts where the provision of light rail is integral to the transformational development that has occurred to smaller scale more local impacts. Examples include:

- Salford Quays is a former dockyard area, lying 5 km west of Manchester City Centre. The dockyard closed in 1982 and the redevelopment was built around the extension of **Manchester Metrolink**, which opened in 2000 and provides direct connections to Manchester city centre and Manchester Piccadilly, which is Manchester's principal railway station, as well as connections to the rest of the Metrolink network. Before Metrolink, the area was poorly served by public transport. Part of Salford Quays is the flagship 'MediaCityUK' site, which is home to around 250 businesses employing around 7,000 people including one in seven BBC employees. Integral to the MediaCityUK development is a 360 m spur from the Metrolink line through the Quays

and this opened in 2010. A further 1,000 business are in the wider Salford Quays area, employing 27,500 people[33].

- A new £21 million interchange at South Shields on the **Tyne and Wear Metro** forms part of a wider £100 million regeneration of the town centre ("South Shields 365") which includes renewing town centre retail and the market square, new commercial and housing developments as well as the new National Centre for the Written Word[34].
- Phase 2 of **Nottingham Express Transit** is helping unlock a number of significant development sites in the area, including the Southern Gateway, NG2 business park, Queens Medical Centre and Beeston town centre[35].
- **Sheffield Supertram** has supported the major regeneration of the Lower Don Valley. The Lower Don Valley was a key industrial area of Sheffield that has experienced de-industrialisation and by the late 1980s there was approximately 1000 acres of redundant land and industrial buildings. Throughout the 1990s the Lower Don Valley was re-developed with one of the first major developments being Meadowhall, alongside venues such as the DSA Sheffield Arena. These were all connected via the Supertram system. The transformation of Lower Don Valley has continued in recent years with development including the Valley Entertainment Leisure complex (including a new Supertram stop), new Leisure Hall development within the Meadowhall Shopping centre, the Olympic Legacy Park (£100m development across 30 hectares expected to create 3,500 jobs) which is set to become an internationally recognised Innovation District for health and wellbeing research and learning (home to the Sheffield Hallam University Advanced Wellbeing Research Centre, University Technical College, Community Stadium and Community Arena alongside established venues such as Ice Sheffield, Sheffield Arena and the English Institute of Sport). The Arena/Olympic Legacy Park Supertram stop serves the site directly, providing access for those who don't have a car as well as an attractive alternative way of travelling for those who do.

[33] Case study provided to UTG by TfGM

[34] Case study provided to UTG by Nexus

[35] Nottingham Express Transit (2017) NET Phase Two Monitoring and Evaluation –Year One Report

7 A fairer economy: To promote equality and inclusion

Increase public transport accessibility to jobs, education, healthcare and leisure, especially for disadvantaged and vulnerable users

Transport and inequality

7.1 The Scottish Index of Multiple Deprivation (SIMD) is the official measure of relative deprivation for small areas in Scotland. The SIMD is a composite index made up of seven 'domains', each comprising a number of component indicators. While the seven domains are diverse in their nature all but two are affected by transport provision to some extent. In Chapter 2 (Economic Baseline) the prevalence and spatial distribution of transport-related deprivation related to specific domains is presented.

The summary shown in Table 7-1highlights the impact that transport has across five of the seven SIMD domains. These five domains together account for over 90% of the overall SIMD measure.

7.2 Of course, transport provision is only one factor that determines these indices, and it is found that there are some deprived areas that have relatively good transport provision and sometimes better transport provision than less deprived areas. It follows that improving transport provision alone is unlikely to address issues of deprivation and that other complementary interventions are necessary.

Table 7-1: Scottish Index of Multiple Deprivation Domains and relationship with transport provision

Domain	Weighting	Linked to transport provision	How affected
Income	28%	Yes	Poor connectivity to opportunities for paid work can lead to income deprivation.
Employment	28%	Yes	Poor connectivity to employment opportunities makes securing and staying in employment more challenging. Poor accessibility may also make attending interviews more difficult.
Education, Skills and Training	14%	Yes	Poor connectivity to education, skills and training makes attendance more challenging, limiting the ability for individuals to improve their skills and job prospects.
Health	14%	Yes	Poor connectivity to health and other key opportunities can affect health directly (e.g. inability to access health facilities) and through negatively affecting mental and physical health through sedentary lifestyles and lack of access to social activities.
Crime	5%	No	n/a
Housing	2%	No	n/a
Geographic Access to Services	9%	Yes	Poor connectivity by public transport to services can result in greater car dependence, even for those not well placed to afford a private vehicle. High traffic volumes result in poor air quality, particularly due to older vehicles with higher emissions.

Transport and social inclusion

7.3 The Indices of Deprivation and Scottish Index of Multiple Deprivation are routinely used to identify areas that experience social exclusion, which in turn identifies areas that should be a focus of public policy to promote social inclusion.

7.4 The Social Exclusion Unit report Making the Connections: Final Report on Transport and Social Exclusion[36] examined the links between social exclusion, transport and the location of services, with a particular focus on opportunities that affect life-chances such as work, healthcare and education. The report explores the problem of social exclusion in terms of access to work, education, healthcare, food shops, social, cultural and sporting activities, and the impact of traffic on individuals and communities. It also considered why social exclusion happens (with explanatory factors including poor availability and accessibility of transport, cost, services located in inaccessible places, safety and security issues and limited travel horizons) and what underlying causes there are such as: a historical lack of consideration of accessibility, lack of consideration of the social cost of poor transport at appraisal stage (in terms of journey time improvements, accessibility improvements and punctuality); raising costs of public transport; fragmented funding;

[36] Making the Connections: Final Report on Transport and Social Exclusion, Social Exclusion Unit, 2003

land use planning allowing dispersed development patterns and slow take up in innovative solutions.

7.5 The report highlights five measures which can address social exclusion: improved physical accessibility and availability; widening travel horizons; safer streets and stations; making travel more affordable; and reducing the need to travel.

7.6 PTEG in its report 'Transport and Social Inclusion: Have we made the connections in our cities?'[37], emphasised that for public transport to successfully connect people to opportunities it should meet four criteria, namely public transport should be: available; accessible; affordable; and acceptable. Where these criteria are not met, the study states that people may be stranded and cut off from opportunities and therefore vulnerable to social exclusion. At-risk groups include those without access to a car, those on low income, those living in isolated housing estates or where public transport cannot run commercially, those with health issues which limit their travel options, older people, younger people and those in rural areas with no car access. The report considered progress in terms of meeting the four criteria.

7.7 It can be seen from the Social Exclusion Unit and PTEG that reliable, frequent, affordable transport options are one potential way to reduce social exclusion. However, it should also be emphasised that transport improvements are not the only intervention which will improve inclusion and reduce deprivation and that interventions relating to widening travel horizons, making streets and stations safer, making transport more affordable and reducing the need to travel also support a more inclusive community.

7.8 The report Transport and inequality: An evidence review for the Department for Transport[38] provides further evidence that transport and socio-economic inequality are linked, through the distribution of people, how opportunities are distributed and how accessible the transport system is. It states transport is integral to improving equality, but that its cost is a key obstacle. Particularly relevant to the importance of SIMD as a useful indicator, is that it highlights that consideration should be given to the needs and impacts on different social groups to facilitate better targeted policies. The report also supports the earlier studies by stating that transport policy needs to be considered as part of wider initiatives, often at a local level and with a focus on themes such as skills, education, employment and housing policy.

7.9 In England, progress in improving social mobility has been assessed by the Social Mobility Commission. Its report 'Monitoring social mobility 2013-2020: Is the government delivering on our recommendations?[39] highlights a mixed picture of progress government departments have made with respect to addressing the social mobility issues. The report highlights that good-quality education and training are the keys to social mobility for disadvantaged communities with a specific issue flagged of low skills leading to a greater chance of young people getting stuck on low paid jobs. Affordable, reliable access to education, training and jobs by public transport is important as poorer people spend

[37] Transport and Social Inclusion: Have we made the connections in our cities? PTEG, 2010

[38] Transport and inequality: An evidence review for the Department for Transport, NatCen Social Research, 2019

[39] Monitoring social mobility 2013-2020: Is the government delivering on our recommendations, Social Mobility Commission, 2020

more on transport and live further away from the best facilities. The report states travel to work is disproportionately expensive for lower income households, which spend approximately 25% of their income on commuting compared with the average of 13%. However, the same report highlights investments in transport infrastructure are concentrated in more affluent areas which emphasises a continued a lack of joined up thinking to address social mobility issues.

7.10 In summary, in the literature there is a consensus over time that improved transport can be a factor to counter social exclusion/promote social inclusion, but that provision must be affordable to the communities that it serves.

Improve mobility through improving physical accessibility of transport

7.11 North-South expansion of Edinburgh Tram is likely to have a positive impact on labour supply and labour productivity through its impact on the travel horizons of those people living in its catchment area. Travel horizons refer to the number of destinations and opportunities that individuals can potentially reach within a reasonable travel time of their home.

7.12 The corridor identified for TGBB is home to some of the most deprived regions in Edinburgh and Scotland as shown in Figure 2 4, with high levels of unemployment and low skilled jobs.

7.13 Travel horizons are severely limited by poor public transport availability, car dependency, poor active travel infrastructure and congested roads. Increased and uncertain travel times can impose direct economic costs through the supply of labour to vibrant economic centres being lower than it otherwise would be under a more efficient transport system. Introduction of a tram system is likely to generate a strong labour supply response stemming from the reduction in travel times and uncertainty that would connect the higher productivity areas of West Edinburgh, Edinburgh city centre, with the more deprived parts the city not currently connected via tram.

7.14 There is a strong correlation between the level of deprivation and the level of unemployment in a region (areas where a large proportion of residents are unemployed also have a large proportion of residents that are underemployed). Increasing travel horizons will provide residents of these areas access to a wider pool of labour market opportunities, enable a better matching of job vacancies with skilled potential employees, and empower residents to increase their labour supply on both **the intensive and extensive** margins.

Valuation of additional economic benefits: Labour supply effects

Assessment of social inclusion benefits within transport appraisal

7.15 The impact of transport on helping support social inclusion are assessed through the Distributional Impact (DI) analysis included as part of ‘conventional’ (Level 1) transport appraisal. This analysis shows how the spatial distribution of transport benefits (i.e. generalised time savings) corresponds with the socio-demographic profile of residents in

those areas. The analysis is distributional in nature and the scale of benefits is fully consistent Level 1 benefits.

Wider impacts: Labour supply effects

7.16 Labour supply benefits are a 'Level 2' wider impact, and net additional to those captures in the Level 1 assessment.

7.17 Lowering the costs (fares or time) of travelling lower the costs of accessing labour markets, on the extensive (the choice of whether or not to work) and intensive (the choice of how many hours to work) margins. Interventions such as TGBB will improve access to large labour markets such as residents of North and South East Edinburgh, for those employers currently not well connected to these markets.

7.18 Part of the benefit that accrues to these individuals of increased labour force participation is captured through value of time savings, and part is captured through the wider economic impacts methodology. Labour supply wider impacts accrue where improved transport accessibility supports increased participation in the labour market as reduced transport generalised costs encourage more workers to take up employment. In terms of valuation, the wider impact 'benefit' measures the additional tax take that the Government receives as more workers enter employment (other benefits are fully captured through the Rule of a Half[40] within 'Level 1' benefits).

7.19 There are two elements under this outcome, which related to a fairer economy.

7.20 The first is concerned with how tram can help support communities that that are characterised by high levels of deprivation and have suffered from a legacy of underinvestment. These areas therefore suffer from the problem associated with social deprivation, which are exacerbated by the poor physical fabric across retail, commercial and municipal/ community buildings and in many cases the loss of activities (shops, offices/jobs, community facilities) at the scale once provided. These effects can be self-perpetuating – for example as failure to invest makes areas become less attractive, higher income workers may move away reducing local spend and demand for services – leading to a spiral of decline.

7.21 In this case, the objective of tram is to help facilitate the improvement of an area both directly – though better accessibility and integrated design and indirectly, as part of an integrated programme of regeneration. The purpose is that investment in tram and wider regeneration can help halt and reverse decline and improve the reality (for residents and local workers) and wider perception of the area.

7.22 In terms of 'valuing' the economic benefits from the enhancement of place, TAG guidance suggests that the impacts are distributional rather than net additional. There is no accepted way of identifying or valuing any 'additionality' that results from a proposed scheme. This in part reflects the inherent difficulty of identifying and valuing such benefits, and the sometimes limited (and contradictory) evidence on the impact that transport has on place (see Manchester Case studies – Wythenshawe and Oldham – in this section).

[40] The rule of a half is a standard economic appraisal convention whereby benefits to 'new' public transport users are valued at half the level of 'existing' users.

7.23 The second element concerns ‘the least well off’ people. In practice, this means considering how tram can provide better opportunities (work, education, training) for the unemployed/economically inactive and to help lower income workers expend their job search horizons. Many of the locations served by tram, including Granton, Muirhouse, Pilton to north and Craigmillar and Newcraighall are characterised by high levels of deprivation, as shown previously in Figure 2-3.

How tram can support deprived areas

7.24 The specific issue of how tram can support deprived communities is an important consideration in the context of reducing inequalities and supporting inclusion. The following case studies highlight that tram can result in a range of impacts for deprived areas, both positive and negative.

Case studies: Wythenshawe and Oldham

7.25 Investment in tram can and has delivered against these criteria in terms of their beneficial impacts in levels of employment. The case study for Manchester Metrolink and Wythenshawe shows the potential impact tram can have.

Case Study Part 1: Manchester Metrolink and Wythenshawe

Wythenshawe

Wythenshawe is located around eight miles to the south of Manchester city centre and just to the north of Manchester Airport. It has a population of around 45,000 and is characterised by:
A higher-than-average proportion of people aged 0-16-years
A lower-than-average proportion of people 65 and over
The three wards that make up Wythenshawe (Woodhouse Park, Sharston and Baguley) are ranked the fifth, eighth and tenth most deprived in the Manchester City Council area.

Manchester Metrolink Airport Line

Wythenshawe is served by Manchester Metrolink's Airport line. This opened in November 2014 and there are 15 stops between Manchester Airport and where the line joins the East Didsbury Metrolink line. Services link Manchester Airport with Manchester Victoria railway station. Usual service is one tram every 12 minutes and the journey from the Airport to Victoria takes just under an hour.

Impact of Metrolink on Wythenshawe Communities

As part of the evaluation of the Manchester Metrolink Phase Three programme, Transport for Greater Manchester (TfGM) commissioned Ipsos MORI to undertake a study of Metrolink's impacts on Wythenshawe communities. A total of 1,023 interviews of residents in Wythenshawe were undertaken which explored positive and negative impacts on transport opportunities and community wellbeing. The interviews were supplemented by drop-in focus groups in Wythenshawe town centre and business interviews.

Findings from the survey provide strong evidence that Metrolink has enhanced the social experiences of residents and led to enhanced employment opportunities:

- Of those who say that changes to public transport have increased the range of places they travel to when socialising, over four in five (83%) say this is because of the tram.
- Of those who say that changes to public transport have increased the range of places they travel to when taking part in leisure activities, 85% say the tram has most contributed to this.
- For those who have sought new employment over the last few years, the survey found that the vast majority (84%) said that the tram has contributed most to giving them access to a wider range of places where there are job opportunities.

The survey found that there is a perception that the tram has been the catalyst for additional investment and regeneration of Wythenshawe town centre and its hinterlands. Half of residents (52%) said Wythenshawe has become a better place to live since the Airport Line opened, with only 15% saying it has got worse. Around two in five residents (42%) said the tram is the best thing about living in Wythenshawe. However, two-thirds (65%) said that affordability of the tram is an issue: only two-thirds of residents (65%) see the tram as affordable, while employers think that cost is a key reason why employees don't use it more often. The perception of cost is also an issue for non-users.

Source: TfGM (2021) Metrolink Phase 3 Monitoring and Evaluation Second Report

7.26 In practice, investment in tram infrastructure can also result in deprived areas becoming more disadvantaged and 'left behind.' The case study for Oldham shows the potential negative impact this investment can have.

Case Study Part 2: Oldham

Oldham

Oldham is located in Greater Manchester, around seven miles northeast of Manchester city centre. The local authority area of Oldham had a population of 242,100 as of 2021. The area is characterised by its surviving industrial architecture and urban land use.

Metrolink extension to Oldham

The Metrolink extension to Oldham, directly from Manchester city centre initially opened in 2014. This increased access to jobs within 60 minutes, amenities, theatres, restaurants and shopping centres such as Manchester Arndale.

Impact of Metrolink on Oldham

A study undertaken by Onward, researching levelling up in local areas, indicated that the tram had been unsuccessful in 'levelling-up' in the Oldham area, with negligible employment benefits. Pre-pandemic, the weekly wages of residents in Oldham were only 20p higher than workers, whereas residents in other boroughs such as Stockport earned nearly £51 more than workers.

Findings from qualitative research with residents showed that:

- The tram isn't considered safe, with antisocial behaviour and instances of serious crime.
- Safety concerns are most acute for women or individuals travelling alone, during the darker months.
- The town centre is not appealing for retail or hospitality, with participants preferring to travel to Manchester City Centre or other boroughs.
- Racial and ethnic tensions exist in the area, stemming from cultural differences since the 2001 Oldham riots.

Findings from diagnostic data found that:

- On average, Oldham has a less productive economy. GVA per capita is just £17,330 - £5,970 below the national average, placing it at the 17th percentile.
- Oldham has a weakening social fabric, ranking in the 18th percentile, however there is a strong sense of community belonging (ranking in the 63rd percentile).
- Oldham scores below average for trust in civic institutions, the media, the police and courts.

The potential for Oldham to benefit from agglomeration effects to increase productivity is restricted by the limited connectivity of the public transport network. The constraints of public transport connectivity challenge the economic capability of the town and encourages workers to use opportunities in Oldham to gain experience and then upgrade to better jobs in the city. Focus groups indicated that Oldham was full of potential however the responsibility of restoring a sense of community and levelling the area up remained with local leaders. When participants were asked to consider what they would do to level up Oldham, most people referred to creating jobs as well as interventions to improve street safety and creation of a strong community by making better use of its historic buildings. In addition to this, participants mentioned the need for regeneration of the town centre such as developing the Spindles Market.

Source: Blagden, Hawksbee and Tanner (2022) Levelling up in practice, Interim Report from Oldham Research Note

Implications for the Edinburgh City Region: deprived areas

Lessons from Wythenshawe and Oldham case studies

7.39 The case studies differ in terms of their methodological approaches and perspectives. It is therefore difficult to draw definitive conclusions, other than the role of tram can be positive for residents and the area (as in the case of Wythenshawe), but that this effect is by no means guaranteed (illustrated by the case of Oldham).

7.40 A clear difference between Wythenshawe and Oldham is that the former is more residential in nature, and that Metrolink had a positive impact on expanding peoples travel horizons and access to jobs and other opportunities. As Wythenshawe does not have a significant competing offer with Manchester City Centre (e.g. in retail or city centre employment), the positive impact on residents was not accompanied by a corresponding impact on local retail and employment.

7.41 By contrast, the increased accessibility offered by Metrolink in Oldham appear to have had a similar response by residents – allowing them to expand their job search horizons, and to visit Manchester city centre retail more easily. However, this response may have displaced employment and retail activity from Oldham to Manchester, exacerbating issues in Oldham centre (retail vacancies, decline in local jobs).

7.42 This highlights that the potential 'two-way road' effect can also be pertinent in the context of transit. The economic impact on 'places' impact of tram could be positive in some areas and more uncertain or negative in others, depending on context specific factors.

Wider evidence

7.43 The impact of transit enhancements on local areas can be hard to evaluate as transport improvements are often implemented as part of or alongside wider regeneration. Within Greater Manchester, much of the development associated with the Metrolink has occurred in specific local areas where other factors are equally significant: for New Islington, for example, the proximity to Manchester City Centre; within Salford Quays, the Metrolink played a wider role in facilitating the ongoing regeneration of the former docks.

7.44 Transport can help act as important 'catalyst' in such development, and the extent to which it results in gentrification will be linked to the demographics of the local population, and the balance between new development and refurbishment/upgrading of the existing housing stock and the nature and tenure that new and refurbished development. The fact that enhanced transport connectivity is only one factor is further illustrated by the regeneration of other parts of Greater Manchester that are not served by Metrolink or other transport enhancements.

7.45 The wider policy and regeneration context is therefore important in acting as a driver of change. This finding has implications for the future integrated planning of the major development opportunities as summarised in Chapter 6.

8 A greener economy: To respond to climate change and net-zero

Introduction

8.1 In addition to delivering a stronger and fairer economy, tram can support the response to climate change and delivering a net-zero target for carbon emissions, resulting in a greener economy. This can be achieved through encouraging mode shift to more sustainable modes of transport, an improvement to the attractiveness of public transport through increased efficiency, journey time reliability and service quality and supporting sustainable land-use development, aligned with spatial planning and development policies.

8.2 Increased capacity provided by tram will provide additional capacity on congested corridors, which provides the opportunity to improve vehicle flows which in turn will improve carbon emissions within the corridors.

8.3 This outcome is strongly aligned with a number of national, regional and local objectives.

8.4 The Scottish Government published "Securing a Green Recovery on a Path to Net Zero: Climate Change Plan 2018-2032 - update" in December 2020 which reflects the ambition set Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 to achieve a reduction of Scotland's greenhouse gas emissions to net zero by 2045 at the latest, with interim targets of at least 75 per cent by 2030 and 90 per cent by 2040. The Plan includes the following statement in relation to transport: “By 2032 our roads will contain no new petrol and diesel cars and vans; we will have decarbonised our passenger railways; and we will have begun work to decarbonise challenging transport modes such as heavy goods vehicles (HGVs), ferries and aviation. Car kilometres will have reduced by 20 per cent, and sustainable transport will be the instinctive first choice for people.”

8.5 CEC declared a climate emergency in 2019. The key policies linking climate action and transport in Edinburgh is the City Mobility Plan (CMP) which sets out the Council’s strategic approach to the sustainable, safe and effective movement of people and goods around Edinburgh up to 2030. It contains nine objectives and associated policy measures under the themes of People, Movement and Place which collectively aim to achieve the Vision for this Plan and includes KPIs including reducing car driver kilometres on Edinburgh’s roads by 30% by 2030, increasing bus and tram patronage, reducing the proportion of dwellings in areas with low levels of public transport, increasing the number of multi-modal interchanges in the city and the travel modes available and reducing the difference in travel time for public transport between peak and normal conditions.

State of play and Edinburgh City Region ambition

8.6 The 2030 Climate Strategy indicates that when economic and population growth, and fuel efficiency are considered, emissions will fall by only 9% and that to meet a Net Zero target a reduction of 200,000 tonnes of CO2e is needed year on year[41].

8.7 Transport sector emissions are dominated by road transport and private vehicle use and account for 29% of total emissions in Edinburgh[42]. As indicated in the CMP one of the targets to achieve the goal of Net Zero, is reducing car kilometres in Edinburgh City Region by 30%.

8.8 Tram can contribute to carbon reduction goals by providing an attractive lower carbon, lower emission transport option. Increased capacity provided by tram will provide additional capacity on congested corridors, which provides the opportunity to improve vehicle flows which in turn will improve carbon emissions within the corridor.

Carbon profile for TGBB

8.9 The decarbonising potential of tram varies depending on geography, demography and car-ownership characteristics of the two discreet sections of the TGBB route identified, as well as the SDA's linked by the corridors. The following sections provide corridor summaries of the extent of this potential. Embedded Carbon also requires consideration, following more detailed design.

Granton to City Centre

8.10 Areas of North Edinburgh including Muirhouse, West Pilton, Royston Drylaw and Granton, located on the proposed tram corridor are within the top quintile of Scottish Index of Multiple Deprivation (SIMD). This contrasts with areas of Ravelston, Roseburn, Wester Coates, Blackhall, Craigleith, Orchard Brae and Dean Village which are much less deprived and in the lower quintiles of the SIMD. The corridor includes significant employers including NHS Lothian's Western General Infirmary and Leonardo, an aerospace firm.

8.11 Granton is one of the Strategic Development Areas in Edinburgh (as detailed in Chapter 5) and development is expected to deliver significant increases in homes (~2,800 homes) and employment. Within the vision and key principles for the development is a maximum car park provision of 25%.[43] Excellent levels of public transport connectivity will be required to support the commercial viability and wider business case for the development.

8.12 The corridor has significant scope for modal shift and reduction in car dependency to reduce emissions from transport. Improved connectivity and potentially quicker journey times that tram can provide could encourage more people to switch from car usage to public transport to help reduce carbon emissions within the corridor. This is particularly

[41] 2030 Climate Strategy: Delivering a net zero, climate ready Edinburgh, 2021

[42] City Mobility Plan 2021-2030, City of Edinburgh Council, 2024

[43] Granton Waterfront – Investigation of Parking Controls – Update, Transport and Environment Committee, November 2023.

important in areas of lower deprivation and higher car ownership but also to ensure those in areas of higher deprivation can access opportunities via low carbon modes.

City Centre to BioQuarter and Beyond

8.13 Areas in South East Edinburgh including Craigmillar, Newcraighall and Sheriffhall, located on the proposed tram corridor are also within the top quintile of Scottish Index of Multiple Deprivation (SIMD). The corridor includes significant employers including NHS Lothian's Royal Infirmary.

8.14 The BioQuarter and Shawfair Strategic Development Areas are both located on the corridor, both of which are expected to increase population living and working in the area, resulting in additional travel demand.

8.15 The corridor also has significant scope for modal shift and reduction in car dependency to reduce emissions from transport. The improved connectivity and potentially quicker journey times that tram can provide could encourage more people to switch from car usage to public transport to help reduce carbon emissions within the corridor. This is particularly important in to support the scale of planned development and to ensure those in areas of higher deprivation can access opportunities via low carbon modes.

Role of Tram in Supporting a Greener Economy

8.16 Tram can support the transition to a low carbon future by:

- Encouraging modal shift from car to public transport for 'existing' journeys
- Supporting the growth of jobs in the Edinburgh city region. Supporting jobs growth in Edinburgh City Centre, West Edinburgh and the BioQuarter will support a more sustainable pattern of commuting in the future, whereby the propensity to travel by public transport overall, and tram specifically, is greater.
- Supporting more sustainable and higher-density development. Tram will serve several SDAs (described in Chapter 6) where high-density residential and commercial uses will be developed in place of (in general) lower density former industrial users. Higher density land use is associates with lower carbon per capita.

9 Conclusions and next steps

9.1 This Chapter summarises the key findings from this economic narrative and outlines the next steps. The document discusses the Economic Narrative and impact of the Edinburgh Tram project, focusing on its potential benefits and implications for the local economy, employment, population growth, and transportation infrastructure. It aims to articulate the need for transport investment to achieve economic objectives and outlines the scope of analysis, including impacts and mechanisms.

Conclusions

9.2 Key conclusions are:

- In terms of population and demographics, the Edinburgh and South East Scotland City Region has a population of nearly 1.4 million, with significant growth observed in East Lothian and Midlothian. Population and employment are project to continue growth in the city region, with strongest project growth in City of Edinburgh, East Lothian and West Lothian, and employment growth focussed in Midlothian, East Lothian and City of Edinburgh. Ensuring that transport infrastructure allows this increasing population to access opportunities, such as employment, education healthcare is vital. TGBB will help by enhancing transport infrastructure, making it easier for the growing population to access essential services.
- Considering employment and productivity, Edinburgh is the main employment hub in the South East Scotland region, with high employment density and productivity levels. The city has seen significant job growth, particularly in high-value sectors. At a regional level, this growth is expected to continue at a level of 2.7% by 2034, outpacing the national average of 1.2% over the same period. Increasing the tram network through TGBB will help facilitate easier commutes, reducing travel times, and increasing access to job opportunities.
- This population and employment growth is expected to be focussed within five Strategic Development Areas in Edinburgh, including Granton Waterfront, BioQuarter, and West Edinburgh, which are expected to see significant development and job creation. TGBB will connect these key areas, supporting significant development and job creation.
- Housing stock in the City Region has grown by 8.5% over the past decade, however, a housing emergency was declared in 2023 due to the pressures of housing costs and homelessness. In the region East Lothian has the highest median house price. TGBB will help people better access more affordable housing as well as the city centre.
- When deprivation is considered, levels vary, with West Lothian and Fife having higher proportions of residents in deprived areas, highlighting a need to ensure connections between these areas and the key opportunities. Within Edinburgh itself, communities ranked within the top 20% of SIMD are present in North Edinburgh and SE Edinburgh.

The City Region has a diverse population, with ethnic minorities making up 16.3% of the population. Improving transport connectivity can help address social exclusion and deprivation by providing better access to jobs, education, and healthcare, particularly in deprived areas. TGBB will help by bridging the gap between deprived areas and key opportunities, fostering social inclusion.

- The document considers the link between transport investment and economic performance. Transport investment can deliver a wide range of economic impacts, categorized into Level 1, Level 2 and Level 3 benefits, including direct transport benefits, wider economic benefits, and changes in the location of economic activity. The report provides evidence that these benefits would be expected through delivery of TGBB.
- TGBB supports the transition to a low-carbon future by encouraging modal shift to public transport and supporting sustainable land-use development, aligned with climate goals.

Next steps

9.3 This Economic Narrative articulates why the transport investment is needed to achieve the economic objectives for Edinburgh's TGBB and how it is expects to achieve these.

9.4 It will be used to inform the scope of the analysis in terms of the impacts to consider and the mechanisms through which these are expected to occur as well as being used as the evidence base for the assessment and quantification of Level 2 and 3 economic benefits.

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