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ADDITIONAL CIRCULATION

ABERDEEN
CITY COUNCIL

To: All Members of the Council

Town House,
ABERDEEN, 11 December 2015

COUNCIL

The undernoted items are circulated in connection with the meeting of the **COUNCIL** to be held here in the Town House on **WEDNESDAY, 16 DECEMBER 2015 at 10.30am**.

FRASER BELL
HEAD OF LEGAL AND DEMOCRATIC SERVICES

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ABERDEEN CITY COUNCIL

COMMITTEE	Full Council
DATE	16 December 2015
DIRECTOR	Angela Scott
TITLE OF REPORT	Regional Economic Strategy & City Region Deal Update
REPORT NUMBER	CHI/15/340
CHECKLIST COMPLETED	Yes

1. PURPOSE OF REPORT

The purpose of this report is to seek approval from Members of the new Regional Economic Strategy; and provide an update on progress on the Aberdeen City Region Deal

2. RECOMMENDATION(S)

It is recommended that the Council:

(i) approves the Regional Economic Strategy for the North East of Scotland, subject to:
   a. approval of the Strategy by Aberdeenshire Council; and
   b. a full Strategic Environmental Assessment (SEA) or Habitat Regulations Assessment (HRA) not being required.

and

(ii) notes the update on progress on the Aberdeen City Region Deal.

3. BACKGROUND

Aberdeen City and Aberdeenshire Council areas operate as a single and integrated economic geography. The relationship between the two administrative areas is well established as a result of strong economic linkages – across travel to work and learn areas; across business supply chains and key sectors of the region's economy.

It is one of the most prosperous regions in the UK. As a result it has attracted significant investment over many decades by business, workers, and students as people migrate to the area. It has consistently experienced above average rates of population growth,

business growth and enterprise growth compared to most major UK city regions, and the rest of Scotland.

However the region faces a number of challenges. The recent downturn in the global oil and gas sector and the effects of that in the wider regional, Scottish and UK economies, and the backdrop of severe cuts in public sector expenditure provide the context for the future development of the regional economy.

4. MAIN ISSUES

In response to these challenges, a new Regional Economic Strategy (RES) **"A 20-year vision for the Well-being of the Place and Our People"** has been drafted (Appendix 1 to this report). It provides a longer term plan for the economic development of the North East of Scotland to 2035.

Based on an analysis of economic data on the performance of the regional economy, and the challenges and opportunities the city region will face, two scenarios were reviewed:

i. A **'Museum Scenario'** – where there is a faster run down in the oil and gas sector that is exacerbated by a lack of investment in infrastructure, and retaining skills and expertise in the North East of Scotland. As a result, the region would see significantly higher unemployment and out-migration of people and business, and a physical deterioration of the city and towns; and

ii. A **'Renaissance Scenario'** – where economic recovery of the UK oil and gas resource is maximised and Aberdeen's long term international position is secured. Based on this, the region has broadened its economy into other sectors including energy (renewables), tourism, food, drink and agriculture, life sciences and the creative sector and significantly improved employment and income levels in our more deprived places, improved our city centre environment, and regenerated towns, ensuring the sustained economic performance is more evenly distributed.

As a result, a longer term vision for Aberdeen and Aberdeenshire has been developed up to 2035:

- Aberdeen City and Aberdeenshire will be known globally as a having a strategic advantage from oil and gas and related industries in the UK, Scotland and the region.

- In the short-term, we will have maximised economic recovery and stimulate exploration activity from the UKCS, underpinned by world-class innovation and technology development and improvements to our infrastructure.

- We will capitalise on our natural heritage and quality of life, and broaden our economic base by growing and developing our food

and drink, agriculture and fishing, tourism, life sciences, business, financial and professional services and creative industries.

- So that in the longer term, we will have sustained and secured the well-being of the city, region and its people, delivering a more balanced and resilient economy and achieved inclusive economic growth that will benefit all.

The Strategy provides a framework to deliver the overall vision. Four Programme Areas are proposed that reflect both the needs of the city region economy and the overall Economic Strategy for Scotland:

i. Investment in Infrastructure
ii. Innovation
iii. Inclusive Economic Growth
iv. Internationalisation

The Strategy proposes a 'sectoral approach' around four priority sectors that reflect the city region's competitive advantage in these sectors but also the consistently high performance and contribution to the Scottish and UK economies:

- Oil and Gas
- Food, drink and primary industries
- Tourism
- Life sciences

5. LEADERSHIP

The Strategy provides a framework for the new regional public-private sector economic partnership, Opportunity North East (ONE). The Council Leader represents the Council on this private sector-led economic leadership initiative.

A new Coordination Group comprising of representatives of ONE, the Council, Aberdeenshire Council, Scottish Enterprise, Skills Development Scotland, VisitScotland and other public agencies as appropriate will coordinate their contribution in support of the delivery of the Strategy, monitoring performance, as well as inputting to the respective Community Planning Partnerships in both Council areas.

The Strategy is also a key document in support of the development of a City Region Deal being led by the Council and Aberdeenshire Council.

6. THE CITY REGION DEAL

At a Special Council meeting to consider the City Region Deal in March 2015, it agreed to delegate authority to the Chief Executive, in consultation with the Leader of the Council to work in partnership with the Chief Executive of Aberdeenshire Council, to conduct direct negotiations with both the UK Government and the Scottish

Government over the submission and agreement of an Aberdeen City Region Deal.

Since then work has been undertaken by officers in both Councils, Scottish Enterprise and private and public sector partners to develop specific detail on the key City Region Deal themes of **Connectivity (transport and digital)**, **Innovation**, **Internationalisation** and **Housing**, aligning to the Regional Economic Strategy. In August 2015, the Head of Economic Development briefed Members on progress since March 2015, and the process of developing and refining a submission in confidence with stakeholders and advisers.

The development of the City Region Deal is an ongoing process of negotiation with the UK and Scottish Governments that requires a great deal of detailed technical and sensitive commercial and technical information to be submitted on an ongoing basis. Officers from both Councils will continue to provide the information needed to progress the negotiations.

At the same time as development of the proposals, promotion of the case for a City Region Deal has included a Parliamentary reception in Holyrood on 27 October, an Aberdeen and Grampian Chamber of Commerce breakfast on 17 November and the Robert Gordon University Economic Summit on 24-25 November. The Leader of the Council spoke at all these events on the case for a deal.

A website to keep the public and businesses informed on the City Region Deal was developed at www.abzdeal.com/ and a weekly new bulletin is also issued to anyone signing up for updates. www.abzdeal.com.

Officers will provide a further update on progress to Members in early in 2016.

7. NEXT STEPS

For development of the Regional Economic Strategy, officers will work with other partners to developed more detailed actions plans for each of the strategic actions. Following this, the Head of Economic Development will provide a report to the appropriate Committee outlining how the Council will contribute to the Strategy.

8. FINANCIAL IMPLICATIONS

There is no direct staffing or financial implications arising from this report. Staffing and financial implications may arise from subsequent service plans to support implementation of the Strategy.

9. OTHER IMPLICATIONS

As the Strategy is a new policy, under legislation, it may be required to undergo a Strategic Environmental Assessment (SEA) and a Habitats Regulations Assessment (HRA). Following this report, officers will undertake a screening that confirms if a these assessments (in the form of scoping reports) are required.

If they are, a draft of the Strategy will enter a period of statutory consultation, for at least an estimated six weeks, following which it will be finalised and have to be brought back to the Council for final approval.

However if the initial screening confirms the scoping report is not needed, the Strategy in Appendix 1 can be finalised.

Aberdeen City Council processes require completion of an equality impact assessment on committee papers. This is provided in Appendix 2.

6. IMPACT

Improving Customer Experience –

The Regional Strategy provides a framework for the Council to continue to work closely and collaborate with private sector and other stakeholders to secure the long-term economic wellbeing and prosperity of the city.

Improving Staff Experience –

The Strategy provides staff with a clear vision of the overall direction for the economy of the city region and the alignment of Council services to that. For the Council's Economic Development Service in particular it provides a strategic direction for delivery and resources.

Improving our use of Resources –

The focus provided by the Strategy will ensure effective and efficient use of resources that align to the overall economic priorities of the city, and help make the case for public funds to be used to lever in other public- and private investment.

Corporate -

The Council's participation in the new Board, collaborating with partners and stakeholders to support delivery of the Strategy, ensures that the Council maintains its key leadership role in the long term economic growth of the city and the region.

Public
The Strategy will have an impact on Aberdeen's citizens as it will focus

the some of the main areas of investment and development over the next 20 years. As such, and EHRIA has been completed and is attached (Appendix 2).

7. MANAGEMENT OF RISK

The Strategy will not expose the council to financial risk. As subsequent action plans are developed upon approval of the RES, officers will consider financial risk. As the City Region Deal negotiations progress, the Head of Finance will represent the Council on a Finance Modelling working group to ensure the Council is informed on the financial impacts on these proposals

The RES poses no risk to customers, citizens or stakeholders.

8. BACKGROUND PAPERS

Report No. CHI/15/131 Aberdeen City Region Deal - Special Council Meeting, 12th March 2015

Report no. OCE/14/030 City Deal Fund – Finance, Policy & Resources Committee, 19th June 2014.

Report no. CG/14/020 Request for Approval of Expenditure for External Support relating to the City Deal Fund, Finance, Policy & Resources Committee, 20th February 2014.

9. REPORT AUTHOR DETAILS

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REGIONAL ECONOMIC STRATEGY

Securing the future of the north east economy

A 20-year vision for the well-being of the place and our people






ABERDEEN CITY COUNCIL

ONE OPPORTUNITY NORTH EAST

Aberdeenshire COUNCIL

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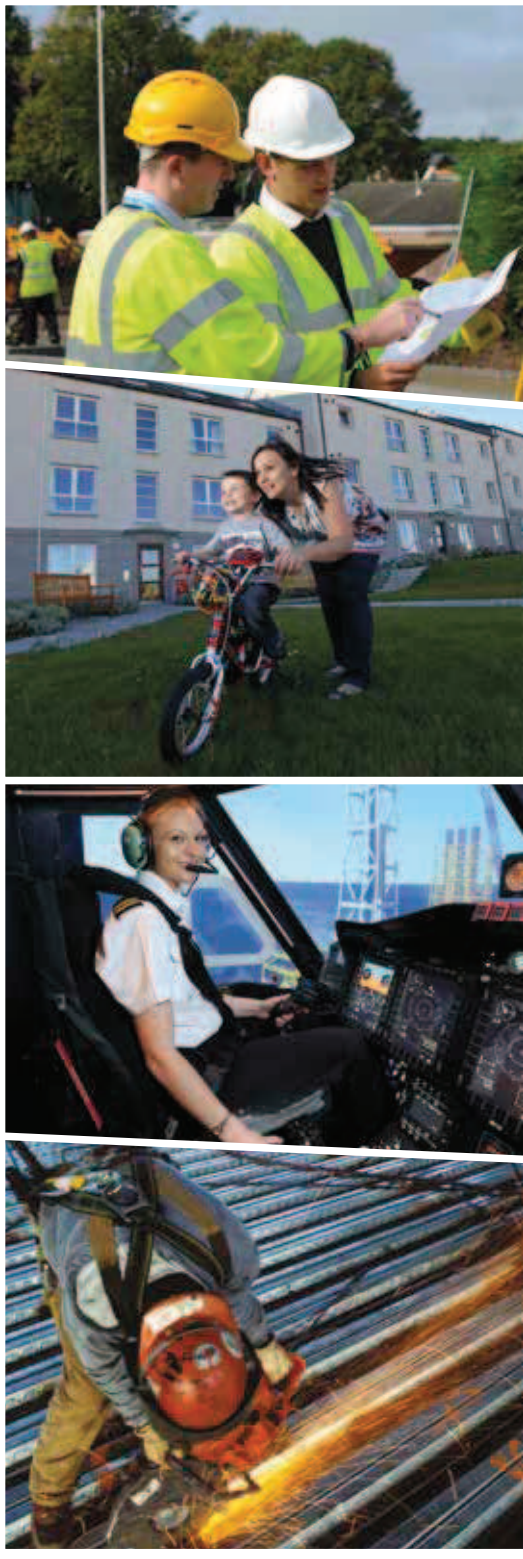


Foreword

This Strategy has been written at a challenging time for the economy of the North East of Scotland. The recent downturn in the oil and gas sector due to a downward trend in oil prices and cost pressures, the backdrop of cuts in public sector expenditure and recovery from the wider economic downturn provide context for our work.

However, the North East Region is a high performing regional economy. Our success has been driven largely by the opportunities in the oil and gas sector, and by a number of other strong-performing sectors, and significant investment by the private sector in these. However, the level of investment in the public infrastructure has struggled to keep pace with the demands being placed on it by a fast growing economy and industry investment.

Infrastructure is critical if the Aberdeen City and Aberdeenshire areas are to remain an internationally competitive business environment and are to secure a long term economic future - transport connectivity, information and communications technologies, business land and property and housing are key.

A key element of our Strategy is to invest in an infrastructure that caters for the needs of a high performing international city region economy and a growing rural hinterland – roads with capacity to cope with the demands of business; extensive air and sea links, digital connectivity to develop competitive business, and a competitive and accessible public transport system

We have a reputation as an international offshore oil and gas operations base. Using the expertise that has already been developed in sub-sea technology, our ambition is to become an internationally recognised offshore technology base achieving maximum economic recovery in priority areas of undeveloped small pool discoveries, well construction efficiency, integrity and inspection of assets and decommissioning. This represents a transition within the main industry sector in the north east very much in line with achieving Maximising Economic Recovery.

Similarly we want to capitalise on our existing strengths and support a broadening of our economy across other industries – within the energy sector itself, tourism, food, drink, fisheries and agriculture, creative industries and life sciences.

We are now at a point where we need to accelerate investment plans to help us realise these economic ambitions and create the best conditions for the private sector to invest. Working

with our universities, we will also transform our regional oil & gas innovation resources to a world class centre of excellence so that we secure international skills, expertise and investment, grow our export of high-value, internationally-demanded services, and in doing so, anchor supply chain activity in Scotland and the UK.

We have seen significant population growth over the last 40 years. Our economy, and the unique and distinct quality of life we have is fundamental to attracting talent and retaining skills here. As well as the investment in infrastructure, this Strategy provides a framework for transforming city centre living and regeneration, ensuring we remain a great place to live, visit and work and creating a new 'feel' to the region.

A new economic leadership group, Opportunity North East (ONE), reflects our 'triple helix' concept of productive relationships across all levels of government and their agencies, with industry, and with universities. It is in all of our interests to deliver this strategy and we will collaborate with business, public sector agencies and the third sector – all of us involved in the wellbeing of our place and our people.

ONE, led by the private sector, will develop new ways of investing in our long-term future, focused significantly on key industry sectors, combining the strengths of the private and public sectors. We will continue to work with the UK and Scottish governments to support our economic objectives to negotiate a City Region Deal that capitalises on an opportunity we have for a truly transformational impact on Aberdeen and Aberdeenshire for generations to come.

We will continue to work together towards realising our ambition and delivering what is rightly expected of us – that the North East remains a major economic driver of the Scotland and UK economies.

Councillor Jenny Laing	Sir Ian Wood	Councillor Richard Thomson
Leader	Chair	Co-Leader
Aberdeen City Council	Opportunity North East (ONE)	Aberdeenshire Council

December 2015

Introduction

This document provides a vision and strategy for the future of the North East of Scotland's economy. It will act jointly as an economic strategy for the region and ensure a long term commitment to a range of priorities and objectives across partner organisations to maintain and grow our economy.

There are four key strands: Investment in Infrastructure, Innovation, Inclusive Economic Growth and Internationalisation. Focusing on these areas, the Strategy outlines a long-term plan for investment to boost the economic development of the North East.

It is rooted in making the North East region a more attractive place in which to live, work and invest, along with building on the outstanding quality of life already enjoyed by those who live in this area as well as the workers who will continue to relocate here over the next 10-15 years. This strategy is closely aligned to current strategic and local development plans and transport strategy, and will provide a framework for these plans in future.

Economic activity in the region is already very high, principally based on North Sea oil and there are still significant opportunities to sustain and grow activity in both the short and longer term.

For the key sector of oil and gas, the immediate focus is on maximising economic recovery from remaining oil and gas reserves in the UK Continental Shelf. The strategy sets out to ensure that in the longer term, we identify ways to anchor expertise and activity here in the Aberdeen region post the North Sea while diversifying the economy through emerging opportunities in other sectors.

Key to this transition is the retention of the talent and transferable skills that currently exist within our businesses and educational institutions.

It is also important that expertise continues to be retained and developed within our schools, colleges and universities to encourage, grow and attract more world-leading innovation in this region.

Further investment in people and training will strengthen the workforce, create more jobs and contribute to the region's international competitiveness and sustainability.

Aberdeen and Aberdeenshire has established itself as a global player in oil and gas, with strong business links with established and emerging energy cities internationally.

The impact that North East businesses have made on international markets provides a solid foundation from which to leverage our global expertise into existing and new supply chains. There is, however, the need to significantly enhance Aberdeen's role as an Offshore Technology Capital alongside its very strong operations presence. This will make an important contribution to Maximising Economic Recovery (MER) UK.

The public sector, meanwhile, also has a vital role in helping to provide the best possible conditions to accommodate the current and future growth of the region – both in terms of prosperity and quality of life.

Investment in infrastructure is essential in areas like digital connectivity, affordable housing, significantly enhancing the city centre, regenerating our towns and reducing transport constraints. This will have results and benefits not only in the region, but throughout Scotland and the UK.

The Place

As one of the most prosperous UK and Scottish regions, and as a result of this and consequent population growth, the place has now reached a key stage in its economic history. There have been a number of constraints on accommodating this growth historically and in looking at the region's economic development, Aberdeen and Aberdeenshire needs to be a city region that competes with international city regions and not just with others in Scotland or the UK.

The North East of Scotland is a functional economic geography. Within this functioning economic geography, labour, business, housing and connectivity are key elements of the future success of the region. While the Aberdeen Housing Market Area (Aberdeen City and travel to work area in Aberdeenshire) is the focal point of much of the business activity, Aberdeenshire accommodates significant supply chain activity across energy, food, drink, fishing, agriculture and tourism. The strong relationship between the two council administrative areas is more established than in other regions as a result of these economic linkages.

Two leading research universities are located in the region and provide a highly skilled workforce in applied sciences, technology and engineering. In 2013 Aberdeen was ranked 4th among the UK's 63 largest cities in terms of the number of patents per 1,000 population. It is home to a variety of internationally significant research centres such as the National Subsea Research Institute, the Rowett, the Marine Lab and the James Hutton Institute.

As such, the 'supply-side' issues constraining place and international competitiveness must be addressed: improving the attractiveness of the city centre, providing good connectivity, investing in a renowned culture/arts offer and visitor attractions, and providing housing that is affordable for all.

The average house price in the region is around 30% more than the Scottish national average - £216,191 in Aberdeen and £224,805 in Aberdeenshire compared to the Scottish average price of £169,397. As well as the high cost of property ownership, private sector rentals in the area are the most expensive in Scotland an average of 34% above the Scottish average, with average rent in the Aberdeen Housing Market Area standing at £1,043, significantly above the national rent of £762.

The region, our people and business need to embrace the potential of the region and play a part in improving the quality of the place – if we fail to do so, it will deteriorate and decline.

This ambition in turn will improve the quality of life and retain and attract high quality human capital in the region and increase graduate/ research retention rates in the North East.

Due to the reliance on the oil and gas sector, the North East of Scotland, and the future place, is particularly affected by a number of global factors including the oil price, competing labour markets, transport connectivity and digital infrastructure.

Economic and Policy Environment

The North East of Scotland encompasses the local authority administrative areas of Aberdeen City and Aberdeenshire councils. It is already an economic powerhouse - the Energy Capital of Europe and the economic success story for Scotland and the UK. Aberdeen is the third largest city region in Scotland and home to 489,940 people. The region contributes substantially to both the Scottish and wider UK economy with GVA of £18bn and 284,000 jobs (2013), and it has consistently exceeded its own economic growth target of 2.5% per annum.

This has been achieved through a strong and entrepreneurial economic base, predominantly but not exclusively concentrated on the oil and gas sector.

Largely due to the revenues from the oil and gas industry, the region remains a significant contributor to the UK Exchequer. The top seven combined authorities for 'tax take per worker' last year were all in the South East of England. The Aberdeen City region is ranked eighth using this measure, which places the area above all the other Scottish city regions.

With a globally successful energy sector the region has built up knowledge and skills that are in demand across the world. The region has 415 oil and gas companies per 100,000 people, and it remains a key location for oil and gas investment. While the North Sea oil and gas sector dominates the regional economy, and accounts for much of its economic performance, there are other key industries which already contribute substantially, including the food and drink and agriculture sectors.

The figure below indicates the wide spread of employment by sector. While this indicates the large numbers of people directly employed in mining & quarrying (the category within which 'direct' oil and gas jobs would be accounted), a lot of the wider supply chain jobs in the sector are counted in the "professional, science and technical activities" category.

Employment in the North East of Scotland – By Sector

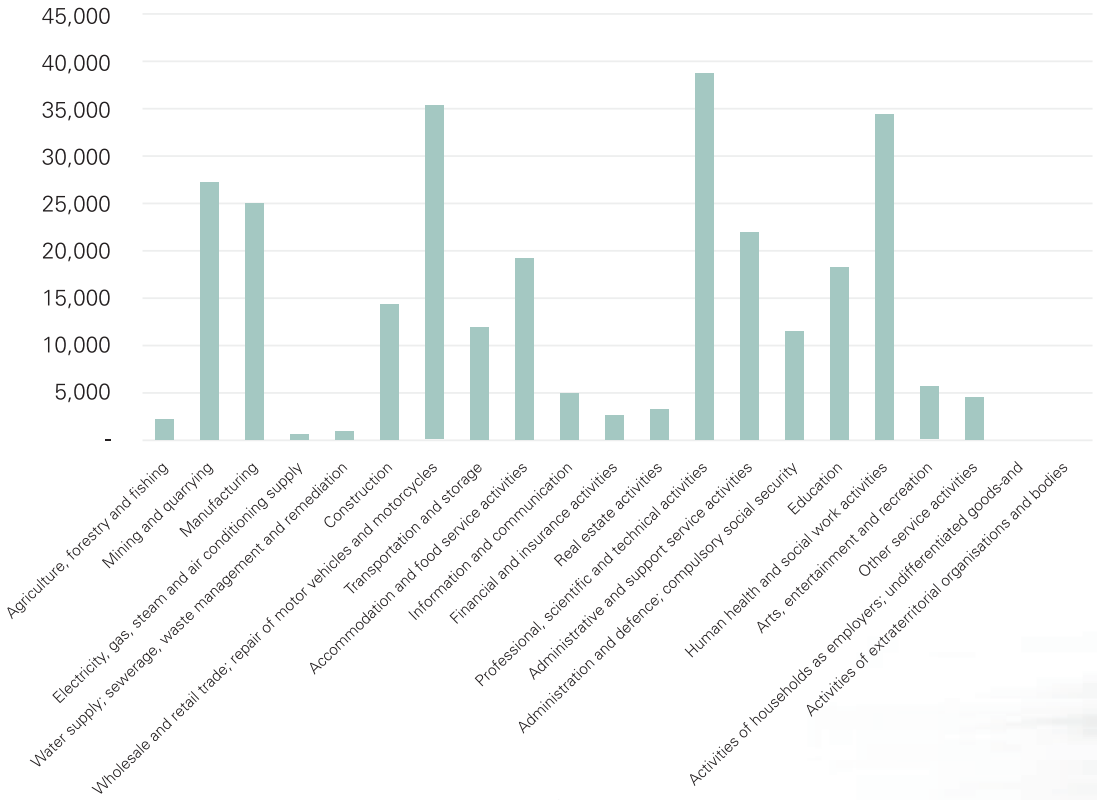


Table: How Our Economy Performs

Measure of Success	North East (Aberdeen City & Aberdeenshire)	Scotland	UK
Gross Value Added (per head)	£36,242	£21,982	£23,755
Population	489,490	5,347,600	64,596,700
Aberdeen relative to		9%	1%
2000-2014 Population Growth	11%	6%	10%
Economic Activity/Working population as %age of total population (2014)*	64.0%	61.8%	60.8%
Employment Rate (2013/14)	78.4%	72.5%	72.3%
Unemployment (2013/14)	4.7%	6.6%	6.6%
Business Starts (2013)	2,600	21,540	346,485
Business Survival Rates (2013) – 5 year	52%	44%	41%
Registered Enterprises – growth sectors (2014)**	13,165	74,440	
Registered Enterprises Growth (2008-14)	16%	4%	-1%
Population (2014)	489,490	5,347,600	64,596,752
WA Population (13/14)	313,200	3,392,000	40,235,700
Harbour Growth (2003-14, shipping movements)	31%	Data not available	-9%
Airport Growth (2003-14, passengers)	37%	Data not available	19%

Sources: *Nomis **Scottish Government – Scotland's Economic Strategy – Growth Sector statistics), ACSEF/ AGCC Databook

These data indicate that the economic contribution of the North East of Scotland is disproportionately large relative to the resident population of the region. As a result, GVA per head in 2015 (£36,242) was 65% above the average for Scotland. GVA growth has outstripped Scotland and the UK consistently in since 2008.

In recent years the region has experienced a tight labour market, due to the success of the oil and gas sector. The price of a barrel of brent crude has fallen significantly in the last year and that has led to job losses in the oil and gas sector. Historically, unemployment and inactivity rates have been significantly below Scottish and UK rates and the employment rate remains higher. However we have seen other sectors of the economy struggle to recruit and retain workers, and this has been particularly acute in public and health services.

Despite this economic success, 10% and 7% respectively of the Working Age Population in Aberdeen and Aberdeenshire's most deprived places are 'employment deprived'. While this is below the Scotland level (13%), in some multi-member ward areas, there is twice the rate of employment and income deprivation than the city average. In the 20% most deprived neighbourhoods in Aberdeen and Aberdeenshire, 20% and 15% respectively of the total population are 'income deprived' and 21% and 14% of the working age (aged 16-64) population are 'employment deprived' in the respective council areas.

In our least deprived places the corresponding rates are just under 2% and 3% in the respective areas. In the most deprived places, two-thirds of the number of people enter positive destinations compared to more affluent places, and there is significantly higher levels of crime and emergency hospital admissions.

Therefore sustaining economic growth while tackling inequality will be a major challenge for the North East. Just as this strategy is focused on maintaining the economic success to date, a key strand will be to provide those who are furthest removed from the local labour market opportunities with access to jobs and reduce the inequities between rich and poor.

Policy Context

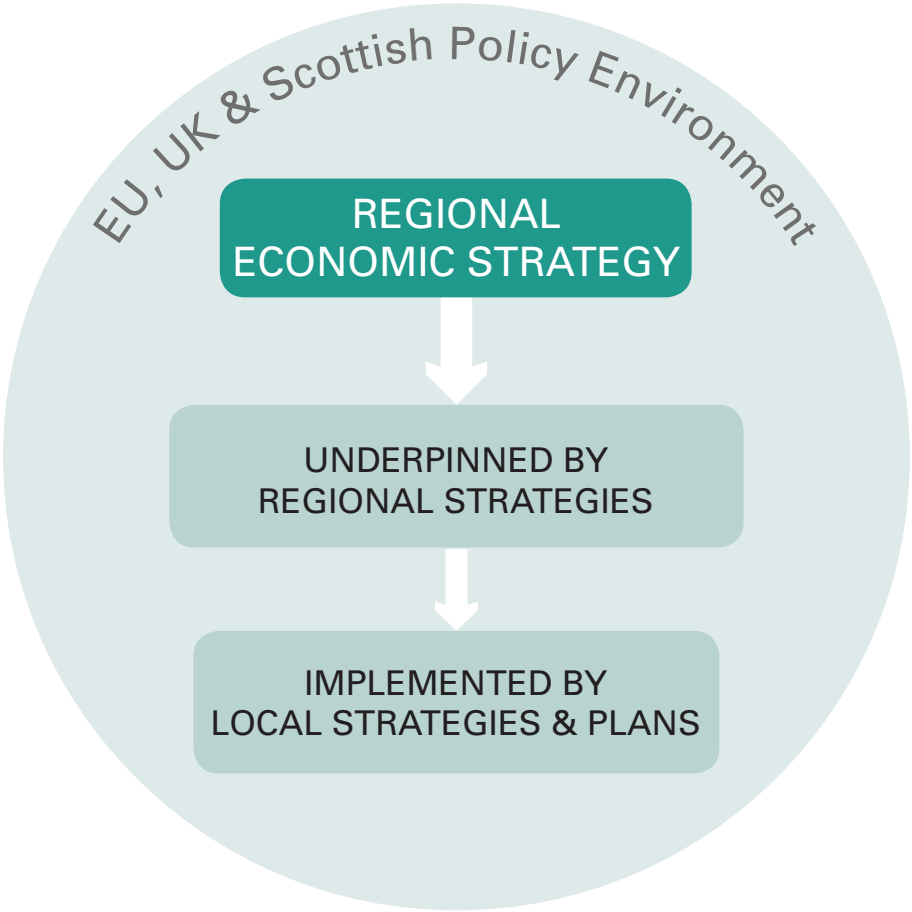
At the Scottish level, the Scottish Economic Strategy 2015 sets out a framework for the development of the Scottish economy, and Developing the Young Workforce and the International Strategy bring the economic development policy objectives together.

These national priorities are underpinned by a number of public sector plans, including a regional skills strategy, a regional transport strategy and sector strategies in food and drink and tourism, along with ambitions for City Centre and town centre regeneration. There are also development planning frameworks, as outlined in local development plans adopted by both councils and the Aberdeen City and Shire Strategic Development Plan.

In a wider context we need to ensure we mitigate against climate change emissions and adapt to impacts. There is an EU target of 20% of energy coming from renewable sources, including community and micro-renewable sources. The Scottish Government has a target of 100% of our electricity from renewables by 2020 and at least 11% of heat also coming from renewable sources.

In addition there are other relevant targets such as decarbonisation on road transport by 2050 (10% of transport fuel from renewables by 2020) and the Scottish Government's Low Carbon Economic Strategy is a key element of Scotland's Economic Strategy to secure sustainable economic growth.

Where the strategy sits



However, a major challenge for Scotland over the next decade is to improve the performance of the economy against a backdrop of continued reductions in public spending, continuing low oil prices and resulting declining North Sea activity. For the Aberdeen City region, this presents a number of fiscal challenges.

Despite the significant contribution to the UK Treasury, at an estimated £330bn in taxes since the 1970s, Aberdeen city region councils remain lower funded than other local authorities in Scotland across a number of 'per capita' measures. As a result, they have not been able to keep pace with the rapid growth in the economy and maintain the level of service provision and capital investment rightly expected in a globally competitive place and by people living, working and visiting the region.

With higher productivity levels, the Aberdeen City region generates a considerable level of employment tax and business rates and has delivered a consistently higher level of economic growth than elsewhere in Scotland. However, investment in public infrastructure has not kept pace with the rapid expansion of the region and increase in population.

Economic development delivery will be influenced by a number of policy drivers at national level including the further devolution of powers to Scotland. The Scotland Bill means the Scottish Parliament will have control over around £11bn of income tax revenues and responsibility over welfare benefits worth approximately £2.7 billion (by 2014-15 figures). More than 50% of the Scottish Parliament's budget will be funded from revenues raised in Scotland.

City Deals were put into effect by the Westminster government in 2010/11 as part of a strategy to rebalance the UK economy away from London. City Deals are premised on the notion that local authority leaders should have the tools and resources to make decisions around investments and services while taking on some risk. Consequently Aberdeen City Council and Aberdeenshire Council are currently developing a submission for a 'City Region Deal' that will seek to develop infrastructure, digital and housing plans in support of this strategy.

Key Sector Approach

This Regional Economic Strategy aims to capitalise on the foundations of our economy and focuses on developing activity in the sectors, diversifying within them and into new markets.

Oil & Gas

The UK Continental Shelf (UKCS) has benefitted from a wave of investment over many decades. This peaked at just under £15bn in 2013, and although the future is less certain due to changes in oil and gas prices, and the efficiency of production in a maturing basin, estimates of annual investment in the short term range between £4bn-£11bn. Sustaining investment during the downturn is crucial to maximising the recovery of the remaining reserves in the UK Continental Shelf and the financial value to the UK. Estimates vary from between 11bn and 22bn BOE (barrels of oil equivalent) over the next 30-40 years.

The UK supply chain, meanwhile, generated more than £39bn in sales in 2014, with £16bn to export markets. Currently it is estimated that the region supports around 370,000 jobs across the UK, with about one in four supported by the energy sector. The Scottish offshore Oil and Gas Industry Leadership Group (ILG) published an oil and gas strategy and significant progress has been made in its delivery. It highlights working with the industry to increase production efficiency in order to grow total supply chain and international sales further by 2020. Key to achieving this will be increased investment in research and development to maximise economic recovery and maintain our position as one of the world's leading centres of oil and gas expertise.

We are one of the world's leading centres of excellence initially in oil and gas exploration and field development, and now in the mature phase. The focus now is on developing smaller fields in less prospective regions, maximising the recovery from mature fields and looking at cost effective decommissioning, in this sense, Aberdeen City Region is the gateway to success in this sector for Scotland and the UK.

The success of our global supply chain will be reliant on extending the life of the UKCS and the subsequent economic impact for as long as possible while continuing to internationalise and export our expertise, innovation and technology.

The North East of Scotland has tremendous capacity for renewable energy generation but is constrained by energy storage issues and grid capacity. Further diversification into alternative energy technologies must be accelerated to complement work already being undertaken in hard to reach oil and gas reserves, hydrogen fuel cell supply chain opportunities, renewable energy and carbon capture and storage and decarbonising food production.

Decommissioning will become an increasingly significant market. Its overall value has been estimated at £46bn until 2040 and Oil and Gas UK report that over £1bn was spent last year in this area, the highest to date. Despite the recent downturn in oil prices, the aim is firstly to avoid premature cessation of production and extend field life whilst also ensuring that the decommissioning process is managed effectively and that the existing supply chain can capitalise on the value that decommissioning of projects will offer.

Although we want to avoid the risk of a 'domino' scenario where the early closure of a production facility leads to others linked to that facility closing before the end of their economic life it is clear that there will be increasing demand and opportunity for services related to decommissioning.

Food, drink and primary industries

The North East of Scotland Food & Drink sector (manufacturing, agriculture and fishing) is estimated to account for 10% of Scotland sector GVA and 14% of Scottish sector employment. The area maintains a strong production and processing base in traditional sectors such as agriculture, fisheries and forestry, underpinning significant growth in food and drink and supporting high levels of employment and GVA (Gross Value Added). Primary industries generated £2bn GVA in 2013.

Drawing upon high quality local produce from land and sea the region is home to over 3,150 food and drink processing companies, generating over £1bn in revenues and accounting for a quarter of Scotland's total food and drink exports including internationally recognised brands of whisky, beer, meat and fish products.

Extending to 518,000 ha, Aberdeenshire has been described as the largest contiguous block of arable land north of Yorkshire and is renowned for its high quality livestock and beef industry. The region produces 60% of Scotland's pigmeat. It also accounts for over 40% of Scotland's malting barley and oil seed rape and an increasing share of national soft fruit and vegetable production.

The region hosts two of Europe's largest fish landing ports – Peterhead and Fraserburgh. Landings in 2014 were valued at over £170m and £40m respectively. In turn this supports 78 seafood processing businesses in the region, including the UK's only fish canning factory and four other large scale value-adding companies generating a sectoral total of over 3,900 full time jobs - the region has overtaken Humberside as the most important centre for seafood processing in the UK.

At present, there are an estimated 16,000 jobs supported by the food and drink industry which is working to continue its expansion into new UK and international markets. Key to this is innovation and collaboration with the world-renowned local research bases at the University of Aberdeen, Robert Gordon University, the James Hutton Institute and the Rowett Institute.

At the Scottish level, the food and drink sector generated £14 billion turnover and employed around 118,000 people. The North East made a disproportionately large contribution to this, supporting 18% of employment and generating 17% of GVA despite being home to just 11% of the Scottish population. The success of the Scottish food and drink sector is therefore critically dependent on the success of the sector in the North East.

The North East of Scotland Food and Drink Strategy was developed and endorsed by industry in 2015, under which the sector will build on its strengths and focus on: expansion of non-local markets across the UK and export markets, collaboration with academia to innovate - particularly around nutrition and health - and to further develop links with local tourism and energy sectors to create additional benefits by having a distinctive food and drink proposition.

Tourism

Tourism is another key sector of our economy. The North East is home to 1,200 related companies and supports 20,000 jobs, around one in ten of Scottish tourism jobs. In 2014 1.48m tourists visited the region, with an estimated expenditure of over £400m.

The exceptional performance of the business tourism market has put substantial pressure on hotel capacity in the region. However, there has been an increase in the supply of accommodation in the last twelve months, with further developments in the pipeline.

The Aberdeen City and Shire Tourism Partnership Strategy aims to increase visitor spend from £340 million in 2013 to £440-510 million by 2020. Growing national and international leisure and business visitors presents a huge market to build on our immediately accessible and outstanding coastal and mountain scenery, including the Cairngorm National Park, historic, arts and cultural venues, outdoor activities and sports, events, and golf. Significant opportunities exist to grow the sector including converting business visitors to leisure visitors, extending overnight stays and capitalising on the direct flights to the rest of the UK and Europe.

A Tourism Strategy for the Region was developed and adopted in 2013. Delivery of the strategy is being led by the Aberdeen City and Shire Tourism Partnership and significant changes are due in 2016, with the creation of a combined Destination Management Organisation to deliver a new marketing strategy for the whole region.

Life Sciences

The North East of Scotland has a well-established life sciences sector which has the potentially to expand substantially. It supports more than 2,500 jobs in companies and academic research, and more than £160m in GVA.

The region is already home to a significant and world-class research base, incorporating the University of Aberdeen's Institute of Medical Sciences and Rowett Institute of Nutrition and Health, The Robert Gordon University School of Pharmacy and Life Sciences and NHS Grampian. 80% of the companies undertaking therapeutics in the advanced stages of clinical trials in Scotland are also located here.

A total of 22% of Scottish employment in biotechnology R&D is in the region and the cluster has attracted research funding of almost £250million in recent years in the areas of medicine, health and biological and food sciences.

Building on this specialism, a key focus for the future is a £40m investment in the expansion of the existing biopharmaceutical hub on the Foresterhill site in Aberdeen, which could facilitate the creation and commercialisation of more new products.

Our Challenges

The competitive advantage of the North East of Scotland is a result of the exceptional rapid growth and economic success over the last 30-40 years with a high level of jobs created and wealth generated for businesses and the UK Exchequer.

This rapid growth has put significant pressure on public services and local housing and transport infrastructure. Public investment in these areas has not kept pace with the demands placed on it due to the growth in the private sector, resulting in constraints on the supply of affordable housing and relatively poor transport links and ICT infrastructure and services compared with other cities in Scotland, the UK and, international city regions and energy capitals. The high cost of living here, and a lack of affordable housing, and particularly for key workers such as teachers, police officers and NHS staff, acts as a deterrent to remaining in or moving to the region.

The 2014 Regional Skills Assessment by SDS identifies a need to increase the number and supply of people with teaching and health/ social care skills and in public service delivery which will support us in meeting known and predicted demand in the medium term. These problems mean that the North East of Scotland struggles to attract talent and retain the required skills base and expertise that other energy cities including Houston, Calgary and Stavanger are also competing for. As oil prices have declined, it is crucial the downturn does not trigger a 'domino effect' as people and businesses, and the wider supply chain, consider relocation in the next 5-10 years.

The reality here is that the public sector, including both Councils and NHS Grampian, have over the last few years been unable to recruit and retain sufficient numbers of people to cover high levels of vacancies in teaching, registered staff groups (nursing, allied health professionals, social workers), key medical, carer and social work posts, as well as ancillary roles and in the administrative and management functions.

The implications are that not only is the delivery of essential local services compromised, but our 'investor readiness' is also undermined as attractiveness of the place is reduced to businesses, investors, employers and relocating families.

Summary of the Strengths, Weaknesses, Opportunities & Threats for the North East

	Positive	Negative
	INTERNAL TO THE REGIONAL ECONOMY	
Strengths	• A strong skill set in applied sciences, technology and engineering • Two strong research universities • Up to the current oil price downturn, a prosperous and growing economy with low unemployment • Global excellence and cluster in energy including world-leading subsea expertise, drilling and offshore technologies • Other leading economic sectors such as life sciences, food and drink, and tourism • A dynamic, innovative and enterprising private sector with a strong export focus • A strong private sector voice and motivation to develop the region • Excellent quality of life, environment and some attractions • Strong economic contributor to Scotland/UK • High number of registered businesses and start-ups • Agriculture and primary industries (malting, brewing, distilling etc) • Student Population	**Weaknesses** • Economic dominance of the oil and gas sector and difficulty in attracting skilled workers in other sectors • A historic deficit in infrastructure • Poor connectivity to markets • Inadequate digital infrastructure and high cost of connections • Prohibitively high cost of housing and lack of affordable housing • High cost of doing business in the city and beyond • Lack of awareness outside the area of the opportunities and quality of life on offer • Vibrancy and image of city centre and some towns make it harder to attract people to live and work here
Opportunities	• A strong private sector voice and motivation to develop the region • New technologies and tradable services will come out of expertise in harsh subsea environments • Up to 22bn barrels of oil equivalent potentially recoverable in the UK Continental Shelf • Global future for oil and gas exploration and production and decommissioning • Potential job growth in wind, wave and tidal, biomass, geothermal, hydro and photovoltaic energy generation and low carbon technologies • Developing world leading technology centres of excellence in oil and gas and expertise in energy and energy-related disciplines • Further growing our exports/internationalisation • Planned investment (e.g. new conference centre, Aberdeen harbour development, new major by-pass) • Realising the potential of the Aberdeen city centre (masterplan delivery) and Peterhead, Fraserburgh, Banff and Macduff regeneration • Investment via City Region Deal • Growth in Food, Drink & Agriculture, Life Sciences and International & national Tourism • Growth in key sectors, finance and business services and creative industries • Realising the potential of Energetica • Growth of alternative energy and other emerging technologies • Shortening journey times in and out of region	**Threats** • Population – critical mass • High operating costs in the North Sea basin • Skills, expertise and employment leaving the region as UKCS production declines in longer term • Perceptions of remoteness • Failure to embrace and deliver Wood Review recommendations • Cost and availability of housing contributes to labour shortages • Intense global competition from other energy cities • Other locations innovating in new and growing sectors as we focus on oil and gas • Costs of providing health & social care • Ageing population trends • Poor digital connectivity • Stranded assets from global repositioning of oil and gas exploration in order to reduce climate risks • Flood risk of critical national infrastructure and inability to deliver services to customers as a result of extreme weather events • Reduction in access to EU funding for primary industries
	EXTERNAL TO THE REGIONAL ECONOMY	
	Positive	**Negative**

We are now faced with an opportunity to consolidate and grow the economic success that the North East of Scotland has delivered over recent decades and to change how the region functions in the decades ahead. Alongside this, there is the opportunity to contribute significantly to the UK and Scottish Economy by maximising the potential of Offshore Oil & Gas Technology Centre opportunities and the recovery of our oil and gas reserves.

Our economic planning is based on two scenarios:

The Museum Scenario

Under this scenario there is a faster run down in the oil and gas sector. We will only recover towards the 11 billion boe lower estimate with significant implications for the UK economy balance of payments through a failure to discover and produce new fields and recover UKCS reserves, and a domino effect as Aberdeen's international base status and global profile deteriorates. Divestment from oil and gas is accelerated as existing estimates of reserves are stranded. This is exacerbated by a lack of investment in infrastructure to both enhance the competitiveness of our key economic sectors and R&D but also facilitate diversification into new areas and retain skills and expertise in the North East of Scotland. As a result, the region will experience significantly higher unemployment and out-migration of people and business, and experience a physical deterioration of our city and towns.

The Renaissance Scenario

Under this scenario, the region has maximised the economic recovery of the UK resource, extending North Sea and Atlantic oil production and secured Aberdeen's long term international position as an oil and gas centre for technology development and global operations.

Collaborative and innovative investment will help develop the region's infrastructure and housing capacity to attract a broader labour supply. The region becomes an even more appealing place, attracting international business and expertise, and maintains and enhances its economic impact on the Scottish and UK economies.

The region has broadened its economy. Having secured the transfer of knowledge, intellectual assets and expertise into other sectors including energy (renewables), tourism, food, drink and agriculture, life sciences and the creative sector, and retained the global talent in the North East, we are more resilient to the shocks from oil and gas.

At the same time we have significantly improved employment and income levels in more deprived places in the region, improved our city centre environment, and regenerated towns, ensuring sustained economic performance is more evenly distributed.

> This Strategy focuses on continuing the development of the region as an Energy Capital of Europe, and a plan to prevent a museum scenario and a significant loss of jobs to Scotland and the UK in 30-40 years. Our vision seeks to maximise the opportunities from the renaissance scenario and outlines our plans to sustain, diversify and grow our regional economic base and achieve an equitable distribution of economic success.

Our Vision

Based on the evidence from the previous analysis, this Strategy will provide a plan for investment in the economic development of the Aberdeen area up to 2035. Our vision is that:

Aberdeen City and Aberdeenshire will be known globally as having a strategic advantage from oil and gas and related industries in the UK, Scotland and the region.

In the short-term, we will have maximised economic recovery and stimulated exploration activity in the UKCS, underpinned by world-class innovation and technology development and improvements to our infrastructure.

We will capitalise on our natural heritage and quality of life, and broaden our economic base by growing and developing our food and drink, agriculture and fishing, tourism, life sciences, business, financial and professional services, creative industries and new energy technologies.

So that in the longer term, we will have sustained and secured the well-being of the city, region and its people, delivering a more balanced and resilient economy and achieved inclusive economic growth that benefits all.



Key Programmes – Achieving our Vision

The strategy is not just the economic strategy for the region, it is a 20-year plan to deliver a range of activities that maintain and grow our economy. There are four programme areas under which we have developed a number of key interventions:

A. Investment in Infrastructure
B. Innovation
C. Inclusive Economic Growth
D. Internationalisation

A. Investment in Infrastructure –

The North East of Scotland is a robust and resilient economy providing a vibrant built environment and attractive place for residents, students, business and tourists

Current Position

The economic success story of the North East of Scotland has occurred despite declining physical infrastructure. Transportation and digital connectivity, as well as utilities infrastructure, all have a major bearing on our future international competitiveness.

The oil and gas industry consistently reports that if it is to overcome problems of operating in a mature basin in a very high cost environment, and to compete internationally in a period of declining oil prices, solutions to these infrastructure challenges need to be prioritised.

This is compounded by the above-average population and business growth, and the resulting traffic flows – on road/ rail, through Aberdeen International Airport and at Aberdeen and Peterhead Harbours.

Simply put, the future economic development of the region depends on investment in infrastructure – it is critical to attract inward investment and recruit and retain talent in an increasingly competitive and internationally mobile labour market.

While some progress has been made (such as the construction of the Aberdeen Western Peripheral Route), better road, rail, sea and air connections across the region are needed to improve accessibility and reduce congestion. Upgrades in these areas would also impact significantly on the cost of doing business in the area, as would a vastly improved and competitive ICT infrastructure fit for 21st century economic development.

In its 2015 Cities Factbook, the Centre for Cities ranks 63 UK cities across a number of performance measures including digital connectivity. Looking at the proportion of postcodes with superfast broadband access, at 55%, the Aberdeen city region is ranked 61st. The productivity of our key sectors and businesses is influenced by digital connectivity both on and offshore and it is crucial that this infrastructure is also overhauled.

Improvements here will also help to attract people to live and work in the North East of Scotland and incentivise those who are based here for educational purposes to remain. Around Aberdeen International Airport, a new link road between the A96/AWPR and the access to the airport is under construction with completion currently projected for the autumn of 2016. This three lane dual carriageway will improve access to the airport and will be complement with the construction of a new 1,000 space Park and Choose facility supporting sustainable transport movements on this strategic development corridor which links Aberdeen to Inverness on this trunk route.

Investment in infrastructure will also help to solve other issues that are constraining economic development. If we are to free up the required housing and business land, investment in the regional utilities infrastructure - and in particular water, gas and electricity supply has to be a priority.

Aberdeen City Council through its Strategic Infrastructure Plan, and Aberdeenshire Council through its Capital Programmes have prioritised affordable housing, digital and transport connectivity infrastructure improvements and regeneration.

Our Objectives:

- To regenerate our city centre and towns to become vibrant and attractive places to live, work and invest in;
- To unlock development potential and connectivity to international markets and allow the UK to maximise economic recovery while improving quality of life and attracting and retaining talent in the region;
- To develop infrastructure for commuter, visitor and freight transportation – nationally and internationally;
- To improve deployment of low carbon transport in the city and urban areas, through active travel networks;
- To modernise our utilities infrastructure to support the economic growth ambitions;
- To provide business and public sector organisations with a level playing field in current and next generation information and communications technology;
- To improve access to/ around Aberdeen International Airport;
- To enable Aberdeen to realise the development opportunities in the City Centre Masterplan and beyond
- To regenerate our northern towns and overcome rural peripherality.

In response, we will:

i. Submit a City Region Deal to the UK and Scottish Governments to fast track development of infrastructure	**ii.** Develop an Investment Plan that looks at how alternative financial models which can be used to invest in/deliver regional priorities of housing, broadband, etc.
iii. Form a Strategic Utilities Group that coordinates and plans investment in the region's utilities infrastructure	**iv.** Informed by assessment of 'cross-city connections', prioritise development of those transport and other intervention areas in the Aberdeen City Centre Masterplan that deliver the biggest economic impact
v. Develop a plan to incentivise bringing underused space above shops and long term empty retail units into residential use in our town centres	**vi.** Prioritise the feasibility and appraisal of A96 Corridor Improvements and other key arteries
vii. Regeneration of a 2Ha in East Tullos exploring delivery of a potential £150m energy from waste facility in 2021 to supports low carbon power targets and development of new process industries in the region.	**viii.** Ensure all procurement includes supplier engagement activity so that our businesses are aware of all potential opportunities to tender for projects
ix. Support the findings of the A90 all-modes transport study and develop proposals to improve transport connections between Aberdeen, Peterhead and Fraserburgh	**x.** Ensure that there is land and infrastructure available to support and grow decommissioning and Carbon Capture and Storage industries
xi. Work with the new EU & National Funding programmes to access opportunities under its Low Carbon Infrastructure Transition Programme to increase the level of renewable energy infrastructure	**xii.** Secure significant improvements in the city's green / active travel (walking, cycling) network
xiii. Implement the Regeneration Strategy for the four Northern towns of Aberdeenshire – Fraserburgh, Peterhead, Banff and Macduff	**xiv.** Ensure businesses in the region have access to a variety of immediately available and affordable premises (commercial, industrial sites, incubation) and new use of existing brownfield

B. Innovation –
The North East of Scotland has a reputation for enterprise, innovation and world class solutions

Current Position

The region's success in oil and gas has relied on world-class innovation. The UKCS is one of the most mature offshore basins in the world, and, as such, is at the frontier of new techniques in production in challenging subsea environments. Regardless of the recent downturn in oil prices, operators and suppliers face continuing challenges as pools are generally smaller, and more expensive to explore and produce from. But as new discoveries are made and exploration has extended the life of the UKCS, it is important that the region provides the best onshore facilities and support for the development of these skills.

The status quo is not an option as North Sea fields mature, with investment required to maximise the economic recovery of remaining reserves and consolidate the North East Region as a global centre of expertise in oil and gas. The region must plan in the long term for reduced production from the UKCS and the impact on our domestic supply chain. In the short-medium term we must continue to develop and grow our sales in our international markets.

R&D, development of advanced technologies and the supporting innovation infrastructure within industry and the two universities will underpin the potential of exploration, development and production, the future decommissioning market, and the international export of these skills and expertise.

Building on our expertise in energy technology, a significant opportunity exists for the North East of Scotland to become a leading European region in the early deployment of hydrogen fuel cell vehicles, as well as becoming the hub for hydrogen technologies in Scotland. Today the city boasts Europe's largest fuel cell bus fleet and Scotland's first facility for hydrogen production and has developed a regional strategy to support these activities, in line with national low carbon economy.

The availability of people with advanced skills that support innovation is an important asset from which to pursue our economic priorities – the two universities and the North East of Scotland College will support the innovation agenda through the continuing development, on a demand-led basis, of courses and programmes that strengthen the capacity for high value R&D and the creation and retention of skills-intensive jobs.

Our Objectives:

- To develop the technology essential to achieve MER;
- To access the maximum estimate of 22bn boe recovery through MER in the UKCS;
- To enhance the transformation of our position as a major offshore operations centre in oil and gas to an international innovation and technology base;
- To accelerate this transition to a more balanced economy by maximising new technologies and growing clusters within oil and gas industry (for example, small pool development, well construction, asset integrity and decommissioning), the wider energy sector, and also food, drink and agriculture, health and life sciences;
- To provide the R&D infrastructure to support development of these advanced technologies and innovation in other sectors by strengthening the interaction between research and business;
- To maximise the potential of hydrogen, energy from waste and other renewables technologies to develop a medium-long terms demand for the transferable skills in the oil and gas sector;
- To provide business and innovation support to entrepreneurs/ business start-ups and existing businesses, and support access to capital;
- To increase the diversity of funding options through an increase in accessibility of international investment (eg, Venture Capital, loans funds, 'business angel').

In response, we will:

i. Deliver an Oil and Gas Technology Centre to address the technical challenges and extends the life of the UKCS by strengthening interaction between the research and innovation players and business	**ii.** Develop an Oil & Gas Energy & Learning Teaching Centre of Expertise
iii. Develop the existing Biopharmaceutical Hub that would provide R&D infrastructure for creation and commercialisation of products	**iv.** Develop an Agri Food & Innovation Hub that provides R&D infrastructure and expertise for regional primary producers, processors and manufacturers
v. Develop a Big Data Science Lab devoted to complex research to support industrial and government decision making	**vi.** Provide access to finance through the SE Innovation Support, Business Angel Venture Capital and/ or Scottish Local Authorities Loan Fund in Aberdeen City and Aberdeenshire.
vii. Deliver the supply chain development activities in the Renewables/Hydrogen Action Plan and its focus on developing these emerging fuel cell technologies	**viii.** Deliver Aberdeen's Sustainable Energy Action Plan (commitment to reduce emissions and promote alternative energy technologies through regional collaboration with and across all sectors) and extend to Aberdeenshire, Moray and Angus

C. Inclusive Economic Growth –
A skilled workforce for the future that provides opportunities for all our people and a skills system that delivers the economic vision for the North East of Scotland. Barriers to employability and jobs are lowered

Current Position

The North East of Scotland has consistently performed above Scottish and UK levels of economic growth, working-age population growth and wages. It has the greatest projected growth of Scotland's strategic development plan areas with a forecast 35% increase in households to 2035. While the high wages and salaries on offer in the oil and gas sector have attracted people into the region, this has caused recruitment challenges in other sectors, while a lack of affordable housing and income inequalities has led to people living away from key employment centres in the city and larger towns. This in itself puts further pressure on local transport networks, and compromises the vibrancy of our urban centres. At the same time, the spine of the regional economy, the global supply chains around oil and gas, food and drink and agriculture, the attractiveness of our universities to students and researchers and non-business tourism growth all rely on that vibrant environment.

Access to housing has meant that certain groups of people have been unable to benefit from the region's economic success, and for those in lower paid careers it is not an attractive proposition. This is compounded by pockets of employment and income deprivation across the region with some communities becoming removed from accessing jobs.

Our Objectives:

- To develop the people and skills necessary to deliver the economic development of the region and as a result to support diversification of businesses and economy;
- To ensure that the North East of Scotland is a great place to be – as a visitor, worker, entrepreneur or resident;
- To significantly improve the city centre and enhance leisure and recreation facilities and regenerate our towns and communities, ensuring a vibrant rural economy;
- To attract the best possible range of incoming exhibitions and showcase the city and region's internationally recognised arts and culture offer.
- To invest in our workforce, particularly our young people, develop our future workforce and ensure all of our people benefit from economic activity
- To ensure there is access for all employers to qualified labour;
- To maximise growth opportunities that capitalise on outstanding assets in golf; nature, culture and heritage and support growth of our indigenous industries;
- To ensure housing that is affordable, across markets, is widely available, and in particular to support vital key workers in the education, care and health sectors;
- To empower communities to help themselves by working with the Third Sector.

In response, we will:

i. Develop a regional housing strategy and action plan that matches demand to supply of housing and different pricing mechanisms	**ii.** Consider viability of expanding Places for People a joint venture model to deliver 'private rented sector' homes regionally
iii. Implement Developing the Young Workforce - working with training providers, schools, colleges, universities and business, strengthening vocational skills attainment levels and encouraging more apprenticeships	**iv.** Address skills shortages in key sectors including public services and health sectors as identified in the Regional Skills Strategy
v. By investing in our schools, we are investing in the region's economic growth delivering high attainment levels and positive destinations for our young people and providing a future supply of skills for employers, inward investors and future entrepreneurs	**vi.** Working with the Employers Training Forum, embed the use of targeted recruitment and training clauses in our procurement strategies to ensure those areas with higher levels of economic inactivity can access skills/ training opportunities from public sector investments
vii. Deliver £2.2m ESF Employability Pipeline Project to increase economic activity through training and work experience placement	**viii.** Increase the take up of SE support to businesses and grow the number of account managed companies based in the region
ix. Delivery of Business Gateway to provide business start-up and development support, that is available to all businesses (including social enterprise in key health and social care sector)	**x.** Support the implementation of the 2015 North East Fish Processing Study to safeguard fisheries sectors as a landing and processing hub for the UK
xi. Support implementation of key actions from the emerging/ existing industry-led sector strategies for oil & gas, food & drink, tourism and life sciences	**xii.** Support the promotion and marketing of the place through the emerging proposals for a regional DMO
xiii. Develop an iconic tourism attractions to capitalise on non-business tourism and leisure markets and stimulates diverse culture, creative offerings of a national and international standard	**xiv.** Develop and implement the Regeneration Plans for Tillydrone, Middlefield, Northfield and Torry (in Aberdeen City), and the towns of Peterhead, Fraserburgh, Macduff and Banff to support inclusion, sustainability and entrepreneurship, building on the Sistema Programme
xv. Deliver a £30m refurbishment of Aberdeen Art Gallery in 2017	**xvi.** Lobby for and access EU structural funds and ensure delivery of the LEADER and European Fisheries Fund local development projects, including fish processing
xvii. Continue to support the development of the Energetica corridor as a location to invest, work, and live in	**xviii.** Help communities to support themselves by developing successful community enterprise and not for profit companies

D. Internationalisation –
The North East of Scotland is a location of choice for investment, high value business activity and skills

Current Position

Internationalisation supports growth, innovation and productivity and is a key characteristic of successful regional economies. Internationalisation is already at the heart of the Aberdeen City Region, and is actually a driving force for the internationalisation strategy for the whole of Scotland. It has a long and successful history of exporting goods, expertise and talented people as well as being the home for large scale and sustained investment in sectors such as food and drink and oil and gas and energy. We want to build on our track record as one of the most international regions in the UK.

There is an estimated 1.2 trillion boe to be developed across the world in the next 20 years which provides a continuing opportunity for export-oriented growth in the sector. By anchoring an international supply chain in Aberdeen and the North East of Scotland, as North Sea oil winds down, our role as an international oil base continues.

Capitalising on this solid foundation remains a key priority and at the same time we aim to significantly build up our reputation as an internationally-attractive oil and gas technology base. As well as trade in goods and services, our ambition is to expand collaborative international activity in research and development and innovation and supporting skills.

This Strategy highlights the importance of maintaining these global connections and growing the trade and investment links to those countries and regions that provide meaningful benefits to businesses operating in key sectors of the North East economy. The aspiration to broaden the economic base, and transition the economy into new areas and markets is predicated on maintaining success in international markets and identifying new trade opportunities so that the region retains its international competitiveness.

Our Objectives:

- To improve the attractiveness for international trade and investment;
- To attract global talent to support the growing research in our universities and research institutes and attract international students;
- To support companies in the oil and gas supply chain to internationalise in key global markets;
- To support companies in all key sectors to identify market opportunities and develop products and services to grow sales in international markets;
- To collaborate with UK and Scottish agencies and business in prioritising international business support ensuring that businesses benefit from international trade and investment opportunities;
- To strengthen the region's network of international relationships and partnerships to attract EU funds in areas of research and policy that support economic growth.

In response, we will:

i. Support the development of our ports and harbours (Aberdeen, Peterhead, Fraserburgh and Macduff) and the Aberdeen Harbour expansion	**ii.** Work with Aberdeen International Airport in supporting its development plans
iii. Support NESTG (North East of Scotland Trade Group) to develop and enhance international trade and investment support	**iv.** Develop an International Events Strategy for the region targeting international, UK and regional events and support
v. Explore feasibility of securing a UKTI/ SDI Oil and Gas presence in the region	**vi.** Maximise the opportunity from Offshore Europe 2017 and 2019 and develop a programme of ancillary activity that broadens the appeal of the region to a global audience
vii. Provide internationalisation support to businesses in existing priority and new markets linking existing innovation and R&D capability, in both the private sector and academia	**viii.** Support the promotion and marketing of the place through the emerging proposals for a regional DMO
ix. Promote the 'investor readiness' of the region to international institutional investors/ sovereign wealth funds	**x.** Develop the £330m new Aberdeen Exhibition and Conference Centre to anchor existing international events and compete nationally and internationally for new events
xi. Lobby and participate in key international, EU and national networks that can support delivery of our economic priorities	

Leadership

Successful delivery of the Regional Economic Strategy can only be assured if each of the elements of the strategy are implemented, and in a coordinated way. This will require strong, effective leadership and governance across the public and private sectors.

Aberdeen City Council and Aberdeenshire Council will work with Opportunity North East (ONE), a new private sector led economic leadership initiative, and Scottish Enterprise to develop and update this strategy and implement growth in ONE's four sector initiatives – oil & gas; food, drink and agriculture; life sciences and tourism (providing funding and support for the new Aberdeen and Aberdeenshire DMO). ONE will also act as the Regional Advisory Board and Economic Forum for Aberdeen City Council, Aberdeenshire Council and Scottish Enterprise.

A new Coordination Group comprising representatives of Aberdeen City Council, Aberdeenshire Council, ONE, SE, Skills Development Scotland, VisitScotland and other public and third sector agencies as appropriate will coordinate the communications, action plans and resources in support of the delivery of this economic strategy, as well as inputting to the respective Community Planning Partnerships in both Council areas.

This Group will also monitor progress towards the strategy objectives as follows:

- Tracking the performance of the North East of Scotland economy against the benchmark outcome measures used by the Scottish Government and SLAED (Scottish Local Authorities Economic Development).
- Tracking the performance of activities and projects against appropriate output and intermediate outcome measures used by SLAED and the public sector partners.
- Consulting with businesses and industry groups on the impact of changes to the economy and gauging how these are affecting business.

Next Steps

Our next steps are to develop Action Plans to deliver each of the Programme Area objectives highlighting the organisations and partnerships contributing to delivery – the stakeholders, enabling organisations, timescale, with clear measures and target output and outcome measures.

Measuring Our Performance

Aberdeen City Council will accommodate a 'regional observatory' that will act as a resource for the North East of Scotland to provide up-to-date evidence to inform both delivery and decision-making. This will be a partnership resource to develop a dashboard to monitor performance of the City and regional economy and the impact of the interventions being delivered through this Strategy. Indicative measures are provided below.

Programme Area	Measure
Investment in Infrastructure	- Supply of available employment land - House building starts/completions - Travel – journey times/modal shift - Air/Shipping/ Rail movements - Commuting flows - Population change, age distribution, migration flows - Green space (% of urban greenspace) - Flooding impact - Air quality - Waste (landfill, recycling, energy from waste) - Carbon emissions
Innovation	- Business Stock levels - Business Start Up Levels (birth & survival) - Business Gateway Start Up and Growth data - Business Expenditure on R&D - 'Centre of Excellence Specialisms' eg OGTC - Key sector jobs, Turnover, GVA - Educational attainment rates - Vocational qualification attainment rates - Patent registrations - Sector Turnover and exports - SE Account Managed Companies
Inclusive Economic Growth	- GVA/ per fte - Regional employment rate - Employment by sector - Average Wages - Qualification Profiles of the Workforce - School Leaver Destination data - Student FE/HE numbers - Unemployment – LFS; JSA (and youth and target groups) - Graduate retention in emerging/desired sectors - Reduction in pay gap between richest and poorest/% increase in people paid living wage (income and employment deprivation) - Life expectancy rates and gaps - Housing affordability – purchase and rental prices - Commercial rents/occupancy - Rate of youth unemployment to WA unemployment - MA (Modern Apprenticeships at level 3 or above - Uptake of wider achievement opportunities by school leavers
Internationalisation	- Exports - FDI - Institutional Investment - Tourism volumes/spend - Air passenger volumes - Students in FE/HE - Shipping movements at key ports - Rail passengers - % of post codes with access to superfast broadband - SE Account Managed Companies





ABERDEEN CITY COUNCIL

ONE OPPORTUNITY NORTH EAST

Aberdeenshire COUNCIL

Appendix 2 -

Equality and Human Right Impact Assessment: The Form

EHRIA
There are separate guidance notes to accompany this form – "Equality and Human Rights Impact Assessment – the Guide." Please use these guidance notes as you complete this form. Throughout the form, **the word "proposal" refers to policy, strategy, plan, procedure, report or business case.** This then, embraces a range of different actions such as setting budgets, developing high level strategies and organisational practices such as internal restructuring. Please also refer to the "Completion Terminology" at the end of the form.

Aberdeen City Council

1:Equality and Human Rights Impact Assessment- Essential Information	
Name of Proposal: RES Approval	**Date of Assessment:** November 2015
Service: Economic Development	**Directorate:** Communities, Housing and Infrastructure
Committee Name or delegated power reference (Where appropriate): Full Council	**Date of Committee** (Where appropriate): December 16th 2015
Who does this proposal affect? Please Tick ✔	Employees ✓ Job Applicants ☐ Service Users ☐ Members of the Public ✓ Other (List below) ✓

	Businesses, other public sector organisations and the voluntary sector.

2: Equality and Human Rights Impact Assessment- Pre-screening		
Is an impact assessment required?	Yes ✓	No ☐
If No, what is the evidence to support this decision? (Once this section is completed, please complete section 8 of the form).		

3: Equality and Human Rights Impact Assessment	
a- What are the aims	The RES aims to put in place a long term Economic Strategy for the North East of Scotland. This public-private partnership approach is intended to deliver many benefits to the region including

and intended effects of this proposal?	the following commitments: - We will focus on enterprise and innovation in established firms and support businesses to develop new solutions. - We will develop our position as a global energy hub and will be a world leader in attracting high skilled workers and expertise encouraging new ideas, investment and cultures. - We will improve on our economic impact by delivering investment in competitive infrastructure that our businesses, residents, workers and visitors rightly expect. - We will create new opportunities for improved housing that is affordable to all. - We will seek new and effective solutions to how we deliver our public services. - We will make planning and regulatory processes the best of all Scottish City Regions. - We will strengthen the skills of our people and attract new talent to provide a skilled workforce for the future and tackle barriers to employability and jobs.

b- What equality data is available in relation to this proposal? (Please see guidance notes)	There is no equality data available in relation to this proposal. Consultation participants were not asked for any personal information
c- List the outcomes from any consultation that relate to equalities	No consultations relating to equalities and/or human rights issues have been undertaken..

and/or human rights issues e.g. with employees, service users, Unions or members of the public that has taken place in relation to the proposal.	
d- Financial Assessment If applicable, state any relevant cost implications	**Costs (£)** Implementation cost £ Projected Savings £

or savings expected from the proposal.	It is impossible to determine at this stage what cost implications / savings will be. The RES is a broad programme of work and does not drill down into this level of detail. Each action plan developed as part of the strategy implementation would be required to undertake such work.

e- How does this proposal contribute to the public sector equality duty: to eliminate discrimination, harassment and victimisation; advance equality of opportunity; and foster good relations?

The proposal is neutral in "Eliminating Discrimination", is positive in "advancing equality of opportunity" and is neutral in "fostering good relations".

The proposal is positive in "Advancing Equality of Opportunity" because of the following:

- Creating and safeguarding more jobs and training opportunities
- Develop more affordable housing
- Develop new industries for the region to create new job

N.B this is not an exhaustive lsit.

f- How does this proposal link to the Council's Equality Outcomes?

The proposal will support delivery of outcomes 1,8,15 and 16.

4: Equality Impact Assessment - Test				
What impact will implementing this proposal have on employees, service users or other people who share characteristics protected by *The Equality Act 2010* ?				
Protected Characteristic:	**Neutral Impact:** Please √	**Positive Impact:** Please √	**Negative Impact:** Please √	**Evidence of impact and if applicable, justification where a '*Genuine Determining Reason'** exists** *(see completion terminology)
Age (People of all ages)		✓		Creating jobs and improving the region as a place to live, visit and invest
Disability (Mental, Physical, Sensory and Carers of Disabled people)		✓		Inclusion is a key part of the proposal.
Gender Reassignment	✓			
Marital Status (Marriage and Civil Partnerships)	✓			
Pregnancy and Maternity	✓			

Race (All Racial Groups including Gypsy/Travellers)	✓			
Religion or Belief or Non-belief	✓			
Sex (Women and men)	✓			
Sexual Orientation (Heterosexual, Lesbian, Gay And Bisexual)	✓			
Other (e.g: Poverty)		✓		The proposal will promote more affordable housing in the region

5: Human Rights Impact Assessment Test

Does this proposal have the potential to impact on an individual's Human Rights? Evidence of impact and , if applicable, justification where the impact is proportionate	
Article 2 of protocol 1: Right to education	**No**
Article 3: Right not to be subjected to torture, inhumane or degrading treatment or punishment	**No**
Article 6: Right to a fair and public hearing	**No**
Article 8: Right to respect for private and family life, home and correspondence	**No**
Article 10: Freedom of expression	**No**
Article 14: Right not to be subject to discrimination	**No**
Other article not listed above, please state:	**No**

6: Assessment Rating:				
Please rate the overall equality and human right assessment	☐ Red	☐ Red Amber	☐ Amber	☑ Green

(Please see Completion terminology)	
Reason for that rating:	The proposal does not negatively impact overall equality and human rights.

7: Action Planning				
As a result of performing this assessment, what actions are proposed to remove or reduce any risks of adverse outcomes identified on employees, service users or other people who share characteristics protected by *The Equality Act 2010* ?				
Identified Risk and to whom:	**Recommended Actions:**	**Responsible Lead:**	**Completion Date:**	**Review Date:**
8: Sign off				

Completed by (Names and Services) :	Stuart Bews, Economic Development
Signed off by (Head of Service) :	Richard Sweetnam

Please send an electronic copy of your completed EHRIA - without signatures - together with the proposal document and/or committee report to:

Equalities Team
Customer Service and Performance
Corporate Governance
Aberdeen City Council
Business Hub 13
Second Floor North
Marischal College
Broad Street
Aberdeen
AB10 1AB

Telephone 01224 523039 Email sandrab@aberdeencity.gov.uk

9: Completion Terminology:	
Assessment Pre-screening Rating:	This section will highlight where there is the obvious potential for a negative impact and subsequent risk of negative media coverage and reputational damage to the Council. Therefore, a full impact assessment is required, for example around sensitive issues such as marching, Gypsy/ Traveller issues, change to social care provision. It should also be completed to evidence why a full impact assessment was not required, example, there is no potential negative impact on people.
Assessment Rating:	After completing this document, rate the overall assessment as follows: **Red:** As a result of performing this assessment, it is evident that we will discriminate (direct, indirect, unintentional or otherwise) against one or more of the nine groups of people who share *Protected Characteristics.* It is essential that the use of the proposal be suspended until further work or assessment is performed and the discrimination is removed. **Red Amber:** As a result of performing this assessment, it is evident that a risk of negative impact exists to one or more of the nine groups of people who share *Protected Characteristics.* However, a genuine determining reason may exist that could legitimise or justify the use of this proposal and further professional advice should be taken. **Amber:** As a result of performing this assessment, it is evident that a risk of negative impact exists and this risk may be removed or reduced by implementing the actions detailed within the *Action Planning s*ection of this document. **Green:** As a result of performing this proposal does not appear to have any adverse

	impacts on people who share *Protected Characteristics* and no further actions are recommended at this stage.
Equality Data:	Equality data is internal or external information that may indicate how the proposal being analysed can affect different groups of people who share the nine *Protected Characteristics* – referred to hereafter as *'Equality Groups'.* Examples of *Equality Data* include: (this list is not definitive) 1: Application success rates by *Equality Groups* 2: Complaints by *Equality Groups* 3: Service usage and withdrawal of services by *Equality Groups* 4: Grievances or decisions upheld and dismissed by *Equality Groups*
Genuine Determining Reason	Certain discrimination may be capable of being justified on the grounds that: *(i) A genuine determining reason exists* *(ii) The action is proportionate to the legitimate aims of the organisation* Where this is identified, it is recommended that professional and legal advice is sought prior to completing an Equality Impact Assessment.
Human Rights	The rights set out in the European Convention on Human Rights, as incorporated into the UK Law by the Human Rights Act 1998.
Legal Status:	This document is designed to assist us in *"Identifying and eliminating unlawful Discrimination, Harassment and Victimisation"* as required by *The Equality Act Public Sector Duty 2011.* An Equality Impact Assessment is not, in itself, legally binding and should not be used as a substitute for legal or other professional advice.

ABERDEEN CITY COUNCIL

COMMITTEE	Council
DATE	16 December 2015
DIRECTOR	Richard Ellis
TITLE OF REPORT	Aberdeen City Region Deal – Joint Committee
CHECKLIST COMPLETED	Yes

1. PURPOSE OF REPORT

1.1 To recommend that the Council approves the establishment of a Joint Committee with Aberdeenshire Council to oversee the implementation of the Aberdeen City Region Deal.

2. RECOMMENDATION(S)

The Council is recommended to:

2.1 Establish a Joint Committee in terms of sections 56 and 57 of the Local Government (Scotland) Act 1973 with Aberdeenshire Council to be known as the Aberdeen City Region Deal Joint Committee;

2.2 Approve the Joint Committee's Terms of Reference outlined in Appendix 1;

2.3 Approve the Joint Committee's Standing Orders outlined in Appendix 2;

2.4 Appoint three named members and up to three named substitute members to the Aberdeen City Region Deal Joint Committee; and

2.5 Note that any decision to accept the provisions and terms of a City Region Deal will be a decision reserved for the respective Councils and is not a matter that is delegated to the proposed Joint Committee.

3. FINANCIAL IMPLICATIONS

3.1 There are no direct financial implications arising from the recommendations in this report.

4. BACKGROUND/MAIN ISSUES

4.1 On 15 September 2015, the Finance, Policy and Resources Committee agreed that:

"the Head of Legal and Democratic Services collaborates with his counterpart at Aberdeenshire Council to develop the arrangements necessary to allow for the establishment of the proposed Aberdeen City Region Deal Executive as a Joint Committee of the two Councils;" and

"the Chief Executive reports to the Council once all details and arrangements are finalised in order to seek the Council's approval for the establishment of the Aberdeen City Region Deal Executive."

5. ESTABLISHMENT OF A JOINT COMMITTEE

5.1 A Joint Committee formed under sections 56 and 57 of the Local Government (Scotland) Act 1973 provides a framework for the local authorities to work together and offers scope for private sector involvement. It is proposed that the Joint Committee be known as the Aberdeen City Region Deal Joint Committee.

5.2 The Terms of Reference that outline the purpose and activities of the proposed Joint Committee are set out in Appendix 1. The Terms of Reference propose that the Joint Committee will oversee the implementation of the City Region Deal and will make recommendations in respect of:

5.2.1 strategic and policy plans;
5.2.2 the prioritisation of projects;
5.2.3 improvements to the way that the City Region Deal is being implemented; and
5.2.4 the setting of budgets

5.3 The proposed Standing Orders for the Joint Committee are set out in Appendix 2. The Standing Orders set out how the Joint Committee will operate and the rules applicable to Joint Committee meetings including:

5.3.1 the membership of the committee;
5.3.2 the calling of meetings; and
5.3.3 voting.

5.4 Appendix 3 sets out the wider governance arrangements proposed for the Aberdeen City Region Deal.

5.5 The governance arrangements will be kept under review as the shape and structure of the City Region Deal becomes more apparent through negotiations with the UK and Scottish Governments.

6. COUNCILLOR'S CODE OF CONDUCT

6.1 Section 5.8 of the Councillors' Code of Conduct states:

"Your membership of statutory Joint Boards or Joint Committees which are composed exclusively of Councillors does not raise any issue of declaration of interest in regard to Council business."

6.2 Given that the proposed Joint Committee membership will include non-elected members, councillors on the Joint Committee will not be able to enjoy the exception set out in Section 5.8 of the Code. Therefore, elected members on the Joint Committee would be advised against participating in quasi-judicial matters including the consideration of planning applications, licensing applications and the consideration of compulsory purchase orders which relate to City Region Deal activities. Whether or not a quasi-judicial matter relates to the City Region Deal will have to be considered by members on a case by case basis.

6.3 Where a Council committee is considering an item relating to the City Region Deal in a non-quasi-judicial forum, elected members who are also members of the Joint Committee will have to apply the objective test set out in the Code of Conduct in the usual way. Those members will then have to decide whether or not they are able to participate in the consideration of the item at that Council committee.

6.4 It is the councillor's personal responsibility to ensure that they comply at all times with the provisions of the Code of Conduct

7. REPORT AUTHOR DETAILS

Fraser Bell
Head of Legal and Democratic Services

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ABERDEEN CITY REGION DEAL

JOINT COMMITTEE

TERMS OF REFERENCE

The Aberdeen City Region Deal Joint Committee is a Joint Committee established by Aberdeen City Council and Aberdeenshire Council (the "Constituent Authorities") under sections 56 and 57 of the Local Government (Scotland) Act 1973.

The Joint Committee undertakes to appoint three named representatives and three named substitutes of ONE to the membership of the Joint Committee.

The creation of the Joint Committee represents the joint commitment of the Constituent Authorities and ONE to oversee the implementation of the Aberdeen City Region Deal.

In particular it shall have the power to:

1. Make recommendations to the Constituent Authorities, ONE, the recipients of City Region Deal funding and other relevant organisations and groups regarding City Region Deal Strategic and Policy plans and other related documents.

2. Prioritise projects for recommendation to the Constituent Authorities and ONE within the City Region Deal Strategic and Policy plans.

3. Monitor the effectiveness of the implementation of the City Region Deal and to identify potential improvements and make recommendations to the Constituent Authorities and ONE.

4. To make recommendations to the Constituent Authorities and ONE in respect of the City Region Deal funding arrangements.

5. Make recommendations to the Constituent Authorities and ONE on the setting of budgets for the City Region Deal.

6. Approve operational expenditure within agreed Aberdeen City Region Deal Joint Committee budgets allocated by the Constituent Authorities and/or ONE in order to further the aims of the City Region Deal.

7. To appoint three representatives and three named substitutes of ONE to the membership of the Joint Committee.

These terms of reference will be kept under review by the Constituent Authorities, ONE and the Joint Committee throughout the implementation of the City Region Deal to ensure sufficient accountability of public funds provided through City Region Deal funding.

16 December 2015

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ABERDEEN CITY REGION DEAL

JOINT COMMITTEE

STANDING ORDERS

Introduction

1. The Aberdeen City Region Deal Joint Committee (the Joint Committee) is a joint committee created under sections 56 and 57 of the Local Government (Scotland) Act 1973.

2. These standing orders have been approved by Aberdeen City Council and Aberdeenshire Council (the "Constituent Authorities") and take effect from 16 December 2015.

Membership

3. The Joint Committee will consist of the following voting members:

- three elected members of Aberdeen City Council;
- three elected members of Aberdeenshire Council; and
- three members of ONE.

4. Each Constituent Authority and ONE may also have up to three named substitutes.

5. The Joint Committee will appoint a member of the Constituent Authorities to be Chairperson.

6. The Chairperson shall be appointed for a period of one year.

7. The Chairperson will alternate between the Constituent Authorities.

8. The Joint Committee will appoint a Vice Chairperson from the Constituent Authority that does not have a member appointed as Chairperson.

Term of Office of Members

9. Members shall be appointed to the Joint Committee for the period up to the next local government elections.

10. A member of the Joint Committee may only be a member for as long as they hold office as a councillor or as a member of ONE as the case may be.

11. A member may be reappointed following the end of their term of office.

12. A member may resign their membership of the Joint Committee at any time by giving the Joint Committee, Aberdeen City Council, Aberdeenshire Council and ONE written notice.

13. The resignation will take effect with immediate effect.

Removal of Members

14. If a member has not attended three consecutive meetings of the Joint Committee, and such absence is not due to illness or other reasonable cause as the Joint Committee may determine, the Joint Committee may agree to recommend to the Constituent Authorities and ONE that the member be removed from the Joint Committee.

Standing Orders

15. All meetings of the Joint Committee shall be regulated by these standing orders.

16. Any amendments to these standing orders shall require the approval of the Constituent Authorities and must be carried out in consultation with ONE.

17. Any amendments to these Standing Orders shall be effective only after both Constituent Authorities have accepted the amendments after consultation with ONE.

18. Except where prohibited by statute, it shall be competent for a member at any time during a meeting to move suspension of the whole or any specified part of these Standing Orders and such a motion, if duly seconded, shall be put to the vote immediately without discussion.

Calling Meetings

19. The first meeting of the Joint Committee will be at a time and place determined by the Constituent Authorities and ONE.

20. Thereafter, the Joint Committee shall agree a timetable of meetings for the following twelve months.

21. Notwithstanding Standing Order 20 the Chairperson and Vice Chairperson may agree to fix such additional special meetings as they think appropriate, including meetings in a case of urgency where a reduced period of notice may be given, and shall endeavour to take account of the availability of members in so doing.

22. The Chairperson and Vice Chairperson shall be permitted on giving due notice to change the date, time or location of any agreed meeting.

Notice of Meetings

23. At least five working days prior to each meeting of the Joint Committee or one of its sub committees, a summons to attend the meeting specifying the time, place and business to be transacted at it signed by the relevant officer at Aberdeen City Council or Aberdeenshire Council and shall be sent electronically to every member or sent to the usual place of residence of every member. A notice of the time and place of the intended meeting shall be published at the Head Office of each of the Constituent Authorities

24. A failure to serve notice of a meeting on a member in accordance with Standing Order 23 shall not affect the validity of anything done at the meeting.

Business

25. The summons will include an agenda of items of business which shall be considered in the order in which they are listed except where the Chairperson, at his or her discretion, may determine otherwise.

26. Except where required by statute, no item of business shall be considered at a meeting unless a copy of the agenda including the item of business and any associated report has been open in advance to inspection by members of the public in terms of the Local Government (Scotland) Act 1973 or, by reason of special circumstances which shall be recorded in the minute, the Chairperson is of the opinion that the item should be considered as a matter of urgency and at such stage of the meeting as the Chairperson shall determine.

Quorum

27. No business is to be transacted at a meeting of the Joint Committee unless at least six of the members are present including at least two members from each Constituent Authority.

Conduct of Meetings

28. At each meeting of the Joint Committee, the Chairperson, if present, shall preside.

29. If the Chairperson is absent from a meeting of the Joint Committee, the Vice-Chairperson shall preside.

30. If the Chairperson and Vice-Chairperson are absent from a meeting of the Joint Committee, those members present shall appoint a member of the Constituent Authorities present to the Chair.

31. The Joint Committee may agree to adjourn a meeting to another date, time or place if it is necessary or expedient to do so.

32. A member who is unable to be present for a meeting of the Joint Committee at the venue identified in the notice calling the meeting shall be able to take part remotely in any location which allows their participation.

33. Standing Order 32 will not apply in respect of items on the agenda which contain confidential or exempt information.

Power and Duties of Chairperson

34. It shall be the duty of the Chairperson to:

- preserve order and ensure that any member wishing to speak is given due opportunity to do so and to a fair hearing;
- allow officers and advisers to be heard freely; and
- decide on all matters of order, competency and relevancy.

35. The ruling of the Chairperson on all matters in these standing orders shall be final.

36. Deference shall at all times be paid to the authority of the Chairperson.

37. The Chairperson shall be heard without interruption and all members shall address the Chairperson when speaking.

38. If, in the opinion of the Chairperson, any member acts in an obstructive or offensive manner, the Chairperson may with immediate effect move that the member be suspended for the remainder of the meeting. After seconding, the motion shall be put without debate and if carried, the member shall be required to leave the meeting room (including any public area or gallery) and may be removed if they fail to comply.

39. The Chairperson may require the removal of any member of the public whose presence or conduct impedes or may be likely to impede the proceedings at any meeting. The Chairperson may determine that a warning shall be given before ordering the removal of any member of the public.

40. The Chairperson will ensure that the decisions of the meeting are clear with regard to all matters which form the business of the meeting.

Minutes

41. A record must be kept of the names of the members attending every meeting of the Joint Committee.

42. Minutes of the proceedings of each meeting of the Joint Committee including any decision made at that meeting, are to be drawn up and submitted to the subsequent meeting of the Joint Committee for agreement after which they must be signed by the person presiding at that meeting.

Voting

43. Each motion put to a meeting of the Joint Committee shall be decided by a majority of the votes of those members present and entitled to vote.

44. Motions and amendments shall be moved and seconded.

45. Votes shall be taken by roll call except where an electronic voting system is available, in which case it shall be used in preference to any other method.

46. If the members of the Joint Committee agree unanimously prior to a vote on any particular matter, a vote may be taken by a show of hands.

47. Where there is an equality of votes, the Chairperson shall exercise a second or casting vote except where the division relates to the appointment of a member of the Joint Committee to any office or sub-committee or outside body, in which case the matter shall be determined by lot.

48. Any member may request the recording in the minutes of his or her dissent from any decision after the result of the division has been announced.

Alteration or Revocation of Previous Decision

49. No decision of the Joint Committee shall be altered or revoked within six months of it having been taken unless a recommendation to that effect is approved by the Joint Committee, and any such alteration or revocation shall have no retrospective effect.

Register of Interests and Code of Conduct

50. The Constituent Authorities shall keep a register of interests made by Members, including co-opted Members. The register of interests shall be open to inspection by members of the Public.

51. A member should not accept any gift or consideration of any kind as an inducement or reward for doing or for refraining from doing or for having done or refrained from doing any action in relation to the City Region Deal as to do so could result in that member having committed an offence under the Bribery Act 2010.

52. All members of the Joint Committee must comply with the terms of the Councillors' Code of Conduct provided for under the Ethical Standards in Public Life etc. (Scotland) Act 2000.

53. It is the responsibility of each member to determine if they require to declare an interest and withdraw from the meeting, having taken advice from officers beforehand should they wish.

54. A Member must withdraw from the Meeting Room, including the Public gallery, where he or she has declared an interest that prevents him or her from participating in the discussion of, and voting on, the item.

Admission of Press and Public

55. The Public must be excluded from a Meeting when an item of business is being considered and it is likely that, if the Public were present, Confidential Information would be disclosed to them in breach of an obligation of confidence in terms of section 50A(2) of the Local Government (Scotland) Act 1973 as enacted by the Local Government (Access to Information) Act 1985. A report falling into this category will:

- be marked as containing confidential information;
- carry a restricted watermark; and
- be printed on green paper.

56. The Public may be excluded from a Meeting by resolution of the Joint Committee when an item of business is being considered, if it is likely that Exempt Information would be disclosed to them which would fall within the categories specified in Part 1 of Schedule 7a of the Local government (Scotland) Act 1973, as enacted by the Local Government (Access to Information) Act 1985. Any such resolution shall specify the part of the proceedings to which it relates and the categories of exempt information involved shall be specified in the minutes. A report containing exempt information shall:

- specify the category involved;
- carry a restricted watermark; and
- be printed on green paper.

57. The provisions of the Data Protection Act 1998 shall apply to meetings of the Joint Committee and any relevant reports shall:

- be marked as containing data protected information;
- carry a restricted watermark; and
- be printed on green paper.

Governance

1. This section outlines the planned governance arrangements for the Aberdeen City Region Deal. Clear governance provides assurance to the UK and Scottish Governments, Aberdeen City Council and Aberdeenshire Council and the Aberdeen region that there is an open and transparent decision making, governance and project delivery.

2. Governance arrangements will be led by a newly established Aberdeen City Region Joint Committee created under the Local Government (Scotland) Act 1973 and will oversee the implementation and monitoring of the Aberdeen City Region Deal. There will be 9 seats on the Board made up of 3 representatives each from Aberdeen City Council, Aberdeenshire Council and Opportunity North East Board (ONE). The establishment of the Joint Committee will be approved by both Aberdeenshire Council and Aberdeen City Council under the provisions of the Local Government (Scotland) Action 1973. The Joint Committee will make recommendations to the Constituent Authorities on the ACRD Strategic and policy plans and on the setting of budgets.

3. This will be supported by an Aberdeen City Region Programme Board made up of senior officer representatives from the two local councils, Scottish Enterprise, University of Aberdeen, Robert Gordon University, NESTRANs, ONE, Community Planning and the Chief Officer from the ACRD Project Management Officer. This is being discussed by both Councils and Scottish Enterprise and forms part of the overall commitment to this delivery model.

4. The Board will be supported by a Financial and Governance Strategy Group comprising of the Chief Financial and Chief Legal officers of both local authorities, Scottish Enterprise and the Chief Officer of the PMO. The remit is to research, advise and evaluate the financial and legal options for delivery of the deal. They will devise a reporting mechanism and monitoring programme to report to the Committee, the Board and to the two local authorities on the impact of the deal.

5. A City Region Deal Programme Management Office (PMO) will provide day to day management of the ACRD and will be the direct conduit to both Councils and partners to ensure delivery of the various workstreams and projects. This team will also be responsible for monitoring progress and achievements and reporting to the Scottish and UK Governments on a regular basis.

6. The key responsibilities of the Programme Management Office will be:
   - Be the first point of contact for UK and Scottish Governments.
   - Prepare reports for the UK and Scottish Governments on delivery programmes and outcomes of the Deal
   - Organisation of meetings of the Committee and Programme Board meetings, preparing agendas and recording the decision making process.
   - Conducting the appraisal of new and substitute schemes in the investment programme
   - Working with each local authority to assist the implementation of projects.
   - Analysis and reporting on: progress; impact; and wider benefits realisation.
   - Liaison and co-ordination of programmes with other regional partners and with each of the Workstream Groups.
   - Preparing for Committee approval the operational budget and reporting it regularly to the Programme Board.

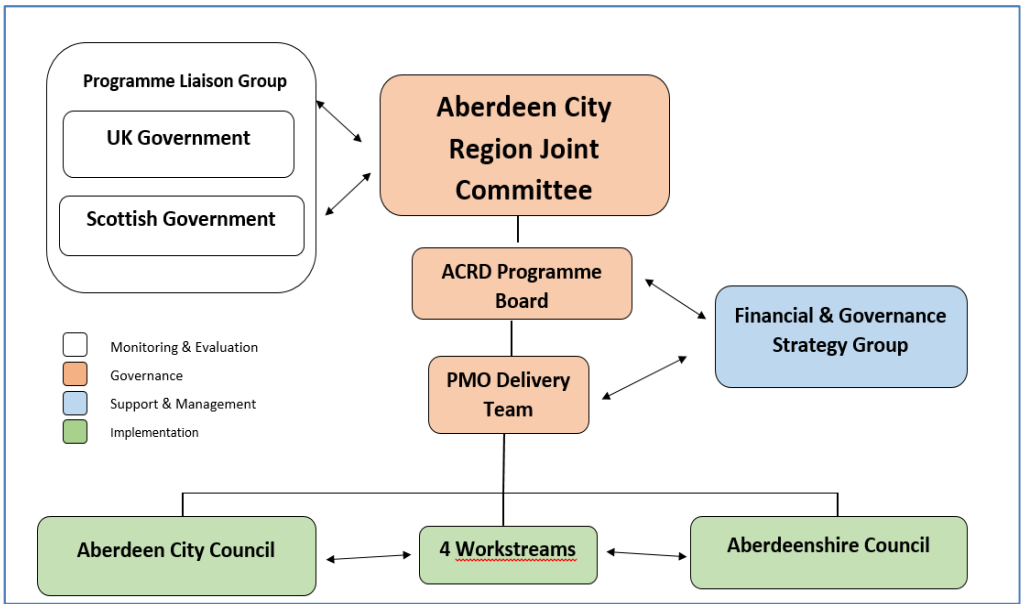
- Setting and leading the communications strategy and promoting through media and online resources
- Regular liaison with all partners and the UK Government and the Scottish Government to pro-actively manage expectations, risks and communications.

7. Each of the Workstream Groups will be chaired by a representative from the Programme Board. The Groups will ensure delivery and oversight on the relevant work areas.

8. Both Councils will each ensure regular updates and reports to their respective Councils. The relevant Local Authority will be required to approve the financial support for each project through its own mechanisms.

9. To support the implementation a Programme Liaison Group will be established. This will comprise the Senior Responsible Officer(s) on behalf of Aberdeen City Council and Aberdeenshire Council, and representatives from the Scottish Government and the UK Government and their agencies (e.g. Transport Scotland, Scottish Enterprise, Scottish Futures Trust). Officials will meet on a quarterly basis and will review progress on City Region Deal implementation in order to:
   - Facilitate joint working;
   - Provide a mechanism to ensure that all commitments in the deal are being met and implemented;
   - Enable all partners to challenge one another if City Region Deal delivery is not on track and agree mitigating actions;
   - Provide a forum to highlight successes;
   - Ensure funding provided as part of this City Region Deal is being drawn down and spent according to agreed funding profiles; and
   - Manage Economic Appraisal/ Gateway Appraisal of the proposals in the overall City Region Deal programme.

Figure 1: Aberdeen City Region Deal Governance



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ABERDEEN CITY COUNCIL

COMMITTEE	Council
DATE	16 December 2015
DIRECTOR	Pete Leonard
TITLE OF REPORT	Transport Implication – City Centre Masterplan Projects
REPORT NUMBER	CHI/15/299
CHECKLIST COMPLETED	Yes

1. PURPOSE OF REPORT

This report advises Members of the results of the transportation assessment and traffic modelling undertaken for the City Centre Masterplan (CCMP) interventions for Broad Street, Schoolhill/ Upperkirkgate, Golden Square, Bon Accord Square, Schoolhill Pocket Park, Castlegate and Queen Street.

2. RECOMMENDATION(S)

That the Council agrees:-

i) the outcomes of transportation assessment and traffic modelling of the above named CCMP interventions;

And in doing so agrees:

ii) The preferred option for Broad Street is a bus and cyclist only route between Upperkirkgate and Queen Street and instructs officers to undertake the necessary statutory procedures for the Traffic Regulation Order, reporting back to the Communities Housing and Infrastructure Committee on the outcomes;

iii) To note the public transport mitigations identified as necessary along Union Terrace to support the preferred option for Broad Street and instructs officers to develop a traffic management plan for Union Terrace report back to elected Members at the first possible opportunity;

iv) To instruct officers to engage with Muse with a view to developing a preferred design and layout for Broad Street and to report back to members as soon as practicably possible for approval and to agree that Muse be appointed to undertake the design and construction on the Council's behalf subject to the costs being monitored by officers on an 'open book' basis;

v) That Castlegate should not be reopened to traffic and Queen Street should not be opened to through traffic at the junction of West North Street; and

vi) To instruct officers to develop and consult on options for Golden Square, Schoolhill Pocket Park and Castlegate and return to Members with a full business case including engagement outcomes, a preferred option, detailed design and costs, any Traffic Regulation Order implications and proposed time line/ resource for implementation.

3. FINANCIAL IMPLICATIONS

3.1 Contributions of up to £1.12m are available for public realm works on Broad Street from Muse. As Muse undertook initial design work as part of their initial planning application there are both time and financial advantages of working with them to complete the design and construction of this area by their contractor. If public realm works exceed these contributions the extra spend will be met within the £20m City Centre Regeneration non-housing capital budget. It is likely the £1.12m contribution will cover the majority of the public realm work on Broad Street as the cost of the works in the City Centre Masterplan and delivery programme is estimated at £0.4m.

3.2 The financial implications for Golden Square, Schoolhill Pocket Park and Castlegate will be detailed in the full business cases to be reported to Members during 2016. Any costs for these projects could be met from the City Centre Regeneration budget.

4. OTHER IMPLICATIONS

4.1 Any intervention on Broad Street should aim to be completed for the scheduled opening of Marischal Square in July 2017. Should Members instruct an option for Broad Street that affects bus routes, it is likely that the statutory process could take up to three years due to the risk of a public hearing if objections from bus operators remain unresolved by Aberdeen City Council. Discussions continue with bus operators on this and a range of transport network issues that influence public transport.

4.2 Similarly, any interventions on Schoolhill Pocket Park and Golden Square should align with the scheduled opening of Aberdeen Art Gallery and Aberdeen Music Hall in December 2017.

4.3 Traffic regulation orders for the localised CCMP interventions at Schoolhill Pocket Park and Golden Square should take no longer than 6 to 9 months to progress following the agreement of preferred options assuming appropriate access and loading requirements of the adjacent properties has been taken into account. Traffic regulation orders for Broad Street and any associated supporting traffic management should also take a similar timescale, assuming no hearing is required.

The TRO processes can be undertaken using existing internal resource.

4.4 Should public hearings be generated by the promotion of any proposals within the CCMP, additional resource support from Legal and specialist consultants may also require to be identified to enable the Council to defend the proposals. The production and approval of a City centre/ city wide detailed implementation and delivery plan would also be necessary for the successful defence of a 20 year phased implementation programme for the CCMP.

5. BACKGROUND/MAIN ISSUES

5.1.1 On 15 September 2015, Finance, Policy and Resources requested that officers undertake further transport modelling to take account of the transport implications associated with the masterplan proposal's for Broad Street and Schoolhill/ Upperkirkgate and to consider the implications on areas such as Castlegate, Schoolhill Pocket Park, Queen Street, Golden Square and Bon Accord Square and report its findings to the Council in December 2015.

5.1.2 At the Council meeting on 24 June 2015, the Aberdeen City Centre Masterplan and Delivery Plan was agreed unanimously as well as an agreement that the Chief Executive would report to the Finance, Policy and Resource Committee on 15 September 2015 with a proposed programme of enabling works and activities for the city centre.

5.1.3 The June 2015 Council meeting also resolved that each project will be subject to detailed scrutiny and the normal development control processes and to agree in principle the interventions set out in the City Centre Masterplan and Delivery Programme. It was also noted that due diligence will be undertaken in relation to the financial, legal and all other implications on each project or programme of activity contained within the City Centre Masterplan and that it falls to the Council to deliver, with the results of this due diligence being reported to committee ahead of any decision being taken to proceed.

5.1.4 Prior to the above, the Council, at its meeting on 5th March 2014 resolved to agree that full pedestrianisation of Broad Street between Upperkirkgate and Queen Street best meets the objectives of the project and also agreed to investigate the feasibility of re-opening the

Castlegate to traffic and the opening of Queen Street at the junction of West North Street.

5.1.5 These decisions have all been considered in this assessment as part of the due diligence process.

5.2 **City Centre Masterplan Context**

5.2.1 The masterplan, a vision for the city centre for the next 20-25 years, was a design led process and was refined through consultation with the public and stakeholders without any modelling of transport impacts.

5.2.2 All CCPM interventions require to be subject to the appropriate levels of due diligence, including the modelling of transport impacts, before they are considered for implementation.

5.2.3 The City Centre Masterplan states that the dominance of car movement over people in Aberdeen impacts on the quality and the perception of the open spaces and streets making it less attractive for the pedestrians. The high level public realm strategy captured in the masterplan aims to enhance the setting of buildings and spaces in order to encourage people to live, work and visit the city centre. This will help change perceptions of Aberdeen to a living city for everyone, which will thereby encourage business and trade to grow in the city centre. As well as improved connectivity for both pedestrians and cyclists, it is recognised that the retention of public transport permeability is key to a successful city centre.

5.2.4 The city centre masterplan received significant support from the public during the consultation process. Within the responses, 83% agreed that more space was required for people. However, this needs to be considered alongside the 71% who agreed that the city centre needs to retain vehicle access and public transport.

5.2.5 The City Centre Masterplan, as approved at full Council on 24th June 2015, includes the following proposals related to the above instructions:

- EN01 Broad Street: The space between Marischal College and the Marischal Square development will retain bus movements on a day to day basis but will be designed in a manner so that it can be transformed into an event ready space on special occasions
- EN06 Upperkirkgate / Schoolhill: The removal of all traffic from the central area of Upperkirkgate and a considerable reduction in traffic elsewhere creates the opportunity to enhance north / south connectivity and the retail environment
- EN07 Castlegate: Castlegate will be presented as the ‘central civic space’ for Aberdeen, providing a strong focus and identity for the

city centre. This will be a high quality space that responds to the rich architecture and strong urban design structure, forming a desired destination at the end of Union Street. The design approach will be minimalist and defined, adding clarity to the geometry of the space with high quality natural stone materials and lighting.

- CM02 Queen Street: A new residential led mixed use development opportunity created by the relocation of existing public sector land uses (townhouse extension, police and courts) potentially to the Marischal College eastern annex or elsewhere in the city centre. The redevelopment of these buildings creates the scope for new city centre housing, ground floor commercial uses and a network of public spaces.
- EN09 Golden Square: Re-engineering of this space from a vehicle dominated car park towards to a public square and events space associated with the Music Hall.
- EN10 Bon Accord Square: Removal of some car parking and enhanced greening of this square.

5.3 City Centre Transport Network

5.3.1 The city centre strategic transport network comprises a series of linked primary and district distributor routes carrying the majority of people and goods movements into, through and around the city centre. This is evidenced by the very high volumes of all traffic, including pedestrians, on roads such as Union Street, Market Street, King Street, Holburn Street etc. Increasing volumes of traffic in the city centre exacerbates existing congestion, particularly on these sometimes over capacity strategic routes and any impact for example, vehicle breakdown, traffic signal failure or temporary traffic management, has significant effects on the overall network's performance by extending congestion periods beyond the traditional peaks. In some cases localised gridlock occurs, which can very quickly ripple out and impact on the wider transportation network affecting areas out with the city centre and beyond. Such impacts affect a significant proportion of the travelling public at these times, whether in the city centre or out with.

5.3.2 When considering the masterplan there are four strategic transport projects which impact directly on the movement of everyone within and out-with the city centre i.e. Broad Street, Schoolhill/Upperkirkgate, Union Street and Guild Street as these result in widespread redistribution of traffic beyond the city centre.

5.3.3 The less strategic parts of the transport network generally carry nominal or low volumes of pedestrian, vehicles and goods movements and are mostly of a very local access nature, with some even being

inaccessible by the largest vehicles. They do not directly contribute to the strategic mass movement of people and goods in general and in particular provide no real advantage in terms of journey times. CCMP projects on such parts of the transport network are discussed in the next section.

5.4 **Non Strategic Network Interventions – Considerations**

5.4.1 In view of the above paragraph 5.3.3, any planned interventions for Golden Square, Castlegate, Schoolhill Pocket Park, Queen Street and Bon Accord Square – all minor roads with limited access needs - will be very localised and will only impact the immediate environment and movement.

5.4.2 Looking at two of the locations in particular, Castlegate and Queen Street, as these were identified in 2014 by Council for further examination, their current relationship to the surrounding area is more about the place than their traffic function. This is discussed in more detail in the relevant project assessment at paragraph 5.4.3 and 5.4.6 respectively.

5.4.3 Queen Street

Queen Street and it's adjacent buildings form the Queen Square intervention area, as detailed in the masterplan. It will form a new residential led mixed use development opportunity created by the relocation of existing public sector land uses (town house extension, police and courts) potentially to the Marischal College eastern annex or elsewhere in the city centre. The redevelopment of these buildings creates the scope for new city centre housing, ground floor commercial uses and a network of public spaces.

The masterplan aims to create a less car dominated space than at present. With options on Broad Street limiting the overall amount of vehicle movements in the wider area, the reopening of Queen Street onto West North Street would provide a convenient alternative route for traffic thereby prejudicing the aims for the redevelopment of the area, including proposals for the Arts Centre.

The possible re-connection of Queen Street to the West / East North Street junction provides no strategic advantage in journey times and potentially creates a rat-run where none currently exists. The opening of this street will require a complex five way signalised junction at King Street and will remove green time from the existing strategic network.

5.4.4 Golden Square and Bon Accord Square

The masterplan has a vision for Golden Square to transform it from a car park to a public square and events space to support the Music Hall refurbishment. The design will redefine South Silver Street as a

pedestrian priority zone but to retain necessary servicing and access arrangements for the operation of the Music Hall. This public realm intervention would link with the proposals for Union Street and Union Terrace Gardens.

The Music Hall refurbishment is due to be complete by late 2017. Therefore, it is sensible to align the completion of the public realm intervention on Golden Square along with the timing of the scheduled re-opening of the Music Hall.

This intervention will have a positive impact on the setting of Golden Square and will help support the redevelopment of Aberdeen Music Hall.

Neither Golden Square nor Bon Accord Square form part of the strategic road network and therefore any interventions here would also be of a localised nature. Options developed for this location in line with the masterplan will include consideration of possible adjustments to the local traffic management arrangements, which will then require the promotion of a new Traffic Regulation Order

5.4.5 Schoolhill Pocket Park

Public realm interventions outside Aberdeen Art Gallery and Robert Gordon's College at the Schoolhill Pocket Park is not a distinct project identified in the masterplan. It is recognised that changing how this space is used with less dominance of car access would have many benefits for the re-opening of the Grade A listed Aberdeen Art Gallery building and for connectivity in the city centre. Any intervention would re-engineer this space, from a vehicle dominated space with poor and cluttered public realm, to an accessible public realm space associated with Aberdeen Art Gallery and other adjacent uses. It would also create a more aesthetically pleasing arrival point for the Art Gallery.

The Art Gallery is due to re-open in late 2017 and the public realm intervention could be scheduled for completion to align with this programme. The improved public realm would also complement the approved planning application for a change of use to hotel at the former Robert Gordon's University Union building (P150513). The streetscape materials could be a continuation of those used in the Belmont Street area, this would better connect the Art Gallery to Union Street.

Four options have been designed by Gareth Hoskins Architects in January 2015 although none have been put before Members or compared as to how they meet the aims and objectives of the masterplan. They vary from minimal disturbance of the existing road layout to changing the emphasis of the space across Schoolhill and extending this across the road surface to the south side of the street, uniting the whole space as one. An option appraisal would be required to be completed and a detailed business case developed in order to

understand the funding levels required, the likely timescales for delivery and the key risks for the project.

Any intervention that is proposed for this area would have to take into consideration the WW1 commemorative stone to be laid in the area in 2017.

Schoolhill Pocket Park currently serves as local access to the RG School and loading for the adjacent properties and as such plays no part in the strategic transport network in terms of the mass movement of people and goods. Options being developed as part of the redevelopment of the Art Gallery will therefore require to consider access and loading requirements, as well as the bus stop located adjacent to this pocket park on Schoolhill itself in terms of any adjustments to the existing traffic management, and interactions with the main route of Schoolhill. Such adjustments are also unlikely to trigger the need for a hearing.

While this project is not seen as strategic in nature as it doesn't impact on wider traffic movements it will have to take account of the current arrival and departure patterns for children attending Robert Gordon's College. The option appraisal should include this in and any risks associated with promoting a traffic order.

5.4.6 Castlegate

The masterplan encourages the use of Castlegate as the 'central civic space' for Aberdeen, providing a strong focus and identity for the city centre. This will be a high quality space that responds to the rich architecture and strong urban design structure, forming a desired destination at the end of Union Street.

The public realm intervention proposed for the Castlegate is closely linked with the masterplan's proposed residential development. The improved public realm would complement this development and tie in with the proposed interventions on Union Street and Queen Street as detailed in the masterplan.

While Castlegate is recognised as a wide open space/ square – it nevertheless remains a road which has restricted traffic movements for access and loading to the adjacent premises during certain times with access and exit routes defined. Castlegate provides access to the area, either from Justice Street or Castle Street/Union Street, and in terms of place, reopening it only limits the ability to improve the quality of the built environment in the wider area. While there are alternatives as to what the space can be used for, or whether it is better to access it from the east or the west, it doesn't provide a strategic transport role in the wider city centre.

In contrast, re-opening this area to traffic could detrimentally impact the strategic network due to the introduction of a new traffic signal junction into the area of Union Street/ Castle Street, which would conflict with existing bus priority and controlled crossing points for pedestrians. Should there be any changes to the current access arrangements a traffic regulation order would be required.

5.4.7 In conclusion, these projects do not affect the strategic road network as they are currently defined in the CCMP and there is no strategic transport network advantage in re-opening the Castlegate or connecting Queens Street to the West/ East North Street junction. The projects will require consideration of the local traffic implications as the options/ business cases are developed.

5.5 Strategic Network Interventions (Broad Street and Schoolhill / Upperkirkgate) – High Level Traffic Modelling / Considerations

5.5.1 The masterplan recommends that the space between Marischal College and the Marischal Square development retains bus and taxi movements on a day to day basis but will be designed in a manner so that it can be transformed into an event ready space on special occasions. It also needs to redefine Broad Street as a pedestrian priority area with traffic calming measures and redesigned bus stops with a high quality streetscape to create a new shared space civic plaza.

5.5.2 It is crucial to look at the public realm intervention on Broad Street in the wider context of nearby developments such as:

- Marischal Square development (P140698);
- the approved alterations for the Bon Accord Centre and re-opening of Drum Lane (P141192);
- the planning application for a change of use from retail to restaurant for the former E&M's store at 26-30 Union Street (P151254) (yet to be determined);
- potential development of Queen Street ('Queen Square' as detailed in the masterplan); and
- the setting of Marischal College, the Town House and Provost Skene's House.

5.5.3 The proposed public realm intervention should allow for the opportunity of a flexible events space that could include the use of the Marischal College Quadrangle and the public realm that will be developed around Provost Skene's House within the Marischal Square development. The project will also make Broad Street more of a pedestrian priority area which will support the increased footfall associated with the Marischal Square office and leisure uses.

5.5.4 Aberdeen Inspired undertake on-going footfall monitoring in various parts of the city centre. This data highlights that currently Schoolhill/ Upperkirkgate has a higher footfall than Broad Street. Pedestrian levels on Broad Street will increase once the Marischal Square development is complete and occupied footfall will also increase on Upperkirkgate following the opening of Drum Lane connecting the Bon Accord Centre to Marischal Square.

5.5.6 This intervention will have a positive impact on the setting of Marischal College and will help link the internal quadrangle to Broad Street and into the Marischal Square development. It will also create a more welcoming space which will help to create a better city centre experience for those who live, work and visit in the city centre.

5.5.7 A transportation assessment of the implications of proposals for Broad Street and Upperkirkgate / Schoolhill has now been completed. It should be noted that this has been done in advance of a full transport assessment of the wider City Centre Masterplan, and therefore takes no account of sequencing or consequential impacts of the current masterplan proposals for Union Street or Guild Street/ Wapping Street which are the other two projects that have more strategic implications for people moving in the City Centre and will be reported at a future date.

5.5.8 The traffic modelling element of the assessment used the City Centre Paramics microsimulation model, which was updated in 2012 using a range of data gathering techniques including junction turning movement counts, ANPR (automatic number plate recognition) and bus stop dwell time surveys. The model was also informed by the strategic model for the region – ASAM. An overview of this region and city centre wide modelling revealed that:

- Across the city, 30% of all trips can be classed as strategic or through trips without a city centre destination. These trips have the potential to be diverted to other more suitable strategic routes including the AWPR.
- Trips to and from the city centre area account for 20-25% of all trips
- Around 15% of traffic generated within the city centre has a destination in the city centre
- 6-8% traffic growth predicted between 2012 and the 2023 reference case in the city centre model area (committed development and infrastructure but no CCPM) which equates to approximately 16,000 additional vehicles per weekday

- Previous work on Union Street Pedestrianisation identified that the City centre network can only cope with up to 95% of 2012 traffic levels, without leading to a significant level of additional queuing
- 2023 reference case does not include further 12 years of remainder of adopted Local Development Plan build out
- Significant volume of east west trips – possibly routing to and from the north of the city (north of the Don)
- Higher volumes of strategic traffic routing from the south of the model than from the north
- AM peak trips to car parks - 3630 trips; PM peak trips to car parks - 7343 trips; Saturday peak trips to car parks - 12737 trips with approximately 47% of these trips involve crossing the city centre
- Based on previous work carried out, if CCMP is to be successfully delivered, the model is forecasting the need to remove 27,000 vehicles per day from the city centre area (this is in addition to those trips that can move to the AWPR)
- From 10 to 45% of trips on the key city centre routes likely to be significantly affected by the CCMP are from out with the city centre to out with the city centre, and more significantly so on Union Street, Guild Street and Market Street

5.5.9 High level conclusions from the above:

- Significant volumes of trips are of a short distance nature (easily undertaken on foot or by bicycle by many travellers)
- Significant volumes of trips have no destination in the city centre
- Significant proportions of car parking trips generate cross city centre movements
- The successful delivery of the masterplan will rely on a radical approach to the operation and management of the city's transport network and how future journeys associated with existing and new development in the short, medium and longer term are made
- Individual projects/ interventions will require some level of mitigation locally and/ or network wide, suggesting the benefits of the development of a long term plan, with a prioritised and fully detailed incremental delivery plan
- This radical approach needs to reflect travel not only to and from the city centre, but around the city as a whole
- Fundamental to this will need to be significant increases in journeys being made by means other than the private car i.e. shift to active and sustainable modes of walking, cycling, public transport

- Reprioritisation to and significant improvement of the infrastructure necessary to facilitate this shift – across the whole transport network – not just within the city centre

5.6 Detailed Modelling – Broad Street and Upperkirkgate/ Schoolhill

5.6.1 The following suite of options has been identified as best meeting the masterplan proposals whilst also ensuring due diligence in terms of best practice and recent Council decisions. The options also include some possible mitigation measures to address some of the issues identified at the high level testing stage.

Figure 2 – Test options for interventions on Broad Street and Schoolhill / Upperkirkgate

	Broad Street		Upperkirkgate/ Schoolhill		Mitigation
Test Option	**Bus & taxi only**	**Closed**	**Closed**	**Open**	
1	√			√	-
2	√		√		-
3		√		√	-
4		√	√		-
5	√			√	Test 1 with Union Terrace Bus & Taxi Only
6	√		√		Test 2 with Union Terrace Bus & Taxi Only and George Street Traffic Management*
7		√		√	Test 3 with Union Terrace Bus & Taxi Only
8		√	√		Test 4 with Union Terrace Bus & Taxi Only and George Street Traffic Management*

George Street Traffic Management = CCMP proposals for the George Street Area + Blackfriars Street as bus/ taxi only northbound and all traffic southbound + Charlotte Street closed to through traffic to restrict rat-running traffic through Maberly Street/ Spring Garden from Woolmanhill Roundabout.*

5.6.2 The modelling outputs focus on:

- Ability to meet travel demand in the city centre network
- Impact on the local and wider city centre area
- Impact on public transport

5.6.3 Full details of this modelling exercise can be found within the technical report prepared by SIAS Ltd, '*Aberdeen City Centre Masterplan Testing – Phase 1, Traffic Model Testing Report, TPXACCM1\77647'* – attached as Appendix 1 to this report.

A summary of the model outputs is as follows:

Figure 7.1

Scenario	Models run at full demand prediction	Increase in traffic flow to non-strategic routes	Bus route/ bus coverage affected	Bus reliability/ journey time improvements	Bus reliability/ journey time detriment
Test 1	√	Union Terrace	none	Broad Street	Union Terrace
Test 2	√	Union Terrace, Union Street, John Street, St Andrews Street	minimal	Broad Street	Union Street
Test 3	√	Union Terrace	Routes on Broad Street affected	some	Worst of all tests
Test 4	√	Union Terrace, Union Street, John Street, St Andrews Street	Routes on Broad Street affected	some	Union Street
Test 5	√	Huntly St/ Summer St	none	Best of all tests	limited
Test 6	x	-	-	-	-
Test 7	√	Huntly St/ Summer St	Routes on Broad Street affected	some	some
Test 8	x	-	-	-	-

	Traffic Network Improvement
	Slight Traffic Detriment
	Traffic Detriment

5.6.4 The traffic modelling suggests that the proposed closure of Schoolhill, between the Bon Accord and St. Nicholas shopping centres has an implication of significantly increased traffic flows through the shopping areas north of the Bon Accord Centre in and around George Street. If measures were introduced to restrict routeing traffic through these routes, there would need to be a significant reduction in traffic demand through the city centre area to accommodate such measures. This would require the consideration of wider area traffic management measures which could not be implemented in the short term.

5.6.5 If restrictions to general traffic were implemented on Broad Street, there would be low impact to traffic in the city centre area and potential improvements to bus services directly affected through the core area of the city centre. A complimentary measure would be to also restrict general traffic through Union Terrace to reduce the impact of displaced traffic within the city centre and also to further improve the operation of the bus network through the core area of the city centre. These measures could be implemented in the short term and have already been in operation to some extent through seasonal restrictions on Union Terrace and traffic management measures on Broad Street during the consecutive Winter Village and Muse developments works.

5.6.6 Within the Broad Street traffic considerations, the issue of taxi access has also been reviewed. Recent traffic surveys reveal that in peak hours there are very few taxis using Broad Street - 6 No per hour (details in Table 6.1 of the detailed modelling report). If the CCMP intervention for this location is to be realised, ie the creation of a ‘place’ which is a much better environment for

pedestrians, then removing access for taxis, which can use the surrounding road network and are not restricted to specific routes like buses, would aid this objective.

5.7 **CCMP/draft Consultative Sustainable Urban Mobility Plan (SUMP) Objectives**

5.7.1 A review of the consultative draft Sustainable Urban Mobility Plan objectives, which are aligned with the CCMP, suggests that the principle of each of the options is well aligned with these, in terms of reprioritisation of space for active and more sustainable modes: The draft consultative SUMP objectives (CCMP objectives are in bold) are as follows:

The SUMP will aim to fulfil the following Masterplan ***objectives***:

- ***Technologically Advanced and Environmentally Responsible*** – the delivery of targeted transport infrastructure improvements will play a leading role in the re-prioritisation of the city centre transport network to favour more sustainable modes of travel ahead of private motorised vehicles.
- ***Changing Perceptions*** – A reprioritised transport system in favour of more sustainable transport will be conducive to a radical alteration in perceptions so that people consider the city centre to be a vibrant and distinctive place.
- ***Growing City Centre Employment*** – the provision of transport infrastructure can play a key role in encouraging inward international investment to the city centre.
- ***A Metropolitan Outlook*** – improving multi-modal accessibility and creating distinct gateways to the city centre will ensure it retains its standing as a key central node in the regional economy.
- ***A living city for everyone*** – city centre infrastructure can create a liveable place through the provision of attractive vibrant streets that are safe and comfortable to be in all year round, day and night.
- ***Revealing Waterfronts*** – transport infrastructure has the ability to significantly improve multi-modal accessibility to the beach, harbour and rivers that define Aberdeen.

5.7.2 This alignment starts to break down when the implications of some of the options, as evidenced by the traffic modelling outcomes, detrimentally affects accessibility at some key locations, particularly for public transport, and around the city centre and wider on the City's transport network.

5.8 Summary and Conclusions

5.8.1 It is clear from the aspiration set out in the CCMP and from the high level modelling, that in order to successfully deliver the CCMP over the coming 5 – 20 years, a radical approach to the future management and operation of the transport network is required. A more pleasant walking and cycling environment, safe and accessible, easy to move around

and free from harmful pollution, can only be delivered with a significant reduction in city centre traffic levels. In order to secure the vibrant and economically dynamic future that is defined in the CCMP, this means increasing the numbers of people who live in, work in and visit the city centre and improvements to active travel and public transport are the most cost effective, practical and deliverable solutions.

5.8.2 A number of small scale projects have been discussed in Section 5.4 and can be progressed as defined in the CCMP without any significant impact on the strategic transportation network.

5.8.3 Projects which affect Broad Street, Schoolhill/ Upperkirkgate, Union Street and Guild Street have widespread strategic transport network impacts beyond the city centre and across the City. Interventions at these locations have to be carefully considered, particularly in terms of how these benefit or disbenefit place making and the active and sustainable travel objectives of the CCMP and the draft consultative SUMP.

5.8.4 Modelling undertaken to date on the Broad Street option reveals that a general traffic restriction on Broad Street (Queen Street to Upperkirkgate) can be accommodated without significant detriment to the city centre and wider city transport network, with mitigation on Union Terrace by means of bus and taxi only to support public transport. The bus stops were modelled as located out with the restricted area to enhance the overall pedestrian experience without impacting significantly on bus accessibility to key destinations such as Marischal College and the soon to be opened Marischal Square. Removing taxis from Broad Street could also compliment these measures to enhance the pedestrian experience and as taxis are not route - restricted like buses and current numbers are very low, it is unlikely there would be significant detriment to this mode of transport.

5.8.5 If an option which also restricts buses from Broad Street is agreed, this may trigger the need for a public hearing should objections from bus operators remain unresolved during the statutory traffic regulation order process. The impact of such an option would also reduce public transport access to the key civic amenities at Marischal College Aberdeen City Council headquarters. If such an option is progressed and followed by the CCMP proposals to close Schoolhill/ Upperkirkgate to all traffic including public transport, this would leave approximately a third of the city centre without public transport accessibility, significantly compromising a number of the CCMP aspirations and objectives.

5.8.6 Modelling undertaken for options on Schoolhill/ Upperkirkgate forecast a significant detrimental impact on public transport and the wider network performance and although some mitigation measures had been identified and tested e.g. the George Street Area CCMP proposals, these did not alleviate the impacts of the options on the immediate and wider transportation network. Given the scale of the

impact of any intervention on this route, it is likely that appropriate options and mitigations can only be identified as part of a city centre wide and city wide detailed plan to support the CCMP as a whole.

5.8.6 Modelling of options on Union Street and Guild Street will be reported to this Council in March 2016.

5.8.7 In conclusion, a buses only option for Broad Street, with mitigation by means of a bus, cycle and taxi only on Union Terrace, would fulfil the aspirations of the CCMP, be compliant with the SUMP objectives and could be delivered, subject to the successful promotion of the appropriate traffic regulation orders, with limited impact on the wider city centre and wider City transport network. Similar closure options for Schoolhill/ Upperkirkgate are unlikely to be successful unless they form part of a wider and more detailed CCMP transport network plan which must also be informed and supported by a city wide transportation plan, which delivers a radical approach to future network management and operation.

5.8.8 Proposals for Broad Street will include cyclists, in compliance with the CCMP and SUMP objectives, and consideration will require to be made within the TRO for timed deliveries and access for wedding vehicles.

5.8.9 Supporting traffic management measures necessary to ensure the reliability of buses on Union Terrace, should also include consideration of access for deliveries. There are also other considerations which need to be fully explored and therefore it is recommended that a traffic management plan for Union Terrace be developed and brought back to elected Members at the earliest opportunity.

5.8.10 As the transport network is incrementally modified to support the successful delivery of the CCMP as part of a wider and longer term plan, a continuous review of recently implemented traffic management measures will be undertaken and modifications identified as necessary to ensure appropriate network performance in accordance with the CCMP and SUMP objectives.

6. IMPACT

6.1 There are a number of benefits that could be achieved over time by implementing the longer term CCMP, of which many of the above mentioned public realm interventions form part:

- Improved perception amongst investors;
- Greater footfall leading to an increase in economic activity;
- Increased investor confidence;

- Increase visitor numbers and spend in the city centre;
- Increased sense of community through gathering in new civic spaces;
- Improved community safety; and
- Increased number of green space and trees within the city centre.

6.2 In terms of transport, the proposals provide the first real steps towards establishing a transport network which reflects the wider aims of the Local Transport Strategy and the City Centre Masterplan.

6.3 Agreeing the proposed programme of enabling projects and activities will have a direct positive impact on the Council's delivery of the Aberdeen – The Smarter City policy statement and the City's Single Outcome Agreement.

6.4 The regeneration of the city centre is a key priority of the Strategic Infrastructure Plan and it is central to the City Region Deal bid to the UK and Scottish Governments.

6.5 An Equality and Human Rights Impact Assessment has been undertaken as part of the Aberdeen City Centre Masterplan and Delivery Programme presented to Council on 24 June 2015. An Equality and Human Rights Impact Assessment will be undertaken when officers report back on the detail of interventions at Golden Square, Schoolhill Pocket Park and Castlegate.

6.6 Improving Customer and Staff Experience: The contents of this report and the recommendations relate to the delivery of the City Centre Masterplan which if successful in achieving the benefits defined in paragraph 6.1 will improve the City Centre for all those who live in, work in and visit it.

6.7 Improving Our Use of Resources: Internal resources and partnership working with developers have already been identified to deliver the recommendations of this report. Further resources may be required for the wider delivery of the transport network plan to support the successful delivery of the City Centre Masterplan, which has identified a range of benefits for citizens and business across the City.

7. MANAGEMENT OF RISK

7.1 The risks inherent in not addressing the regeneration of the city centre are set out in the Strategic Infrastructure Plan. In view of the fact that the regeneration of the city centre is widely supported, there is a reputational risk to the Council if no improvements are made.

- Air quality – no detailed assessment has been made of the implications of the CCMP on the Air Quality Management Area across the city centre. An air quality assessment for previously reviewed options for Broad Street was reported to this Council in March 2014. There are risks to public health as a direct result of PM10 and NOX emissions from vehicle engines. Attached at Appendix 2 is a spreadsheet of traffic flow variances on key routes within the City Centre relating to the recommended option for Broad Street.
- Resources are currently available to progress traffic regulation orders where no public hearing is required.
- Traffic regulation orders are subject to objections from members of the public and statutory and non-statutory bodies. The nature of the TRO and the objections remaining after the statutory processes would inform whether or not a public hearing is required.
- Compliance with CCMP/ SUMP.
- Lack of buy-in from public and stakeholders.
- Issues with timing regarding developments (Marischal Square, Music Hall refurbishment and Aberdeen Art Gallery).

8. BACKGROUND PAPERS

- Aberdeen City Centre Masterplan Report
- CCMP – Sustainable Urban Mobility Plan (SUMP)
- 'Aberdeen City Centre Masterplan Testing – Phase 1, Traffic Model Testing Report, TPXACCM1\77647'. – produced by SIAS Ltd

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Appendix 1

‘Aberdeen City Centre Masterplan Testing – Phase 1, Traffic Model Testing Report, TPXACCM1\77647’ – technical report prepared by SIAS Ltd

Appendix 2

Traffic flow variances on key routes within the City Centre relating to the recommended option for Broad Street.

Aberdeen City Centre Masterplan Testing – Phase 1

Aberdeen City Council

Traffic Model Testing Report

TPXACCM1 \ 77681
December 2015

CITY CENTRE MASTERPLAN TESTING – PHASE 1

Description:	**City Centre Masterplan Testing – Phase 1**
Date:	**9 December 2015**
Project Manager:	**Callum Guild**
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1 INTRODUCTION

1.1 Study Brief

Under the Scotland Excel Framework, Aberdeen City Council (ACC) commissioned SIAS Limited (SIAS) in September 2015 to undertake transport model testing of key transport related elements of the proposed Aberdeen City Centre Masterplan.

There are several core schemes which are to form the basis of the model testing, these are:

- Update of the Aberdeen City Centre 2023 Future Year Model
- Phase 1 Testing: Broad St and Schoolhill schemes
- Phase 2 Testing: Union Street and Guild Street schemes

This Technical Report will detail the development of an updated 2023 City Centre Reference Case Model and the Phase 1 model testing relating to assessment of various transport options for Broad Street and Schoolhill.

The Phase 2 testing is to be undertaken following the completion of Phase 1 and will be reported separately.

1.2 Background

The Aberdeen City Centre Masterplan proposals were proposed by independent consultants BDP and accepted by Aberdeen City Councillors at their full council meeting of 24 June 2015. The City Centre Masterplan strategy is focused on reviving the historical core and incorporating areas of growth between the rivers Don and Dee. As part of the Masterplan strategy, limited traffic movement within the city core to private vehicles is required to facilitate the vision to improve the attractiveness of the city centre to pedestrians and cyclists and other sustainable modes of transport.

The full Masterplan proposals include the restriction to general traffic through most of the core area of the city centre area. The implementation of the Masterplan will develop incrementally over the next 20 years. ACC is, therefore, required to consider the development and infrastructure measures as packages or phases of implementation in the coming years.

ACC currently has a traffic model covering Aberdeen City Centre area. This traffic forecasting tool is to be utilised to assist in the development of these phases of Masterplan implementation. The development of the Aberdeen City Centre Paramics Model (ACCPM12) is detailed in a separate Report, *Aberdeen City Centre: 2012 Base Model Development Report (SIAS Ref. 75883, November 2013)*. The model network description is provided in Figure 1.1.

SIAS was required to develop a 2017 and 2023 Reference Case Network, which includes the Berryden dualling proposals as previously detailed in the report *Berryden Corridor Study – Traffic Modelling (SIAS Ref. 71550, July 2009)* and also includes the South College Street junction (with QEII Bridge) proposals as previously detailed in *South College Street Junction – Phase 4 Testing (SIAS Ref. 67586, April 2007)*.

The development of the initial version of 2023 Reference Case Model is detailed in a separate Report, *Aberdeen City Centre: 2017 and 2023 Model Development Report (SIAS Ref. 76041, February 2014)*.

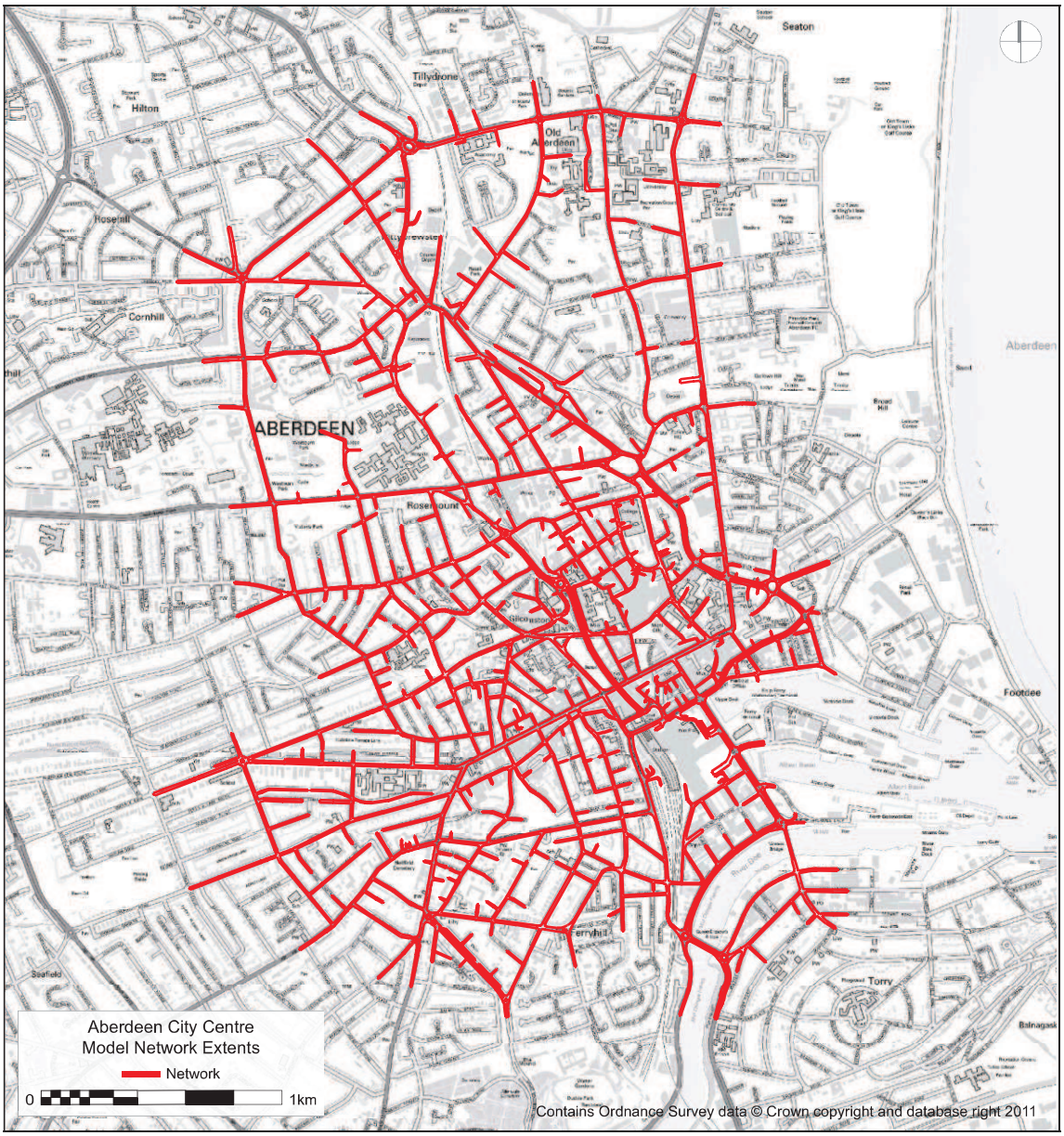

Figure 1.1 : Aberdeen City Centre Paramics Model Network Extent

2 DEVELOPMENT OF 2023 REFERENCE CASE NETWORK

2.1 Introduction

ACC advised SIAS that the initial Phase 1 model testing of the City Centre Masterplan should be undertaken on the 2023 Reference Case Model network. Previous model testing of the, now superseded, Union Street pedestrianisation was also undertaken on the 2023 network scenario. It was proposed that, by 2023, all of the currently committed infrastructure proposals within the city centre area would be in place.

SIAS has previously developed a 2023 model network scenario as detailed in the Report *Aberdeen City Centre: Future Year Model Development Report – Transport Model Input Report (SIAS Ref. 76042, March 2014)*. As part of this study, the Reference Case Model was refined to reflect the most recent infrastructure and development proposals as is detailed in this section.

2.2 2023 Infrastructure

Within the 2023 Reference Case, there are network wide infrastructure changes proposed to be in place within the city centre area and also in the wider Aberdeen Network as advised by ACC.

The major infrastructure measures have been modelled in the wide area strategic Aberdeen Sub Area Model '4a' (ASAM4a). The influence of these measures on the city centre have been extracted from the ASAM models and then applied in the City Centre Model. The major infrastructure which is within the city centre area has been coded within the Paramics model.

Table 2.1 summarises the primary road infrastructure measures included either within the 2023 Reference Case model, or the influence of the measures included within the model.

Table 2.1 : 2023 Network Infrastructure Proposals

Major Infrastructure	Applied in City Centre Model	Strategic Influence from ASAM
AWPR	×	✓
Berryden Dualling	✓	✓
South College St Improvements	✓	✓
Third Don Crossing	Partial	✓
Haudagain Junction improvements	×	✓
Masterplan	×	×

The detail of these infrastructure measures is provided within the SIAS Report *Aberdeen City Centre: Future Year Model Development Report – Transport Model Input Report (SIAS Ref. 76042, March 2014)*.

Figure 2.1 provides a schematic of the proposed infrastructure changes in the Aberdeen City Centre area within the 2023 Reference Case Network.

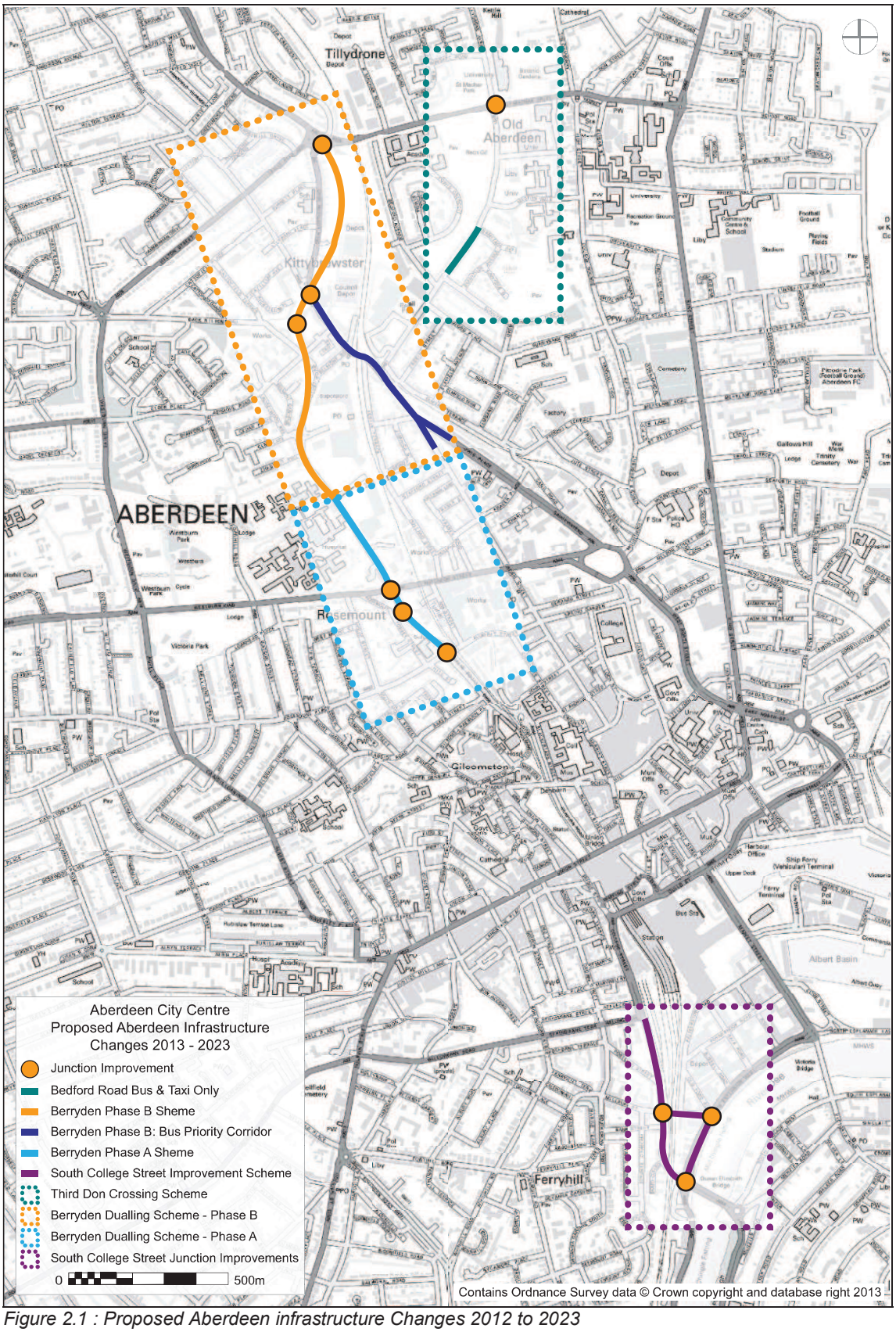

Figure 2.1 : Proposed Aberdeen infrastructure Changes 2012 to 2023

2.2.1 South College Street Improvement Scheme

The South College Street scheme has undergone further testing since the Reference Case development report was produced in March 2014. This further testing has not been concluded therefore ACC advised that the approved scheme as at March 2014 (with existing roundabout at Queen Elizabeth II Bridge and Palmerston Link Road included) would be utilised for the purposes of the Phase 1 element of the Masterplan Testing. ACC has accepted that this design does not fully cater for the modelled network demand by 2023 and that some traffic queueing occurs off the model network on Wellington Road during the peaks.

The detailed design of the South College Street improvements are to be considered in a future phase of the Masterplan testing.

2.2.2 Berryden Dualling Scheme

The Berryden dualling scheme was developed in 2009. With the first stages of the improvements to be implemented in 2016 – 2017, the scheme is currently undergoing a detailed design review by appointed consultants. SIAS has been advised to use the currently approved scheme for the Masterplan –Phase 1 Testing with the following Public Transport exceptions:

- Removal of bus stop on west side of Caroline Place
- Removal of bus stop on east side of Berryden Road, approximately 30m north of the junction with Hutcheon Street
- Addition of two bus stops on the west and east side of the proposed dual link road between Powis Terrace and St. Machar Roundabout (on-street)

2.3 2023 Development Content

By 2023, there are proposed to be a number of committed developments within Aberdeen City Centre, and these have been included in the 2023 Reference Case Model as advised by ACC. Table 2.2 details the additional traffic volumes within the city centre network associated with each development.

Table 2.2 : 2023 Committed Development Content (vehs)

Major Infrastructure				06:00-10:00		15:00-19:00		12:00-16:00	
Test Detail	Paramics Model Changes	ASAM Influence	2023 Reference Case	From	To	From	To	From	To
Old Capitol site, Union Street	✓	✗	✓	12	80	77	13	9	9
Frederick Street	✓	✗	✓	15	103	116	14	66	66
Broadford Works.	✓	✗	✓	308	179	424	378	352	371
St Nicholas House/Marishcal Sq	✓	✗	✓	84	401	299	76	285	223
Ardent House	✓	✗	✓	106	566	466	100	57	67
The Grande	✓	✗	✓	50	267	220	47	27	31
Riverside Development	✓	✗	✓	18	94	78	17	10	11
Royal Cornhill Development	✓	✗	✓	328	148	279	407	246	360
Total				921	1,838	1,959	1,052	1,051	1,138
					2,759		**3,010**		**2,190**

There are changes in the development trip totals for the Broadford Works and Cornhill Hospital development compared to previous studies. The trip totals for these two developments that previously came from the ASAM 2023 traffic matrices were been found to be significantly lower than was considered within their respective Transport Assessment Reports. ACC provided SIAS with revised trip totals to apply in the 2023 Reference Case Model.

In addition, the trip totals for traffic associated with the Frederick Street Development was initially applied according to the Transport Assessment. As this development has now been constructed, ACC provided SIAS with actual traffic flow survey data for the development and this was found to be lower than what had been previously applied in the model. The figures shown in Table 2.2 reflect the most up to date figures available.

It is understood that there are development proposals submitted to expand the Union Square development car parking and retail elements. As these development proposals are not considered committed by ACC, SIAS was advised not to include any changes to the trip attraction to the Union Square development as part of this phase of the Masterplan testing.

Table 2.2 shows the total volume of traffic growth associated with the committed developments in each of the modelled periods. Table 2.3 shows how these additional trips affect the overall traffic growth within the city centre model between 2012 and 2023.

Table 2.3 : 2023 Reference Case, Final Matrix Totals

Data	Matrix	Type	AM	PM	SAT
2012	Matrix 1	Lights	60,447	74,927	80,749
Model Matrices	Matrix 2	Heavies	3,339	3,547	864
		Total	63,786	78,474	81,613
2023	Matrix 1	Lights	61,590	77,581	82,880
Final Matrices	Matrix 2	Heavies	3,824	4,101	1,021
	Matrix 3	Development	2,759	3,010	2,190
		Total	**68,173**	**84,692**	**86,091**
Growth (v)			**4,387**	**6,218**	**4,478**
% Growth			**7%**	**8%**	**5%**

Table 2.3 shows that the final 2023 Reference Case model matrices are 7%, 8%, and 5% higher than the 2012 Baseline in the AM, PM, and Saturday Peak periods respectively. The background growth in the 2023 model comes from the traffic growth within the ASAM model. All the developments within the city centre are included separately to this.

It is important to consider that in the historical testing of the Union Street Pedestrianisation scheme, the influence of the AWPR on the city centre area (from the ASAM modelling) resulted in a net reduction of traffic within the city centre area of approximately 5%. This facilitated the road restrictions within the city centre as part of that scheme. The current ASAM predictions show a slight increase in the traffic demand within the city centre area (Matrix 1 and 2), this is with the inclusion of the AWPR. The increase in background growth is assumed to be due to the high level of LDP housing and development growth within the wider Aberdeen network proposed by 2023.

When the committed development trips are applied within the city centre model (Matrix 3), then the net effect is a 5-8% growth in traffic demand within the city centre area.

These traffic demand issues are acknowledged by ACC and there are plans to restrict the volume of traffic routeing in the city centre area by means of:

- Modal shift to more sustainable transport
- Relocation of strategic traffic (routeing right through the city centre area)

There are currently other ongoing studies to assess and develop these measures. For the purposes of the City Centre Masterplan Study, SIAS is required to test the various phases of implementation of the Masterplan and report on when a traffic reduction is required to enable the city centre network to operate.

The network test scenarios which require a reduction in the model traffic demand are detailed in subsequent chapters.

2.4 Public Transport Update

ACC undertook bus dwell surveys at the key bus stops around the Broad Street area (namely H1, H2, R1, G2-G5) on Tuesday 6 October and Saturday 10 October 2015. These surveys were undertaken through the modelled periods of each peak. The Survey data was collated and the average bus dwell time per service per stop was updated within the 2023 Reference Case Model.

In order to further update the modelled public transport network, the First bus Route No. 4 was added to the model, and the No. 20 was amended to the latest route plan. These changes were identified by the ACC Public Transport Unit.

2.5 Traffic Signal Review

Within the 2023 Reference Case Model, and also within the subsequent option test models, it was necessary to review the signal timings of the signalised junctions to try to replicate the optimisation of the timings which would occur within the real-time SCOOT system (Split Offset Optimisation Technique). This was necessary to try to accommodate the increase in traffic demand, as well as the changes in travel patterns across the city centre network associated with the test options.

The model traffic signals were either amended manually, from observing the modelled runs and queue levels and adjusting the greentime applied to each signal phase, or model flow analysis was undertaken to calculate the traffic demand at the junction and thus the optimal greentime required (based on first principles of a 2s headway per vehicle).

The pedestrian timings and junction staging was kept the same as the 2013 Base Model in the 2023 Reference Case Model and all option tests.

3 TRAFFIC MODEL TEST PROGRAMME

3.1 Introduction

A range of transportation measures will be required to support the City Centre Masterplan, this will include measures to support modal shift. The programme of testing considers the prioritisation of schemes in the coming years that will ultimately support the full Masterplan proposals.

The first area identified for review and assessment is the operation of the network through the Broad Street and Schoolhill area. The Masterplan includes proposals to restrict general traffic on Broad Street, between Upperkirkgate and Queen Street to create a more pedestrian friendly environment outside Marischal College and the new Marischal Square. This could be considered for either bus only, bus and taxi only or a complete road closure.

Similarly, Schoolhill is proposed to be completely closed to all traffic between Harriet Street and Flourmill Lane. This is proposed in order to improve the pedestrian linkage between the shopping centres.

3.2 Model Test Programme Development

Through discussions between SIAS and ACC, the model test scenarios were identified as follows:

Table 3.1 : Model Testing, Initial Programme

Scenario	Broad Street		Schoolhill		Mitigation / Further Measures	Bus Route Impact
	Bus & Taxi Only	Closed	Closed	Open		
Test 1	✓			✓	-	No Change
Test 2	✓		✓		-	A .Broad St open, Schoolhill closed
Test 3		✓		✓	-	B .Broad St closed, Schoolhill open
Test 4		✓	✓		-	C .Broad St closed, Schoolhill closed

ACC sought to primarily assess Broad Street as closed to all traffic or as bus and taxi only, but with the variation of Schoolhill as either open or closed in each of these Broad Street scenarios.

ACC also initially considered further model test scenarios for bus only restrictions on Broad Street as well as the Bus and taxi only restriction tests detailed, however, the traffic model does not include a specific taxi route matrix. Taxis are included within the traffic model, but only as a proportion of general traffic. SIAS advised that there would not be any significant benefit to test this difference within the traffic model. ACC therefore carried out taxi flow surveys in the area and the detail of these and the implication of the taxi flows are discussed in Section 4.

Table 3.1 also highlights the bus route impact of the test scenarios. The bus route networks can be divided into three configurations: A, B, and C. This is detailed in Section 3.5

3.3 High Level Testing

Through the development of the model testing programme, SIAS undertook a series of initial high level testing on the 2023 Reference Case model to gain an understanding of the impact of closing Broad Street and Schoolhill to general traffic.

This high level testing did not consider changes to the PT network (road closures were applied to general traffic but not buses or taxis), nor did it consider any changes to traffic signal timings within the modelled network. It did allow an initial understanding of where the traffic displacement would likely occur within certain scenarios.

The scenarios assessed at high level were as follows:

- Broad Street closed to general traffic
- Schoolhill closed to general traffic
- Broad Street and Schoolhill closed to general traffic

This assessment highlighted areas of the network where further mitigation may be required to either facilitate the movement of traffic through the network, or restrict the displaced traffic from rat-run routes.

Section 4 provides detail on the reasons for the further mitigation but, essentially, where restrictions on Broad Street are proposed, traffic flow increases are observed on Union Terrace. A bus and taxi only proposal for Union Terrace was, therefore, proposed as a further infrastructure measure consideration.

Where restrictions on Schoolhill are proposed, traffic flow increases are observed east-west through the George Street shopping area, particularly on John Street and St. Andrews Street. A mitigation measure was therefore proposed to include traffic restrictions through the George Street/John Street area to limit the volume of traffic through this area.

George Street traffic routeing restrictions are proposed within the City Centre Masterplan, therefore these measures were taken forward as a mitigation test associated with the closure of Schoolhill. The detail of the George Street traffic routeing restrictions applied is detailed in the following section.

3.4 Detailed Test Programme

From the high level testing, the detailed traffic model testing programme was identified as follows:

Table 3.2 : Model Testing, Detailed Testing Programme

Scenario	Broad Street		Schoolhill		Mitigation / Further Measures	Bus Route Impact
	Bus & Taxi Only	Closed	Closed	Open		
Test 1	✓			✓	-	No Change
Test 2	✓		✓		-	A .Broad St open, Schoolhill closed
Test 3		✓		✓	-	B .Broad St closed, Schoolhill open
Test 4		✓	✓		-	C .Broad St closed, Schoolhill closed
Test 5	✓			✓	Test 1 with Union Terrace B&T	No Change
Test 6	✓		✓		Test 2 with Union Terrace B&T & George St TM	A .Broad St open, Schoolhill closed
Test 7		✓		✓	Test 3 with Union Terrace B&T	B .Broad St closed, Schoolhill open
Test 8		✓	✓		Test 4 with Union Terrace B&T & George St TM	C .Broad St closed, Schoolhill closed

Figures 3.1 and 3.2 show a schematic of the Test Scenarios 1-4 and 5-8 respectively

Figure 3.1 : Test Scenarios 1-4

For all scenarios where Broad Street is restricted to bus and taxi only between Upperkirkgate and Queen Street, ACC requested that the existing bus stops on Broad Street (Stops H1 and H2) be moved to the south end of Broad Street.

The bus stop H1 on the west of Broad Street was to be modelled within a new lay-by approximately where the Netherkirkgate lane accesses Broad Street. The bus stop H2 was to be modelled on-street mid-way between Queen Street and Union Street.

By moving the bus stop locations on Broad Street to the south of Queen Street, this would potentially allow footway widening outside Marischal College, as only a two-way link road for buses and taxis would be require. This would assist in creating a more civic square environment for pedestrians at this location.

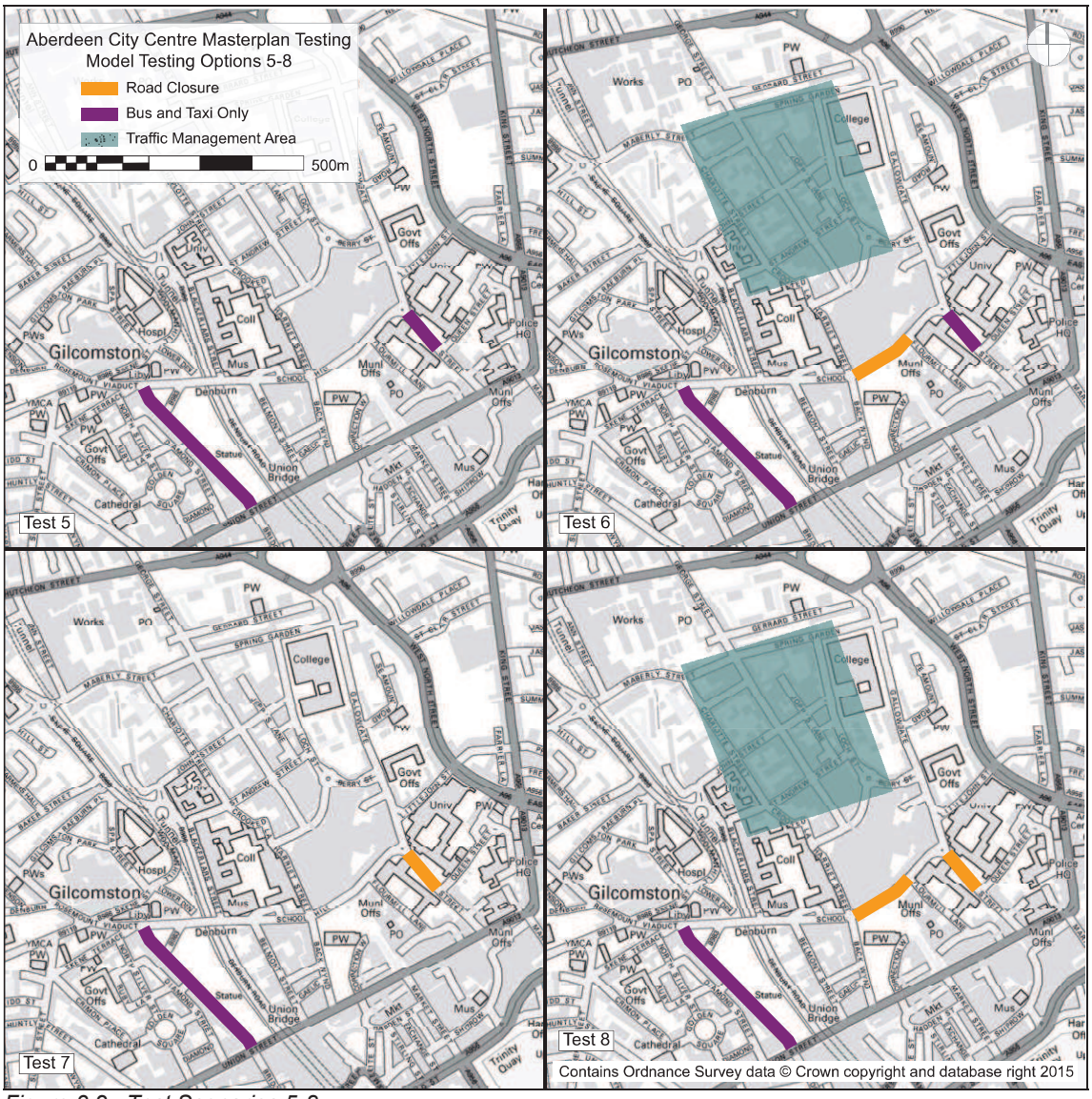

Figure 3.2 : Test Scenarios 5-8

The mitigation measure associated with Union Terrace was considered as restriction to general traffic between Union Street and Diamond Place. Only buses and taxis were permitted to route through Union Terrace.

The mitigation measures associated with the George Street traffic management proposals include:

- John Street - bus and taxi only between Charlotte St and Jopps Lane (from Masterplan)
- George Street – bus and taxi only between St. Andrews Street and Craigie Street (from Masterplan)
- St. Andrews Street - bus and taxi only between Loch Street and Charlotte Street (from Masterplan)
- Gallowgate – bus and taxi only NB, general traffic southbound, between Spring Garden and Gallowgate Car Park (from Masterplan)
- Blackfriars Street – Bus and taxi only NB, general traffic southbound, between St. Andrews Street and Schoolhill

The Blackfriars Street measures are a slight variation to the Masterplan proposals as the Masterplan includes SB only restrictions on Blackfriars St. Given that this route is a key bus route in both directions, ACC confirmed that the model testing should include a bus and taxi lane northbound.

Figure 3.3 shows the general layout of the George Street traffic management proposals associated with test scenarios 6 and 8.

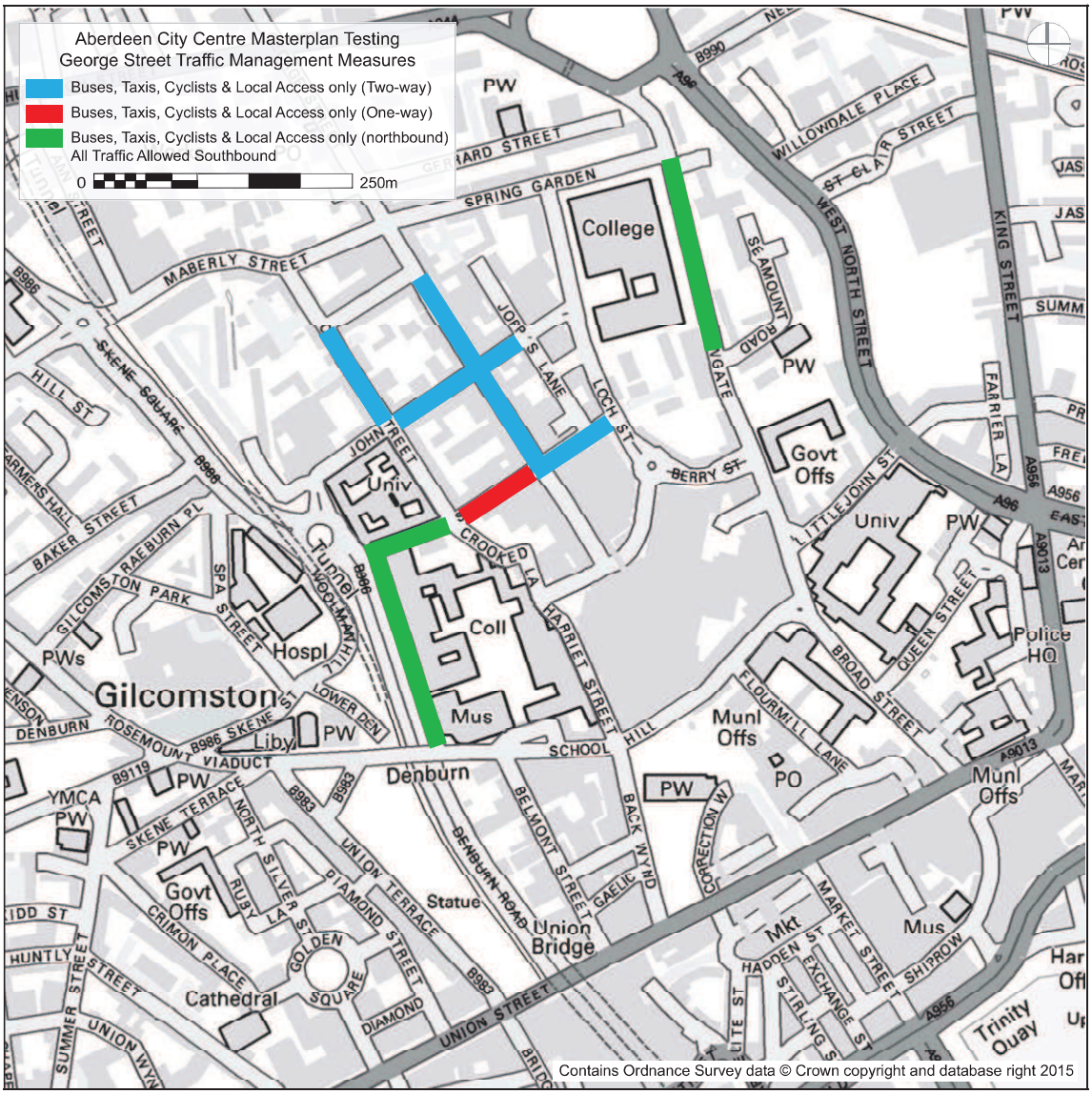

Figure 3.3 : George Street Traffic Management Proposals

The proposed measures through the George Street area will require further review, especially as part of any potential car park access strategy within the City Centre. The measures modelled as part of this stage of testing replicate the purpose of restricting through (strategic) traffic through this area of the network.

3.5 Public Transport Network

3.5.1 Bus Routes

The ACC Public Transport Unit provided SIAS with the likely revised bus routes associated with each of the test scenarios. Figures 3.4 to 3.7 show the PT routes for the buses directly affected by each of the closure scenarios (A, B, C).

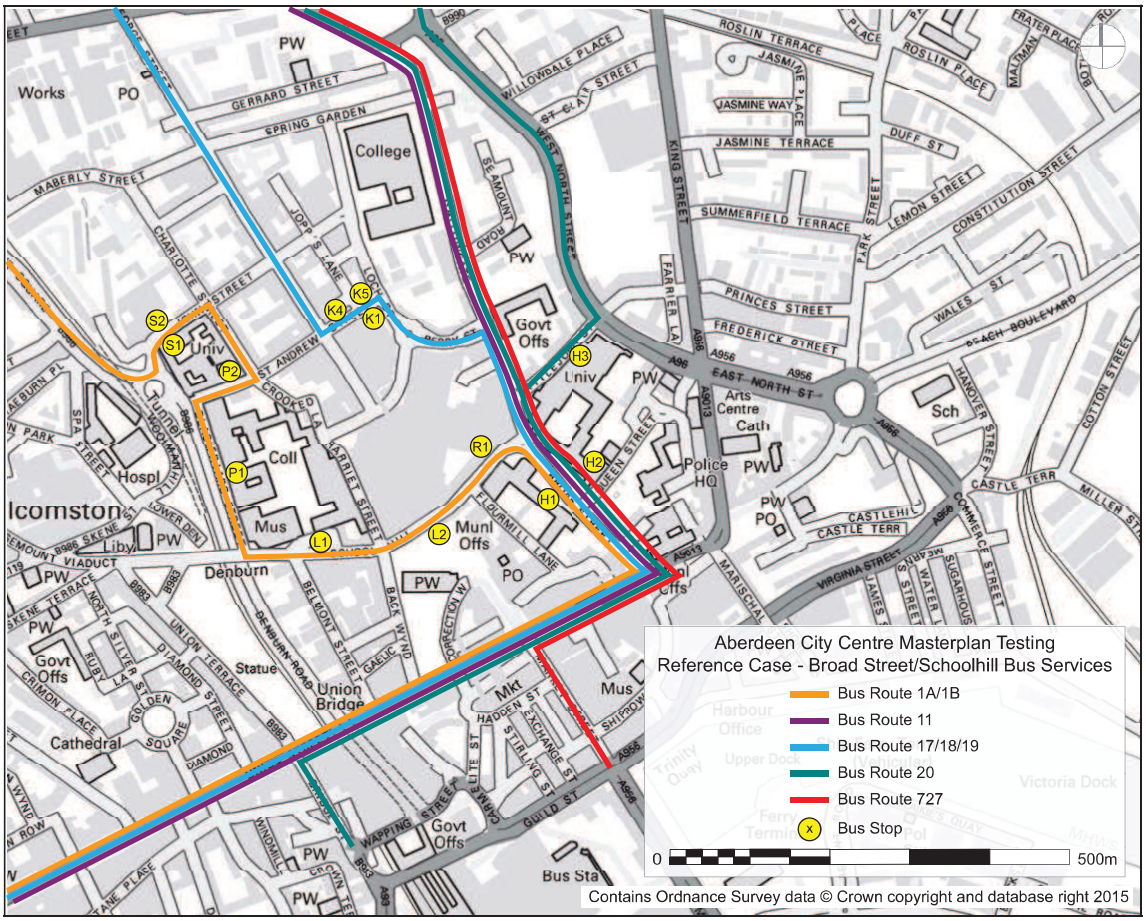

Figure 3.4 : PT Network - Reference Case

Figure 3.4 shows that in the Reference Case scenario, only one of the affected routes currently uses Schoolhill, while all the others route through Union Street and Broad Street.

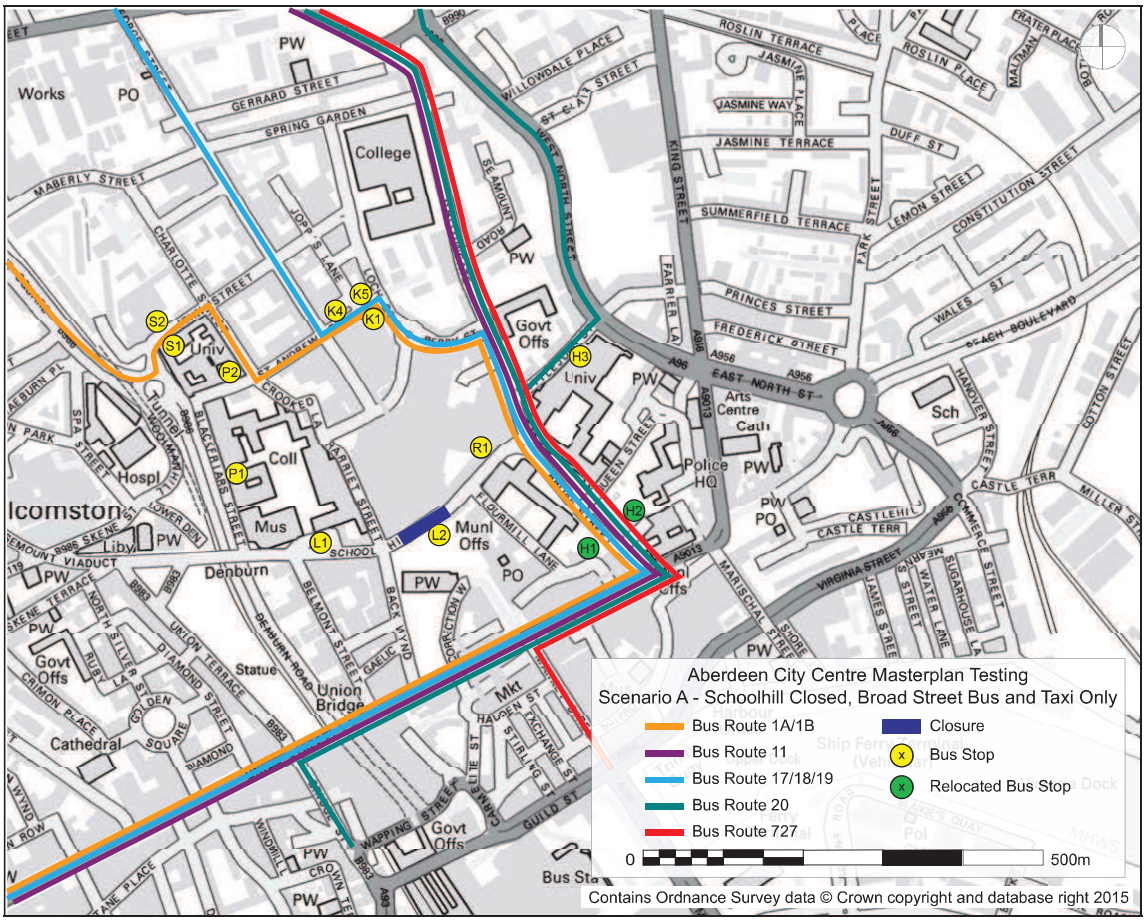

Figure 3.5 : PT Network – Scenario A

In the scenarios where Schoolhill is closed to all traffic (Figure 3.5), only the 1A/1B service is required to re-route.

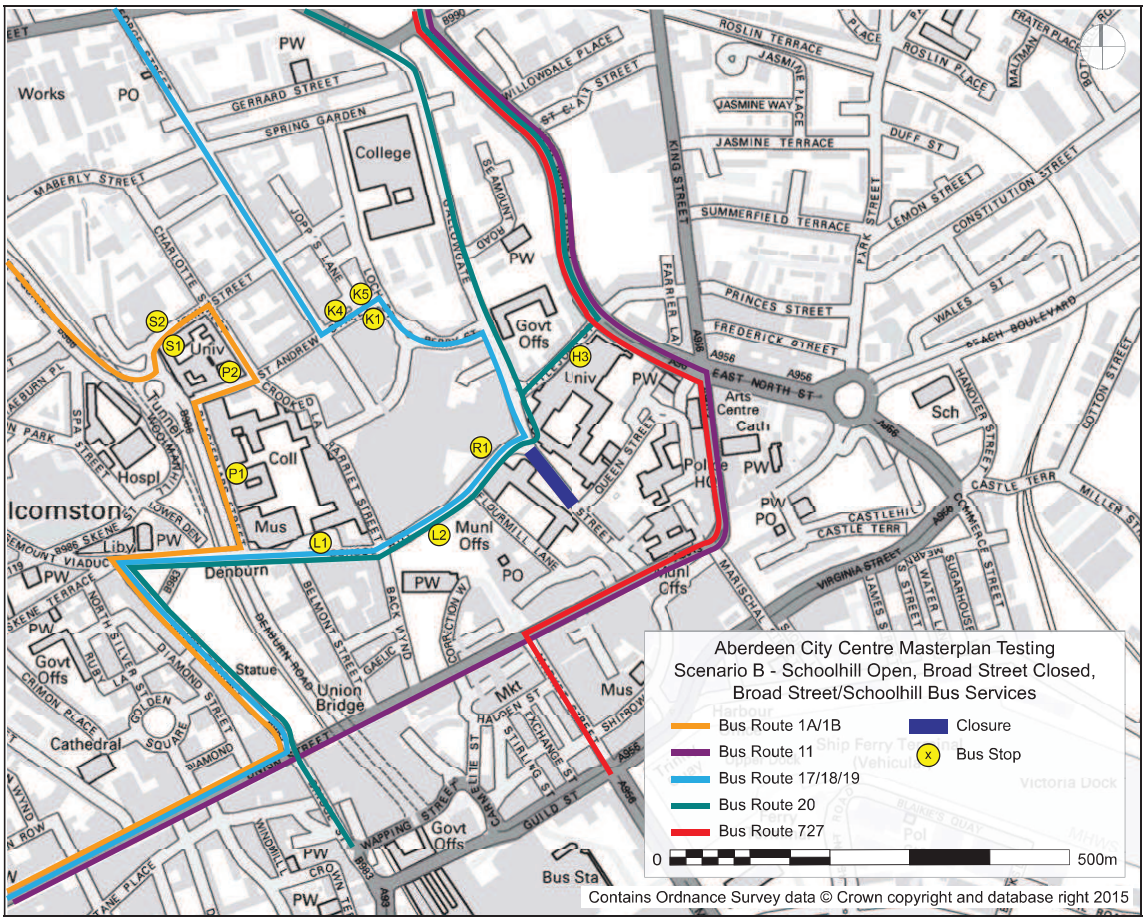

Figure 3.6 : PT Network – Scenario B

In the scenarios where Broad Street is closed to all traffic, a number of the bus services in the area are affected. These services are re-routed via either Schoolhill or King St/West North Street. It is important to note that there are fewer buses routeing fully along Union Street in this scenario.

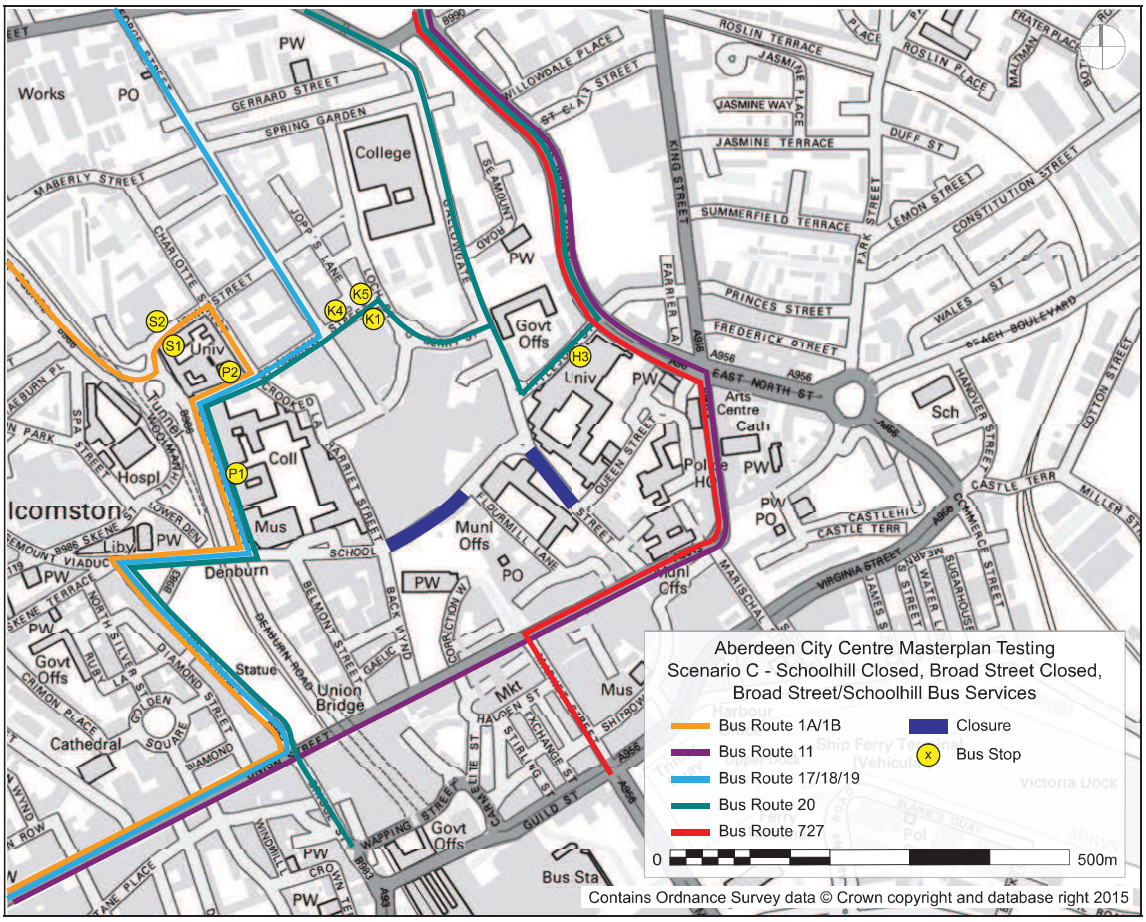

Figure 3.7 : PT Network – Scenario C

In the scenarios where Broad Street and Schoolhill is closed to all traffic, all of the noted bus services in the area are affected. These services are re-routed via either Union Terrace or King St/West North Street. It is important to note that there are fewer buses routeing fully along Union Street in this scenario.

3.5.2 Bus Stops/Bus Dwell

In each test scenario, where bus stops are removed, the dwell time of the buses at these stops is re-allocated to another nearly stop. This is undertaken based on the assumption that the number of passengers does not change between options and therefore the total bus dwell time for each service remains the same through the city centre no matter which route that they take. This also allows a clear comparison of the journey time and reliability statistics of the bus services between scenarios.

The PTU team within ACC advised SIAS of where the likely bus dwell times should be re-allocated. Appendix A details the modelled changes for the PT scenarios A to C.

3.6 Additional Network Detail

In all option test scenarios, ACC advised that the following measures should also be applied in the network to take cognisance of the revised bus route network associated with each test scenario.

3.6.1 Blackfriars St/St. Andrews Street

Where Blackfriars St joins St. Andrews Street, there is a very tight turning radius. ACC has advised that buses have difficulty in making this manoeuvre when other buses or HGVs are turning in the opposite direction. ACC advised SIAS to apply a set of traffic signals at this location in the model to replicate the delay which would be encountered by vehicles waiting to turn against traffic routeing in the opposite direction.

3.6.2 Upperkirkgate/Gallowgate

In the test scenarios where Broad Street is closed and Schoolhill is open to all traffic, the signalised junction at Upperkirkgate/Gallowgate was modelled so that the Upperkirgate arm of the junction ran separately to the Gallowgate arm. This was due to similar reasons to the Blackfriars Street/St. Andrews Street junction in that there is known difficulty in larger vehicles routeing between Gallowgate and Upperkirgate in opposing direction at the same time. This model configuration was confirmed by ACC.

4 MODEL TEST RESULTS

4.1 Introduction

This section details the test results of the eight test scenarios identified when compared against the 2023 Reference Case scenario.

It should be noted that the traffic model statistics are based upon future year traffic modelling. Traffic modelling can never be precise and it is not presented as such, because it involves assumptions about the future and driver behaviour. The model statistics shown in this report should be seen as indicative of potential changes to the network area when considering the impact of the proposals outlined in this Report.

The model test scenarios are shown in Table 4.1

Table 4.1 : Option Test Scenarios

Scenario	Broad Street		Schoolhill		Mitigation / Further Measures	Bus Route Impact
	Bus & Taxi Only	Closed	Closed	Open		
Test 1	✓			✓	-	No Change
Test 2	✓		✓		-	A .Broad St open, Schoolhill closed
Test 3		✓		✓	-	B .Broad St closed, Schoolhill open
Test 4		✓	✓		-	C .Broad St closed, Schoolhill closed
Test 5	✓			✓	Test 1 with Union Terrace B&T	No Change
Test 6	✓		✓		Test 2 with Union Terrace B&T & George St TM	A .Broad St open, Schoolhill closed
Test 7		✓		✓	Test 3 with Union Terrace B&T	B .Broad St closed, Schoolhill open
Test 8		✓	✓		Test 4 with Union Terrace B&T & George St TM	C .Broad St closed, Schoolhill closed

The statistics extracted from the models and detailed in the flowing sections are:

- Model run success
- Traffic flow difference plots
- Traffic flow volumes
- Queue Analysis
- Bus Journey Times
- Bus Reliability

4.2 Model Run Success

When running the option test traffic models, the proposed traffic restrictions within the city centre area resulted in network failure (model grid locking) in model runs for certain scenarios.

Traffic models which gridlock suggest an unstable network and give an indication that there may be major junction and corridor capacity issues throughout the area of study.

The proportion of model runs which fail through gridlock is one statistic used when comparing model scenarios. For example, if a high number of model runs fail, this suggests that there could be traffic capacity issues predicted throughout the study area.

Table 4.2 shows the model run success rate for all network scenarios.

Three model runs were undertaken for each model scenario and the table details the number of model runs that were able to be completed without grid locking.

Where models failed at the full anticipated traffic demand for 2023, the demand level was reduced by 5% and also 10% to assess whether the models could run at a lower demand level.

Table 4.2 : Model Scenario Run Success

Scenario	Broad Street		Schoolhill		Mitigation / Further Measures	Model Run Success								
	Bus & Taxi Only	Closed	Closed	Open		00% Deman			95% Demand			90% Demand		
						AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
Test 1	✓			✓	-	3/3	3/3	3/3	N/A	N/A	N/A	N/A	N/A	N/A
Test 2	✓		✓		-	3/3	3/3	3/3	N/A	N/A	N/A	N/A	N/A	N/A
Test 3		✓		✓	-	3/3	3/3	3/3	N/A	N/A	N/A	N/A	N/A	N/A
Test 4		✓	✓		-	3/3	3/3	3/3	N/A	N/A	N/A	N/A	N/A	N/A
Test 5	✓			✓	Test 1 with Union Terrace B&T	3/3	3/3	3/3	N/A	N/A	N/A	N/A	N/A	N/A
Test 6	✓		✓		Union Terrace B&T & George St TM	3/3	0/3	0/3	3/3	0/3	0/3	3/3	1/3	0/3
Test 7		✓		✓	Test 3 with Union Terrace B&T	3/3	3/3	3/3	N/A	N/A	N/A	N/A	N/A	N/A
Test 8		✓	✓		Test 4 with Union Terrace B&T & George St TM	3/3	0/3	0/3	3/3	0/3	0/3	3/3	1/3	0/3

Table 4.2 shows that all model scenarios are able to run at the full anticipated 2023 network demand with the exception of Tests 6 and 8.

Test 6 and 8 include the George Street traffic management measures as detailed in Figure 3.3. These models fail through gridlock at 100% and 95% in the PM and Saturday Peaks. At 90% demand selected PM peak models run but none of the Saturday Peak models run.

4.2.1 Reason for Network Failure, Test 6 & 8

As noted in Section 3.3: *Where restrictions on Schoolhill are proposed, traffic flow increases are observed east-west through the George Street shopping area, particularly on John Street and St. Andrews Street. A mitigation measure was therefore proposed to include traffic restriction measures through the George Street/John Street area to limit the volume of traffic through this area.*

In Tests 6 and 8, the east-west routeing traffic displaced from the George Street area is generally forced up through Skene Square and Caroline Place to Hutcheon Street. This creates a very heavy right turning demand from Caroline Place to Hutcheon Street. The traffic demand at this junction was observed to be at capacity prior to the closure of the east –west routeing through the George Street area, therefore, with these additional restrictions, the capacity of the junction is exceeded.

The modelling shows that when the Berryden Road/Hutcheon Street junction cannot cater for the increase in northbound traffic demand, the traffic migrates to routes through the Rosemount area where gridlock occurs. Figures 4.1 and 4.2 show the congestion and grid locking occurring in Test 6 in the 2023 Network - PM Peak. The same is shown for Test 8 in Figures 4.3 and 4.4.

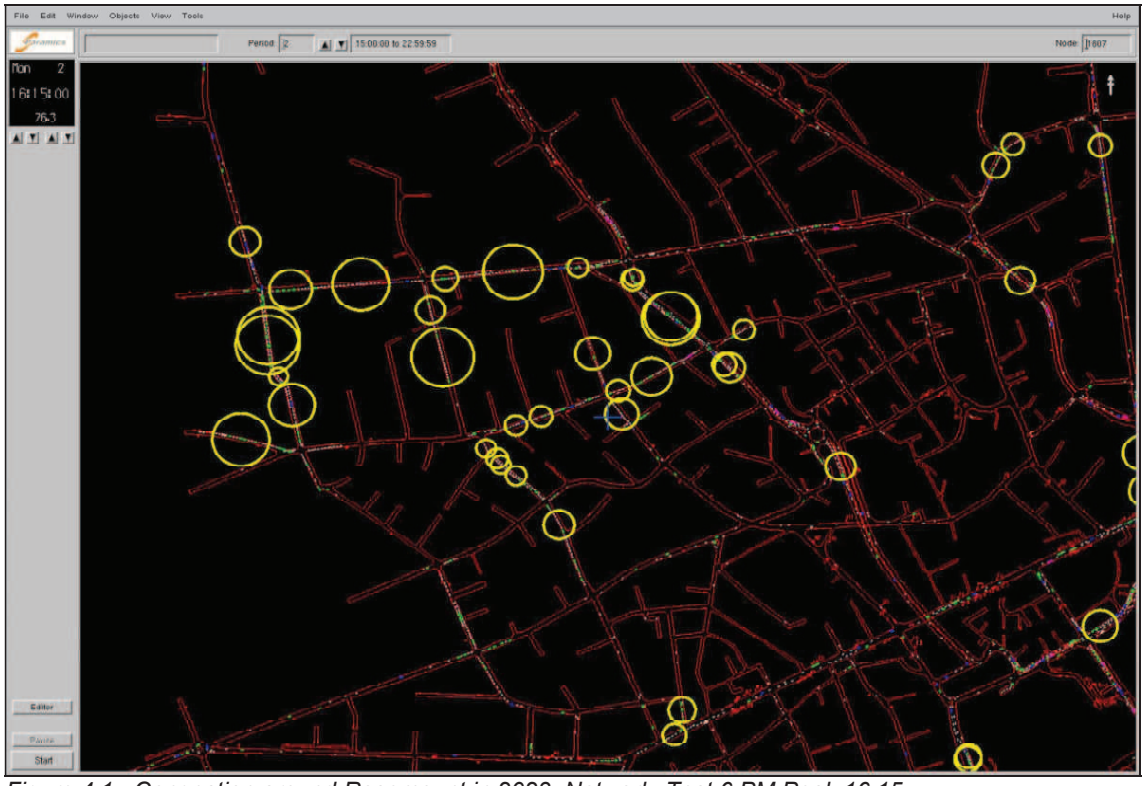

Figure 4.1 : Congestion around Rosemount in 2023 Network, Test 6 PM Peak 16:15

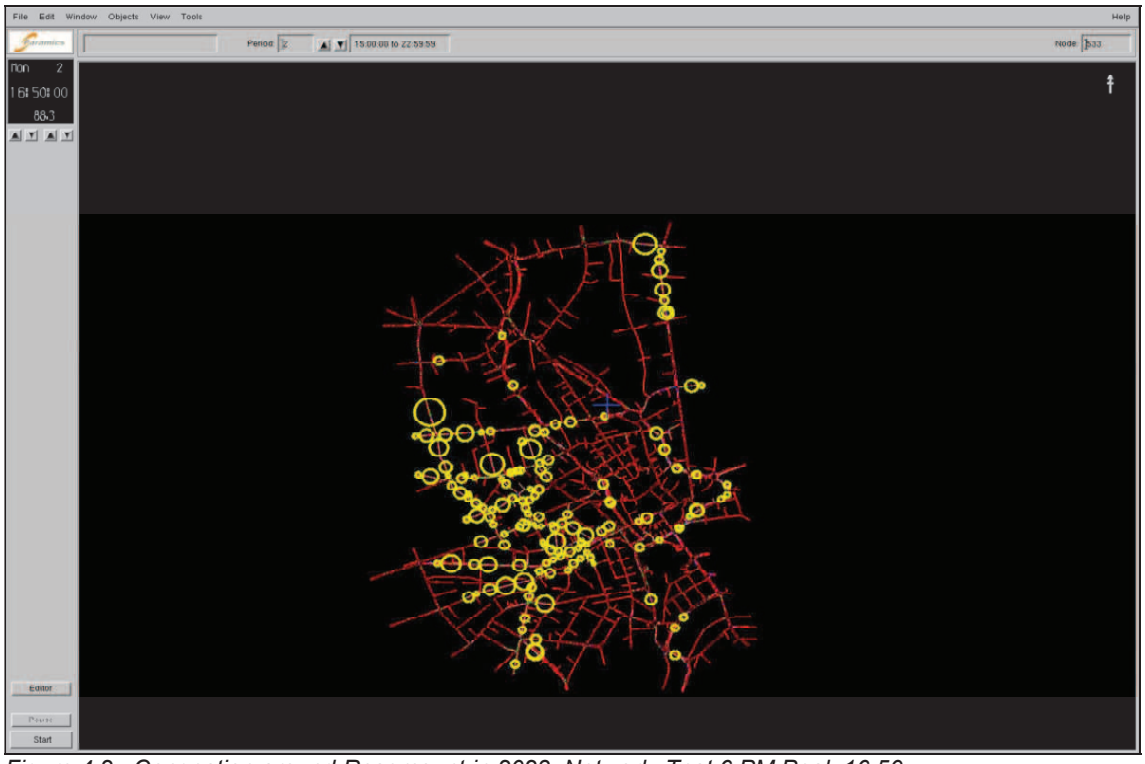

Figure 4.2 : Congestion around Rosemount in 2023 Network, Test 6 PM Peak 16:50

Figure 4.3 : Congestion around Rosemount in 2023 Network, Test 8 PM Peak 16:20

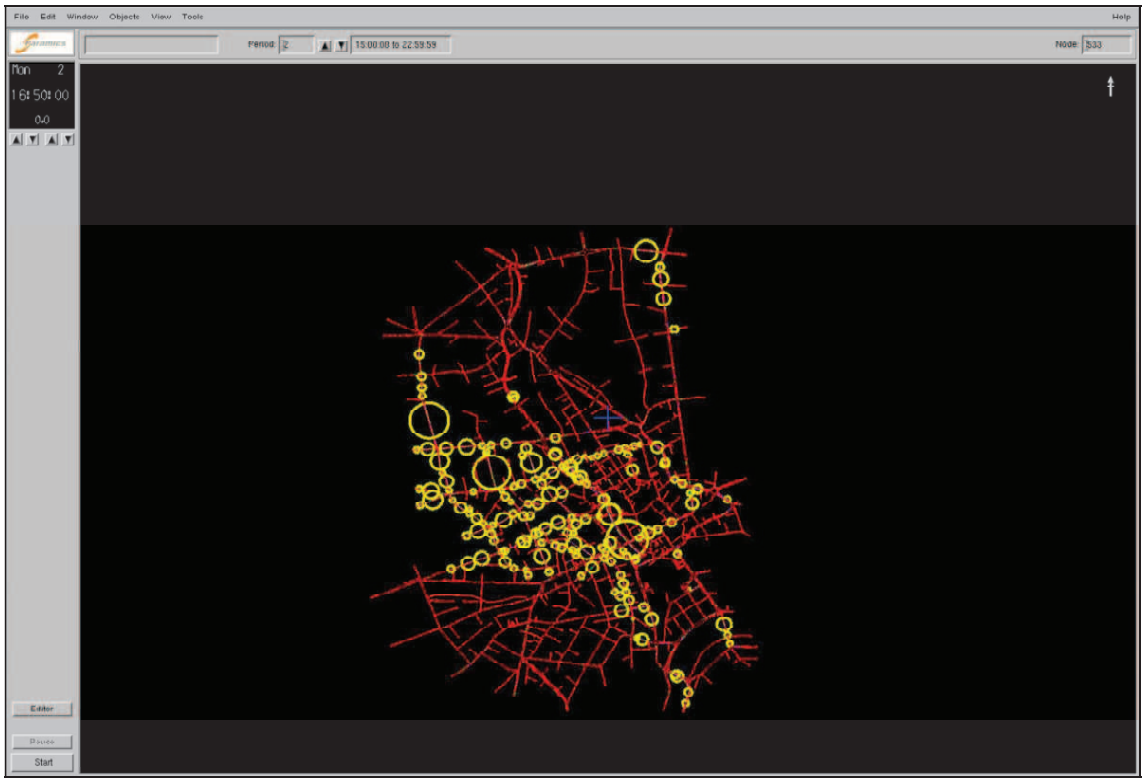

Figure 4.4 : Congestion around Rosemount in 2023 Network, Test 8 PM Peak 16:50

4.3 Traffic Flow Comparisons for Test Options 1 – 5 and 7

The impact of traffic displacement from the routes restricted by bus and taxi only measures or complete road closure was undertaken for each test scenario in the AM, PM, and Saturday peak periods.

The following figures show network plots of the difference in traffic flow between the Reference Case model and each of the test model scenarios (PM Peak figures are presented as AM and Saturday Peak figures show similar trends). Where there are red bands, this represents an increase in traffic flow and conversely, where there are blue bands, this represents a decrease in traffic flow. The width of the band is proportional to the volume of traffic flow change. For example, when Broad Street is closed to general traffic, the figure will show a wide blue band through Broad Street as the volume of traffic on this corridor is significantly reduced.

In addition to the PM Peak flow difference plots, a table summarising the key traffic flow differences are also provided for each test scenario. Appendix B provides further information on the impact of the restrictions for each test scenario.

4.3.1 Test 1: Broad Street Bus & Taxi Only

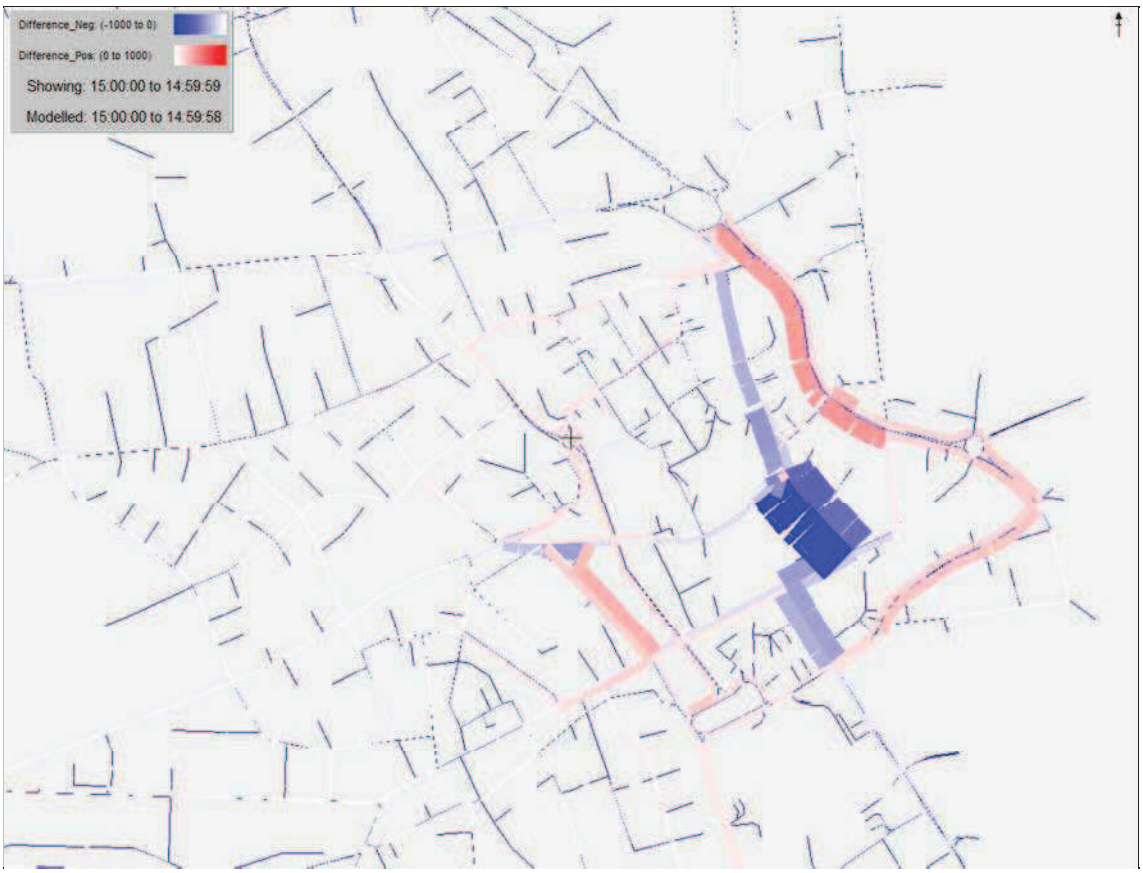

Figure 4.5 : Test 1 Flow Difference Plot – PM Peak Period – 2023 Network

Table 4.3 : Test 1, Key Flow Changes to 2023 Reference Case (vehs)

Location	Dir	AM Peak Period 06:00-10:00 2023 Ref Case (v)	AM Peak Period 06:00-10:00 Test 1 Diff to Ref Case (v)	PM Peak Period 15:00-19:00 2023 Ref Case (v)	PM Peak Period 15:00-19:00 Test 1 Diff to Ref Case (v)	Sat Peak Period 12:00 - 16:00 2023 Ref Case (v)	Sat Peak Period 12:00 - 16:00 Test 1 Diff to Ref Case (v)
Key Routes Affected by Broad Street Restrictions							
West North Street	NB	1,118	165	1,979	385	2,251	223
	SB	2,148	300	2,004	138	1,886	214
Virginia St	EB	3,028	74	4,856	148	4,000	171
	WB	3,445	137	3,047	219	3,022	329
Broad Street	NB	481	-383	1,040	-917	1,295	-1,121
	SB	785	-695	697	-620	823	-738
Union Terrace	NB	622	156	1,173	176	1,089	249
	SB	1,452	309	1,364	294	1,452	337
Denburn Rd	NB	1,708	50	4,104	120	2,613	357
	SB	3,017	24	2,354	65	2,538	6
Union Street	EB	1,678	206	1,717	-112	1,656	40
	WB	1,318	-10	1,638	104	1,587	253
Gallowgate	NB	483	-57	1,472	-273	1,666	-156
	SB	1,691	-191	1,180	-35	1,568	152

Figure 4.1 and Table 4.3 show that when Broad Street is closed to routeing traffic, there is a migration of north-south routeing traffic to the East & West North Street/Virginia Street corridor and to a smaller extend to Denburn Road. In addition, the traffic flow on Union Terrace also increases.

The Broad Street restrictions also impact on traffic flow through Gallowgate, which is significantly reduced.

4.3.2 Test 2: Broad Street Bus & Taxi Only, Schoolhill Closed

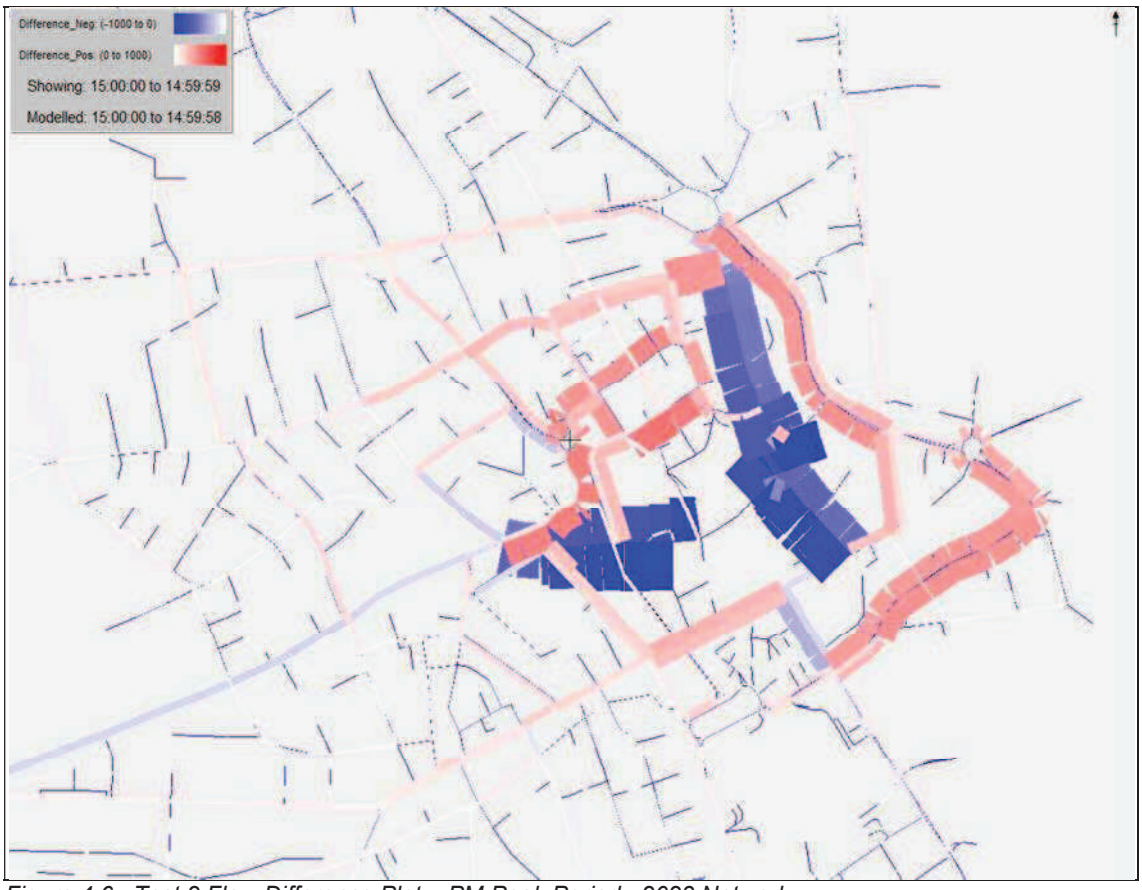

Figure 4.6 : Test 2 Flow Difference Plot – PM Peak Period– 2023 Network

Table 4.4 : Test 2, Key Flow Changes to 2023 Reference Case (vehs)

Location	Dir	AM Peak Period 06:00-10:00 2023 Ref Case (v)	AM Peak Period 06:00-10:00 Test 2 Diff to Ref Case (v)	PM Peak Period 15:00-19:00 2023 Ref Case (v)	PM Peak Period 15:00-19:00 Test 2 Diff to Ref Case (v)	Sat Peak Period 12:00 - 16:00 2023 Ref Case (v)	Sat Peak Period 12:00 - 16:00 Test 2 Diff to Ref Case (v)
Key Routes Affected by Broad Street Restrictions							
West North Street	NB	1,118	213	1,979	392	2,251	403
	SB	2,148	411	2,004	203	1,886	215
Virginia St	EB	3,028	258	4,856	383	4,000	393
	WB	3,445	263	3,047	420	3,022	447
Broad Street	NB	481	-383	1,040	-928	1,295	-1,132
	SB	785	-682	697	-617	823	-739
Union Terrace	NB	622	19	1,173	141	1,089	81
	SB	1,452	44	1,364	177	1,452	276
Denburn Rd	NB	1,708	154	4,104	82	2,613	262
	SB	3,017	-30	2,354	-39	2,538	-178
Union Street	EB	1,678	257	1,717	293	1,656	158
	WB	1,318	211	1,638	249	1,587	342
Gallowgate	NB	483	-82	1,472	-563	1,666	-424
	SB	1,691	-598	1,180	-508	1,568	-236
Key Routes Affected by Schoolhill Restrictions							
Hutcheon Street	EB	1,819	80	2,471	96	2,423	219
	WB	1,570	177	2,688	117	2,828	132
Spring Garden	EB	587	185	889	402	823	493
	WB	589	208	1,010	403	862	365
John Street	EB	1,427	486	1,813	411	1,747	508
	WB	451	221	740	262	894	191
St. Andrews Stre	EB	104	7	175	119	143	143
	WB	187	197	407	256	659	261
Schoolhill	EB	1,363	-643	1,721	-756	2,004	-979
	WB	1,034	-916	1,438	-1,114	1,387	-1,205

Figure 4.2 and Table 4.4 show that when Broad Street and Schoolhill are closed to routeing traffic, in addition to the flow changes noted in Test 1, there is a migration of east-west routeing traffic from Schoolhill to the George Street area, particularly through John St, St. Andrews St., and Spring Garden.

There is also a wider migration of east-west routeing traffic to Hutcheon Street in the north, and Union Street in the South.

4.3.3 Test 3: Broad Street Closed

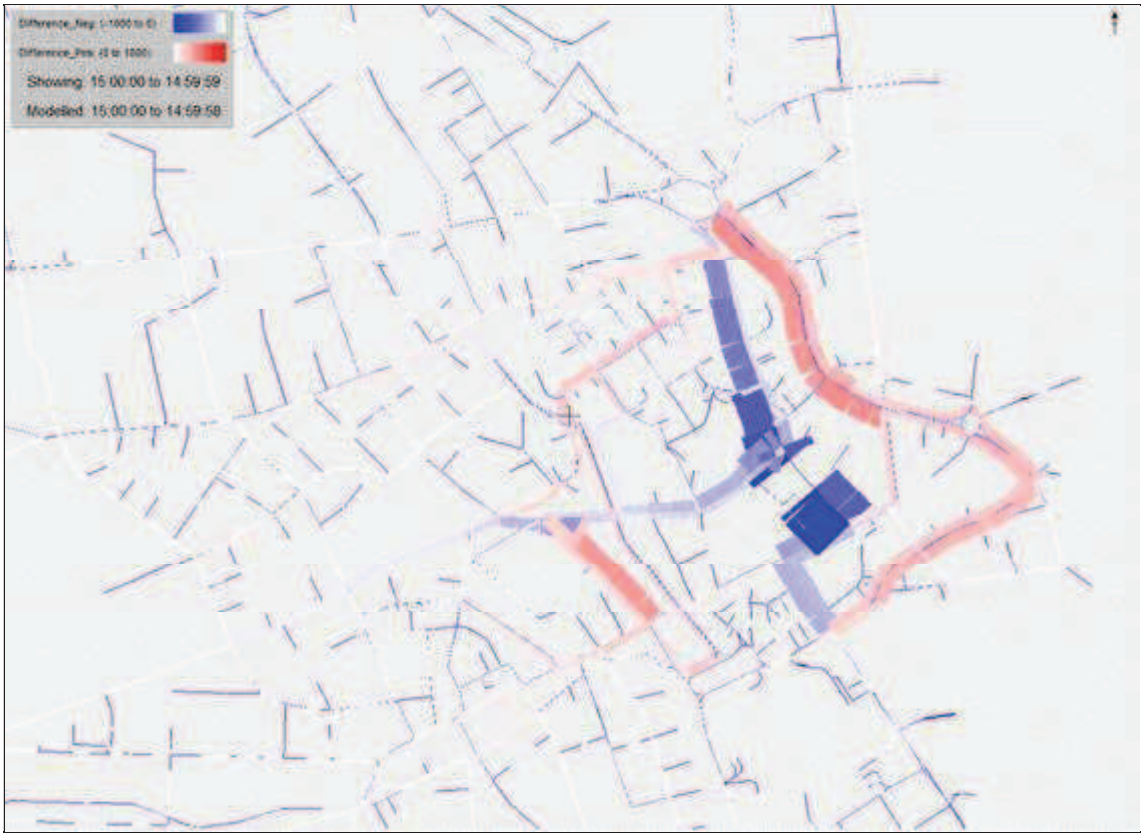

Figure 4.7 : Test 3 Flow Difference Plot – PM Peak Period– 2023 Network

Table 4.5 : Test 3, Key Flow Changes to 2023 Reference Case (vehs)

Location	Dir	AM Peak Period 06:00-10:00 2023 Ref Case (v)	AM Peak Period 06:00-10:00 Test 3 Diff to Ref Case (v)	PM Peak Period 15:00-19:00 2023 Ref Case (v)	PM Peak Period 15:00-19:00 Test 3 Diff to Ref Case (v)	Sat Peak Period 12:00 - 16:00 2023 Ref Case (v)	Sat Peak Period 12:00 - 16:00 Test 3 Diff to Ref Case (v)
Key Routes Affected by Broad Street Restrictions							
West North Stree	NB	1,118	212	1,979	391	2,251	298
	SB	2,148	353	2,004	242	1,886	316
Virginia St	EB	3,028	76	4,856	204	4,000	248
	WB	3,445	169	3,047	273	3,022	350
Broad Street	NB	481	-481	1,040	-1,040	1,295	-1,295
	SB	785	-785	697	-697	823	-823
Union Terrace	NB	622	152	1,173	155	1,089	170
	SB	1,452	370	1,364	392	1,452	355
Denburn Rd	NB	1,708	74	4,104	127	2,613	414
	SB	3,017	53	2,354	-77	2,538	-73
Union Street	EB	1,678	174	1,717	12	1,656	87
	WB	1,318	-9	1,638	86	1,587	259
Gallowgate	NB	483	-127	1,472	-449	1,666	-424
	SB	1,691	-311	1,180	-124	1,568	-72

Figure 4.3 and Table 4.5 show very similar traffic flow changes to Test 1 as in both scenarios, Broad Street is closed to routeing traffic. The difference between the two options relates to the PT network operation only.

4.3.4 Test 4: Broad Street and Schoolhill Closed

Figure 4.8 : Test 4 Flow Difference Plot – PM Peak Period– 2023 Network

Table 4.6 : Test 4, Key Flow Changes to 2023 Reference Case (vehs)

Location	Dir	AM Peak Period 06:00-10:00 2023 Ref Case (v)	AM Peak Period 06:00-10:00 Test 4 Diff to Ref Case (v)	PM Peak Period 15:00-19:00 2023 Ref Case (v)	PM Peak Period 15:00-19:00 Test 4 Diff to Ref Case (v)	Sat Peak Period 12:00 - 16:00 2023 Ref Case (v)	Sat Peak Period 12:00 - 16:00 Test 4 Diff to Ref Case (v)
Key Routes Affected by Broad Street Restrictions							
West North Street	NB	1,118	246	1,979	431	2,251	448
	SB	2,148	402	2,004	169	1,886	267
Virginia St	EB	3,028	219	4,856	397	4,000	477
	WB	3,445	220	3,047	369	3,022	448
Broad Street	NB	481	-481	1,040	-1,040	1,295	-1,295
	SB	785	-785	697	-697	823	-823
Union Terrace	NB	622	74	1,173	177	1,089	86
	SB	1,452	107	1,364	233	1,452	330
Denburn Rd	NB	1,708	127	4,104	70	2,613	356
	SB	3,017	21	2,354	22	2,538	-252
Union Street	EB	1,678	239	1,717	219	1,656	152
	WB	1,318	162	1,638	304	1,587	374
Gallowgate	NB	483	-89	1,472	-558	1,666	-434
	SB	1,691	-676	1,180	-540	1,568	-260
Key Routes Affected by Schoolhill Restrictions							
Hutcheon Street	EB	1,819	134	2,471	152	2,423	217
	WB	1,570	169	2,688	129	2,828	115
Spring Garden	EB	587	146	889	368	823	398
	WB	589	245	1,010	328	862	349
John Street	EB	1,427	487	1,813	437	1,747	514
	WB	451	238	740	256	894	259
St. Andrews Stre	EB	104	59	175	87	143	126
	WB	187	216	407	234	659	218
Schoolhill	EB	1,363	-633	1,721	-711	2,004	-932
	WB	1,034	-917	1,438	-1,120	1,387	-1,204

Figure 4.4 and Table 4.6 show very similar traffic flow changes to Test 2 as in both scenarios, Broad Street and Schoolhill are closed to routeing traffic. The difference between the two options relates to the PT network operation only.

4.3.5 Test 5: Broad Street & Union Terrace Bus & Taxi Only

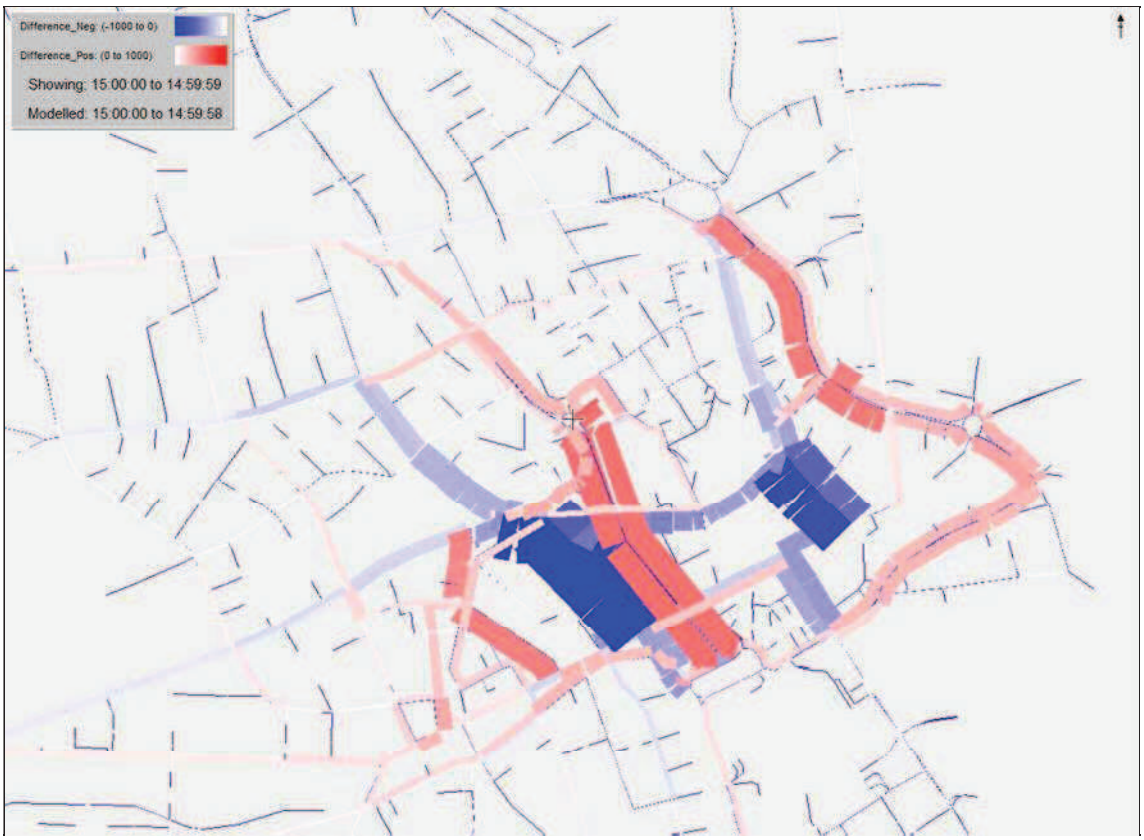

Figure 4.9 : Test 5 Flow Difference Plot – PM Peak Period– 2023 Network

Table 4.7 : Test 5, Key Flow Changes to 2023 Reference Case (vehs)

Location	Dir	AM Peak Period 2023 Ref Case (v)	AM Peak Period Test 5 Diff to Ref Case (v)	PM Peak Period 2023 Ref Case (v)	PM Peak Period Test 5 Diff to Ref Case (v)	Sat Peak Period 2023 Ref Case (v)	Sat Peak Period Test 5 Diff to Ref Case (v)
Key Routes Affected by Broad Street Restrictions							
West North Street	NB	1,118	247	1,979	502	2,251	364
	SB	2,148	314	2,004	208	1,886	301
Virginia St	EB	3,028	133	4,856	266	4,000	270
	WB	3,445	162	3,047	279	3,022	309
Broad Street	NB	481	-382	1,040	-923	1,295	-1,138
	SB	785	-687	697	-622	823	-738
Union Terrace	NB	622	-541	1,173	-1,074	1,089	-1,000
	SB	1,452	-1,321	1,364	-1,227	1,452	-1,331
Denburn Rd	NB	1,708	199	4,104	555	2,613	805
	SB	3,017	628	2,354	549	2,538	486
Union Street	EB	1,678	-138	1,717	-181	1,656	-206
	WB	1,318	102	1,638	223	1,587	379
Gallowgate	NB	483	1	1,472	-208	1,666	-40
	SB	1,691	-328	1,180	-153	1,568	40
Key Route Affected by Union Terrace Restriction							
Huntly St	NB	745	324	797	495	688	531
Summer St	NB	701	81	586	451	583	398
	SB	527	152	593	223	567	359

Figure 4.5 and Table 4.7 show similar traffic flow changes to Test 1, associated with the restrictions through Broad Street. The additional restriction to traffic through Union Terrace addresses the increased traffic volumes observed through this route in Test 1, and primarily pushes traffic out to the East/West North Street corridor.

There is an increase in local routeing through the Huntly Street and Summer Street corridors as traffic seeks to route between Union Street and Skene Street/Rosemount Viaduct. Traffic management measures should be considered through these routes in the scenarios where bus and taxi only measures are proposed for Union Terrace.

4.3.6 Test 6: Broad Street & Union Terrace Bus & Taxi Only, Schoolhill Closed, George Street Traffic Management

As noted in Section 4.2, the Test 6 scenario does not run at the full traffic demand without network grid locking. Traffic flow differences between the test scenario and the Reference Case cannot therefore be assessed. The primary statistic in this case is that the models do not run at the full anticipated demand.

4.3.7 Test 7: Broad Street Closed, Union Terrace Bus & Taxi Only

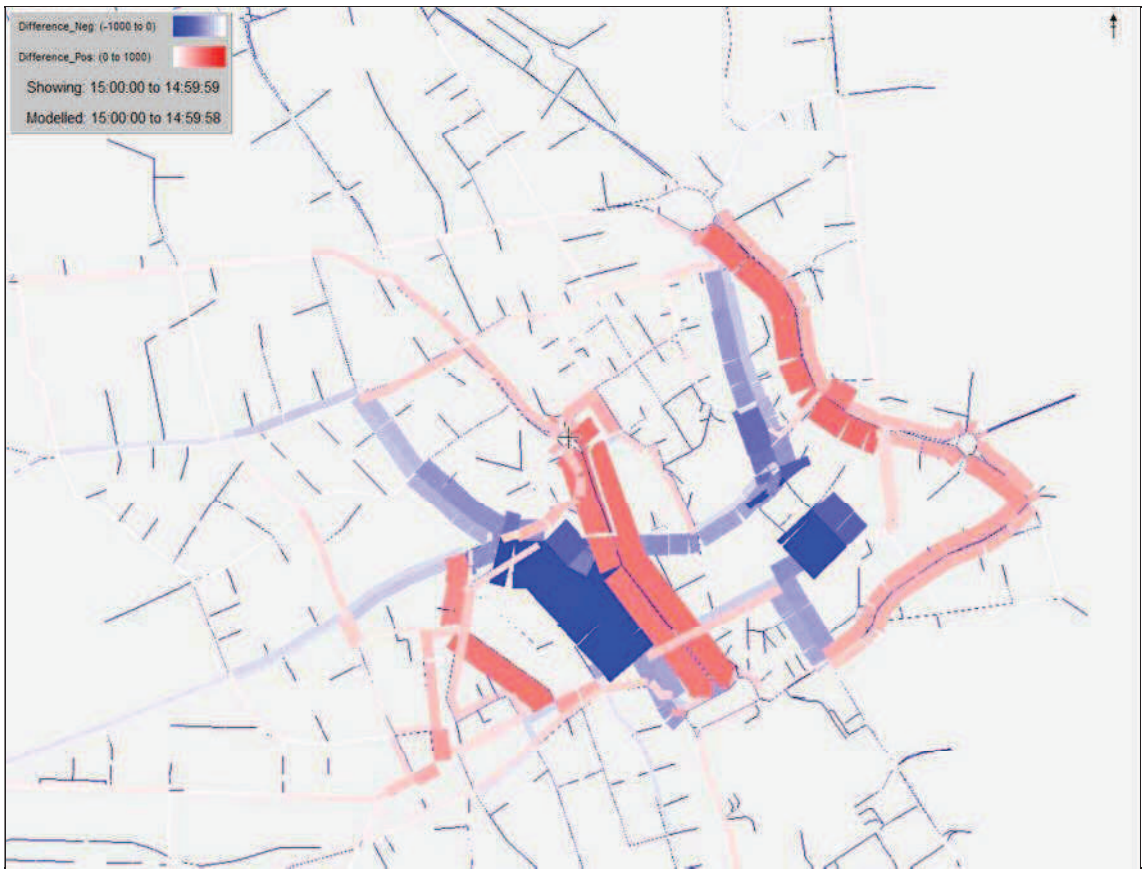

Figure 4.10 : Test 7 Flow Difference Plot – PM Peak Period– 2023 Network

Table 4.8 : Test 7, Key Flow Changes to 2023 Reference Case (vehs)

Location	Dir	AM Peak Period 2023 Ref Case (v)	AM Peak Period Test 7 Diff to Ref Case (v)	PM Peak Period 2023 Ref Case v	PM Peak Period Test 7 Diff to Ref Case v	Sat Peak Period 2023 Ref Case v	Sat Peak Period Test 7 Diff to Ref Case v
Key Routes Affected by Broad Street Restrictions							
West North Street	NB	1,118	279	1,979	535	2,251	467
	SB	2,148	431	2,004	287	1,886	360
Virginia St	EB	3,028	152	4,856	312	4,000	310
	WB	3,445	222	3,047	277	3,022	323
Broad Street	NB	481	-481	1,040	-1,040	1,295	-1,295
	SB	785	-785	697	-697	823	-823
Union Terrace	NB	622	-462	1,173	-1,012	1,089	-925
	SB	1,452	-1,249	1,364	-1,175	1,452	-1,247
Denburn Rd	NB	1,708	173	4,104	512	2,613	757
	SB	3,017	616	2,354	534	2,538	460
Union Street	EB	1,678	-143	1,717	-176	1,656	-163
	WB	1,318	58	1,638	206	1,587	343
Gallowgate	NB	483	-109	1,472	-360	1,666	-301
	SB	1,691	-437	1,180	-217	1,568	-67
Key Route Affected by Union Terrace Restriction							
Huntly St	NB	745	332	797	524	688	541
Summer St	NB	701	60	586	426	583	368
	SB	527	146	593	217	567	305

Figure 4.6 and Table 4.8 show similar traffic flow changes to Test 5, associated with the restrictions through Broad Street and Union Terrace. The key difference between these scenarios relates to the operation of the bus network as Test 7 required buses to re-route away from Broad Street. This is covered in Section 5.

4.3.8 Test 8: Broad Street & Schoolhill Closed, Union Terrace Bus & Taxi Only, George Street Traffic Management

As noted in Section 4.2, the Test 8 scenario does not run at the full traffic demand without network grid locking. Traffic flow differences between the test scenario and the Reference Case cannot therefore be assessed. The primary statistic in this case is that the models do not run at the full anticipated demand.

4.4 Queue Analysis

In order to simply quantify and compare the extent of traffic queueing in the model scenarios, network queueing can be assessed over a specified area rather than link by link. This allows for a general review of traffic queueing differences for schemes covering wide areas.

Traffic queueing was assessed over the full model network and also the city centre core area. Figures 4.7 to 4.12 show the queue graphs for all test scenarios which could run at full demand (not Test 6 and 8) in the AM, PM, and Saturday Peak periods.

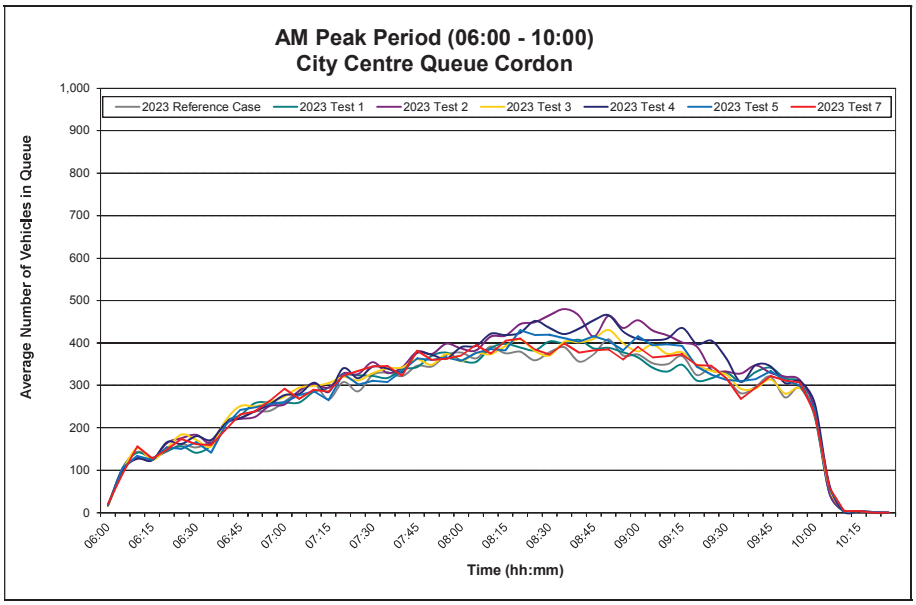

Figure 4.11 : AM Peak Period – City Centre Queue Cordon – 2023 Network

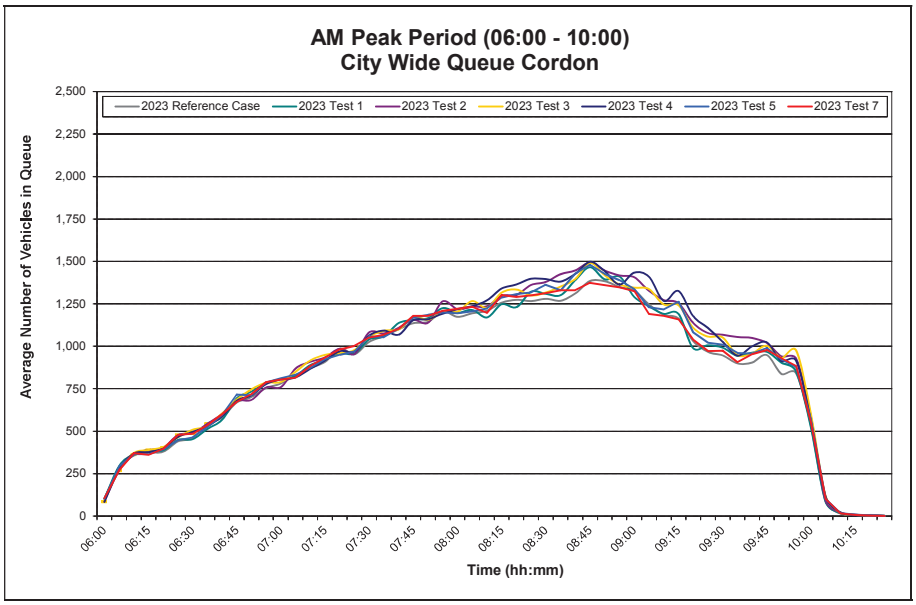

Figure 4.12 : AM Peak Period – City Wide Queue Cordon – 2023 Network

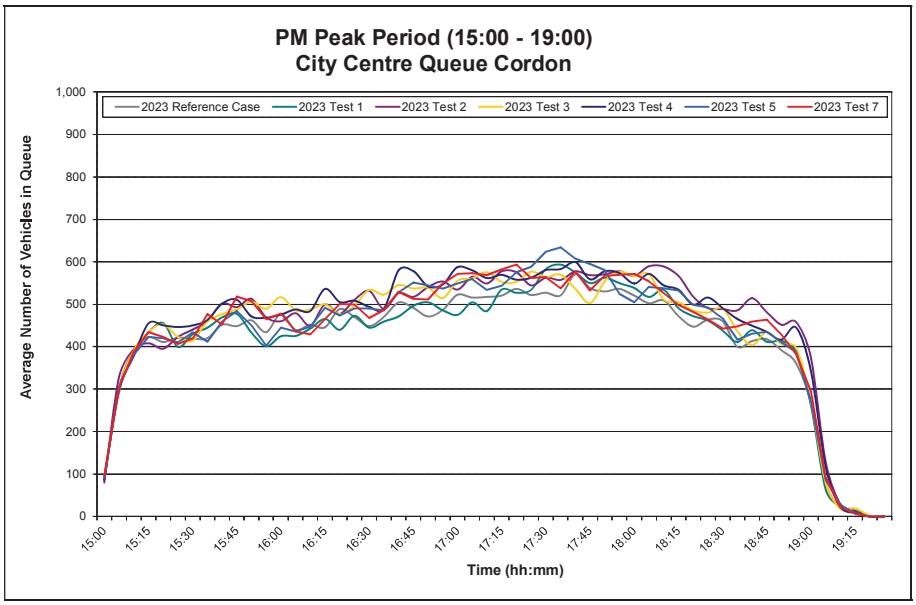

Figure 4.13 : PM Peak Period – City Centre Queue Cordon – 2023 Network

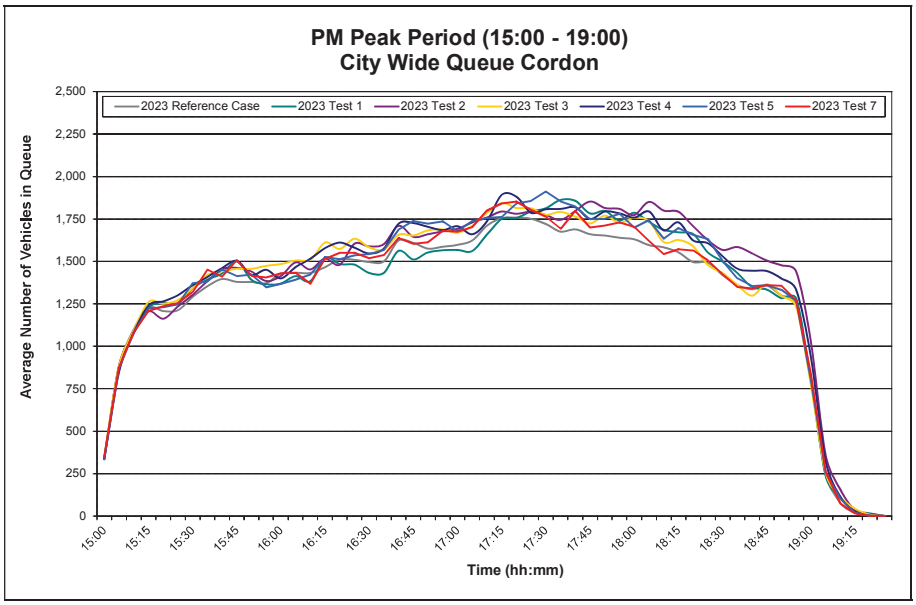

Figure 4.14 : PM Peak Period – City Wide Queue Cordon – 2023 Network

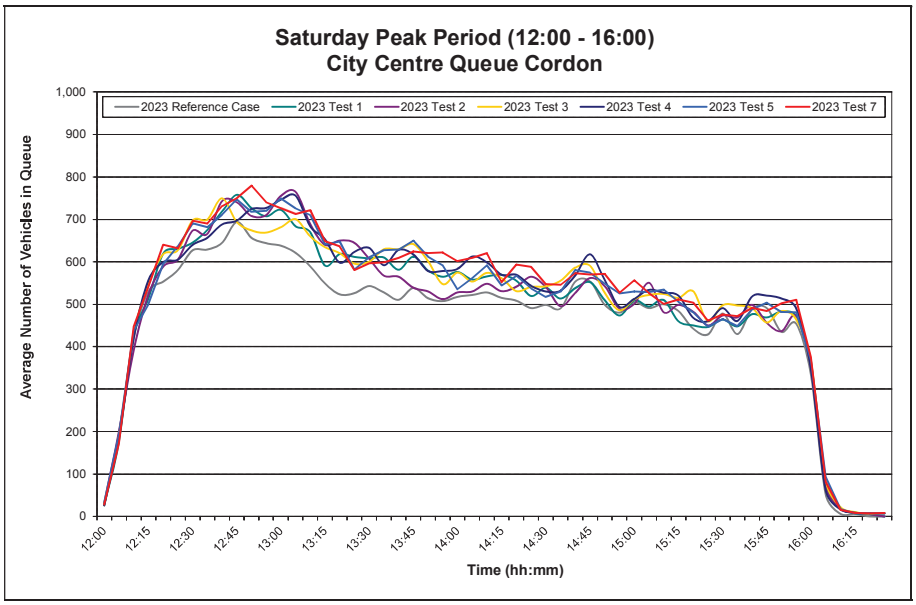

Figure 4.15 : Saturday Peak Period – City Centre Queue Cordon – 2023 Network

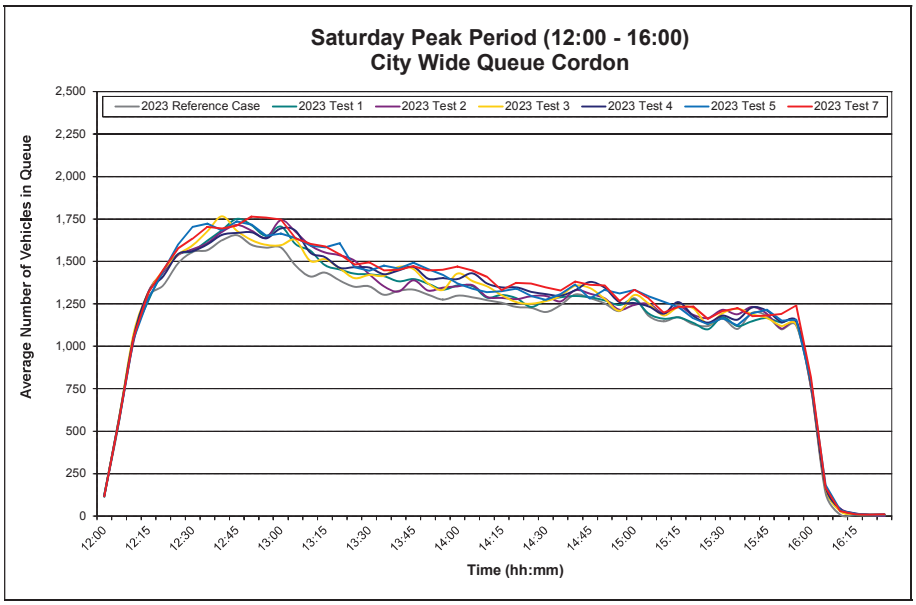

Figure 4.16 : Saturday Peak Period – City Wide Queue Cordon – 2023 Network

Figures 4.7 to 4.12 show that, in all peak periods, there is little difference in traffic queue levels between the test scenarios (excluding tests 6 and 8) within the core city centre area or through the wider model extent.

This outcome suggests that the traffic queueing which occurs within the Broad Street, Schoolhill, and Union Terrace area in the 2023 Reference Case, transfers to the routes identified in the traffic flow difference plots. There is, therefore, no net detriment to queue levels within the city centre as a whole when restrictions to routeing traffic are included within the core areas of Schoolhill, Broad Street, and Union Terrace.

5 MODEL TEST RESULTS: PUBLIC TRANSPORT ASSESSMENT

5.1 Bus Journey Time Assessment

In order to assess the impact of the various traffic restriction proposals on the public transport network, bus journey times were extracted from the models throughout the period for the services which used Broad Street and Schoolhill

5.1.1 Full Modelled Route Assessment

Appendix C provides the average journey time statistics for individual routes directly affected by the Broad Street and Schoolhill traffic restriction proposals. Appendix C also provides the average journey time for selected bus services indirectly affected by the proposed traffic restrictions.

Table 5.1 provides a summary of the average bus journey time within the study area for the services directly affected by the proposed restrictions.

Table 5.1 : Average Bus Journey Times (mm:ss)

Average Bus Journey Times Compared to the 2023 Reference Case		AM Peak Period (06:00 - 10:00) Bus Route Buses diverted due to closure	PM Peak Period (15:00 - 19:00) Bus Route Buses diverted due to closure	Saturday Peak Period (12:00 - 16:00) Bus Route Buses diverted due to closure
	2023 Reference Case Journey Time ([h]:mm:ss)	0:21:32	0:20:57	0:21:41
2023 Test 1	Journey Time ([h]:mm:ss)	0:21:14	0:20:54	0:21:34
	Absolute Difference ([h]:mm:ss)	-0:00:18	-0:00:03	-0:00:07
	Percentage Difference	-1.39%	-0.27%	-0.52%
2023 Test 2	Journey Time ([h]:mm:ss)	0:20:56	0:20:45	0:20:54
	Absolute Difference ([h]:mm:ss)	-0:00:36	-0:00:12	-0:00:47
	Percentage Difference	-2.75%	-0.97%	-3.59%
2023 Test 3	Journey Time ([h]:mm:ss)	0:21:01	0:20:58	0:21:20
	Absolute Difference ([h]:mm:ss)	-0:00:31	0:00:00	-0:00:21
	Percentage Difference	-2.37%	0.02%	-1.62%
2023 Test 4	Journey Time ([h]:mm:ss)	0:21:24	0:21:21	0:21:42
	Absolute Difference ([h]:mm:ss)	-0:00:07	0:00:24	0:00:01
	Percentage Difference	-0.56%	1.90%	0.06%
2023 Test 5	Journey Time ([h]:mm:ss)	0:21:17	0:20:56	0:21:22
	Absolute Difference ([h]:mm:ss)	-0:00:15	-0:00:01	-0:00:19
	Percentage Difference	-1.17%	-0.08%	-1.43%
2023 Test 7	Journey Time ([h]:mm:ss)	0:20:47	0:20:41	0:21:25
	Absolute Difference ([h]:mm:ss)	-0:00:44	-0:00:16	-0:00:16
	Percentage Difference	-3.42%	-1.27%	-1.26%

Table 5.1 shows that, in general, there is a slight improvement to the average journey time of the buses directly affected by the proposed restrictions in each test option. The results do not show any significant improvement or detriment to the overall bus journey time through the model network.

Appendix C shows that, for the indirectly affected services assessed, there is a generally a slight detriment to the journey time of services routeing along Union Street. This could be attributed to the slight increase in traffic observed on Union Street in the traffic flow assessment for each test scenario.

5.1.2 City Centre Assessment

The journey time results detailed in Table 5.1 are based on the time it takes for the buses to complete their full route through the modelled network. It should be recognised that these bus services are routeing through areas of the network where traffic may have increased as a result of displacement from the proposed restrictions. From this, it was deemed pertinent to assess the bus journey times through the core area of the city centre to ascertain whether the proposed bus and taxi only restrictions were improving the journey time of buses traversing the city centre network.

The key services routeing through the Broad Street (First Bus 19, Bluebird 727) and Union Terrace (Bluebird 35) were selected to assess the impact of the proposed city centre restrictions on bus journey times through the city centre area only.

Table 5.2 provides a summary of the average bus journey time for these services through the city centre area.

Appendix D provides the average journey time through the city centre area for each individual bus service.

Table 5.2 : Average Bus Journey Times through City Centre, Selected Routes (mm:ss)

Average Bus Journey Times Compared to the 2023 Reference Case		AM Peak Period (06:00 - 10:00) Bus Route Buses diverted due to closure	PM Peak Period (15:00 - 19:00) Bus Route Buses diverted due to closure	Saturday Peak Period (12:00 - 16:00) Bus Route Buses diverted due to closure
	2023 Reference Case Journey Time ([h]:mm:ss)	0:09:19	0:09:41	0:09:14
2023 Test 1	Journey Time ([h]:mm:ss)	0:09:16	0:09:05	0:10:15
	Absolute Difference ([h]:mm:ss)	-0:00:02	-0:00:36	0:01:01
	Percentage Difference	▲ -0.44%	▲ -6.20%	▼ 10.95%
2023 Test 2	Journey Time ([h]:mm:ss)	0:07:23	0:09:21	0:09:30
	Absolute Difference ([h]:mm:ss)	-0:01:55	-0:00:20	0:00:16
	Percentage Difference	▲ -20.66%	▲ -3.43%	▼ 2.89%
2023 Test 3	Journey Time ([h]:mm:ss)	0:07:43	0:10:04	0:10:07
	Absolute Difference ([h]:mm:ss)	-0:00:02	-0:00:36	0:01:01
	Percentage Difference	▲ -0.44%	▲ -6.20%	▼ 10.95%
2023 Test 4	Journey Time ([h]:mm:ss)	0:07:45	0:10:02	0:10:20
	Absolute Difference ([h]:mm:ss)	-0:01:34	0:00:21	0:01:06
	Percentage Difference	▲ -16.86%	▼ 3.68%	▼ 11.88%
2023 Test 5	Journey Time ([h]:mm:ss)	0:07:13	0:09:12	0:09:15
	Absolute Difference ([h]:mm:ss)	-0:02:05	-0:00:29	0:00:01
	Percentage Difference	▲ -22.42%	▲ -4.93%	▼ 0.11%
2023 Test 7	Journey Time ([h]:mm:ss)	0:10:24	0:09:41	0:10:01
	Absolute Difference ([h]:mm:ss)	0:01:05	0:00:01	0:00:47
	Percentage Difference	▼ 11.65%	▬ 0.09%	▼ 8.43%

Table 5.2 and Appendix D show that the journey times through the core area of the city centre also vary between services across all the option test scenarios. These mixed journey time results can be attributed to a combination of factors occurring in each of the test scenarios including:

- Differences in route length when re-routeing is required
- Traffic displacement
- Signal timing changes

5.2 Bus Reliability

5.2.1 Introduction

In addition to the consideration of bus journey time changes, it is important to consider any changes to the reliability of the public transport network. To quantify bus reliability in a traffic model, the spread of journey times for each service across the modelled period can be extracted from the model. The difference between the quickest and slowest journey time for that service to complete its route on the various number of trips through the network can be deemed the spread of journey times. The higher the spread of journey times, the less reliable the service is and visa versa.

Figure 5.1 shows a graphical example of the concept of journey time spread. The figure shows that one bus route is quicker than the other but the spread of journey times is greater, so less reliable.

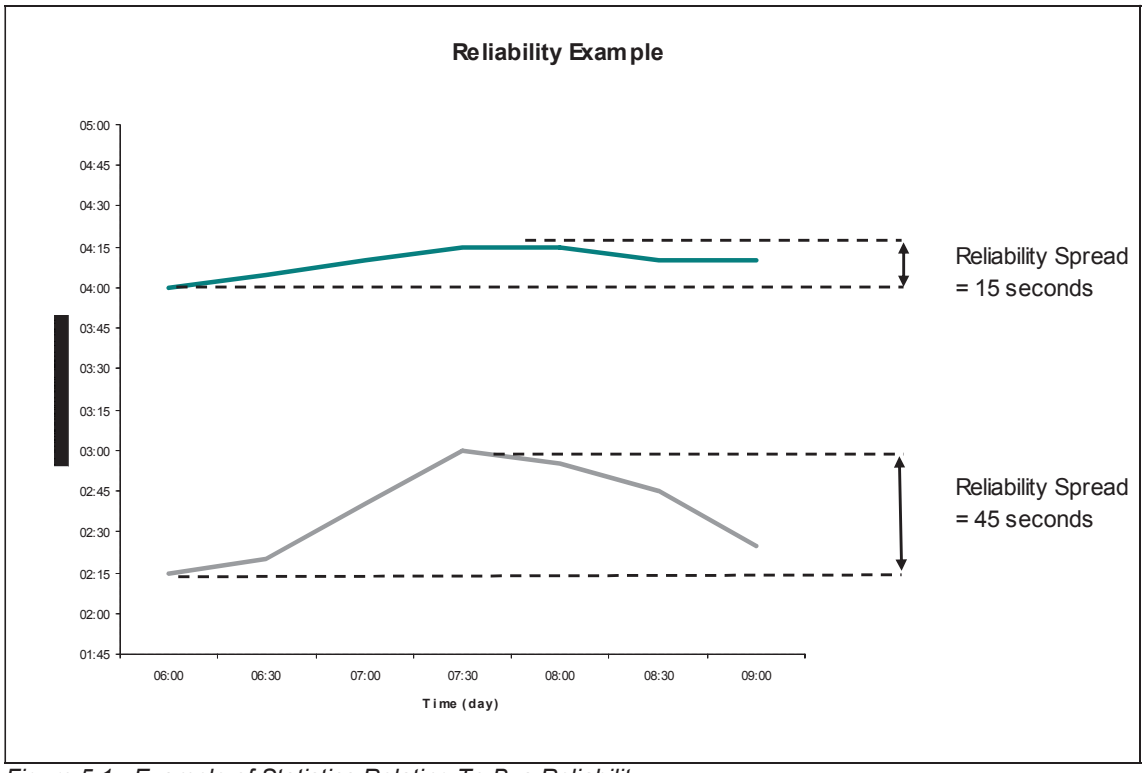

Figure 5.1 : Example of Statistics Relating To Bus Reliability

5.2.2 Full Modelled Route Assessment

Table 5.3 provides a summary of the bus journey time variance for the services directly affected by the proposed restrictions. Appendix E provides the reliability statistics for each individual route for those directly affected by the proposed restrictions and selected bus services indirectly affected by the proposed traffic restrictions.

Table 5.3 : Journey Time Variance for Directly Affected Services (mm:ss)

Variance in Bus Journey Times Compared to the 2023 Reference Case		AM Peak Period (06:00 - 10:00) Bus Route Buses diverted due to closure	PM Peak Period (15:00 - 19:00) Bus Route Buses diverted due to closure	Saturday Peak Period (12:00 - 16:00) Bus Route Buses diverted due to closure
	2023 Reference Case Journey Time ([h]:mm:ss)	0:06:39	0:07:02	0:07:05
2023 Test 1	Average Variance ([h]:mm:ss)	0:04:39	0:07:33	0:06:47
	Absolute Difference ([h]:mm:ss)	-0:02:00	0:00:30	-0:00:18
	Percentage Difference	-30.15%	7.13%	-4.25%
2023 Test 2	Average Variance ([h]:mm:ss)	0:05:40	0:06:58	0:07:15
	Absolute Difference ([h]:mm:ss)	-0:01:00	-0:00:05	0:00:10
	Percentage Difference	-14.97%	-1.12%	2.35%
2023 Test 3	Average Variance ([h]:mm:ss)	0:04:56	0:06:17	0:06:52
	Absolute Difference ([h]:mm:ss)	-0:01:43	-0:00:45	-0:00:14
	Percentage Difference	-25.84%	-10.73%	-3.18%
2023 Test 4	Average Variance ([h]:mm:ss)	0:05:21	0:06:42	0:06:55
	Absolute Difference ([h]:mm:ss)	-0:01:18	-0:00:21	-0:00:11
	Percentage Difference	-19.65%	-4.94%	-2.49%
2023 Test 5	Average Variance ([h]:mm:ss)	0:04:45	0:06:06	0:06:46
	Absolute Difference ([h]:mm:ss)	-0:01:55	-0:00:56	-0:00:19
	Percentage Difference	-28.73%	-13.37%	-4.47%
2023 Test 7	Average Variance ([h]:mm:ss)	0:04:46	0:05:55	0:06:36
	Absolute Difference ([h]:mm:ss)	-0:01:53	-0:01:08	-0:00:30
	Percentage Difference	-28.36%	-16.07%	-6.96%

Table 5.3 shows that there is generally an improvement to bus reliability for the key affected services in each of the test options considered. This suggests that the proposed restrictions to general traffic have a positive impact on bus reliability within the city centre area. This occurs when Broad Street is either closed to general traffic or all traffic and whether Schoolhill is closed to all traffic or open.

5.2.3 City Centre Assessment

As per the bus journey time assessment, the bus reliability through the core area of the city centre was considered to ascertain whether the proposed bus and taxi only restrictions were improving the reliability of buses traversing the city centre network.

The key services routeing through the Broad Street (First Bus 19, Bluebird 727) and Union Terrace (Bluebird 35) were selected to assess the impact of the proposed city centre restrictions on bus reliability through the city centre area only.

Table 5.4 provides a summary of the journey time variance for these services through the city centre area.

Appendix F provides the average journey time through the city centre area for each individual bus service.

Table 5.4 : Journey Time Variance (Cumulative) for Selected Services through City Centre (mm:ss)

Variance in Bus Journey Times Compared to the 2023 Reference Case		AM Peak Period (06:00 - 10:00) Bus Route Buses diverted due to closure	PM Peak Period (15:00 - 19:00) Bus Route Buses diverted due to closure	Saturday Peak Period (12:00 - 16:00) Bus Route Buses diverted due to closure
	2023 Reference Case Journey Time ([h]:mm:ss)	0:04:57	0:06:13	0:06:08
2023 Test 1	Average Variance ([h]:mm:ss)	0:04:34	0:04:58	0:04:50
	Absolute Difference ([h]:mm:ss)	-0:00:23	-0:01:15	-0:01:18
	Percentage Difference	-7.58%	-20.15%	-21.18%
2023 Test 2	Average Variance ([h]:mm:ss)	0:04:25	0:05:40	0:05:34
	Absolute Difference ([h]:mm:ss)	-0:00:31	-0:00:33	-0:00:34
	Percentage Difference	-10.62%	-8.94%	-9.28%
2023 Test 3	Average Variance ([h]:mm:ss)	0:03:34	0:06:03	0:05:18
	Absolute Difference ([h]:mm:ss)	-0:01:23	-0:00:10	-0:00:51
	Percentage Difference	-27.98%	-2.59%	-13.80%
2023 Test 4	Average Variance ([h]:mm:ss)	0:03:41	0:05:47	0:05:53
	Absolute Difference ([h]:mm:ss)	-0:01:15	-0:00:26	-0:00:15
	Percentage Difference	-25.45%	-6.93%	-4.07%
2023 Test 5	Average Variance ([h]:mm:ss)	0:03:14	0:04:37	0:04:46
	Absolute Difference ([h]:mm:ss)	-0:01:43	-0:01:36	-0:01:23
	Percentage Difference	-34.78%	-25.87%	-22.49%
2023 Test 7	Average Variance ([h]:mm:ss)	0:04:53	0:05:28	0:05:42
	Absolute Difference ([h]:mm:ss)	-0:00:03	-0:00:45	-0:00:26
	Percentage Difference	-1.15%	-11.97%	-7.01%

Table 5.4 and Appendix F show that there is almost universally an improvement to bus reliability for the key affected services in each of the test options considered. This suggests that the proposed restrictions to general traffic have a positive impact on bus reliability within the city centre area. This occurs when Broad Street is either closed to general traffic or all traffic and whether Schoolhill is closed to all traffic or open.

5.3 Summary of Impact of Test Options on Bus Network

When considering the overall impact to the bus network for each test option, it is important to consider, not just the changes to bus journey time and reliability associated with the options considered, but also the actual bus route implications for the catchment area within the city centre. This is important for both the operators, to be able to route to where people will utilise the service, but also to the passengers who require to be able to get on and off the bus as close to the key city centre amenities as possible.

The following therefore summarises the impact to the public transport network for each test scenario assessed.

5.3.1 Test 1: Broad Street Bus & Taxi Only

- No bus re-routeing required
- Mixed results for bus journey times and reliability through full route analysis
- Slightly higher journey times for buses routeing along Union Street (Services 1/2)
- Improvement to bus journey time and reliability through Broad Street corridor
- Detriment to bus journey time and reliability through Union Terrace corridor

5.3.2 Test 2: Broad Street Bus & Taxi Only, Schoolhill Closed

- Only service 1A/1B requires re-routeing
- Mixed results for bus journey times and reliability through full route analysis
- Buses routeing along Union Street show longer journey times compared to Test 1 due to higher traffic demand on Union Street in Test 2

5.3.3 Test 3: Broad Street Closed

- Buses re-routed from Broad Street and Union Street, therefore reduced coverage of PT network in the city centre area
- Mixed results for bus journey times and reliability through full route analysis
- Journey time analysis through the city centre area shows worst results compared to the other scenarios
- No real benefit found to closing Broad Street for public transport

5.3.4 Test 4: Broad Street and Schoolhill Closed

- Buses re-routed away from city centre core area (no buses on Broad St & Schoolhill, reduced volume of buses through Union Street
- Primary bus route through Union Terrace and Blackfriars Street.
- Added issue of bus manoeuvre issues between Blackfriars Street and St. Andrews Street
- Mixed results for bus journey times and reliability through full route analysis
- Generally detrimental impact to bus journey times through city centre area but improvements observed to bus reliability

5.3.5 Test 5: Broad Street & Union Terrace Bus & Taxi Only

- No bus re-routeing required
- Mixed results for bus journey times and reliability through full route analysis
- Similar overall results to Test 1 except:
- Improvement to reliability for bus services which route through Union Terrace
- Best bus reliability results compared to all other scenarios

Note: Test 6 and 8 included traffic management proposals through George Street. In these scenarios the network did not run at 100% demand, therefore, no bus statistics could be extracted from the model.

5.3.6 Test 7: Broad Street Closed, Union Terrace Bus & Taxi Only

- Buses are re-routed from Broad Street and Union Street, therefore reduced coverage of PT network in the city centre area.
- Mixed results for bus journey times and reliability through full route analysis.
- Journey time analysis through the city centre area shows no additional benefit to applying bus and taxi measures on Union Terrace compared to Test 3. With Schoolhill remaining open to all traffic, buses are potentially delayed through Rosemount Viaduct.
- No real benefit found to closing Broad Street for public transport.

From the analysis, the Test 5 network scenario suggests the most benefit to the PT network within the city centre area. In the longer term, further bus improvement measures may be considered outwith the city centre core area to compliment these PT improvement measures to allow reliability improvements through the full bus network.

6 ANALYSIS OF TAXI OPERATION

6.1 General

ACC requested that SIAS reviewed the volume of taxis which route through Schoolhill, Broad Street, and Union Terrace to gain an understanding of the traffic flows which would likely occur through the proposed bus and taxi corridors.

Taxis are included within the Aberdeen City Centre Paramics model but the traffic model was not developed with a unique trip matrix. Taxis were applied in the model as a proportion of the general traffic matrix, therefore, the model could not accurately provide information on the volume of taxis which route through the proposed bus and taxi corridors.

ACC therefore undertook a traffic survey of taxi volumes through Broad Street, Union Terrace, and Schoolhill through the AM and PM Peak hour on 4 November 2015. Table 6.1 summarises the taxi traffic volumes observed.

Table 6.1 : Observed Bus Flows

Location	Direction	AM Peak 08:00-09:00	Proportion	PM Peak 16:30-17:30	Proportion
Broad St	NB	2		3	
	SB	4		3	
	Total	6	12%	6	20%
Union Terrace	NB	16		18	
	SB	9		12	
	Total	25	49%	30	27%
Schoolhill	EB	6		29	
	WB	14		10	
	Total	20	39%	39	53%
Total		51		75	

Table 6.1 also shows the proportion of taxis between these three routes. Note that this is not a proportion of all taxis in the city centre area. The taxi surveys were only carried out for the three routes identified.

It can be seen from Table 6.1 that there is a significantly higher volume of taxis which use Union Terrace and Schoolhill. Only six taxis were observed to route through Broad Street in both the AM and PM peak periods. Taxis also route through Back Wynd with this corridor used as a taxi rank.

In the scenarios which have considered Broad Street as bus and taxi only, given the low volume of taxis which use Broad Street, there could be consideration to apply a bus only corridor on Broad Street to allow the area between the Marischal Square Development and Marischal College to operate more as a civic square (pedestrian priority) with a narrow road carriageway for buses only. Union Terrace would be retained as a strong public Transport corridor for both buses and taxis to operate. The aesthetics of the road space for these two corridors could look quite different to reflect the different traffic priorities.

7 REPORT SUMMARY

7.1 Summary

Under the Scotland Excel Framework, Aberdeen City Council (ACC) commissioned SIAS Limited (SIAS) in September 2014 to undertake transport model testing of key transport related elements of the proposed Aberdeen City Centre Masterplan.

This Technical Report details the development of an updated 2023 City Centre Reference Case Model and the City Centre Masterplan Phase 1 model testing relating to assessment of various transport options for Broad Street and Schoolhill.

Through discussions with ACC and initial high level model testing, a series of eight network scenarios were developed for model testing.

The results of the model testing is summarised as follows:

7.1.1 Test 1: Broad Street bus & taxi only

- Traffic network is able to operate at full anticipated traffic demand in 2023
- Traffic migrates to the strategic routes of West North Street and Denburn Road, but also to Union Terrace
- Overall traffic queue levels as per Reference Case
- No bus re-routeing required
- Improvement to bus journey times and reliability through Broad St corridor
- Slight detriment to bus journey times and reliability through Union Terrace and Union Street

7.1.2 Test 2: Broad Street bus & taxi only & Schoolhill closed to all traffic

- Traffic network is able to operate at full anticipated traffic demand in 2023
- Closure of Schoolhill pushes east-west routeing traffic to John Street/St. Andrews Street, and to Union Street
- Overall traffic queue levels as per Reference Case
- Only service 1A/1B requires re-routeing
- Longer journey times for buses routeing along Union Street than in Test 1

7.1.3 Test 3: Broad Street closed to all traffic

- Traffic network is able to operate at full anticipated traffic demand in 2023
- Traffic displacement to West North Street and Denburn Road, but also to Union Terrace, as per Test 1
- Overall traffic queue levels as per Reference Case
- Buses re-routed from Broad Street and Union Street – reduced PT coverage in core of city centre
- Bus journey times worse than all other scenarios
- No real benefit to vehicles or buses in closing Broad Street

7.1.4 Test 4: Broad Street and Schoolhill closed to all traffic

- Traffic network is able to operate at full anticipated traffic demand in 2023.
- Closure of Schoolhill pushes east-west routeing traffic to John St/St. Andrews Street and to Union Street. Similar traffic displacement to Test 2.
- Overall traffic queue levels as per Reference Case.
- Buses re-routed away from city centre core area (no buses on Broad St & Schoolhill) reduced volume of buses through Union Street.
- Increased volume of buses requiring to make difficult manoeuvre through Blackfriars Street.
- Generally detrimental impact to bus journey times through city centre area, but improvements observed to bus reliability.

7.1.5 Test 5: Broad Street & Union Terrace bus & taxi only

- Traffic network is able to operate at full anticipated traffic demand in 2023.
- Traffic migrates to the strategic routes of West North Street and Denburn Road.
- Union Terrace restrictions push some north-south routeing traffic to Huntly Street/Summer Street area. This would require traffic management measures to reduce the traffic flow through these rat runs.
- Overall traffic queue levels as per Reference Case.
- Best bus reliability results compared to all other scenarios.

7.1.6 Test 6: Broad Street & Union Terrace bus & taxi only, Schoolhill closed to all traffic, George Street traffic management area

- George Street Traffic management measures introduced to address increase in traffic flow through John Street and St. Andrews Street. when Schoolhill is closed
- Traffic network gridlocks at 100%, 95%, and 90% of the anticipated 2023 demand level
- Grid locking occurs through Rosemount area due to the removal of east-west routes through John Street, St. Andrews Street, and Schoolhill
- No further model statistics can be assessed at the anticipated demand level due to network grid locking

7.1.7 Test 7: Broad Street Closed, Union Terrace Bus & Taxi Only

- Traffic network is able to operate at full anticipated traffic demand in 2023
- Traffic displacement similar to Test 5
- Overall traffic queue levels as per Reference Case
- No real benefit found to closing Broad Street for public transport

7.1.8 Test 8: Broad Street & Schoolhill closed, Union Terrace Bus & Taxi Only, George Street traffic management

- George Street Traffic management measures introduced to address increase in traffic flow through John Street and St. Andrews Street. when Schoolhill is closed
- Traffic network gridlocks at 100%, 95% and 90% of the anticipated 2023 demand level
- Grid locking occurs through Rosemount area due to the removal of east-west routes through John Street, St. Andrews Street, and Schoolhill
- No further model statistics can be assessed at the anticipated demand level due to network grid locking

7.1.9 Summary Table

These findings have been summarised into a high level summary detailed in Table 7.1.

Table 7.1 : Model Testing – High Level Summary

Scenario	Models run at full demand prediction	Increase in traffic flow to Non-strategic routes	Bus Route / Bus Coverage Affected	Bus Reliability / Journey time Improvements	Bus Reliability / Journey time Detriment
Test 1	✓	Union Terrace	None	Broad Street	Union Terrace
Test 2	✓	Union Terrace, Union Street, John Street, St. Andrews St	Minimal	Broad Street	Union Street
Test 3	✓	Union Terrace	Routes on Broad St affected	Some	Worst of all Tests
Test 4	✓	Union Terrace, Union Street, John Street, St. Andrews St	Routes on Broad St affected	Some	Union Street
Test 5	✓	Huntly St / Summer St	None	Best of all tests	Limited
Test 6	×	-		-	
Test 7	✓	Huntly St / Summer St	Routes on Broad St affected	Some	Some
Test 8	×	-		-	

Traffic Network Improvement
Slight Traffic Detriment
Traffic Detriment

7.1.10 Overview

The traffic modelling suggests that the proposed closure of Schoolhill, between the Bon Accord and St. Nicholas shopping centres has an implication of significantly increased traffic flows through the shopping areas north of the Bon Accord Centre. If measures were introduced to restrict routeing traffic through these routes, there would need to be a significant reduction in traffic demand through the city centre area to accommodate such measures. This would require the consideration of wider area traffic management measures which could not be implemented in the short term.

If restrictions to general traffic were implemented on Broad Street, there would be low impact to traffic in the city centre area and potential improvements to bus services directly affected through the core area of the city centre. A complimentary measure would be to also restrict general traffic through Union Terrace to reduce the impact of displaced traffic within the city centre and also to further improve the operation of the bus network through the core area of the city centre. These measures could be implemented in the short term and have already been in operation to some extent through seasonal restrictions on Union Terrace and traffic management measures on Broad Street

Within the Broad Street traffic considerations; there are further options as to whether restrictions on Broad Street would be for a full closure, bus and taxi only, or bus only (all north of Queen Street). The model testing outcome could assist in the consideration of these options.

A OPTION TESTING, BUS DWELL TIME RELOCATION

Table A.1 : Bus Dwell Relocation: Scenario A –Schoolhill closed to PT – 2023 Network

Service Number		Old Route & Dwell Time				New Route & Dwell Time			
		Stop	AM Dwell (sec)	PM Dwell (sec)	SAT Dwell (sec)	Stop	AM Dwell (sec)	PM Dwell (sec)	SAT Dwell (sec)
FAB	1B-SB	L1	29	60	34	K5	29	60	34
FAB	1B-SB	R1	15	15	15	-	-	-	-
FAB	1B-SB	H2	12	20	34	H2	27	35	49
FAB	1A-SB	P1	21	21	28	K5	42	42	56
FAB	1A-SB	L1	21	21	28	-	-	-	-
FAB	1A-SB	R1	15	15	15	-	-	-	-
FAB	1A-SB	H2	16	27	34	H2	31	42	49
FAB	1A-NB	N3	26	48	63	N3	46	96	91
FAB	1A-NB	L1	20	48	28	-	-	-	-
Total Dwell			**175**	**275**	**279**		**175**	**275**	**279**

Table A.2 : Bus Dwell Relocation: Scenario B – Broad St closed to PT – 2023 Network

Service Number		Old Route & Dwell Time				New Route & Dwell Time			
		Stop	AM Dwell (sec)	PM Dwell (sec)	SAT Dwell (sec)	Stop	AM Dwell (sec)	PM Dwell (sec)	SAT Dwell (sec)
FAB	1B-SB	L1	29	60	34	N4	43	78	59
FAB	1B-SB	R1	15	15	15	-	-	-	-
FAB	1B-SB	H2	12	20	34	-	-	-	-
FAB	1B-SB	F9	29	60	34	-	-	-	-
FAB	1B-SB	C7	42	44	36	C7	84	121	94
FAB	1A-SB	L1	21	21	28	N4	51	72	68
FAB	1A-SB	R1	15	15	15	-	-	-	-
FAB	1A-SB	H2	16	27	34	-	-	-	-
FAB	1A-SB	F9	29	60	34	-	-	-	-
FAB	1A-SB	C7	42	35	16	C7	72	86	57
BLB	727-BS-OB	H1	15	39	36	WNS-N/B	15	39	36
BLB	727-BS-IB	H2	21	16	11	WNS-S/B	21	16	11
FAB	20_LOOP	H2	76	0	103	N4	80	30	131
FAB	20_LOOP	G5	4	30	28	E2	77	91	92
FAB	20_LOOP	F9	27	41	42	N1	20.5	29	45
FAB	20_LOOP	E2	50	50	50	L1	20.5	29	45
FAB	20_LOOP	F1	41	58	90	R1	53	63	110
FAB	20_LOOP	G2	53	63	110	-	-	-	-
FAB	17-NB	F4	38	68	93	N1	38	68	93
FAB	17-NB	H1	62	63	40	R1	62	63	40
FAB	17-SB	K5	21	16	15	K5	60	66	89
FAB	17-SB	H2	39	50	74	-	-	-	-
FAB	17-SB	G5	50	40	34	-	-	-	-
FAB	17-SB	F6	16	56	75	N4	66	96	109
FAB	18-NB	F4	72	126	104	N1	72	126	104
FAB	18-NB	H1	52	75	63	R1	52	75	63
FAB	18-SB	K4	21	21	28	K4	66	66	53
FAB	18-SB	H2	45	45	25	-	-	-	-
FAB	18-SB	G5	36	29	42	-	-	-	-
FAB	18-SB	F6	20	35	42	N4	56	64	84
FAB	19-SB	K4	16	20	20	K4	86	154	171
FAB	19-SB	H2	70	134	151	-	-	-	-
FAB	19-SB	F5	19	81	86	N4	19	81	86
FAB	11-EB	F3	38	82	80	N1	38	82	80
FAB	11-EB	H1	47	44	55	R1	47	44	55
FAB	11-SB	GALLOW	15	15	15	GALLOW	96	96	129
FAB	11-SB	H2	81	81	114	-	-	-	-
FAB	11-SB	G6	48	70	68	N4	75	125	136
FAB	11-SB	F8	27	55	66	-	-	-	-
Total Dwell			**1370**	**1860**	**2040**		**1370**	**1860**	**2040**

Table A.3 : Bus Dwell Relocation: Scenario C – Broad ST and Schoolhill closed to PT – 2023 Network

Service Number		Old Route & Dwell Time				New Route & Dwell Time			
		Stop	AM Dwell (sec)	PM Dwell (sec)	SAT Dwell (sec)	Stop	AM Dwell (sec)	PM Dwell (sec)	SAT Dwell (sec)
FAB	1B-SB	L1	29	60	34	J4	56	95	83
FAB	1B-SB	R1	15	15	15	-	-	-	-
FAB	1B-SB	H2	12	20	34	-	-	-	-
FAB	1B-SB	F9	29	60	34	F9	71	104	70
FAB	1B-SB	C7	42	44	36	-	-	-	-
FAB	1A-SB	P1	21	21	28	K4	21	21	28
FAB	1A-SB	L1	21	21	28	H3	36	36	43
FAB	1A-SB	R1	15	15	15	-	-	-	-
FAB	1A-SB	H2	16	27	34	J4	16	27	34
BLB	727-BS-OB	H1	15	39	36	WNS-N/B	15	39	36
BLB	727-BS-IB	H2	21	16	11	WNS-S/B	21	16	11
FAB	20_LOOP	H2	76	0	103	K1	76	0	103
FAB	20_LOOP	G5	4	30	28	P1	4	30	28
FAB	20_LOOP	F9	27	41	42	N4	27	41	42
FAB	20_LOOP	E2	50	50	50	E2	50	50	50
FAB	20_LOOP	F1	41	58	90	N1	41	58	90
FAB	20_LOOP	G2	53	63	110	P2	26.5	31.5	55
FAB	20_LOOP	-	-	-	-	K5	26.5	31.5	55
FAB	17-NB	F4	38	68	93	N1	38	68	93
FAB	17-NB	H1	62	63	40	P2	62	63	40
FAB	17-SB	K5	21	16	15	P1	60	66	89
FAB	17-SB	H2	39	50	74	-	-	-	-
FAB	17-SB	G5	50	40	34	-	-	-	-
FAB	17-SB	F6	16	56	75	N4	66	96	109
FAB	18-NB	F4	72	126	104	N1	72	126	104
FAB	18-NB	H1	52	75	63	P2	52	75	63
FAB	18-SB	K4	21	21	28	P1	21	21	28
FAB	18-SB	H2	45	45	25	-	-	-	-
FAB	18-SB	G5	36	29	42	-	-	-	-
FAB	18-SB	F6	20	35	42	N4	101	109	109
FAB	19-SB	K4	16	20	20	P1	16	20	20
FAB	19-SB	H2	70	134	151	-	-	-	-
FAB	19-SB	F5	19	81	86	N4	89	215	237
FAB	11-EB	F3	38	82	80	N1	38	82	80
FAB	11-EB	H1	47	44	55	K5	47	44	55
FAB	11-SB	H2	81	81	114	H3	81	81	114
Total Dwell			**1230**	**1646**	**1869**		**1230**	**1646**	**1869**

B TRAFFIC FLOW DIFFERENCE ANALYSIS

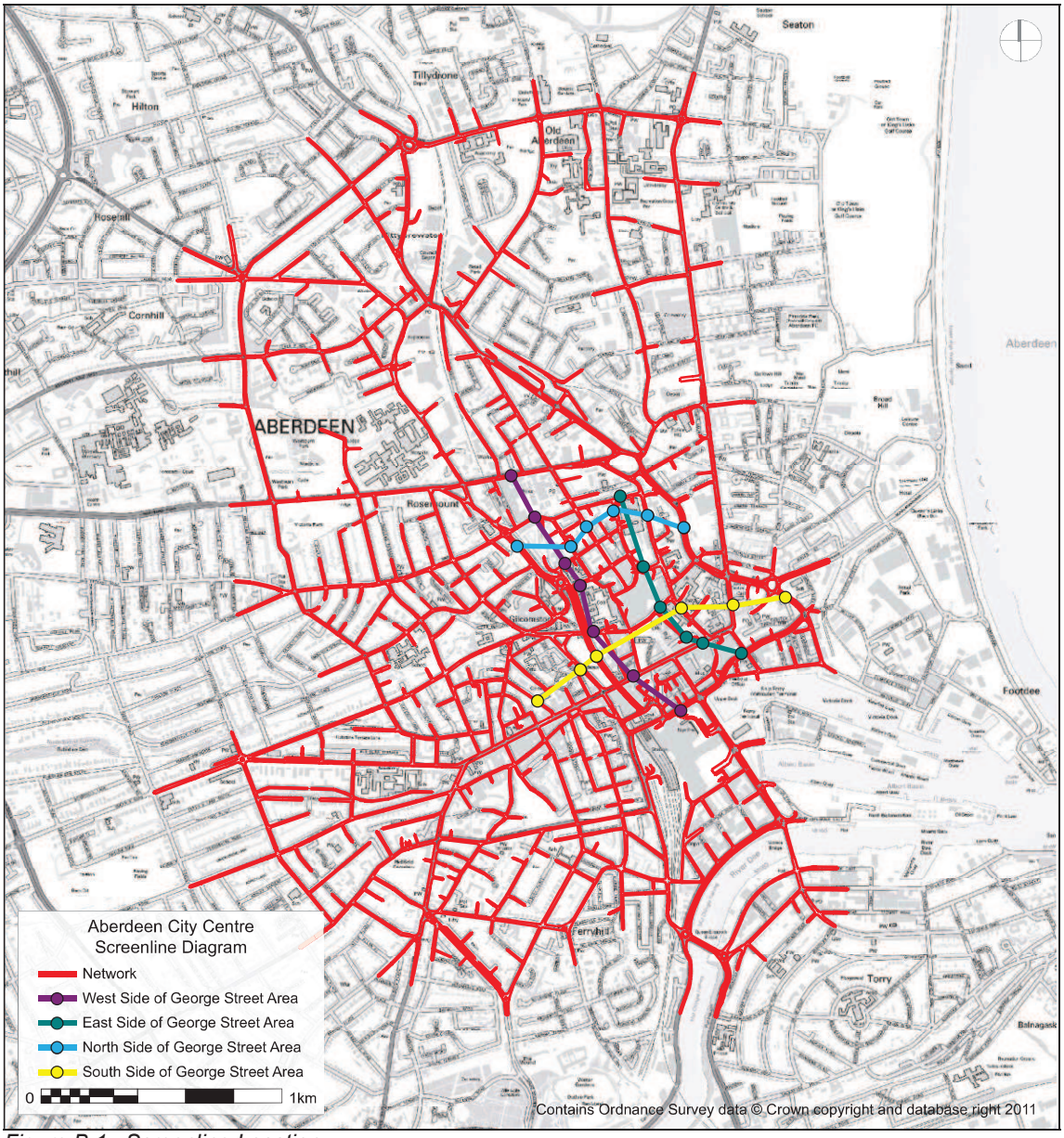

Figure B.1 : Screenline Location

Table B.1 : Screenline 1 AM Peak 06:00 – 10:00 (vehs)

AM Peak Period West Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Hutcheon Street	East	1,819	13	80	17	134	-38	-8
Maberly Street	East	91	2	20	5	13	5	2
St John Street	East	1,427	44	486	125	487	8	93
St Andrew St	East	104	-14	7	-12	59	0	14
Schoolhill	East	1,363	-37	-643	-125	-633	70	-53
Union Street	East	1,678	206	257	174	239	-138	-143
Guild Street	East	1,553	49	7	37	20	159	148
Screenline Total		**8,035**	**263**	**215**	**221**	**319**	**65**	**54**
Hutcheson Street	West	1,570	26	177	25	169	72	55
Maberly Street	West	497	55	134	93	201	86	90
St John Street	West	451	44	221	71	238	122	116
St Andrew St	West	187	-4	197	-3	216	-30	-20
Schoolhill	West	1,034	38	-916	-20	-917	-303	-300
Union Street	West	1,318	-10	211	-9	162	102	58
Guild Street	West	640	7	30	-2	16	28	5
Screenline Total		**5,696**	**157**	**54**	**155**	**84**	**78**	**4**

Table B.2 : Screenline 2 AM Peak 06:00 – 10:00 (vehs)

AM Peak Period East Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Virginia St	East	3,028	74	258	76	219	133	152
Union Street	East	1,358	-75	6	-110	-28	-152	-210
Flourmill Lane	South	0	0	0	0	0	0	0
Schoolhill	East	862	-225	-390	-327	-388	41	-125
Berry Street	East	192	1	230	-9	253	15	9
Spring Gardens	East	587	1	185	29	146	-31	4
Virginia St	West	3,445	137	263	169	220	162	222
Union Street	West	2,103	-272	-14	-291	-96	-96	-159
Schoolhill	West	1,349	-142	-651	-202	-657	-300	-312
Berry Street	West	296	-15	184	-62	132	16	-63
Spring Gardens	West	589	37	208	82	245	66	78
Screenline Total		**7,781**	**-255**	**-10**	**-303**	**-155**	**-152**	**-234**

Table B.3 : Screenline 3 AM Peak 06:00 – 10:00 (vehs)

AM Peak Period North Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Skene Square	North	1,805	6	43	28	58	76	78
George Street	North	128	31	52	8	39	5	4
George Street	North	221	-4	15	11	5	8	5
Loch Street	North	506	-24	125	19	107	-39	6
Gallowgate	North	483	-57	-82	-127	-89	1	-109
West North Street	North	1,118	165	213	212	246	247	279
Screenline Total		**4,261**	**117**	**367**	**151**	**366**	**299**	**263**
Skene Square	South	3,307	27	37	40	151	80	76
George Street	South	249	21	22	18	31	20	13
George Street	South	311	5	66	21	50	9	8
Loch Street	South	187	-2	75	7	87	-3	7
Gallowgate	South	1,691	-191	-598	-311	-676	-328	-437
West North Street	South	2,148	300	411	353	402	314	431
Screenline Total		**7,892**	**159**	**13**	**128**	**45**	**93**	**98**

Table B.4 : Screenline 4 AM Peak 06:00 – 10:00 (vehs)

AM Peak Period South Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Union Terrace	North	622	156	19	152	74	-541	-462
Huntly Street	North	745	50	2	62	60	324	332
Denburn Road	North	1,708	50	154	74	127	199	173
Broad Street at Closure	North	481	-383	-383			-382	
King Street	North	891	10	63	37	94	8	28
Commerce St	North	2,256	81	231	104	218	145	161
Screenline Total		**6,703**	**-37**	**87**	**-51**	**93**	**-247**	**-248**
Union Terrace	South	1,452	309	44	370	107	-1,321	-1,249
Huntly Street	South							
Denburn Road	South	3,017	24	-30	53	21	628	616
Broad Street at Closure	South	785	-695	-682			-687	
King Street	South	1,683	83	358	102	365	259	267
Commerce St	South	3,557	139	215	179	176	212	258
Screenline Total		**10,495**	**-139**	**-95**	**-81**	**-116**	**-909**	**-893**

Table B.5 : Screenline 1 PM Peak 15:00 – 19:00 (vehs)

PM Peak Period West Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Hutcheon Street	East	2,471	-48	96	77	152	-77	43
Maberly Street	East	204	-22	52	19	69	-1	-8
St John Street	East	1,813	107	411	198	437	51	103
St Andrew St	East	175	-26	119	23	87	50	60
Schoolhill	East	1,721	101	-756	-168	-711	139	1
Union Street	East	1,717	-112	293	12	219	-181	-176
Guild Street	East	1,421	97	116	38	133	157	86
Screenline Total		**9,523**	**98**	**330**	**200**	**386**	**138**	**109**
Hutcheson Street	West	2,688	-80	117	-7	129	26	52
Maberly Street	West	1,308	87	243	70	256	114	106
St John Street	West	740	86	262	124	256	259	251
St Andrew St	West	407	-81	256	-99	234	-125	-128
Schoolhill	West	1,438	-67	-1,114	-86	-1,120	-439	-392
Union Street	West	1,638	104	249	86	304	223	206
Guild Street	West	1,609	49	111	78	82	21	5
Screenline Total		**9,829**	**98**	**123**	**166**	**142**	**78**	**100**

Table B.6 : Screenline 2 PM Peak 15:00 – 19:00 (vehs)

PM Peak Period East Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Virginia St	East	4,856	148	383	204	397	266	312
Union Street	East	1,663	-379	-138	-355	-233	-394	-435
Flourmill Lane	South	0	0	0	0	0	0	0
Schoolhill	East	1,494	-100	-815	-425	-817	44	-174
Berry Street	East	767	-43	4	5	80	35	7
Spring Gardens	East	889	103	402	192	368	-15	133
Virginia St	West	3,047	219	420	273	369	279	277
Union Street	West	2,021	-218	-41	-249	-19	-46	-88
Schoolhill	West	1,204	-249	-1,077	-288	-1,075	-402	-398
Berry Street	West	998	-65	149	-110	122	-30	-95
Spring Gardens	West	1,010	108	403	143	328	69	100
Screenline Total		**8,281**	**-205**	**-146**	**-230**	**-275**	**-129**	**-203**

Table B.7 : Screenline 3 PM Peak 15:00 – 19:00 (vehs)

PM Peak Period North Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Skene Square	North	3,611	23	-55	-49	-64	174	112
George Street	North	530	-4	149	40	119	20	53
George Street	North	434	0	40	11	33	42	25
Loch Street	North	930	66	212	133	174	-5	54
Gallowgate	North	1,472	-273	-563	-449	-558	-208	-360
West North Street	North	1,979	385	392	391	431	502	535
Screenline Total		**8,956**	**197**	**176**	**77**	**136**	**526**	**418**
Skene Square	South	2,747	93	187	-86	211	277	213
George Street	South	319	-12	-8	13	-22	-42	-39
George Street	South	238	31	43	-3	39	13	6
Loch Street	South	274	-30	147	69	132	3	48
Gallowgate	South	1,180	-35	-508	-124	-540	-153	-217
West North Street	South	2,004	138	203	242	169	208	287
Screenline Total		**6,762**	**185**	**63**	**112**	**-11**	**306**	**298**

Table B.8 : Screenline 4 PM Peak 15:00 – 19:00 (vehs)

PM Peak Period South Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Union Terrace	North	1,173	176	141	155	177	-1,074	-1,012
Huntly Street	North	797	101	125	101	190	495	524
Denburn Road	North	4,104	120	82	127	70	555	512
Broad Street at Closure	North	1,040	-917	-928			-923	
King Street	North	1,093	82	291	160	295	87	148
Commerce St	North	3,664	203	375	260	400	345	383
Screenline Total		**11,871**	**-236**	**86**	**-237**	**93**	**-515**	**-484**
Union Terrace	South	1,364	294	177	392	233	-1,227	-1,175
Huntly Street	South							
Denburn Road	South	2,354	65	-39	-77	22	549	534
Broad Street at Closure	South	697	-620	-617			-622	
King Street	South	1,813	-38	142	6	208	108	144
Commerce St	South	2,924	197	317	232	276	295	287
Screenline Total		**9,152**	**-103**	**-20**	**-145**	**41**	**-897**	**-906**

Table B.9 : Screenline 1 Saturday Peak 12:00 – 16:00 (vehs)

SAT Peak Period West Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Hutcheon Street	East	2,423	83	219	228	217	-16	38
Maberly Street	East	438	56	180	77	185	63	139
St John Street	East	1,747	125	508	327	514	103	192
St Andrew St	East	143	-22	143	57	126	32	118
Schoolhill	East	2,004	92	-979	-382	-932	201	-145
Union Street	East	1,656	40	158	87	152	-206	-163
Guild Street	East	1,574	-100	53	-82	5	30	-26
Screenline Total		**9,984**	**274**	**283**	**311**	**267**	**206**	**152**
Hutcheson Street	West	2,828	-47	132	-14	115	-3	29
Maberly Street	West	1,326	-37	225	-19	226	68	58
St John Street	West	894	55	191	100	259	166	177
St Andrew St	West	659	-96	261	-127	218	-114	-152
Schoolhill	West	1,387	-13	-1,205	-108	-1,204	-302	-299
Union Street	West	1,587	253	342	259	374	379	343
Guild Street	West	1,606	26	49	19	23	49	24
Screenline Total		**10,288**	**140**	**-4**	**110**	**12**	**243**	**180**

Table B.10 : Screenline 2 Saturday Peak 12:00 – 16:00 (vehs)

SAT Peak Period East Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Virginia St	East	4,000	171	393	248	477	270	310
Union Street	East	1,698	-456	-311	-502	-439	-594	-625
Flourmill Lane	South	0	0	0	0	0	0	0
Schoolhill	East	1,367	-60	-946	-575	-946	122	-276
Berry Street	East	1,308	15	69	87	108	74	142
Spring Gardens	East	823	59	493	326	398	6	186
Virginia St	West	3,022	329	447	350	448	309	323
Union Street	West	2,122	-83	43	-77	65	85	51
Schoolhill	West	1,447	-155	-1,162	-276	-1,163	-345	-365
Berry Street	West	2,099	-90	-39	-309	-66	-19	-207
Spring Gardens	West	862	-41	365	151	349	6	76
Screenline Total		**9,552**	**-40**	**-347**	**-161**	**-367**	**36**	**-122**

Table B.11 : Screenline 3 Saturday Peak 12:00 – 16:00 (vehs)

SAT Peak Period North Side of George Street Area	Direction	2023 Ref Case Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Skene Square	North	3,099	158	-6	126	-10	227	172
George Street	North	294	12	70	55	41	37	51
George Street	North	522	28	18	8	39	66	18
Loch Street	North	999	11	201	124	178	-48	73
Gallowgate	North	1,666	-156	-424	-424	-434	-40	-301
West North Street	North	2,251	223	403	298	448	364	467
Screenline Total		**8,832**	**275**	**262**	**188**	**262**	**606**	**480**
Skene Square	South	3,027	-63	-44	-143	-183	58	34
George Street	South	377	-20	-45	-41	-43	-56	-58
George Street	South	563	13	36	17	69	37	50
Loch Street	South	299	29	176	174	166	26	144
Gallowgate	South	1,568	152	-236	-72	-260	40	-67
West North Street	South	1,886	214	215	316	267	301	360
Screenline Total		**7,720**	**325**	**103**	**250**	**16**	**406**	**464**

Table B.12 : Screenline 4 Saturday Peak 12:00 – 16:00 (vehs)

SAT Peak Period South Side of George Street Area	Direction	2023 Test 1 Flow	2023 Test 1 Change	2023 Test 2 Change	2023 Test 3 Change	2023 Test 4 Change	2023 Test 5 Change	2023 Test 7 Change
Union Terrace	North	1,089	249	81	170	86	-1,000	-925
Huntly Street	North	688	97	172	172	205	531	541
Denburn Road	North	2,613	357	262	414	356	805	757
Broad Street at Closure	North	1,295	-1,121	-1,132			-1,138	
King Street	North	973	24	86	34	83	6	63
Commerce St	North	2,808	211	419	308	520	331	381
Screenline Total		**9,466**	**-185**	**-112**	**-197**	**-44**	**-465**	**-478**
Union Terrace	South	1,452	337	276	355	330	-1,331	-1,247
Huntly Street	South							
Denburn Road	South	2,538	6	-178	-73	-252	486	460
Broad Street at Closure	South	823	-738	-739			-738	
King Street	South	1,775	-30	69	9	145	117	115
Commerce St	South	2,860	316	397	348	411	341	337
Screenline Total		**9,448**	**-108**	**-176**	**-183**	**-189**	**-1,124**	**-1,158**

C BUS JOURNEY TIME ANALYSIS, FULL MODELLED ROUTE

C.1 Key Routes

Table C.1 : AM Peak – Individual Bus Journey Times (mm:ss) – Full Modelled Route

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
AM Peak Period (06:00 - 10:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
BLB_727_BS_IB	12:59	-00:35 ▲	-00:47 ▲	00:25 ▼	00:55 ▼	-00:30 ▲	00:24 ▼
BLB_727_BS_OB							
FAB_11_EB	23:23	00:18 ▼	00:39 ▼	02:08 ▼	02:57 ▼	-00:19 ▲	01:42 ▼
FAB_11_SB	26:03	00:02 ▼	-01:03 ▲	-00:45 ▲	01:40 ▼	00:09 ▼	-00:39 ▲
FAB_17_NB	24:22	-00:45 ▲	-00:26 ▲	01:03 ▼	-01:20 ▲	-00:34 ▲	00:59 ▼
FAB_17_SB	25:49	-01:28 ▲	-01:48 ▲	-01:56 ▲	-03:08 ▲	-01:09 ▲	-02:51 ▲
FAB_18_NB	26:20	-00:11 ▲	-00:04 ▲	00:32 ▼	-01:08 ▲	00:02 ▼	00:23 ▼
FAB_18_SB	27:05	-00:26 ▲	-00:30 ▲	00:04 ▼	00:10 ▼	-00:24 ▲	-00:47 ▲
FAB_19_NB	25:20	-00:08 ▲	-00:23 ▲	00:08 ▼	-00:28 ▲	00:06 ▼	00:20 ▼
FAB_19_SB	25:39	-00:26 ▲	-01:04 ▲	-01:12 ▲	-02:04 ▲	-00:09 ▲	-01:11 ▲
FAB_1A_NB	11:48	-00:01 ▲	-00:22 ▲	-00:09 ▲	-00:49 ▲	-00:08 ▲	00:16 ▼
FAB_1A_SB	17:30	-00:14 ▲	-00:59 ▲	-03:41 ▲	01:10 ▼	-00:11 ▲	-03:46 ▲
FAB_1B_SB	13:50	-01:13 ▲	-00:56 ▲	-04:14 ▲	-02:51 ▲	-00:58 ▲	-04:19 ▲
FAB_20_LOOP	34:49	00:16 ▼	-00:04 ▲	00:39 ▼	04:18 ▼	00:08 ▼	-00:03 ▲
FAB_4_LOOP	27:56	00:23 ▼	-01:06 ▲	-00:41 ▲	-01:11 ▲	00:11 ▼	-01:32 ▲

Table C.2 : PM Peak – Individual Bus Journey Times (mm:ss) – Full Modelled Route

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
PM Peak Period (15:00 - 19:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
BLB_727_BS_IB	13:51	-00:26 ▲	-00:20 ▲	00:22 ▼	00:01 ▼	-00:13 ▲	-00:19 ▲
BLB_727_BS_OB	13:59	-00:36 ▲	00:09 ▼	01:54 ▼	01:25 ▼	-00:29 ▲	00:49 ▼
FAB_11_EB	26:02	00:02 ▼	00:03 ▼	00:14 ▼	02:07 ▼	00:00 ▬	00:13 ▼
FAB_11_SB	30:29	-00:21 ▲	-02:03 ▲	-01:30 ▲	00:34 ▼	-00:01 ▬	-01:47 ▲
FAB_17_NB	27:00	-00:25 ▲	-00:31 ▲	01:15 ▼	-01:18 ▲	-00:09 ▲	01:08 ▼
FAB_17_SB							
FAB_18_NB	29:17	-00:15 ▲	00:10 ▼	00:50 ▼	-00:32 ▲	-00:25 ▲	00:49 ▼
FAB_18_SB							
FAB_19_NB	28:49	-00:26 ▲	-00:18 ▲	-01:16 ▲	-00:41 ▲	-00:28 ▲	-01:22 ▲
FAB_19_SB	28:44	-00:04 ▲	-01:24 ▲	-00:10 ▲	-00:49 ▲	-00:03 ▲	-00:27 ▲
FAB_1A_NB	13:44	00:26 ▼	00:03 ▼	02:25 ▼	01:02 ▼	01:28 ▼	03:56 ▼
FAB_1A_SB	18:18	-00:14 ▲	-01:49 ▲	-03:05 ▲	00:21 ▼	-00:03 ▲	-03:29 ▲
FAB_1B_SB	14:48	-00:16 ▲	00:46 ▼	-03:22 ▲	-02:47 ▲	-00:33 ▲	-03:30 ▲
FAB_20_LOOP	38:46	00:37 ▼	-00:02 ▬	01:02 ▼	03:50 ▼	00:37 ▼	00:07 ▼
FAB_4_LOOP	30:35	01:07 ▼	02:14 ▼	01:24 ▼	02:45 ▼	00:03 ▼	-00:09 ▲

Table C.3 : Saturday Peak – Individual Bus Journey Times (mm:ss) – Full Modelled Route

Saturday Peak Period (12:00 - 16:00) Bus Route	2023 Reference Case	2023 Test 1 Absolute Difference (mm:ss)	2023 Test 2 Absolute Difference (mm:ss)	2023 Test 3 Absolute Difference (mm:ss)	2023 Test 4 Absolute Difference (mm:ss)	2023 Test 5 Absolute Difference (mm:ss)	2023 Test 7 Absolute Difference (mm:ss)
BLB_727_BS_IB	14:21	-00:28 ▲	-00:09 ▲	-00:22 ▲	00:14 ▼	00:07 ▼	00:11 ▼
BLB_727_BS_OB	16:18	00:26 ▼	-00:19 ▲	03:48 ▼	02:09 ▼	-00:07 ▲	02:06 ▼
FAB_11_EB	26:50	-00:43 ▲	-00:46 ▲	00:38 ▼	01:38 ▼	-00:32 ▲	00:56 ▼
FAB_11_SB	30:39	-00:23 ▲	-01:33 ▲	-00:48 ▲	00:36 ▼	00:32 ▼	-00:29 ▲
FAB_17_NB	27:23	-00:20 ▲	00:18 ▼	00:05 ▼	-02:14 ▲	-00:02 ▲	00:49 ▼
FAB_17_SB							
FAB_18_NB	29:27	-00:36 ▲	-00:22 ▲	01:13 ▼	-01:53 ▲	-00:08 ▲	01:46 ▼
FAB_18_SB							
FAB_19_NB	30:31	-00:33 ▲	-00:09 ▲	-02:03 ▲	-01:21 ▲	-00:33 ▲	-01:48 ▲
FAB_19_SB	30:43	-00:43 ▲	-03:33 ▲	-00:35 ▲	-01:48 ▲	-01:13 ▲	-00:38 ▲
FAB_1A_NB	13:51	-00:48 ▲	-01:31 ▲	-00:29 ▲	-00:45 ▲	-01:20 ▲	01:19 ▼
FAB_1A_SB	19:05	-00:02 ▲	-01:40 ▲	-04:39 ▲	02:02 ▼	-02:13 ▲	-04:34 ▲
FAB_1B_SB	15:16	00:18 ▼	-00:59 ▲	-05:30 ▲	-03:38 ▲	-00:33 ▲	-05:41 ▲
FAB_20_LOOP	39:59	01:19 ▼	-01:44 ▲	02:02 ▼	04:02 ▼	00:48 ▼	01:56 ▼
FAB_4_LOOP	30:51	00:53 ▼	00:48 ▼	01:26 ▼	01:10 ▼	00:34 ▼	00:02 ▼

C.2 Indirectly Affected Routes

Table C.4 : AM Peak – Individual Bus Journey Times -Indirectly Affected (mm:ss) – Full Modelled Route

AM Peak Period (06:00 - 10:00) Bus Route	2023 Reference Case	2023 Test 1 Absolute Difference (mm:ss)	2023 Test 2 Absolute Difference (mm:ss)	2023 Test 3 Absolute Difference (mm:ss)	2023 Test 4 Absolute Difference (mm:ss)	2023 Test 5 Absolute Difference (mm:ss)	2023 Test 7 Absolute Difference (mm:ss)
FAB_1_NB	21:23	-00:01 ▬	00:17 ▼	00:24 ▼	00:35 ▼	00:28 ▼	00:09 ▼
FAB_1_SB	21:28	-00:02 ▲	00:02 ▼	00:12 ▼	00:33 ▼	00:16 ▼	00:02 ▼
FAB_2_NB	21:57	00:05 ▼	00:24 ▼	00:43 ▼	00:11 ▼	00:46 ▼	00:07 ▼
FAB_2_SB	20:18	00:07 ▼	00:34 ▼	-00:13 ▲	00:21 ▼	00:30 ▼	00:08 ▼
FAB_12_NB	23:22	-00:10 ▲	-00:01 ▬	00:22 ▼	-00:04 ▲	-00:10 ▲	00:02 ▼
FAB_12_SB	23:59	-00:06 ▲	00:48 ▼	00:25 ▼	01:13 ▼	00:11 ▼	00:27 ▼
BLB_35_BS_IB	14:19	-00:03 ▲	00:31 ▼	-00:03 ▲	00:35 ▼	00:01 ▼	-00:14 ▲
BLB_35_BS_OB	12:50	00:15 ▼	00:26 ▼	00:22 ▼	00:50 ▼	00:02 ▼	00:18 ▼

Table C.5 : PM Peak – Individual Bus Journey Times - Indirectly Affected (mm:ss) – Full Modelled Route

PM Peak Period (15:00 - 19:00) Bus Route	2023 Reference Case	2023 Test 1 Absolute Difference (mm:ss)	2023 Test 2 Absolute Difference (mm:ss)	2023 Test 3 Absolute Difference (mm:ss)	2023 Test 4 Absolute Difference (mm:ss)	2023 Test 5 Absolute Difference (mm:ss)	2023 Test 7 Absolute Difference (mm:ss)
FAB_1_NB	26:38	-00:03 ▲	00:20 ▼	-00:02 ▲	00:13 ▼	00:02 ▬	00:02 ▼
FAB_1_SB	22:58	00:03 ▼	00:10 ▼	-00:06 ▲	-00:05 ▲	00:00 ▬	-00:02 ▲
FAB_2_NB	25:52	-00:11 ▲	00:09 ▼	00:15 ▼	00:18 ▼	00:22 ▼	-00:02 ▲
FAB_2_SB	22:58	00:06 ▼	00:29 ▼	-00:01 ▬	00:05 ▼	-00:07 ▲	00:16 ▼
FAB_12_NB	28:07	00:20 ▼	00:30 ▼	01:02 ▼	00:59 ▼	00:37 ▼	01:01 ▼
FAB_12_SB	24:30	00:16 ▼	00:37 ▼	00:39 ▼	01:13 ▼	00:15 ▼	00:17 ▼
BLB_35_BS_IB	15:07	00:12 ▼	00:27 ▼	01:09 ▼	01:13 ▼	00:16 ▼	00:52 ▼
BLB_35_BS_OB	16:50	00:28 ▼	00:48 ▼	01:09 ▼	01:07 ▼	00:37 ▼	01:26 ▼

Table C.6 : Saturday Peak – Individual Bus Journey Times - Indirectly Affected (mm:ss) – Full Modelled Route

Saturday Peak Period (12:00 - 16:00) Bus Route	2023 Reference Case	2023 Test 1 Absolute Difference (mm:ss)	2023 Test 2 Absolute Difference (mm:ss)	2023 Test 3 Absolute Difference (mm:ss)	2023 Test 4 Absolute Difference (mm:ss)	2023 Test 5 Absolute Difference (mm:ss)	2023 Test 7 Absolute Difference (mm:ss)
FAB_1_NB	25:36	01:11 ▼	01:13 ▼	01:45 ▼	01:05 ▼	01:45 ▼	01:51 ▼
FAB_1_SB	22:22	00:04 ▼	-00:03 ▲	00:12 ▼	00:30 ▼	-00:12 ▲	-00:00 ▬
FAB_2_NB	25:02	01:16 ▼	01:34 ▼	01:46 ▼	01:44 ▼	01:43 ▼	01:56 ▼
FAB_2_SB	22:28	00:26 ▼	00:34 ▼	00:03 ▼	00:28 ▼	00:30 ▼	00:19 ▼
FAB_12_NB	25:21	00:59 ▼	00:33 ▼	01:02 ▼	00:42 ▼	00:31 ▼	01:19 ▼
FAB_12_SB	26:08	-00:42 ▲	-00:24 ▲	00:33 ▼	01:36 ▼	-00:36 ▲	00:15 ▼
BLB_35_BS_IB	15:23	00:37 ▼	00:55 ▼	01:58 ▼	02:36 ▼	00:42 ▼	01:39 ▼
BLB_35_BS_OB	14:09	00:16 ▼	00:00 ▬	00:18 ▼	00:29 ▼	00:11 ▼	00:39 ▼

D BUS JOURNEY TIME ANALYSIS, CITY CENTRE AREA

Table D.1 : AM Peak – Individual Bus Journey Times (mm:ss) – City Centre Area

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
AM Peak Period (06:00 - 10:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
BLB_727_BS_IB	08:47	-00:12 ▲	00:28 ▼	00:31 ▼	01:09 ▼	-00:20 ▲	00:45 ▼
FAB_19_NB	07:27	-00:04 ▲	-00:02 ▲	01:34 ▼	01:14 ▼	00:03 ▼	01:30 ▼
FAB_19_SB	09:15	-00:17 ▲	-00:10 ▲	00:20 ▼	-00:31 ▲	-00:09 ▲	00:11 ▼
BLB_35_BS_OB	09:17	00:11 ▼	00:09 ▼	00:09 ▼	00:36 ▼	-00:05 ▲	00:08 ▼
BLB_35_BS_IB	09:01	00:01 ▼	00:09 ▼	-00:04 ▲	00:13 ▼	00:06 ▼	-00:10 ▲

Table D.2 : PM Peak – Individual Bus Journey Times (mm:ss) – City Centre Area

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
PM Peak Period (15:00 - 19:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
BLB_727_BS_IB	10:22	-00:58 ▲	00:02 ▼	-00:12 ▲	-00:20 ▲	-00:47 ▲	-00:51 ▲
BLB_727_BS_OB	14:15	-02:40 ▲	-01:58 ▲	00:02 ▼	-00:09 ▲	-02:36 ▲	-01:14 ▲
FAB_19_NB	09:36	-00:43 ▲	-00:41 ▲	00:24 ▼	00:42 ▼	-00:39 ▲	00:27 ▼
FAB_19_SB	02:31	00:01 ▼	-00:03 ▲	00:02 ▼	00:02 ▼	00:01 ▼	00:03 ▼
BLB_35_BS_OB	11:34	00:29 ▼	00:26 ▼	01:05 ▼	00:52 ▼	01:02 ▼	01:20 ▼
BLB_35_BS_IB	09:49	00:15 ▼	00:15 ▼	00:57 ▼	01:01 ▼	00:06 ▼	00:18 ▼

Table D.3 : Saturday Peak – Individual Bus Journey Times (mm:ss) – City Centre Area

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
Saturday Peak Period (12:00 - 16:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
BLB_727_BS_IB	10:11	-01:14 ▲	00:55 ▼	-00:42 ▲	-01:00 ▲	-00:51 ▲	-00:31 ▲
BLB_727_BS_OB	14:30	00:23 ▼	-00:18 ▲	02:36 ▼	03:44 ▼	-00:09 ▲	02:05 ▼
FAB_19_NB	09:10	00:06 ▼	00:27 ▼	00:58 ▼	01:34 ▼	00:00 ▬	00:48 ▼
FAB_19_SB	02:16	-00:03 ▲	-00:01 ▲	00:01 ▼	-00:00 ▬	-00:02 ▲	-00:03 ▲
BLB_35_BS_OB	09:43	00:33 ▼	00:11 ▼	00:42 ▼	00:44 ▼	00:31 ▼	00:58 ▼
BLB_35_BS_IB	09:35	06:19 ▼	00:22 ▼	01:45 ▼	01:33 ▼	00:34 ▼	01:23 ▼

E BUS RELIABILITY ANALYSIS- FULL MODELLED ROUTE

E.1 Key Routes

Table E.1 : AM Peak – Individual Bus Journey Time Variance (Cumulative), (mm:ss) – Full Modelled Route

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
AM Peak Period (06:00 - 10:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
BLB_727_BS_IB	05:19	-00:09 ▲	-00:02 ▲	-00:53 ▲	-00:11 ▲	-01:26 ▲	02:17 ▼
BLB_727_BS_OB							
FAB_11_EB	08:01	-00:48 ▲	03:15 ▼	-01:18 ▲	01:41 ▼	-01:32 ▲	-03:21 ▲
FAB_11_SB	07:29	-00:53 ▲	-01:24 ▲	-02:34 ▲	01:42 ▼	-03:12 ▲	-03:24 ▲
FAB_17_NB	17:15	-13:10 ▲	-13:06 ▲	-11:17 ▲	-09:01 ▲	-13:07 ▲	-11:17 ▲
FAB_17_SB	03:22	-01:30 ▲	-01:41 ▲	00:07 ▼	-01:32 ▲	-01:15 ▲	00:26 ▼
FAB_18_NB	06:07	-00:10 ▲	00:36 ▼	02:50 ▼	02:29 ▼	00:59 ▼	01:08 ▼
FAB_18_SB	04:49	00:52 ▼	-02:58 ▲	00:54 ▼	-00:37 ▲	-00:37 ▲	00:56 ▼
FAB_19_NB	10:01	-03:58 ▲	-03:58 ▲	-03:59 ▲	-03:58 ▲	-03:00 ▲	-03:02 ▲
FAB_19_SB	05:08	-00:14 ▲	02:14 ▼	-01:49 ▲	00:31 ▼	-00:41 ▲	-00:05 ▲
FAB_1A_NB	01:37	00:03 ▼	02:32 ▼	00:18 ▼	-00:50 ▲	00:00 ▬	-00:21 ▲
FAB_1A_SB	03:54	-02:54 ▲	-00:57 ▲	-01:51 ▲	-01:42 ▲	-01:02 ▲	-01:12 ▲
FAB_1B_SB	04:10	-00:29 ▲	-01:23 ▲	-02:31 ▲	-02:24 ▲	-00:44 ▲	-02:32 ▲
FAB_20_LOOP	17:38	-07:12 ▲	-01:53 ▲	-07:03 ▲	-08:59 ▲	-03:02 ▲	-10:50 ▲
FAB_4_LOOP	05:01	00:26 ▼	03:48 ▼	03:18 ▼	03:14 ▼	-00:02 ▲	02:58 ▼

Table E.2 : PM Peak – Individual Bus Journey Time Variance (Cumulative), (mm:ss) – Full Modelled Route

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
PM Peak Period (15:00 - 19:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
BLB_727_BS_IB	08:57	-04:29 ▲	-02:31 ▲	-04:50 ▲	-02:45 ▲	-03:22 ▲	-02:57 ▲
BLB_727_BS_OB	06:57	-04:08 ▲	-01:13 ▲	00:16 ▼	-03:06 ▲	-03:33 ▲	-04:01 ▲
FAB_11_EB	06:45	01:21 ▼	01:56 ▼	02:08 ▼	01:23 ▼	00:44 ▼	00:53 ▼
FAB_11_SB	08:36	01:15 ▼	00:49 ▼	-01:26 ▲	00:29 ▼	-00:12 ▲	-02:09 ▲
FAB_17_NB	09:49	03:21 ▼	-01:31 ▲	01:17 ▼	02:14 ▼	00:08 ▼	-01:43 ▲
FAB_17_SB							
FAB_18_NB	10:13	01:39 ▼	-02:59 ▲	-03:57 ▲	-02:16 ▲	-03:54 ▲	-04:19 ▲
FAB_18_SB							
FAB_19_NB	11:43	01:55 ▼	-02:56 ▲	-01:58 ▲	00:26 ▼	-04:13 ▲	-04:49 ▲
FAB_19_SB	08:13	03:23 ▼	02:41 ▼	-01:19 ▲	-00:34 ▲	02:49 ▼	02:22 ▼
FAB_1A_NB	04:15	00:10 ▼	-02:33 ▲	-03:40 ▲	-01:08 ▲	-03:00 ▲	00:39 ▼
FAB_1A_SB	01:30	-00:45 ▲	02:17 ▼	01:14 ▼	00:26 ▼	-00:26 ▲	-00:36 ▲
FAB_1B_SB	03:51	-01:20 ▲	01:21 ▼	-01:50 ▲	-01:47 ▲	01:37 ▼	-01:41 ▲
FAB_20_LOOP	14:20	03:17 ▼	02:55 ▼	00:32 ▼	-02:35 ▲	-00:21 ▲	-01:07 ▲
FAB_4_LOOP	10:27	01:53 ▼	00:33 ▼	02:13 ▼	04:00 ▼	-00:24 ▲	02:30 ▼

Table E.3 : Saturday Peak – Individual Bus Journey Time Variance (Cumulative), (mm:ss) – Full Modelled Route

Saturday Peak Period (12:00 - 16:00) Bus Route	2023 Reference Case	2023 Test 1 Absolute Difference (mm:ss)	2023 Test 2 Absolute Difference (mm:ss)	2023 Test 3 Absolute Difference (mm:ss)	2023 Test 4 Absolute Difference (mm:ss)	2023 Test 5 Absolute Difference (mm:ss)	2023 Test 7 Absolute Difference (mm:ss)
BLB_727_BS_IB	04:06	01:38 ▼	02:38 ▼	01:27 ▼	00:29 ▼	01:53 ▼	02:46 ▼
BLB_727_BS_OB	07:55	-04:03 ▲	-01:47 ▲	02:08 ▼	-02:09 ▲	-03:37 ▲	-05:53 ▲
FAB_11_EB	06:36	-01:12 ▲	-01:32 ▲	-00:10 ▲	-00:20 ▲	-00:27 ▲	00:23 ▼
FAB_11_SB	10:51	04:15 ▼	03:34 ▼	-02:47 ▲	-00:21 ▲	01:03 ▼	01:01 ▼
FAB_17_NB	10:03	-02:36 ▲	01:11 ▼	-00:34 ▲	01:51 ▼	00:59 ▼	04:02 ▼
FAB_17_SB							
FAB_18_NB	12:04	-00:03 ▲	00:58 ▼	02:18 ▼	-00:07 ▲	00:43 ▼	00:49 ▼
FAB_18_SB							
FAB_19_NB	08:59	02:01 ▼	03:01 ▼	03:05 ▼	01:03 ▼	-00:01 ▲	04:02 ▼
FAB_19_SB	07:03	02:43 ▼	00:55 ▼	02:02 ▼	01:16 ▼	01:58 ▼	02:17 ▼
FAB_1A_NB	02:03	01:09 ▼	-00:29 ▲	01:07 ▼	-00:10 ▲	00:58 ▼	00:29 ▼
FAB_1A_SB	06:54	-03:43 ▲	-04:32 ▲	-06:29 ▲	-01:12 ▲	-05:12 ▲	-06:37 ▲
FAB_1B_SB	09:26	-02:17 ▲	-03:15 ▲	-06:56 ▲	-03:40 ▲	-02:44 ▲	-07:29 ▲
FAB_20_LOOP	12:22	-01:22 ▲	01:37 ▼	-00:27 ▲	-01:24 ▲	02:17 ▼	00:33 ▼
FAB_4_LOOP	07:56	-01:01 ▲	00:11 ▼	01:53 ▼	02:05 ▼	-02:35 ▲	-03:47 ▲

E.2 Indirectly Affected Routes

Table E.4 : AM Peak – Individual Bus Journey Time Variance (Cumulative), (mm:ss) Indirectly Affected – Full Modelled Route

AM Peak Period (06:00 - 10:00) Bus Route	2023 Reference Case	2023 Test 1 Absolute Difference (mm:ss)	2023 Test 2 Absolute Difference (mm:ss)	2023 Test 3 Absolute Difference (mm:ss)	2023 Test 4 Absolute Difference (mm:ss)	2023 Test 5 Absolute Difference (mm:ss)	2023 Test 7 Absolute Difference (mm:ss)
FAB_1_NB	05:34	02:45 ▼	00:54 ▼	03:15 ▼	02:24 ▼	03:42 ▼	03:30 ▼
FAB_1_SB	04:11	00:56 ▼	02:08 ▼	02:29 ▼	03:49 ▼	03:49 ▼	01:21 ▼
FAB_2_NB	08:44	-02:42 ▲	-02:30 ▲	01:14 ▼	-00:47 ▲	05:20 ▼	-03:07 ▲
FAB_2_SB	06:24	00:58 ▼	01:47 ▼	-00:12 ▲	-00:42 ▲	00:20 ▼	00:19 ▼
FAB_12_NB	07:46	-03:01 ▲	-00:26 ▲	-01:20 ▲	01:55 ▼	-03:30 ▲	-00:32 ▲
FAB_12_SB	06:21	-01:19 ▲	02:14 ▼	-02:48 ▲	-01:18 ▲	-01:26 ▲	-01:48 ▲
BLB_35_BS_IB	08:49	-02:38 ▲	01:17 ▼	-03:11 ▲	-00:54 ▲	-03:13 ▲	-02:15 ▲
BLB_35_BS_OB	06:03	00:03 ▼	-00:06 ▲	-00:05 ▲	00:08 ▼	-00:02 ▲	00:00 ▬

Table E.5 : PM Peak – Individual Bus Journey Time Variance (Cumulative), (mm:ss) Indirectly Affected – Full Modelled Route

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
PM Peak Period (15:00 - 19:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
FAB_1_NB	11:04	-01:31 ▲	00:32 ▼	-00:12 ▲	-00:37 ▲	-01:10 ▲	02:01 ▼
FAB_1_SB	04:56	00:56 ▼	00:11 ▼	-00:58 ▲	-01:16 ▲	-00:59 ▲	-00:17 ▲
FAB_2_NB	13:23	-03:45 ▲	-02:20 ▲	-04:39 ▲	-02:23 ▲	-03:16 ▲	-04:38 ▲
FAB_2_SB	05:25	-01:01 ▲	-01:25 ▲	-00:15 ▲	-01:42 ▲	-01:38 ▲	-00:25 ▲
FAB_12_NB	15:44	-06:30 ▲	-02:23 ▲	-03:42 ▲	-02:45 ▲	-04:42 ▲	-04:09 ▲
FAB_12_SB	08:13	-01:59 ▲	-00:39 ▲	-01:33 ▲	-00:58 ▲	-00:59 ▲	-00:42 ▲
BLB_35_BS_IB	10:40	00:06 ▼	-02:22 ▲	-00:43 ▲	-02:05 ▲	-00:39 ▲	-01:39 ▲
BLB_35_BS_OB	12:31	01:57 ▼	-01:14 ▲	00:37 ▼	-02:05 ▲	-02:04 ▲	-00:08 ▲

Table E.6 : Saturday Peak – Individual Bus Journey Time Variance (Cumulative), (mm:ss) Indirectly Affected – Full Modelled Route

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
Saturday Peak Period (12:00 - 16:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
FAB_1_NB	13:10	00:44 ▼	01:14 ▼	00:50 ▼	-01:10 ▲	-01:01 ▲	01:46 ▼
FAB_1_SB	08:05	-01:40 ▲	-00:48 ▲	-01:01 ▲	-01:28 ▲	-02:40 ▲	-02:55 ▲
FAB_2_NB	08:51	02:50 ▼	03:08 ▼	04:38 ▼	03:41 ▼	00:44 ▼	04:18 ▼
FAB_2_SB	06:23	01:31 ▼	02:58 ▼	-01:37 ▲	-01:09 ▲	-00:34 ▲	-02:43 ▲
FAB_12_NB	06:16	02:45 ▼	02:19 ▼	03:59 ▼	01:57 ▼	02:14 ▼	03:54 ▼
FAB_12_SB	08:06	-01:24 ▲	05:16 ▼	01:50 ▼	05:45 ▼	01:46 ▼	01:49 ▼
BLB_35_BS_IB	07:29	-00:49 ▲	03:07 ▼	01:46 ▼	04:26 ▼	-00:43 ▲	-00:41 ▲
BLB_35_BS_OB	06:26	-00:04 ▲	00:02 ▼	-00:07 ▲	-00:08 ▲	01:28 ▼	04:04 ▼

F BUS RELIABILITY ANALYSIS- CITY CENTRE AREA

Table F.1 : AM Peak – Individual Bus Journey Time Variance (Cumulative), (mm:ss) – City Centre Area

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
AM Peak Period (06:00 - 10:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
BLB_727_BS_IB	05:01	-00:23 ▲	00:17 ▼	-00:23 ▲	-00:26 ▲	-01:42 ▲	03:08 ▼
FAB_19_NB	03:55	-00:25 ▲	-00:38 ▲	-00:20 ▲	00:03 ▼	-00:24 ▲	-01:03 ▲
FAB_19_SB	04:00	-00:32 ▲	01:18 ▼	-00:21 ▲	-01:08 ▲	-01:12 ▲	00:05 ▼
BLB_35_BS_OB	04:42	-00:01 ▲	00:11 ▼	-00:02 ▲	01:23 ▼	00:02 ▼	-00:02 ▲
BLB_35_BS_IB	07:41	-02:54 ▲	00:04 ▼	-02:51 ▲	-03:04 ▲	-02:42 ▲	-02:43 ▲

Table F.2 : PM Peak – Individual Bus Journey Time Variance (Cumulative), (mm:ss) – City Centre Area

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
PM Peak Period (15:00 - 19:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
BLB_727_BS_IB	06:28	-02:02 ▲	00:23 ▼	00:38 ▼	-02:32 ▲	-01:31 ▲	-01:25 ▲
BLB_727_BS_OB	08:17	-05:21 ▲	-02:54 ▲	-02:51 ▲	-01:11 ▲	-04:50 ▲	-05:19 ▲
FAB_19_NB	04:34	-00:45 ▲	00:40 ▼	-00:20 ▲	01:59 ▼	-01:03 ▲	00:09 ▼
FAB_19_SB	01:54	-00:22 ▲	-00:28 ▲	-00:36 ▲	-00:06 ▲	-00:10 ▲	00:07 ▼
BLB_35_BS_OB	09:06	00:38 ▼	-00:01 ▲	02:11 ▼	-01:20 ▲	-01:08 ▲	01:54 ▼
BLB_35_BS_IB	06:59	00:21 ▼	-01:00 ▲	00:00 ▬	00:35 ▼	-00:57 ▲	00:06 ▼

Table F.3 : Saturday Peak – Individual Bus Journey Time Variance (Cumulative), (mm:ss) – City Centre Area

		2023 Test 1	2023 Test 2	2023 Test 3	2023 Test 4	2023 Test 5	2023 Test 7
Saturday Peak Period (12:00 - 16:00) Bus Route	2023 Reference Case	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)	Absolute Difference (mm:ss)
BLB_727_BS_IB	06:45	-01:37 ▲	-00:42 ▲	-03:09 ▲	-01:48 ▲	-01:18 ▲	-00:41 ▲
BLB_727_BS_OB	10:07	-06:04 ▲	-04:07 ▲	-02:12 ▲	00:02 ▼	-05:54 ▲	-08:02 ▲
FAB_19_NB	06:09	-01:35 ▲	01:31 ▼	-00:57 ▲	-00:49 ▲	-01:51 ▲	02:32 ▼
FAB_19_SB	00:55	-00:04 ▲	00:05 ▼	00:06 ▼	-00:04 ▲	-00:04 ▲	00:01 ▼
BLB_35_BS_OB	06:35	01:11 ▼	00:49 ▼	-00:29 ▲	-00:22 ▲	00:54 ▼	03:21 ▼
BLB_35_BS_IB	06:19	00:21 ▼	-01:01 ▲	01:36 ▼	01:31 ▼	-00:04 ▲	00:14 ▼

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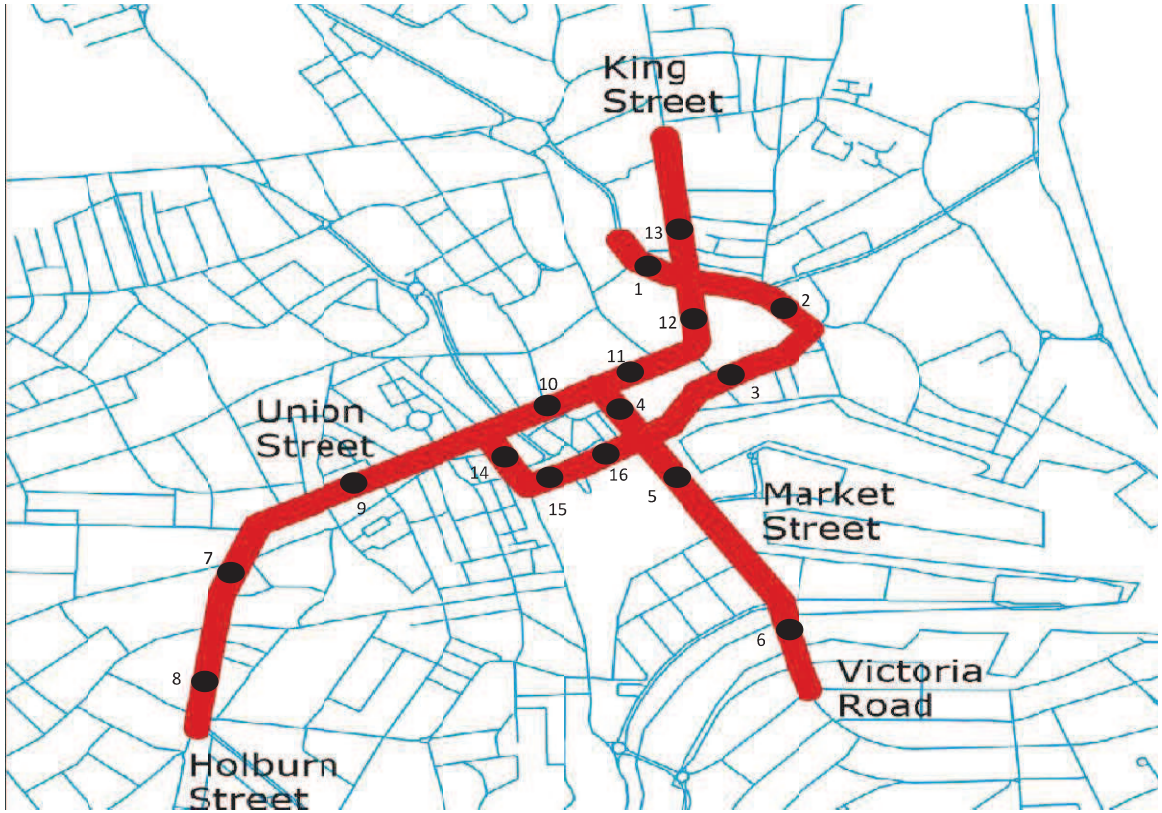
Aberdeen City Centre AQMA



Locations For Flow Analysis

1 West North Street
2 Commerce St
3 Virginia St
4 Market St (north of Guild St)
5 Market St (south of Guild St)
6 Victoria Bridge
7 Holburn St (north of Willowbank Rd)
8 Holburn St (south of Willowbank Rd)
9 Union St (East)
10 Union St (Central)
11 Union St (West)
12 King St (South of West North St)
13 King St (North of West North St)
14 Bridge St
15 Guild St (East of Carmelite St)
16 Guild St (West of Carmelite St

No.	Location	Direction	AM Peak Period (06:00-10:00) 2023 Ref Case (veh)	AM Peak Period (06:00-10:00) 2023 Test 5 (veh)	AM Peak Period (06:00-10:00) Diff (veh)	AM Peak Period (06:00-10:00) % Diff	PM Peak Period (15:00-19:00) 2023 Ref Case (veh)	PM Peak Period (15:00-19:00) 2023 Test 5 (veh)	PM Peak Period (15:00-19:00) Diff (veh)	PM Peak Period (15:00-19:00) % Diff	Sat Peak Period (12:00-16:00) 2023 Ref Case (veh)	Sat Peak Period (12:00-16:00) 2023 Test 5 (veh)	Sat Peak Period (12:00-16:00) Diff (veh)	Sat Peak Period (12:00-16:00) % Diff
1	West North Street	NB	1,118	1,358	239	21%	1,912	2,427	514	27%	2,150	2,545	395	18%
		SB	2,269	2,831	562	25%	2,758	3,241	483	18%	2,538	3,010	472	19%
2	Commerce St	NB	2,256	2,401	145	6%	3,664	4,009	345	9%	2,808	3,139	331	12%
		SB	3,557	3,769	212	6%	2,924	3,218	295	10%	2,860	3,201	341	12%
3	Virginia St	EB	3,028	3,162	133	4%	4,856	5,122	266	5%	4,000	4,271	270	7%
		WB	3,445	3,608	162	5%	3,047	3,326	279	9%	3,022	3,332	309	10%
4	Market St (north of Guild St)	NB	547	361	-186	-34%	991	650	-341	-34%	1,083	673	-409	-38%
		SB	1,669	1,299	-370	-22%	1,592	1,197	-396	-25%	1,667	1,351	-315	-19%
5	Market St (south of Guild St)	NB	3,190	3,161	-30	-1%	5,473	5,415	-57	-1%	4,619	4,496	-123	-3%
		SB	5,582	5,497	-85	-2%	4,468	4,441	-27	-1%	4,431	4,378	-53	-1%
6	Victoria Bridge	NB	1,446	1,468	22	2%	1,806	1,782	-24	-1%	1,769	1,715	-54	-3%
		SB	2,122	2,119	-4	0%	1,959	1,932	-27	-1%	1,311	1,239	-72	-5%
7	Holburn St (north of Willowbank Rd)	NB	2,878	2,926	48	2%	2,676	2,704	28	1%	2,704	2,803	99	4%
		SB	2,423	2,444	22	1%	2,699	2,712	13	0%	2,295	2,359	64	3%
8	Holburn St (south of Willowbank Rd)	NB	2,366	2,379	13	1%	2,190	2,193	3	0%	1,902	1,961	58	3%
		SB	1,860	1,866	6	0%	2,380	2,406	26	1%	1,910	1,969	59	3%
9	Union St (East)	EB	1,473	1,720	248	17%	1,522	1,596	74	5%	1,536	1,665	130	8%
		WB	1,356	1,401	45	3%	1,752	1,870	118	7%	1,473	1,520	47	3%
10	Union St (Central)	EB	1,678	1,540	-138	-8%	1,717	1,536	-181	-11%	1,656	1,450	-206	-12%
		WB	1,318	1,420	102	8%	1,638	1,861	223	14%	1,587	1,966	379	24%
11	Union St (West)	EB	1,358	1,206	-152	-11%	1,663	1,269	-394	-24%	1,698	1,104	-594	-35%
		WB	2,103	2,006	-96	-5%	2,021	1,975	-46	-2%	2,122	2,207	85	4%
12	King St (South of West North St)	NB	891	899	8	1%	1,093	1,180	87	8%	973	979	6	1%
		SB	1,683	1,943	259	15%	1,813	1,921	108	6%	1,775	1,893	117	7%
13	King St (North of West North St)	NB	1,147	1,139	-7	-1%	1,673	1,691	19	1%	1,252	1,236	-16	-1%
		SB	1,237	1,216	-21	-2%	1,124	1,177	53	5%	1,014	1,061	48	5%
14	Bridge St	NB	440	318	-122	-28%	749	373	-376	-50%	703	464	-239	-34%
		SB	482	141	-341	-71%	534	185	-349	-65%	660	452	-208	-31%
15	Guild St (East of Carmelite St)	EB												
		WB	2,689	2,837	148	6%	4,169	4,263	94	2%	4,401	4,573	172	4%
16	Guild St (West of Carmelite St	EB	1,553	1,712	159	10%	1,421	1,578	157	11%	1,574	1,604	30	2%
		WB	640	668	28	4%	1,609	1,630	21	1%	1,606	1,655	49	3%
Total			**59,805**	**60,815**	**1,010**	**1.7%**	**69,893**	**70,883**	**990**	**1.4%**	**65,099**	**66,271**	**1,172**	**1.8%**

ABERDEEN CITY COUNCIL

COMMITTEE	Council
DATE	16 December 2015
INTERIM DIRECTOR	Richard Ellis
TITLE OF REPORT	Scottish Futures Trust Delivery Model (Hubco)
REPORT NUMBER	CG/15/151
CHECKLIST COMPLETED	Yes

1. PURPOSE OF REPORT

This report outlines changes to the Scottish Futures Trust (SFT) Hub Design, Build, Finance and Maintain (DBFM) delivery model that are required to reinforce the classification of these projects as private sector under ESA 10 rules.

2. RECOMMENDATION(S)

It is recommended that the Council:

i) note the changes being made to the Hub DBFM delivery model;

ii) agree to the Hub Shareholders Agreement and the Territory Partnering Agreement being amended to accommodate these changes;

iii) note that all participants within Hub North Scotland Ltd must agree to the amendment of these agreements before any projects in the area can proceed to financial close; and

iv) agree to provide delegated authority to the Head of Finance and Head of Legal & Democratic Services to resolve any unforeseen issues that may arise during the implementation of these changes.

3. FINANCIAL IMPLICATIONS

There are no direct financial implications arising from this report.

4. OTHER IMPLICATIONS

Amendment of the Shareholders Agreement and Territory Partnering Agreements will enable projects within the North Hub area including the South of the City School to proceed to financial close thereby minimising any further delays due to ESA 10 issues.

5. BACKGROUND/MAIN ISSUES

5.1 Background

5.1.1 Changes need to be made to the structure for delivering Hub Design, Build, Finance and Maintain (DBFM) projects in order to reinforce the classification of those projects to the private sector for national accounts purposes under European System of Accounts 2010 ('ESA 10') rules and the accompanying Manual of Government Deficit and Debt 2014 ('MGDD'). A new hub DBFM delivery structure has been approved by Scottish Ministers and must be applied to all DBFM projects signed since the introduction of ESA 10 on 1st September 2014.

5.1.2 This report outlines the 4 key changes proposed to be made to the hub delivery.

5.2 Reasons for the Changes

5.2.1 Private classification of DBFM projects for national accounts purposes is required for Scottish Government to support projects from long term revenue budgets rather than capital budgets as they are constructed.

5.2.2 The rules under which the national accounts are compiled are set in Europe and under ESA 10, and supporting MGDD, changes have been made to the rules applicable to the classification of projects delivered under public private partnership structures such as hub DBFM.

5.2.3 In order to reinforce the required private classification under the revised rules, Scottish Futures Trust (SFT) has identified that:

i) Any perception of public sector control over the delivery company (the sub Hubco under the existing structure) must be avoided. This is achieved through the restructuring of that company as a stand-alone DBFM co.

ii) Public sector financing of projects whether through sub ordinated debt or through capital contributions to projects must be limited in order to maintain clarity of risk transfer to the private sector delivery partner.

5.3 Details of the Changes

5.3.1 Changes to the Sub Hubco Delivery Company

5.3.1.1 The existing structure has the project delivery company as a fully owned subsidiary (a sub Hubco) of the Hubco. Under the revised structure the procuring participant for a DBFM project will contract with a company that sits outside of the Hubco corporate structure (a "DBFM Co") rather than with a sub Hubco as at present.

5.3.1.2 The DBFM Co will be owned 60% by the private sector development partner, 20% by a newly formed private sector charity, 10% by SFT and 10% by the procuring participant. A majority of the DBFM Co directors will be appointed by the private sector developer partner and so the board of the DBFM Co will be under private sector control.

5.3.1.3 The shareholders in DBFM Co will have the right to invest subordinated debt in proportion to their shareholding.

5.3.2 Changes to arrangements for investing Subordinated Debt in projects

5.3.2.1 Under the existing arrangements Participants have the right to invest up to 30% sub ordinated debt in their own and in other participant's projects. Under the new structure this right to invest is limited so that participants have the right to invest 10% of subordinated debt in the DBFM Co delivering their own project.

5.3.3 Setting Up of a new Charity

5.3.3.1 A charity will be formed (currently referred to as the Hub Community Foundation ("HCF")) to assist and enhance the delivery of the wider community benefits that are connected with the activities of the hub programme.

5.3.3.2 HCF's purposes will be the advancement of education, the advancement of health, the provision of recreational facilities and the relief of those in need. It will be for the HCF's board of trustees to determine the causes that HCF will support and therefore the public benefit that HCF will deliver.

5.3.3.3 HCF will be established as a Scottish Charitable Incorporated Organisation and its Board of Trustees will comprise:

a) 1 trustee appointed by SFT;
b) 1 trustee appointed by the 5 hub private sector development partners; and
c) A majority (3-5) of trustees who have an interest in the hub programme and its objectives but are independent of the public sector and the 5 private sector development partners.

5.3.3.4 HCF's members will be the SFT, the 5 private sector development partners and the independent trustees.

5.3.4 Capital Contributions to DBFM projects

5.3.4.1 Under the existing arrangements Participants can make a capital contribution towards the capital costs of the DBFM project. This would reduce the amount of the Annual Service Payment payable by the participant over the term of the DBFM contract.

5.3.4.2 Under the revised structure there will be no public sector capital contributions.

5.3.4.3 Local Authorities which had planned to make capital contributions to DBFM projects will not be able to do so and will have to make an increased contribution to Annual Service Payments in respect of the element of the capital cost it was intending to contribute. The "no better no worse" principle will apply and Local Authorities will not be expected to contribute additional financing costs above those they would have incurred had the capital contribution been supported by PWLB borrowing.

5.4 Implications for Aberdeen City Council

5.4.1 The implications for the Council are:

i) The Council as a participant in Hub North Scotland Ltd needs to formally agree to these changes; and

ii) As the participant commissioning the South of the City School, the Council needs to be aware that these changes will apply to this project and need to be made before it can reach financial close.

5.5 Implications as a Participant in Hub North Scotland Ltd

5.5.1 The Council needs to formally agree to these changes and consent to the Hub Shareholding Agreement and Territory Partnering Agreement being amended to incorporate these changes.

5.5.2 SFT have commissioned Pinsent Masons to draw up the documentation for these changes in each Territory and this work has already been completed.

5.5.3 In terms of any challenge to these changes under Procurement Law, SFT commissioned Pinsent Masons to review this risk and Pinsent's conclusion is that:
"We [Pinsent Masons] are of the view that there are strong arguments as to why the Variation should not be considered to constitute a material change and whilst there is a degree of risk associated with the Variation, in our view the likelihood of success of a challenge on grounds of material change is relatively low. Further such risk could be mitigated by publication of a Veat Notice (subject to section 2.6.4(d))." The Veat Notice has been sent to OJEU for publication.

5.5.4 Resolution of this ESA 10 issue has been a major issue and blockage for the Scottish Government, SFT and Hubco in closing projects and developing new ones. Closure of projects has been on hold pending resolution of this ESA 10 issue.

5.5.5 The Office of National Statistics (ONS) have recently advised that the proposed changes to the Hub DBFM model would support a private sector classification in line with EU guidance and in light of this the Scottish Government has announced that projects can proceed to financial close.

5.5.6 At the time of writing it is understood that all other Participants in Hub North Scotland Ltd have already agreed the changes required.

6. IMPACT

Improving Customer Experience –
No direct impact arising from this report.

Improving Staff Experience –
No direct impact arising from this report.

Improving our use of Resources –
By agreeing to the recommendations as detailed in this report, the Council, as a participant in Hub North Scotland Ltd will be confirming that the required changes can be made to the appropriate legal documentation. This in turn will allow projects, including the South of the City School, within the Hub North area to progress to financial close. This will minimise any further delays resulting from ESA 10 issues and reduce the risk of additional costs being incurred as a result of such delays.

Corporate -
As a participant in Hub North Scotland Ltd, the Council h*as* made a commitment to work with SFT in the development of projects to provide new facilities within the City, such as the South of the City School. Such projects link clearly to the visions and plans of the Council.

Public –
This report demonstrates to the public the frameworks within which the Council works and provides assurance that action is being taken to continue to work within those frameworks.

7. MANAGEMENT OF RISK

Failure to agree to and implement the required changes to the afore-mentioned legal agreements would delay the progress of projects and could have a negative impact on the Council's relationship with SFT and the other participants of Hub North Scotland Ltd. There could also be detrimental financial consequences for the Council as a result of further delays. These risks will be mitigated by the approval of the recommendations in this report.

8. BACKGROUND PAPERS

SFT Revised Documentation and associated Pinsent Mason's Advice Note

9. REPORT AUTHOR DETAILS

Steven Whyte, Head of Finance
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01224 523566

ABERDEEN CITY COUNCIL

COMMITTEE	Council
DATE	16th December 2015
LEAD OFFICER	Chief Executive
TITLE OF REPORT	Designation of Local Police Commander
REPORT NUMBER:	OCE/15/049
CHECKLIST RECEIVED	Yes

1. PURPOSE OF REPORT

This report brings before the Committee the Chief Constable of Police Scotland's nomination for the role of Local Police Commander for Aberdeen City.

2. RECOMMENDATIONS

That the Council resolves:

i. To note the Chief Constable of Police Scotland's nomination of Chief Superintendent Campbell Thomson as the Local Police Commander for Aberdeen City and to confirm its support for the appointment.

ii. To invite Chief Superintendent Thomson to attend an early meeting of the Communities, Housing and Infrastructure Committee to discuss his plans for police services in Aberdeen

3. FINANCIAL IMPLICATIONS

There are no financial implications for the Council to this report.

4. OTHER IMPLICATIONS

Under the terms of Section 44 of the Police and Fire Reform (Scotland) Act 2012 the Chief Constable must ensure that there are adequate arrangements in place for the policing of each local authority area (and any adjacent territorial waters) and for each local authority area, the chief constable must, after consulting the local authority, designate a constable as local commander. A constable may be designated as local commander in relation to more than one local authority area.

5. BACKGROUND/MAIN ISSUES

Attached is a copy of a letter received by the Chief Executive from the Chief Constable of Police Scotland regarding the designation of a Local Police Commander for Aberdeen City following the retiral of Chief Superintendent Adrian Watson.

The Chief Constable confirms that subject to consultation with the City Council, Chief Superintendent Campbell Thomson will be confirmed as the Local Police Commander for Aberdeen City. It is recommended that the Council confirms its support for the designation of Chief Superintendent Thomson as Local Police Commander for Aberdeen City and invites him to attend an early meeting of the Communities, Housing and Infrastructure Committee to discuss his plans for police services in Aberdeen.

Members will note from the Chief Constable's letter that it remains the intention of Police Scotland to merge the Aberdeen City and Aberdeenshire and Moray Divisions to form a single Division for the North East of Scotland.

6. IMPACT

The subject matter of the report is of relevance to the delivery of the Council's responsibilities in relation to Community Planning and the Single Outcome Agreement. As the report relates to decision-making within an external organisation there is no specific impact in relation to customer experience, staff experience or the Council's use of resources.

7. MANAGEMENT OF RISK

The report relates solely to decision-making within an external organisation.

8. BACKGROUND PAPERS

None

9. REPORT AUTHOR DETAILS

Ciaran Monaghan
Head of Service, Office of Chief Executive
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01224 522293

28 November 2015
Your Ref:
Our Ref:

POLICE SCOTLAND
Keeping people safe

Ms Angela Scott
Chief Executive
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Chief Constable
Sir Stephen House QPM

Local Policing
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Dear Ms Scott,

Designated Local Police Commander

As you are aware, it is the intention of Police Scotland to strengthen our service delivery to the North East of Scotland and merge the existing A' and B' Divisions into one larger and more flexible unit. This work was led by the current Divisional Commanders.

With the intended new Division set to 'go live' on 1 January 2016, I am writing to you regarding my nomination for your Local Policing Commander.

Under Section 44 of the Police and Fire Reform (Scotland) Act 2012: "(2) For each local authority area, the chief constable must, after consulting the local authority, designate a constable as local commander". In addition the Act also permits the Chief Constable to appoint an officer as Local Police Commander for more than one area.

In this regard I write to inform you my nomination for your Local Police Commander is Chief Superintendent Campbell Thomson.

Chief Superintendent Thomson is originally from Lossiemouth and prior to joining the Police in 1990 was a fisherman, a heritage he is very proud of. He rose to the rank of Detective Chief Superintendent, Head of CID for legacy Grampian Police. In

April 2013, at the formation of Police Scotland he was placed in charge of the Major Investigation Teams, a national division which investigates all homicides. In January 2014, he was selected as Assistant Chief Constable, Local Policing North, on a temporary basis. This role, which he filled for 15 months, covered all four Police Scotland divisions in the north and north-east including Aberdeen City. He lives with his family in Aberdeenshire.

More recently Chief Superintendent Thomson has been Divisional Commander of Aberdeenshire and Moray, and has served the area well.

Chief Superintendent Thomson has now been selected following a process which involved the post being advertised across Scotland to all eligible candidates.

I write to consult you on this proposition and would be grateful if you could therefore respond, advising whether you support my nomination of Chief Superintendent Thomson as Local Police Commander for the North East area incorporating your Council area. I would appreciate an early reply, which would allow to me to confirm Chief Superintendent Thomson in his role and allow him to make contact with you directly.

Chief Superintendent Thomson is a highly experienced and competent officer and I know the positive working relationship Aberdeen City Council previously enjoyed with Chief Superintendent Watson will continue in the capable hands of Chief Superintendent Thomson.

The existing Superintendents serving in management roles for both Aberdeenshire and Moray areas and the Aberdeen City area, will be retained and will form the experienced Command Team to support Chief Superintendent Thomson.

It is also intended that all the Local Police Commanders will be retained on their current duties, delivering business as usual for the North East.

I trust you will find this information helpful.

Yours sincerely

Sir Stephen House QPM
Chief Constable