Transport and Environment Committee

10.00am, Thursday, 20 June 2019

Public Transport Priority Action Plan Update

Executive/routine	Executive
Wards	All
Council Commitments	18, 19, 27, 47

1. Recommendations

1.1 Committee is asked to:

1.1.1 Note the updates on the A90 study;

1.1.2 Agree that introducing bus lanes along the length of the A90 corridor is not feasible at present;

1.1.3 Note that a consultation on amending bus lane operational hours will be held between September and October 2019; and

1.1.4 Note that the Council is preparing a bus stop rationalisation methodology which will be brought back to Committee for approval.

Paul Lawrence

Executive Director of Place

Ewan Kennedy, Service Manager – Roads Network

E-mail: ewan.kennedy@edinburgh.gov.uk | Tel: 0131 469 3575

Report

Public Transport Priority Action Plan Update

2. Executive Summary

2.1 This report provides an update on the priority actions from Public Transport Priority Action Plan and includes the results of traffic modelling of bus lanes on the A90.

2.2 Traffic modelling shows that if bus lanes were introduced on the A90, delays to vehicles in the general traffic lane would increase significantly. Queues would also increase at critical junctions which are already at capacity. This may negatively affect the ability of buses to access the lane in the first place and could result in buses experiencing more delay than present.

2.3 Because of this, it is not considered feasible to introduce bus lanes on the A90 at present, however, bus priority measures will be considered within the context of a wider regional transport plan.

2.4 A consultation plan and programme has been prepared to inform a decision on a new operating regime for bus lanes. It is proposed that the consultation will be held between September and October 2019.

2.5 The Council is developing a bus stop rationalisation methodology. The methodology will be brought to a future Committee for approval.

3. Background

3.1 This report provides an update on the priority actions outlined in the report titled 'Public Transport Priority Action Plan' (PTPAP), which was presented to the Transport and Environment (T&E) Committee on 9 August 2018. The report outlined measures to improve conditions for public transport users citywide. The Council has prioritised three actions from the PTPAP: The A90 Corridor; Bus Lane Operational Hours; and Bus Stop Rationalisation.

A90 Corridor

3.2 At Transport and Environment Committee on 5 March 2019, a motion was passed requesting a study on the feasibility of introducing dedicated bus lanes along the full route of the A90, from South Queensferry to the city centre in both directions. The

motion noted the successful use of bus lanes on the A8 and the A71 both entering and leaving the city.

3.3 The Council is undertaking a study which considers measures aimed at aiding traffic movement on the A90. The key objective of this is to reduce bus journey times and improve reliability. As part of the study, Lothian Buses and Stagecoach have been consulted. In addition, the Council has assessed the feasibility of introducing bus lanes along the A90.

Bus Lane Operational Hours

3.4 On 1 November 2016, Committee approved a report which summarised the results of an 18-month trial of standardising bus lane times to week day peak hours only. The results of this trial suggested negligible dis-benefit to buses and a decision was taken by Committee to make this trial permanent.

3.5 Bus operators have expressed a desire for a return of all-day bus lanes, with standardised operating hours between 0700-1900 applied seven days a week. This is due to increasingly challenging congestion and a marked traffic increase. The PTPAP report committed to undertaking a review of bus lane operating hours.

Bus Stop Rationalisation

3.6 The PTPAP report specified that a bus stop rationalisation plan would be developed, and that consultation with local communities, elected members and key stakeholders would be undertaken

3.7 A Committee Report to the West Midlands Combined Authority confirmed that as congestion increases, bus patronage drops. The research highlighted that it takes approximately 30 seconds for a bus to slow down, stop and then return to normal speed. For every bus stop removed, this time would be saved for each bus. This time saving does not include for time taken for passengers to board and alight, which would be time saved in addition. Although it is accepted that if bus stops are removed, the remaining stops would be busier.

Policy

3.8 The PTPAP supports the key strategic outcomes of the aims of the National Transport Strategy:

3.8.1 improved journey times and connections, to tackle congestion and lack of integration and connections in transport;

3.8.2 reduced emissions, to tackle climate change, air quality, health improvements; and

3.8.3 improved quality, accessibility, and affordability, to give a choice of public transport, better service and value, for money or alternative to car.

3.9 It also supports key objectives and policies in the Edinburgh Local Transport Strategy:

3.9.1 to facilitate a bus and tram network in Edinburgh that is reliable and convenient for journeys throughout the city at all times of day throughout the week;

3.9.2 stops positioned to facilitate convenient changing between different services; clear, high quality information; and

3.9.3 the Council will continue to maintain the bus lane network, review it regularly and extend it or enhance it where opportunities arise.

4. Main report

A90 Corridor

4.1 The Council has developed a set of measures, aimed at improving traffic flow on the A90 in the short and medium term, as listed in Table 1. More details including background and the status of each measure is provided in Appendix One.

Table 1 A90 Improvement Measures

Short Term Measures (<2 years)	Medium Term Measures (2-5 years)
Repair damaged SCOOT loops	Introduce bus lane at Dolphington onslip
Install new SCOOT loops	Refurbish Blackhall junction
Introduce SCOOT gating	Introduce bus priority at signals
Amend advanced directional signage	
Bus lane extension at Blackhall	
Repair variable message signs	

4.2 Measures identified as this work develops will be prioritised in consultation with bus operators and available resource.

A90 Bus Lanes

4.3 The A90 is effectively single carriageway from Edinburgh city centre to its junction at A90/Telford Road. Beyond this point it is dual carriageway in both directions. To the west of the B924 slip road, the A90 is operated by Transport Scotland. There are existing sections of bus lanes on the A90. A plan showing the location of the A90 and the existing bus lanes is displayed in Appendix 2.

4.4 To establish baseline journey time information on the A90, the Council has undertaken car and bus journey time surveys, the results are displayed in Appendices C and D. Lothian Buses and Stagecoach have also provided the Council with journey time data.

4.5 To inform a decision on introducing bus lanes on A90, traffic counts have been compared on the A90, A8 and A71. The traffic counts comprise traffic flow data, collected between in November 2016. Table 2 summarises the traffic flows on each road.

Table 2 Traffic flows

Road	12 hours 2-way 0700-1900	AM Peak inbound 0800-0900	PM peak outbound 1700-1800	Interpeak 2-way 1000-1600
A90 Queensferry Road (at Clermiston)	44,280	2,358	2,282	19,566
A8 Glasgow Road (at Corstorphine)	19,044	1,004	726	8,957
A71 Gorgie Rd (at Stenhouse)	22,876	921	896	11,301

4.6 Throughout all periods of the day traffic flow on the A90 is approximately double or more of that on the A8 and A71. This indicates that bus lanes would be difficult to accommodate on the A90 without significant impact on general traffic, which would result in considerable traffic displacement into local communities and residential streets.

4.7 In 2008, SEStran commissioned a study exploring bus priority measures on the A90 corridor, which concluded that bus lanes along the length of the A90 would not be effective.

4.8 To test the impact of bus lanes on the A90, traffic modelling has been carried out using the Edinburgh strategic VISUM traffic model. The bus lanes were accommodated by reallocating a general traffic lane, where practical, in each direction. This would result in a bus lane and a single traffic lane being provided in each direction.

4.9 The eastbound bus lane was modelled extending from the existing bus lane before Dolphington slip road, through Barnton, Drum Brae, Clermiston, Quality Street to the junction with Telford Road.

4.10 The westbound bus lane was modelled extending from Telford Road to the Barnton junction only. To the west of the Barnton junction, the A90 does not normally experience congestion so a bus lane would offer no benefit on this stretch.

4.11 To the east of its junction with Telford Road, the A90 is effectively one lane in each direction so bus lanes could not be accommodated on this stretch.

4.12 The bus lanes were modelled in the morning (0700-0900) and afternoon (1600-1800) peak periods.

4.13 Table 3 provides a summary of the modelled journey times for general traffic, comparing base and with bus lanes scenarios in a 2022 model forecast year.

Table 3 Modelled Journey Times

Year	Morning inbound			Afternoon outbound		
	Base (mins)	Bus Lane (mins)	% change	Base (mins)	Bus Lane (mins)	% change
2022	10:00	18:00	+80%	10:00	17:00	+70%

4.14 General traffic journey times are forecast to increase by approximately 80% inbound in the morning peak and 70% outbound in the afternoon peak.

4.15 The model predicts that the traffic displaced from the A90 would primarily re-route through Drumbrae North, Barnton (Whitehouse Road, Gamekeeper's Road and Quality Street), South Gyle (South Gyle Broadway and South Gyle Access) and along the A8 and the A71. This displacement would cause additional traffic issues at Barnton and surrounding residential roads, with a consequent reduction in accessibility around Davidson's Mains, Cramond and Barnton.

4.16 The model shows that queues would increase along the A90 corridor and surrounding streets. In the morning peak, inbound queues would extend to the M90. Evening peak outbound queues on Telford Road and Queensferry Road, east of Blackhall, would be significantly increased. Evening queues on Whitehouse Road would extend to Gamekeeper's Road and beyond for a large part of the peak period.

4.17 Although buses may make gains whilst using the bus lanes, the increase in queues in the general traffic lane could negatively affect the ability for buses to access the lane in the first place. In certain circumstances, this may result in buses experiencing more delay than at present.

4.18 Due to the above findings, it is not considered feasible to introduce bus lanes along the A90 at present. However, their introduction will be considered within the context of a wider regional transport plan.

A90 Going Forward

4.19 A package of wider regional strategic initiatives will be required on the A90 to improve traffic flow longer term and allow bus lanes to be reconsidered. Significant investment will be required to fund measures aimed at reducing traffic and promoting a mode shift away from private car to more sustainable modes.

4.20 Regional partners and neighbouring authorities are progressing wider city region and cross boundary plans and initiatives which will assist. This includes the Scottish Government Second Strategic Transport Projects Review, which will provide opportunities to develop a regional transport plan. This will include improvements to public transport (including rail and bus), strategic walking and cycling networks, trunk road network and park and ride.

4.21 The Council will collaborate with partners and assist in the development of these plans and strategies.

4.22 The Council is working on several emerging plans and initiatives which feed into these strategies and seek to alleviate congestion and pollution within the city. These include:

4.22.1 A Low Emission Zone (LEZ) – which seeks to improve air quality, reduce congestion and promote sustainable forms of transport, by allowing only the cleanest vehicles into the designated zone.

4.22.2 The City Mobility Plan (CMP) – which will replace the existing Local Transport Strategy. It will set the strategic approach for transport in Edinburgh, including regional activity and the impact of commuter travel.

4.22.3 A Regional Transport Group – which has recently been established (comprising East Lothian Council, West Lothian Council, Midlothian Council, City of Edinburgh Council, SEStran and Transport Scotland). This will be used to direct cross boundary transport measures.

4.22.4 A Workplace Charging Levy – which is currently under consideration, will allow the Council to charge companies for allowing employees to park at work. Benefits will include reduced pollution, reduced congestion, improved journey times and re-investment in public transport.

4.23 The Council will continue to develop these strategies which should all positively impact traffic congestion on the A90.

Bus Lane Operational Hours

4.24 A consultation plan and programme has been prepared with the intention of seeking the views of interested parties and members of the public on the introduction of all day bus lanes operating seven days a week. Lothian Buses are assisting the Council in gathering evidence to support this proposal.

4.25 It is proposed that the consultation will be held between September and October 2019 to inform a decision on amending bus lane operating hours and satisfy the requirements of key stakeholders and local businesses.

4.26 The consultation format will include:

4.26.1 an online survey for members of the public and stakeholders, hosted on the Council's Consultation Hub accompanied by hard copy surveys available in Edinburgh Libraries;

4.26.2 stakeholder workshops for more detailed discussions and engagement with groups of stakeholders; and

4.26.3 briefings and discussions with the Transport Forum, and Edinburgh Access Panel.

4.27 The consultation results will be analysed with the findings reported back to Committee early 2020.

Bus Stop Rationalisation

4.28 The Council is developing a bus stop rationalisation methodology in collaboration with bus operators. This will be used as a means of assessing bus stop locations with the intention of establishing bus stops which should be removed, retained, or relocated. Those to be retained would have a clear and tangible need. Elected members will be invited to participate in a workshop before the draft methodology is finalised.

4.29 A bus stop rationalisation trial has recently taken place in Birmingham. The Council has contacted Transport for West Midlands (the public body responsible for co-ordinating transport services) to gain insight and lessons learnt. The findings will be incorporated in the approach going forward.

4.30 The agreed methodology will be brought to Committee for approval.

4.31 Following approval, existing bus stop locations will be assessed using the new methodology. This will result in the production of a draft bus stop rationalisation plan.

4.32 Those identified for removal, will then be subject to further site investigation and consultation with bus operators, local communities, and stakeholders. The format of this will be similar to the bus stop rationalisation consultation. Consultation would be carried out for each corridor being rationalised.

4.33 The intention is that the rationalisation will be done on a corridor basis and this will be a phased programme. A priority roll-out programme will be prepared with feedback from operators.

4.34 Depending on the outcome of consultation, the proposed rationalisation plan may be brought to Committee for approval.

4.35 It is anticipated that the bus stops rationalisation process will commence early 2020.

5. Next Steps

5.1 The Council will:

5.1.1 Continue to implement the A90 short term measures and evaluate the feasibility of the medium term measures.

5.1.2 Continue to collaborate with partners and assist in the development and delivery of strategic plans and strategies.

5.1.3 Finalise and deliver local plans and proposals which seek to alleviate congestion and pollution within the city.

5.1.4 Hold a consultation on amending the operating hours of bus lanes between September and October.

5.1.5 Develop a bus stop rationalisation methodology which will be brought to Committee.

6. Financial impact

6.1 The A90 short term measures are being funded from the allocated citywide network budget. Full financial implication of the medium to long term measures will be detailed in a later report.

6.2 Consultation to amend bus lane operating hours and develop the bus stop rationalisation methodology will be contained within the allocated public transport budget. Full financial implications will be detailed in a later report.

7. Stakeholder/Community Impact

Equality, Health and Wellbeing and Human Rights

7.1 The proposals may have potential positive impacts for all members of the public, which include:

7.1.1 Encouraging people to use public transport rather than the private car, resulting in increased physical activity.

7.1.2 Providing better access to services and employment thus enhancing social inclusion and equality of opportunity.

7.1.3 Improving the flow of buses and general traffic, which may result in a reduction in emissions and improved air quality.

7.1.4 Improving physical activity levels if people have to walk further distances between bus stops.

7.2 Reducing the number of bus stops would remove some street furniture making it easier for pedestrians to navigate the environment. This would have potential positive impacts for all members of the public, specifically for people with disabilities and mobility challenges, older people, partially sighted or blind people and people with pushchairs.

7.3 The proposals may negatively impact specific groups; impacts include:

7.3.1 People may find it more difficult to access bus stops if the spacing between them is increased. This is particularly relevant for people with disabilities and mobility challenges, older people, partially sighted or blind people.

7.3.2 Partially sighted or blind people, people with low literacy or people with English as a second language may not be fully informed of the changes, depending of method of communication used to advise.

7.4 To mitigate these negative impacts, the Council will consult with EAP and EaRN. We will also ask questions about equalities during engagement, before any proposals are finalised.

Environment and Sustainability

7.5 The proposals may help plan for the future climate change and promote sustainable forms of transport as modal shift may be achieved to more sustainable modes.

7.6 If traffic flow is improved on the A90 and on roads where bus stops are removed, green emissions and pollution may reduce due to a reduction in vehicle idling and wastage of fuel. Increasing the operating hours of bus lanes may result in improved traffic flow on the bus lanes, but reduced traffic flow on the general traffic lanes. This may potentially result in increased greenhouse gas emissions and pollution.

7.7 To mitigate this negative impact, the Council will monitor air quality at regular intervals to ensure air quality in close proximity to the bus lanes has not deteriorated.

Economic

7.8 Improved public transport may reduce income inequality for all by providing improved access to services and employment. The proposals may help people into positive destinations, especially young people who may not have a car.

7.9 Amending bus lane operating hours from peak hour only to all day may negatively impact the viability of businesses who currently carry out loading on bus lanes. To mitigate this negative impact, consultations with local businesses will be held before any proposals are finalised, to understand the needs of local businesses and develop mitigation measures where appropriate.

8. Background reading/external references

8.1 Public Transport Priority Action Plan report to the Transport and Environment Committee 9 August 2018

8.2 Transport and Environment Committee 5 March 2019

8.3 Transport and Environment Committee 28 February 2019

8.4 Emergency Motion by the Coalition – Transport and Environment Committee 5 March 2019

8.5 Transport and Environment Committee 1 November 2016

8.6 Birmingham Bus Stop Consolidation Technical Note July 2017

8.7 National Transport Strategy January 2016

8.8 Edinburgh Local Transport Strategy

8.9 SESplan Cross Boundary and Land Use Appraisal – Transport Scotland 2016

8.10 A90 Outbound Bus Priority Study – SEStran 2008

8.11 The SESplan proposed second Strategic Development Plan

8.12 The Scottish Government second Strategic Transport Projects Review

8.13 The Edinburgh and South East Scotland City Region Deal

9. Appendices

Appendix 1 A90 Public Transport Improvement Measures

Appendix 2 A90 Background Map

Appendix 3 Car Journey Time Surveys

Appendix 4 Bus Journey Time Surveys

Appendix One – A90 Public Transport Improvement Measures

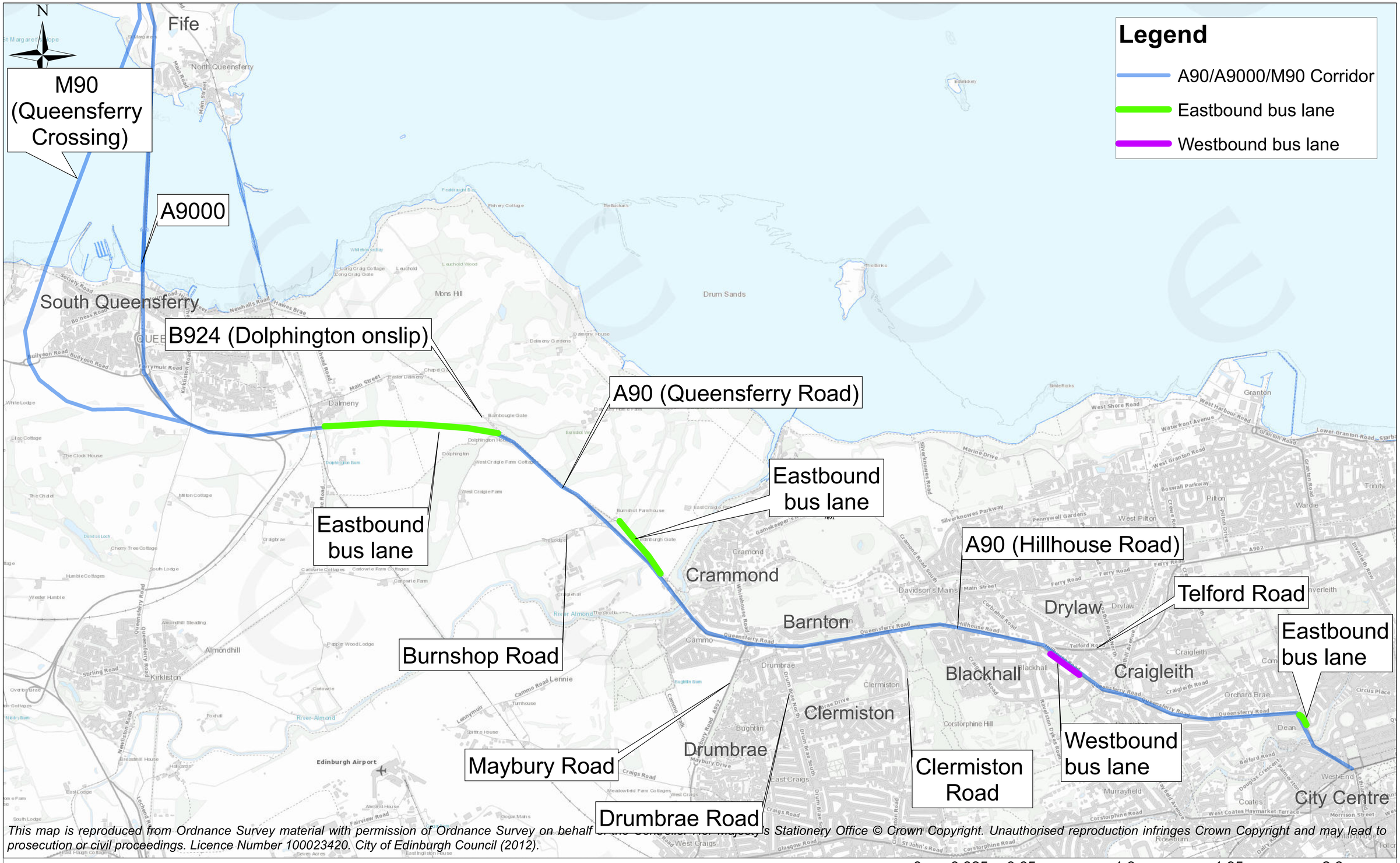
A set of measures aimed at improving traffic flow on the A90 in the short and medium term have been developed, as summarised in the tables below.

Short Term Measures (<2 years)

Measure	Description	Status
Repair damaged SCOOT loops	SCOOT (Split Cycle Offset Optimisation Technique) is a traffic control systems designed to optimise traffic signals thereby improving traffic flow. Numerous inductive SCOOT loop detectors are damaged on the A90, reducing the effectiveness of SCOOT control. Repairing the damaged SCOOT infrastructure on the A90 would result in improved traffic flow.	The damaged loops should be functioning by the end of this calendar year.
Install new SCOOT loops	At present, the Barnton and Drumbrae North junctions both run fixed time control, meaning signal timings are fixed throughout the peak hours. Introducing the SCOOT would optimise the signals to run more efficiently.	The new loops should be installed and functioning by the end of this calendar year.
Introduce SCOOT gating	Gating can be used to regulate traffic flows and prevent congestion, by holding back traffic at key locations. Fixed time gating is currently used at the Blackhall junction during the PM peak, to ensure that critical junctions downstream such as Drumbrae North and Barnton do not become overloaded. Currently this system runs on a fixed time plan which is relatively inefficient. Introducing the SCOOT gating would optimise the outbound flow.	The SCOOT gating will be configured shortly after the damaged loops are repaired.
Amend advanced directional signage	Currently, advanced directional signs on Glasgow Road direct traffic heading towards the Forth Crossing via Barnton. Installation of updated advanced directional signs to re-route traffic via Newbridge rather than Barnton may help ease congestion on the A90.	This work is complete.
Bus lane extension at Blackhall	There is currently a short length on bus lane on the A90 outbound carriageway at the Blackhall junction (Hillhouse Road/Telford Road/Strachan Road). Increasing the bus lane length of the bus lane to extend closer to the junction would benefit buses as they would be closer to the signals and more likely to get through on green.	Preliminary design in development.
Repair variable message signs	Edinburgh has several variable message signs (VMS) which have fallen into disrepair. Repairing these signs would enable the Council to inform drivers of traffic information to allow them to select their routes accordingly, which could be used to deter drivers from using the A90 when congested.	Roll out repair of VMS signs currently underway. Three signs now operational.

Medium Term Measures (2-5 years)

Measure	Description	Status
Reintroduce bus lane at Dolphington onslip	In 2014, a 24 hour bus lane was removed from the Dolphington onslip to the A90 as part of the A90 Cycleway upgrade scheme. Since the removal of the bus lane the slip road has become increasingly congested. Re-introducing the bus lane would reduce bus journey times and increase reliability. A study was recently commissioned to explore the feasibility of re-introducing the bus lanes using land on embankment to the west.	Feasibility report received.
Refurbish Blackhall junction	The Blackhall junction (Hillhouse Road (A90)/Strachen Road/Telford Road) currently has an outbound bus lane on Hillhouse Road, stretching from the junction with Gardiner Road to just before the Blackhall junction, where the buses are then required to merge in with general traffic. Improvements at this junction would improve traffic flow through the junction and enhance bus priority.	Preliminary design in development.
Introduce bus priority at signals	Fitting buses with transmitters would allow them to be detected by traffic signals. The SCOOT system could detect the presence of buses and activate traffic signals to give them priority at junctions, reducing journey times and increasing reliability.	A new bus tracker system is being procured; a feed has been requested.



A90 Background Map

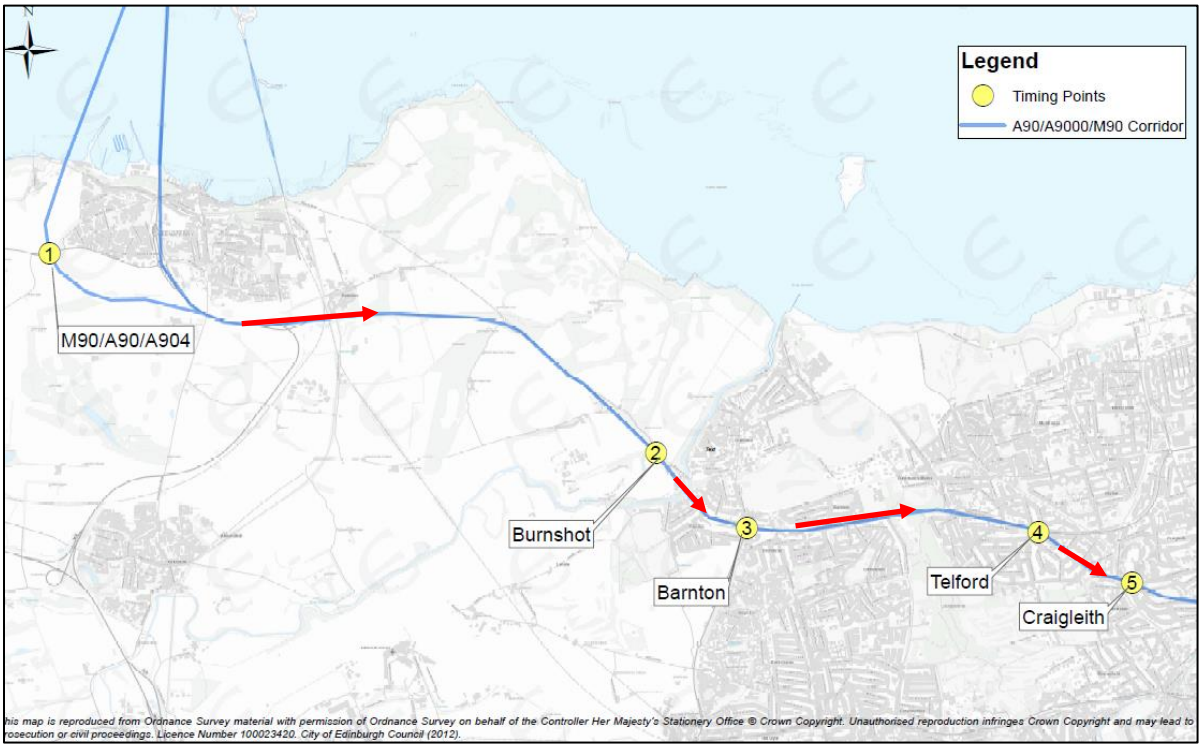
Appendix Three – Car Journey Time Surveys

Car AM inbound

In the AM, inbound peak car journey times were carried out on:

- 21 November (07:20 start time);
- 22 November (07:30 start time); and
- 29 November (07:00 start time).

The timing points are as shown in the map below.



The AM inbound journey time survey results are shown in the table below.

Timing Points (time between)		21/11/2018* (mins|secs)	22/11/2018 (mins|secs)	29/11/2018 (mins|secs)	Average (mins|secs)
1-2	M90/A90/A904 - Burnshot	14:23	21:00	13:00	16:08
2-3	Burnshot – Barnton	05:37	03:00	03:45	04:07
3-4	Barnton - Telford	04:00	08:00	04:10	05:23
4-5	Telford – Craigleith	04:00	06:00	02:30	04:10
1-5	**Whole route**	**28:00**	**38:00**	**23:25**	**29:48**

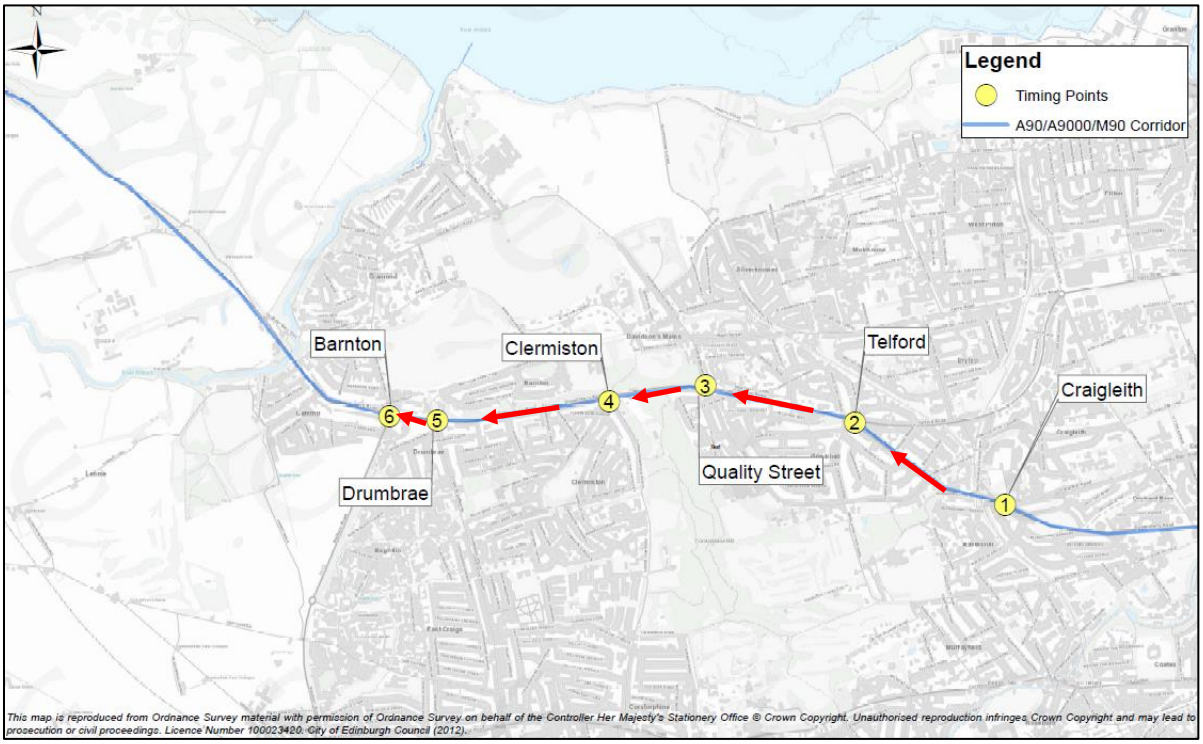
*Queue management system not functioning

Car PM outbound

In the PM, outbound peak car journey times were carried out on:

- 12 December (17:10 start time); and
- 13 December (17:08 start time).

The timing points are as shown in the map below.

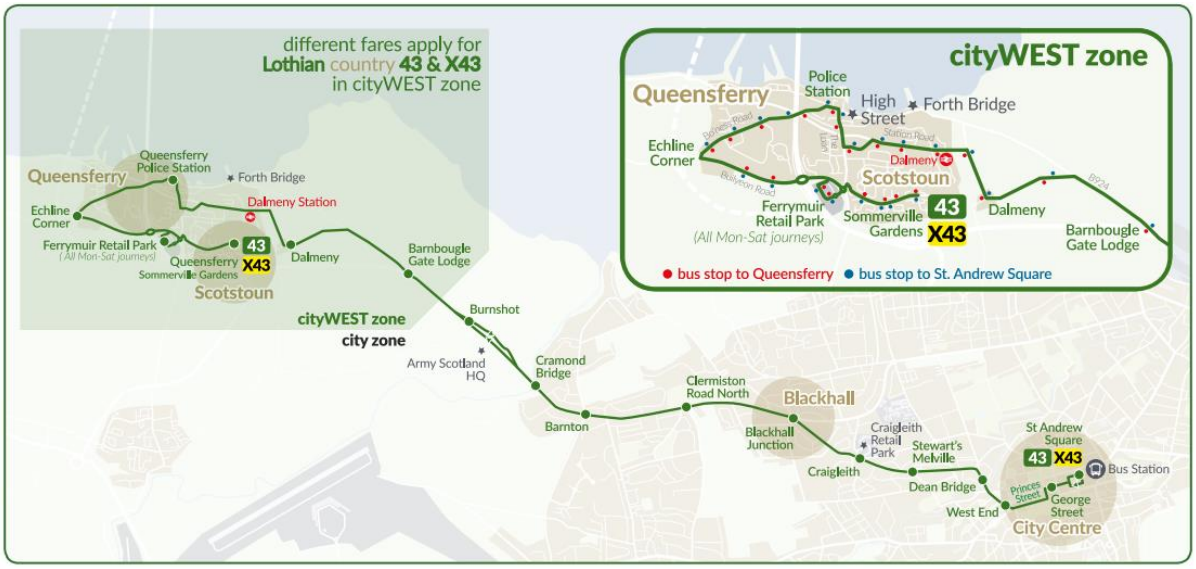


The PM outbound journey time survey results are shown in the table below.

Timing Point (time between)		**12/12/2018 (mins|secs)**	**13/12/2018 (mins|secs)**	**Average (mins|secs)**
1-2	Craigleith - Telford	06:12	12:07	09:09
2-3	Telford – Quality Street	03:50	05:06	04:28
3-4	Quality Street – Clermiston	02:10	02:53	02:31
4-5	Clermiston – Drumbrae	05:39	06:03	05:51
5-6	Brumbrae – Barnton	01:04	00:38	00:51
1-6	**Whole route**	**18:55**	**26:47**	**22:51**

Appendix Four – Bus Journey Time Surveys

Bus journey time surveys were undertaken on the Lothian X43 route. The route map is displayed below.



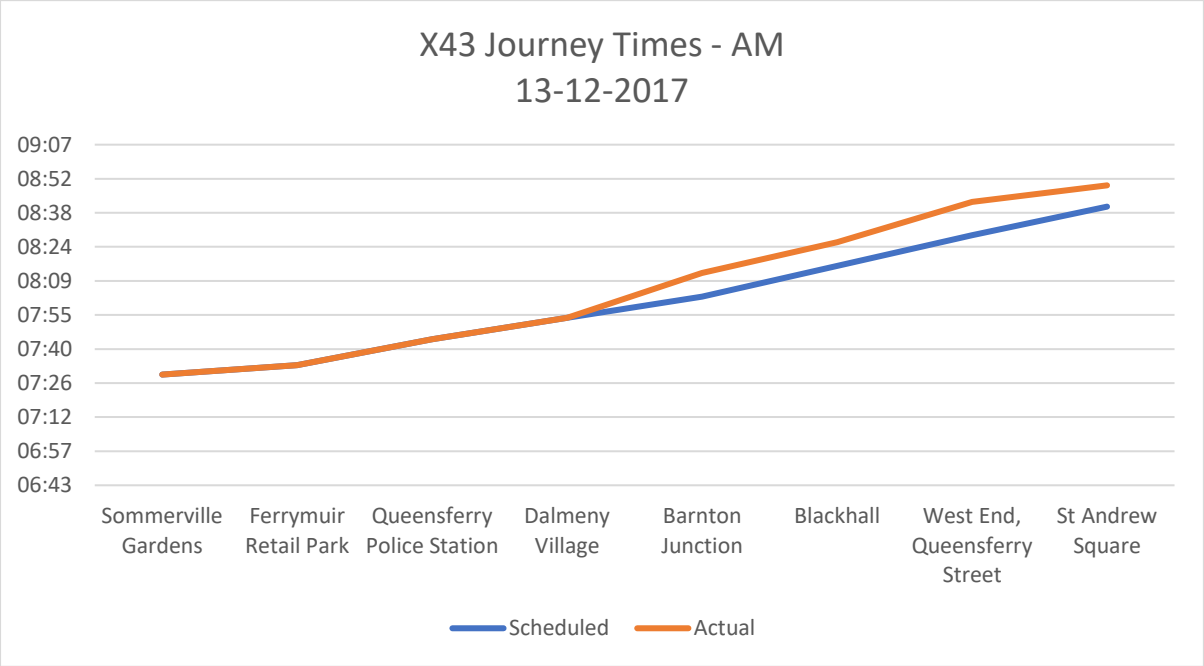
Bus AM X43 Inbound

The AM surveys were undertaken on 13 December 2017, the journey start time was 07:30. The results are shown in the table below.

Bus Stop	**Scheduled time (between stops)**	**Actual time (between Stops)**	**Difference (scheduled – actual)**
Sommerville Gardens – Ferrymuir Retail Park	4 mins	4 mins	0 mins
Ferrymuir Retail Park - Queensferry Police Station	11 mins	11 mins	0 mins
Queensferry Police Station – Dalmeny Vilalge	9 mins	9 mins	0 mins
Dalmeny Village – Barnton Junction	9 mins	19 mins	+10 mins
Barnton Junction - Blackhall	13 mins	13 mins	0 mins
Blackhall - West End, Queensferry Street	13 mins	17 mins	+4 mins
West End, Queensferry Street - St Andrew Square	12 mins	7 mins	-5 mins
Total Journey Time	**71 mins**	**80 mins**	**+9 mins**

The total journey took 9 minutes longer than scheduled. The largest difference between scheduled and actual journey times (+10 minutes) occurred between Dalmeny Village and Barnton Junction.

The graph below shows the scheduled time plotted against the actual time.



Bus PM X43 Outbound

The PM surveys were undertaken on 13 December 2017, the journey start time was 17:05. The results are shown in the table below.

Bus Stop	**Scheduled time between Stops**	**Actual time between Stops**	**Difference (scheduled – actual)**
St Andrew Square - West End, Queensferry Street	13 mins	17 mins	+4 mins
West End, Queensferry Street - Blackhall	10 mins	24 mins	+14 mins
Blackhall – Barnton Junction	13 mins	10 mins	-3 mins
Barnton Junction - Dalmeny Village	8 mins	8 mins	0 mins
Dalmeny Village - Queensferry Police Station	7 mins	7 mins	0 mins
Queensferry Police Station - Ferrymuir Retail Park	9 mins	3 mins	-6 mins
Ferrymuir Retail Park - Sommerville Gardens	5 mins	5 mins	0 mins
Total Journey Time	**65 mins**	**74 mins**	**+9 mins**

The total journey time took 9 minutes longer than the scheduled journey time. The largest difference between scheduled and actual journey times (+14 minutes) occurred between West End, Queensferry Street and Blackhall.

The graph below shows the scheduled time plotted against the actual time.