

ABERDEEN CITY COUNCIL

COMMITTEE: Enterprise, Planning and Infrastructure Committee

DATE: 26 November 2009

CORPORATE DIRECTOR: Gordon McIntosh

TITLE OF REPORT: Access from the North – An Integrated Transport Solution

REPORT NUMBER: EPI/09/112

1. PURPOSE OF REPORT

The purpose of this report is to advise Members of the outcomes of the study to develop 'An Integrated Transport Solution' for Access to Aberdeen from the North. The study develops sustainable transport solutions to improve access to and from the north of the City, supporting national, regional and local policy objectives for modal shift and reduced levels of car use. This study also seeks to 'lock in' the benefits of The Third Don Crossing. Officers have considered the outcomes of the study report and particularly how the appraisal of each proposed measure meets the scheme objectives.

The study makes use of the STAG (Strategic Transport Appraisal Guidance) in order to develop the key study objectives and develop solutions. The STAG methodology requires that the study should clearly explore and identify all the implications, impacts, benefits or otherwise of each of the measures identified.

The draft study report will be made available on the Council's website and a hard copy will also be made available in the Members' library.

2. RECOMMENDATION(S)

It is recommended that the Committee:

- a) note the work carried out to date and outlined in the full study report;
- b) approve the principle of the pedestrian, cycling and public transport measures identified in the study report as part of a programme of sustainable transport measures to improve access from the north of the City;

- c) instruct the appropriate officers to progress the detailed design and delivery of the recommended sustainable transport measures with the Third Don Crossing Programme, the Berryden Corridor Improvements Programme and other programmes of work being undertaken through routine traffic management/road safety programmes as appropriate in terms of further design, agreed justification, timing and budget availability;
- d) receive a regular report back on the progress of design and delivery of the approved sustainable transport measures, including the development of a delivery programme.

3. FINANCIAL IMPLICATIONS

The continuing Third Don Crossing budget was approved by this Council in June 2009 and this broadly includes the outcomes of this study.

4. SERVICE & COMMUNITY IMPACT

The contents of this report link to the Community Plan vision of creating a 'sustainable City with an integrated transport system that is accessible to all'.

All of the projects and strategies referred to in this report will contribute to delivery of the transport aims of Vibrant, Dynamic and Forward Looking – **'Improve Aberdeen's transport infrastructure delivering the 3rd Don crossing addressing other pinch points Work to improve public transport encourage cycling and walking'**.

The projects identified in this report will also assist in the delivery of actions identified in the Single Outcome Agreement (SOA), in particular the delivery of both Local and Regional Transport Strategies which will contribute directly and indirectly to 14 out of the 15 National Outcomes described in Aberdeen City Council's 2009/10 SOA.

The Local Transport Strategy (LTS) from which this scheme is an integral part has been subject to an Equalities & Human Rights Impact Assessment.

5. OTHER IMPLICATIONS

No other implications.

6. REPORT

1 Introduction

- 1.1 Reference is made to the meeting of the Resources Management Committee of 4 December 2007 wherein Members acknowledged the need for a study to develop 'An Integrated Transport Solution for Access From The North' as part of the Local Transport Strategy for the City.
- 1.2 One of the significant elements of this Strategy is extracted from the document, as follows:

The Council will continue to progress urban infrastructure projects aimed at removing pinch points throughout the City. Where such projects are implemented, the emphasis will be on securing further improvements that prioritise the benefits delivered to more sustainable modes such as walking, cycling and public transport use. The Access From the North Proposals (Third Don Crossing) is a case in point here.

At present, there are considerable congestion problems for travelers wishing to cross over the River Don. Over the past few years, the Council has been considering methods of improving access from the north of the River Don to the remainder of the City. As a result of these studies, the Council is committed to the development of the Access From the North Proposal (Third Don Crossing). It is recognised that this proposal is part of an integrated transport solution that improves access to and from the north of the City, and that supports national, regional and local policy objectives for modal shift and reduced levels of car use. To assist in this, the Council has undertaken an 'Access from the North' Study (An Integrated Transport Solution), examining how walking, cycling and public transport improvements or priorities can be 'locked in' or optimised through this scheme.

2 The Study Process

- 2.1 The objective of the study was to identify a package of integrated transport measures that will improve access from the north to the City Centre, from the sea to the Haudagain Roundabout junction. Measures were identified to reduce journey times and minimise congestion for all traffic, with a particular focus of attention on developing sustainable transport opportunities and improvements, including but not restricted to taking advantage of capacity improvements to secure long term sustainable transport benefits. The following is a summary of the study process and the outcomes achieved.
- 2.2 The package of measures took into account on-going Council commitments, including the following:

- Aberdeen Western Peripheral Route
- Haudagain Junction Improvements
- A90 (N) – relocation of Bridge of Don Park and Ride
- Access from the North – 3rd Don Crossing
- A96 Park and Ride and associated bus priority measures
- Berryden Corridor Improvements
- Core Paths Plan
- Cycling Strategy

2.3 The process of developing integrated transport measures was as follows:

- Review of policy documents, including National, Regional and Local Transport Strategies, cycling strategies, core paths plan, baseline work undertaken for the Regional Bus Action Plan, Local Plan, Structure Plan (as was in place at the time of the study), review of existing studies and data
- Analysis of Benefits and opportunities
- Identification and evaluation of possible options
- Development of a final package of measures

2.4 The outcome package of measures developed included the following:

- Pedestrians (e.g. crossing facilities, footways, core paths linkage)
- Cyclists (e.g. linkages with national, regional and local routes, priority/shared use lanes, both on and off road where appropriate, advanced stop lines, new routes)
- Public transport (e.g. priority lanes, priority technology, facilities to encourage/support new routes, opportunities to enhance existing routes, enhanced linkage with Park and Ride facilities)
- Infrastructure improvement projects that demonstrate journey time improvements and congestion reduction, particularly for public transport and strategic trips

2.5 Any analysis of the study report needs to bear in mind that the appraisal started with an assessment of the problems being experienced and the setting of objectives for improving access from the north into Aberdeen. The objectives set for this study following consultation with stakeholders including the local community were to:

- Reduce the relative cost of using the City's public transport system
- Reduce carbon emissions from road transport
- Promote a culture change and healthy living by encouraging safe walking and cycling and use of public transport
- Improve connectivity between different modes of transport
- Optimize and maximize existing capacity
- Minimize and improve reliability of journey times for people and goods through Aberdeen's transport network

- Increase the share of travel by the most sustainable modes to promote economic growth without associated traffic growth
- Improve the safety and security of the transport network and its users

2.6 The objectives outlined above were felt by the stakeholders to meet the needs of the study following the analysis of present and future problems in the study area and beyond. Option identification and development was then undertaken to allow the stakeholders to provide recommendations of measures which they believed would help meet the objectives.

2.7 A sifting process removed the options considered unrealistic within the context of the study objectives. The remaining options were developed through a process of site visits and network review leading to the development of draft packages of measures.

3 Public Consultation

3.1 The stakeholder and public consultation on the outcomes of the option/package appraisal was held jointly with the Berryden Corridor Improvements consultation from 25th May to 3rd June 2009. There is a clear linkage between the two studies with proposals from each study impacting on both study areas. This overlap is particularly significant for traffic using St Machar Drive and Bedford Road to access the Berryden corridor area. The consultation was held at a number of different locations throughout both study areas as a means of targeting as wide an area as possible and in particular those most significantly impacted by the proposals.

3.2 All the identified and sifted options were made available for viewing on Aberdeen City Council's website and at public exhibitions in the following locations:

- St George's Church, Tillydrone
- Skene Square Primary School
- Seaton Community Education Centre
- Northern Hotel
- Danestone Community Centre
- Woodside Community Centre
- Alex Collie Sports Centre Foyer, Bridge of Don
- St Nicholas House

3.3 The public and stakeholders were invited to comment on proposals via a questionnaire or to write directly to the Council. A number of formats were used to reach as wide an audience as possible during the consultation period, including press releases, newspaper and radio advertisements, leaflet drops and letters to stakeholders.

3.4 Consultation Results

3.4.1 In addition to the official questionnaire, which was completed by 123 people, the Council also received several letters and emails from stakeholders including:

- Aberdeen Cycle Forum
- Aberdeen Civic Forum
- Tillydrone Community Council
- Old Aberdeen Community Council
- Aberdeen City Centre Association
- Lewis Macdonald MSP

An additional six individual email / letter responses were received, and the '*Access from the North - An Integrated Transport Solution*' consultation website received 622 hits.

3.4.2 Forty-two questionnaire responses were received that only contained comments that were directly related to the Third Don Crossing. No further analysis was carried out on these responses as part of this study.

3.4.3 Aggregated responses demonstrate a strong bias toward public transport and pedestrian measures. Although all measures received similar numbers of positive responses, cycling and road improvement measures received a significantly greater number of unfavourable responses than pedestrian and public transport measures, therefore lowering their aggregate scores.

3.4.4 However, despite the low aggregate scores for cycling and road improvement measures, it is important to note that two thirds were either strongly in favour or in favour of cycling measures, as opposed to one third who were against them. Similarly, 65% were either strongly in favour or in favour of proposed road improvement measures compared to the 35% who were against.

4 Identified Measures

4.1 The Option Appraisal and Impact Assessment process shows support for the walking, cycling and public transport measures when comparing them against objectives. By outlining their potential impact against objectives it is clear that all three sets of measures (walking, cycling and public transport interventions) should be further considered for implementation. When considering the improvement of access from the north of Aberdeen to the city centre it is generally considered that for measures to be effective they need to be implemented as part of an integrated solution which includes packages implemented as single measures and not separately from each other. The packages of measures which have been proposed to help promote walking, cycling and public transport and improve access from the north as part of an integrated transport solution are discussed in the following section.

4.2 Pedestrian Measures

4.2.1 *On and Off Road Pedestrian Routes Package*

The full list of on and off road pedestrian routes within this package is outlined in Appendix A (Table 1). It is apparent that the development of both on and off road routes goes a long way to meet the study objectives outlined in Section 2.5 of this report.

In line with developing a Core Paths Plan, off road routes most importantly provide a traffic free network of paths which can also improve accessibility and social inclusion as well as benefiting the environment through reduced vehicle emissions and benefiting public health. Similarly, on road routes provide valuable links and accessibility across the city to enhance the overall level of pedestrian provision.

The public consultation outlined the support for these measures which indicates public acceptability and therefore the likelihood that the upgraded or newly implemented routes will be used by the general public is considered to be high.

4.2.2 *Pedestrian Route Intervention Costs*

The positive impact of these measures against government objectives and the key study objectives should be gauged against the estimated costs for implementation which total £144,000, an average of £8,500 per intervention.

4.2.3 *Improving the Level and Quality of Formalised Pedestrian Crossings*

The full list of pedestrian crossing measures within this package is outlined in Appendix A. Again it is apparent that the improvement and installation of pedestrian crossings goes a long way to meet the Scottish Government objectives and the specific study objectives outlined in Section 2.5 of this report. Improving or installing pedestrian crossings will be particularly beneficial in terms of safety.

Measures to increase safety and to benefit walking were very popular during public consultation, with over 70% of all respondents suggesting that increasing safety should be a high priority and over 60% suggesting that increasing walking, cycling and public transport should be a high priority. In addition, pedestrian measures as a whole were amongst the most popular measures presented during the public consultation exercise.

Proposed measures to improve or install pedestrian crossings would cost a total of £301,000, or an average of £9,500 per option

4.2.4 *Improving Security*

Only one option is considered to upgrade security by implementing CCTV and improved lighting. There are, however, a number of underpasses in Aberdeen which would benefit from such implementations. The fear of insecurity is one of the largest barriers to walking, especially in the hours of darkness. By upgrading provision in this way the accessibility to existing links and the pedestrian network as a whole can be improved.

4.3 Cycling Measures

4.3.1 In excess of 40 cycling measures have been developed as part of this study. These have been divided into:

- Provision, improvement or formalisation of off-road shared pedestrian and cycle paths
- Provision of on-road cycle lanes
- Toucan crossing provision
- Provision of advanced stop lines
- Provision of sustainable transport hubs including cycle interchange facilities such as lockers

The study report illustrates the benefits that these measures can provide in terms of both the Scottish Government's objectives and the study specific objectives, albeit the exact benefits and the level of benefit differs with each group of measures.

The cycling measures proposed did not generate a particularly favourable response during the public consultation, being the least popular of the packages of measures when 'scores' were aggregated.

However, given the importance attached by the Scottish Government to increasing/improving cycle facilities, it may be appropriate to continue to pursue measures to increase cycling. Therefore further consultation should be undertaken to enable a better understanding of the responses to the cycling proposals included in this report and permit positive amendments and additions where required.

4.3.2 The cycling measures identified through the study also build on those specifically identified as part of the Third Don Crossing planning application. This linkage demonstrates the opportunities that the new infrastructure will provide in terms of support for sustainable modes of transport.

4.4 Bus Based Public Transport Measures

4.4.1 Eight different bus public transport measures were appraised within this report. Two of these bus lanes were not modelled as they fell out with area of the detailed Access from the North model. The full list of public transport measures within this package is outlined in Appendix A (Table

2). In addition, the bus based public transport measures proposed received a high degree of “strongly in favour” and “in favour” responses, making them the most popular of the groups of proposed measures when ‘scores’ were aggregated.

The public transport measures are appraised in Chapter 6 of the study report and can be divided into two primary groups:

- Non – Modelled Measures (including two bus lanes, signage amendments, enforcement, upgrades to bus stop infrastructure and loading and parking restrictions); and
- Modelled Measures (Eight different bus lanes).

4.4.2 *Non – Modelled Measures*

Overall, the majority of non-modelled bus based public transport measures do not perform particularly well against the Scottish Government and study specific objectives. Individual measures differ in performance against each objective. The majority of measures will benefit the economy and environment, however, in the case of bus stop relocations, any positive impact is offset by the possibility of reduced bus patronage. Overall, the non-modelled measures are considered to have minimal impacts upon integration and minor positive impacts upon safety.

4.4.3 *Modelled Measures*

The modelled measures consist of the provision of new, and extension of existing, bus lanes within Aberdeen City. Overall these measures perform well against all of the Scottish Government objectives and the study specific objectives. The degree to which individual measures meet these objectives differs with the degree of impact that their implementation will have. Modelling results indicate that some measures such as Measure J will result in journey time savings of nearly 5 minutes in the PM peak (with Bedford Road closed) whilst Option A will save just 42 seconds.

5 **Implementation Timescale**

5.1 Each measure was assigned a provisional implementation timescale based upon a realistic timescale required for implementation of the resulting measure and the likely impact of a measure for improving access from the north to Aberdeen city centre against the proposed cost for such a measure. This process allows the most cost effective and easily implemented solutions to be progressed alongside other measures but implemented earlier. The measures have been divided into Minimum to Medium and a Medium to Maximum timescales for interventions.

5.2 It must be noted that these outline timescales are indicative and a more detailed programme should be developed for each individual

intervention. It must also be realised that the costs shown are outline capital costs. Further route analysis must be undertaken to provide a more accurate outline of scheme costs.

- 5.3 The table showing an outline of the possible implementation timeline and the outline costs is located in Appendix B.

6 Summary and Conclusions

6.1 The study has been developed in accordance with best practice, with consideration of current committed projects, and with stakeholder and public involvement right from the start of the process. The end result is the identification of a package of sustainable transport measures, which can be demonstrated to meet the objectives of the study at the strategic level of assessment, and there is indication of broad public and stakeholder support.

6.2 Clearly, further work will need to be undertaken to more fully develop, design and cost the measures with a more detailed programme of delivery. It is suggested that given the interaction of many of the individual elements of this package with other streams of work being undertaken by the Council, that this is done collaboratively and collectively to develop a single delivery programme which will enable better monitoring of progress of delivery of all aspects of the approved strands of work. This also helps to clearly articulate the integrated nature of and co-dependence of many individual measures in the context of the delivery of the Local, Regional and National transportation objectives. This programme should also reflect the timescales for the delivery of these measures in the context of the delivery of the Third Don Crossing itself, which is the subject of a separate report to this committee.

7 Recommendations

It is recommended that the Committee:

- a) note the work carried out to date and outlined in the full study report;
- b) approve the principle of the pedestrian, cycling and public transport measures identified in the study report as part of a programme of sustainable transport measures to improve access from the north of the City;
- c) instruct the appropriate officers to progress the detailed design and delivery of the recommended sustainable transport measures with the Third Don Crossing Programme, the Berryden Corridor Improvements Programme and other programmes of work being undertaken through routine traffic management/road safety programmes as appropriate in terms of further design, agreed justification, timing and budget availability;

- d) receive a regular report back on the progress of design and delivery of the approved sustainable transport measures, including the development of a delivery programme.

7. REPORT AUTHORS DETAILS

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8. BACKGROUND PAPERS

Access from the North - An Integrated Transport Solution - Draft Study Report –
September 2009

Appendix A

Tables 1 - Pedestrian and Cycling Opportunities

Table 2 – Public Transport Opportunities

Table 1: Pedestrian and Cycling Opportunities

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
1	Greenbrae Drive / Denmore Road Junction	Poor pedestrian facilities on Greenbrae arm	Upgrade outdated crossing provision on arm including upgraded central island		Short to Medium
2	Access Road approx 100 – 150m north of Denmore Road / Woodside Road junction on west side	Poor visibility, wide crossing with little ped facility	Upgrade pedestrian crossing facility	Large goods vehicles accessing industrial units	Short to Medium
3	Junction of Woodside Road and Denmore Road	No pedestrian provision on Denmore Road Arm	Install with dropped kerbs	No space for central island with turning HGVs	Short to Medium
4	Desire lines south of Woodside Road	Used by pedestrians, potential use by cyclists on eastern desire line	Formalise footpaths, considered shared use on eastern desire line	Ownership likely to be out with ACC	Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
5	Parkway approx 50m west of junction with Woodside Road east	No provision for peds or cyclists	Toucan crossing would provide pedestrian facility and cater for cyclists using the route through the industrial estate		Short to Medium
6	Woodside Road north and south junctions with Parkway	Wide junction with no crossing provision	Formalise crossing points on both junctions with dropped kerbs	Ensure width maintained – bus route	Short to Medium
8	off road pedestrian path south of Broadfold Road	Existing ped link in need of upgrading / formalisation	Opportunity to formalise use and sign pedestrian link When combined with pedestrian crossing route would become more attractive for access to AECC	Security	Short to Medium
9	A956 Ellon Road – Near AECC Ideal location mid link south of Broadfold Road opposite off road pedestrian path	No crossing provision on link between two roundabouts Central reserve provides pedestrian protection	Formalise crossing point with two stage pelican crossings		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
10	A90 between North Donside Road roundabout – Exhibition roundabout	No cycling provision	Use of existing land to install shared use path on both sides		Short to Medium
11	King Roberts Way	Outdated pedestrian provision	Upgrade pedestrian provision with cycle facilities		Short to Medium
12	North Donside road	Outdated pedestrian provision	Upgrade pedestrian provision with cycle facilities		Short to Medium
13	A90 – King Roberts Way	No cycling provision	Use of existing land to widen existing footway to install shared use path on east side		Short to Medium
14	A90 Hutcheon Gardens to North Donside Road	No cycling provision	Available land on the westside of the A92 would allow the formation of a shared use off road cycle/ped route		Short to Medium
15	Ellon Road / Gordon centre @ Corunna Road	Outdated pedestrian provision	Pedestrian Provision upgrade		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
16	Ellon Road Inset Road	No cycling provision	Delineate 2 directional cycle route on one side of road		Short to Medium
17	Gordon Barracks / Gordon centre	No interchange facilities for cyclist, etc	Sustainable Transport Hub including cycle lockers and other facilities to make mode change more acceptable		Short to Medium
18	Cairnfold Road and Denmore Gardens	Cycle Route ends in park	Provide delineated cycle path on this route until Balgownie Road		Short to Medium
19	Balgownie Road – east of junction with Denmore Gardens	No formalised crossing	Formalised pedestrian crossing with dropped kerbs		Short to Medium
20	Denmore Gardens / Balgownie Road	No formalised crossing on Denmore Gardens arm	Formalised pedestrian crossing with dropped kerbs		Short to Medium
21	Between Denmore Gardens and Cottown of Balgownie	Available space for on road cycle paths	Install on road cycle facilities on Balgownie Road		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
22	King Street, Beach Esplanade	Outdated pedestrian provision	Upgrade pedestrian provision with cycle facilities		Short to Medium
23	King Street, unnamed access to nature reserve	Outdated pedestrian provision	Upgrade existing arm of signalised junction to a Toucan crossing		Short to Medium
24	King Street / Beach Esplanade	No cyclist priority at junctions	Advanced Stop Lines for Cyclists on minor arm – in line with existing practise on route		Short to Medium
25	King Street / Beach Esplanade	No cyclist priority at junctions	Advanced Stop Lines for Cyclists in north / south direction – in line with existing practise on route		Short to Medium
26	King Street / LiDL junction	No cyclist priority at junctions	Advanced Stop Lines for Cyclists – in line with existing practise on route		Short to Medium
27	King Street, St Ninians Place	Outdated pedestrian provision	Upgrade pedestrian provision with cycle facilities		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
28	King Street, Seaton Place to Beach Esplanade	No cycling provision	Existing widths will allow cycle path to stay off road on both sides of the carriageway until joining with the road south of Seaton Place		Short to Medium
29	King Street, Don Street	Outdated pedestrian provision	Upgrade pedestrian provision with cycle facilities		Short to Medium
30	King Street, / Don Street junction	No cyclist priority at junctions	Advanced Stop Lines for Cyclists – in line with existing practise on route		Short to Medium
31	King Street, north of St Machar Drive	No cycling provision	Delineate cycle route (on one side of road only due to widths)		Short to Medium
32	St Machar Drive roundabout	Due to the volume of traffic at this location and the existing unsuitable layout of the crossing; considerable delays are experienced throughout the day	Relocate and upgrade the existing pedestrian facilities linking each crossing to provide a synchronised design		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
33	Esplanade	Cycle path ends approximately 400m east of junction with King Street Upper promenade is not designated for cycling	Upgrade upper promenade to cycle facility Cycle facility should end at point immediately south of Esplanade / Links Road roundabout		Short to Medium
34	Orchard Street / Spital Heyes / Sunnybank Road	Outdated pedestrian provision	Upgrade pedestrian provision on east and west arms of junction to improve access in north / south direction		Short to Medium
36	Merkland Road / Spital	Outdated pedestrian provision	Upgrade pedestrian provision on east and west arms of junction to improve access in north / south direction		Short to Medium
37	Merkland Road	Outdated pedestrian provision	Upgrade pedestrian provision on west side improve access in north / south direction		Short to Medium
38	Erroll Street	Outdated pedestrian provision	Upgrade pedestrian provision on east side improve access in north / south direction		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
39	Urquhart Road	Outdated pedestrian provision	Upgrade pedestrian provision on east side improve access in north / south direction		Short to Medium
40	Hutcheon Street / West North Street Roundabout	Underpass facility very good but not well lit	Improving the quality of lighting & signing will make this route more attractive for walking / cycling Central area and underpasses should be well lit with CCTV installations to improve safety and perceived safety		Short to Medium
43	West North Street / Kings Street junction	Signalised junction with no provision for cyclists	Advanced stop lines		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
44	Esplanade – immediately south of Links Road / Esplanade Roundabout	Lack of consistency, non-linking cycle routes	Cycle route should transfer to road and link with existing facility on Beach Boulevard Upgrade existing arm of signals to Toucan to transfer northbound cyclists from Beach Boulevard to Esplanade		Short to Medium
45	Beach Boulevard / Commerce Street / Justice Street Junction	Cycling provision ends on approach to junction	Direct cyclists onto new shared use footpath and upgrade crossing provision to toucan		Short to Medium
46	Justice Street	Cycle provision	With the removal of parking on Justice Street an on road cycle route could be implemented		Short to Medium
47	Castlegate	Lack of consistency, non-linking cycle routes	Cycle route should be delineated through square to reach Union Street providing a link between Union Street and Justice Street		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
48	Commerce Street / Virginia Street junction	No pedestrian crossing provision on west or southern arms of junction although gaps in fenceline and steps to allow crossing	Pelican Crossings or formalised crossings with central islands should be implemented to increase safety and pedestrian		Short to Medium
49	Unformalised path between Lochside Road and Parkway	Poor pedestrian facilities, unmade track path	Formalise path		Short to Medium
50	Scotstown Road (north of Parkway)	Poor pedestrian link across road (northern roundabout arm)	Formalise with dropped kerbs and central island	Need to take into account two existing lanes approaching roundabout in design	Short to Medium
51	Braehead Way / Scotstown Road	No Crossing Point at junction	Install formalised crossing point with dropped kerbs and central island with bollards		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
52	No ped or cycle links between north and south of Parkway between residential areas	Available land to north of Parkway at Forvie Lane and south of Parkway near Braehead Way	Use of existing land to install shared use path with Toucan crossing on parkway		Short to Medium
53	Link between Jesmond Avenue and Collieston Crescent	No formalised link in east / west direction despite frequently used gap between buildings	Complete link between Jesmond Avenue and Collieston Crescent		Short to Medium
54	Jesmond Avenue	No crossing point at end of traffic free path	Formalise crossing point with dropped kerbs		Short to Medium
55	The Parkway from Balgownie Road to Ellon Road (A90)	No pedestrian provision on southern side of Parkway, with evidence of existing use	Implement shared use path on southern side of existing road in green strip		Short to Medium
56	Jesmond Square – Eastern End	Missing footpath link	Formalise small section where existing desire line crosses open ground		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
57	Slains Circle / The Parkway	Pedestrian desire line between the two roads	Formalise footpath link and break in existing fenceline to emerge opposite existing pedestrian crossing facility		Short to Medium
58	Slains Circle / The Parkway	Existing crossing point outdated	Upgrade Crossing point		Short to Medium
59	Jesmond Square / Whitestripes Road	Existing desire line over ground between the two roads	Formalise this link with a shared pedestrian and cycle path		Short to Medium
60	The Parkway / Whitestripes Path	No crossing point at southern end of Whitestripes Road on Parkway	Install Toucan and formalise small section between southern end of Whitestripes Road and pavement on Parkway		Short to Medium
61	Bend in Fairview Street	Existing desire line links Fairview Street with Laurel Lane	Replace with dual purpose cycle / ped link to improve access to the south in this area		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
62	Path to north of Grandholm Drive over existing burn	Poor state of footpath	Upgrade of footpath to allow for cyclists and pedestrians		Short to Medium
63	Grandholm Drive roundabout access to Grandholm Development	Pedestrians are required to travel around roundabout to head eastwards at this location	Footpath should be implemented on northern side to transport pedestrians from private road to north side of Grandholm Drive Formalised crossing point on eastern arm to link with footpath		Short to Medium
65	Great Northern Road (north / west footpath)	No cycling provision	Width of footpath makes the implementation of a cycle path between Haudigain and St Machar on the existing footway feasible		Short to Medium
66	Available land to north of Great Northern Road between Deer Road and Station Road	No interchange facilities for cyclist, etc	Sustainable Transport Hub including cycle lockers and other facilities to make mode change more acceptable		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
68	Available land at south west and south east corners of Tillydrone Avenue, Bedford Road Roundabout	No interchange facilities for cyclist, etc	Sustainable Transport Hub including cycle lockers and other facilities to make mode change more acceptable		Short to Medium
69	North side of Great Northern Road / St Machar Drive junction	No cyclist provision through junction	Existing widths will allow cycle path to stay off road until joining with the existing provision on St Machar Drive Formalised crossing with cycle facilities required on Sandilands Drive Existing pedestrian facility on St Machar arm upgraded to toucan Westbound cyclists taken off road to use facility and cross onto new segregated cycling section		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
70	Hilton Drive: Between North Anderson Drive and Sixways Roundabout	No cycling provision	Due to widths of footway and roadway, potential for shared use footway / cycleway to be implemented in both directions		Short to Medium
71	Hilton Road: Junction of Hilton Road and Hilton Drive both east and west arms	Outdated Crossing facility	Upgraded pedestrian crossing including dropped kerbs		Short to Medium
72	Hilton Avenue: Junction of Hilton Avenue and Hilton Drive both east and west arms	Outdated Crossing Facility	Upgraded pedestrian crossing including dropped kerbs		Short to Medium
73	Hilton Drive: Immediately south of junction with Hilton Avenue	Outdated Crossing Facility	Upgraded pedestrian crossing including dropped kerbs / tactile paving / central reserve / illuminated bollards		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
74	North Anderson Drive / Rosehill Drive Available land to install hub at a number of locations	No interchange facilities for cyclist, etc	Sustainable Transport Hub including cycle lockers and other facilities to make mode change more acceptable		Short to Medium
75	Sixways Junction	Outdated Crossing Facility	Upgraded pedestrian crossing including dropped kerbs on all arms		Short to Medium
76	Westburn Drive: Sixways to Westburn Road	No cycle provision	Formalised on road cycle lanes E and W side recommended		Short to Medium
77	Westburn Drive / Ashgrove Road	No cyclist priority at signalised junction	Advanced Stop Lines for Cyclists – in line with existing practise on route		n/a
78	Cornhill Road to Westburn Road	Footpath through park is suitable although informal	Upgrade existing path to provide a shared cycle and footway		n/a

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
79	Argyll Place / Westfield Road / Craigie Loanings / Albert Street to junction with Carden Place	No existing cycle provision	Cycle lanes marked on surface, with associated signing on southbound only	Parking on street	Short to Medium
80	Craigie Loanings / Belvidere Crescent	Outdated Crossing Facility	Upgraded pedestrian crossing including dropped kerbs		Short to Medium
81	Craigie Loanings / Wallfield Place	Outdated Crossing Facility	Upgraded pedestrian crossing including dropped kerbs		Short to Medium
82	Craigie Loanings / Wallfield Crescent	Outdated Crossing Facility	Upgraded pedestrian crossing including dropped kerbs		Short to Medium
83	Craigie Loanings / Belgrade Terrace	Outdated Crossing Facility	Upgraded pedestrian crossing including dropped kerbs		Short to Medium
84	Whitehill Street / Albert Place Junction	No cyclist priority at junctions	Advanced Stop Lines for Cyclists – in line with existing practise on route		Short to Medium

Ref	Location	Issue	Opportunity	Constraints	Implementation Timescale
85	Carden Place / Albert Street	No cyclist priority at junctions	Advanced Stop Lines for Cyclists – in line with existing practise on route		Short to Medium
86	Whitestripes Avenue	Third Don Crossing will give opportunity for new cycle facilities	New cycle routes can link in with Third Don Crossing cycle facilities		Medium to Long
87	Grandholm Drive to Laurel Avenue	Third Don Crossing will give opportunity for new cycle facilities	New cycle routes can link in with Third Don Crossing cycle facilities		Medium to Long
88	Grandholm Drive to Balgownie Road	Third Don Crossing will give opportunity for new cycle facilities	New cycle routes can link in with Third Don Crossing cycle facilities		Medium to Long
89	St Machar Drive to George Street	Third Don Crossing will give opportunity for new cycle facilities	New cycle routes can link in with Third Don Crossing cycle facilities including a link to NCR 1		Medium to Long

Table 2: Public Transport Opportunities

Ref.	Location	Issue	Opportunity	Constraints	Implementation Timescale
A	Scotstown Road	Queuing on the approach to the Scotstown Road junction is delaying public transport	A bus lane could be introduced on the amenity ground to the west of Scotstown Road		Short to Medium
B	King Street, junctions	Confusion is being experienced regarding the use of the traffic sign diag 877 “except buses”	Remove or revise the signs to “bus lane” to clarify that drivers can proceed ahead outwith the operational hours of the bus lanes.		Short to Medium
C	King Street, north of Don Street	Vehicles loading and unloading on the east side of the carriageway can cause delays to Public Transport.	Review and formalise the existing loading ban.		Short to Medium
D	King Street, South of Linksfield Road	The current bus stop can block traffic through the signalised junction when there are a number of buses.	There is potential to relocate the bus stop away from the junction, however, this may affect the desirability of the stop.		Short to Medium
E	Balgownie Road / Parkway	Due to the width of the lanes on the Parkway and the inner kerb radii, buses have to cross into the opposing traffic flow when turning westwards from Balgownie Road.	The Parkway and Balgownie Road could be widened with improved radii to allow buses to turn without crossing additional lanes.		Short to Medium

Ref.	Location	Issue	Opportunity	Constraints	Implementation Timescale
F	Great Northern Road east of Haudagain roundabout	The existing bus lane does not cover the length of the traffic queues.	Extend the bus lane eastwards to the junction with Don Street, provide parking lay-bys and dedicated loading and unloading facilities for the local shops.		Short to Medium
G	Great Northern Road, west of St Machar Drive roundabout	Queuing on the eastbound approach to the St Machar Drive roundabout can delay buses in the AM peak.	A bus lane can be installed on the north side of Great Northern Road	removal of parking on the south side or the reduction in the existing footpath	Short to Medium
H	Hilton Drive		Bus lane on approach to Sixways Roundabout		Short to Medium
I	Westburn Drive		Bus lane between Sixways Roundabout and Ashgrove Road on northbound carriageway		Short to Medium
J	North Donside Road	Vehicles by-passing queuing traffic on North Donside Road egress at Broadfold Dr, causing bus lane to block back.	The Broadfold Drive junction could be closed and the bus lane extended towards the signalised junction.		Medium to Long
K	North Donside Road	Vehicles queuing on North Donside Rd signalised junction impact on the existing bus lane. Cars are	The bus lane could be extended westwards to the junction with Scotstown Road	A further extension to the bus lane to the junction with Cameron Street would require the	Medium to Long

Ref.	Location	Issue	Opportunity	Constraints	Implementation Timescale
		also illegally entering the bus lane via Broadfold Dr.		realignment of the Scotstown Road junction.	
L	Third Don crossing	Poor opportunities for public transport links in existing situation.	With the introduction of third River Don crossing there are opportunities for new public transport routes. A potential benefit to the residents of Tillydrone would be a direct public transport link with the supermarket in Danestone, other opportunities include a circular Bridge of Don, City Centre, Tillydrone bus route, this could also link in to Grandholme Village.		Medium to Long
M	King Street, Bus lane to the north of St Machar Drive roundabout.	Public transport is currently being delayed at this location due to the lane widths being constrained; this is particularly an issue when HGVs are in the adjacent lane.	The northbound carriageway should be reduced in width to allow greater approach width for southbound traffic. There is potential to reduce the footways on both sides to create additional road space.		Medium to Long
N	King Street, bus stop south of St Machar Drive	The current bus stop can block traffic through the roundabout when there are a number of buses.	There is potential to relocate the bus stop away from the roundabout, however, this may affect the desirability of the stop.		Medium to Long

Ref.	Location	Issue	Opportunity	Constraints	Implementation Timescale
O	King Street St Machar Drive to West North Street junction	The bus lanes on King Street are not complete.	<p>There is available space along King Street to provide a bus lane and one traffic lane in each direction, however at certain locations the footway width would have to be reduced to 2m, the right turn stacking lanes into St Clair Street, Merkland Road and Merkland Road East would need to be removed.</p> <p>The introduction of the Third Don Crossing will lead to opportunities within the Seaton area. For example consideration could be given to linking Golf Road through to the Beach Esplanade thus removing the need to use the School Road link through to King Street as a through route. Clearly any considerations in this area would need to link in with the future regeneration plans for the area.</p>	<p>Parking on King Street south of Seaforth Road would also need to be restricted, with the existing footway buildouts removed.</p> <p>It is likely that the widening of King Street on the west side of the carriageway, north of Mounthooly Way in combination with the realignment of the central island would be required in order to provide adequate stacking for the southbound traffic turning right into Mounthooly Way.</p>	Medium to Long

Ref.	Location	Issue	Opportunity	Constraints	Implementation Timescale
P	Mugiemoss Road	Queuing on the southbound approach to the Haudagain roundabout is delaying public transport.	This area is subject to an alternative study, however, a bus lane could be introduced from the Persley roundabout to the railway bridge, pre signals would be required or the bridge widening.		Medium to Long
Q	Auchmill Road	The existing bus lane does not cover the length of the traffic queues.	Extend the bus lane westwards in order to improve public transport from the A947 / A96.		Medium to Long
R	Third Don Crossing		Third Don Crossing provides the opportunity for new Bus Services to areas within Bridge Of Don including The Parkway, Jesmond Drive, Scotstown Road and Balgownie Road.		Medium to Long
	Various locations	The enforcement of bus lanes	In general the bus lanes laws are adhered to, however, the bus lane on North Donside Road does suffer from illegal use, a bus lane enforcement camera should be installed at this location.		

Appendix B

Provisional Cost Estimates and Provisional Implementation Timescales

Outline Costs

	Measure	Indicative Cost
Pedestrian Measures	Improvements or Installation of Pedestrian Crossings	£300,000
	Improvements or Installation of On and Off Road Footways	£150,000
	Improved Underpass	£10,000
Cycle Measures	Provision, Improvement or Formalisation of Off Road Shared Pedestrian and Cycle	£500,000
	Provision of On Road Cycle Lanes	£150,000
	Toucan Crossing Provision	£100,000
	Provision of Advanced Stop Lines	£50,000
	Provision of Sustainable Transport Hubs Including Cycle Interchange Facilities i.e. Lockers	£50,000
Public Transport Measures	New Bus Lane Implementation	£150,000
	Minor Amendments to Existing Bus Lane Provision	£10,000
	Relocation, Implementation or Upgrade to Existing Bus Stop Infrastructure	£10,000

Note: Public Transport Measures B, E, G, M and O as identified in the main report are not included in the above costs due to the potential differences that could exist in the final design making cost estimate impossible at this stage

All costs are highly indicative and should be read and referred to as such at all times

Indicative costs are highly likely to change at the time of detailed design

Outline Timescales

Timescale Measure	2009	2010	2011	2012	2013	2014	2015	2016	2017
Pedestrian	Improving or Installing Pedestrian Crossings								
	Improving On and Off Road Footways								
	Improved Security through CCTV								
Cyclist	Provision, Improvement or formalisation of off road shared pedestrianisation and cycle paths								
	Provision of on road cycle lanes								
	Toucan Crossing Provision and Provision of Advance Stop Lines								
	Provision of Sustainable Transport Links Including Facilities such as Lockers								
Public Transport Measures	Scotstown Road Northbound Bus Lane								
	Great Northern Road Westbound Bus Lane								
	Great Northern Road Eastbound Bus Lane								
	Hilton Drive Southbound Bus Lane								
	North Donside Road to Broadfold Road: Closure and Bus Lane Extension								
	Bus Lane on King Street								
	Bus Lane, Five Roads to Ashgrove Road								
	North Donside Road Bus Lane Extended West to Cameron Street								
	Mugiemoss Road Bus Lane from Persely to Rail Bridge								
	Auchmill Road Bus Lane to Newton Terrace								
	Relocation, Implementation or Upgrades to Existing Bus Stop								
	Other Infrastructure Developments to Improve Accessibility for Buses								
	Improved or Upgraded Routes for Bus Services								
	Improved Bus Lane Enforcement								
Transport Measures Proposed Outwith Study Area	Haudagain Aberdeen	Roundabout Western	Improvement Third Don Crossing Peripheral Route						
		Balmedie to Tippetry	Dualing						
			Union Street Pedestrianisation						

Short to Medium Term Measures
 Medium to Long Term Measures