

ABERDEEN CITY COUNCIL

COMMITTEE	Communities, Housing and Infrastructure
DATE	8 th November 2017
REPORT TITLE	Third Don Crossing Review
REPORT NUMBER	CHI/17/247
INTERIM DIRECTOR	Bernadette Marjoram
REPORT AUTHOR	Stuart Allan

1. PURPOSE OF REPORT:-

This report informs on the outcomes of the operational review of the completed Third Don Crossing project, including aspects which have been highlighted by the local community and provides recommendations on further action where considered necessary.

2. RECOMMENDATION(S)

2.1 It is recommended that Committee:

- a) note the contents of the report on the outcome of the review; and
- b) note the technical recommendations on further actions which include:
 - i) to undertake works to re-designate the nearside eastbound lane of St Machar Drive to left only on a temporary basis; and
 - ii) to design and replace the existing bollards and dilapidated gate at Old Tillydrone Road, by Benholm's Lodge (known as Wallace Tower), with a new design to guide cyclists towards the nearby toucan crossing; and
 - iii) to remove the redundant deterrent paving adjoining the Pennan Road flats and replace with topsoil and reseed; and
 - iv) to design and install a bus shelter at the Gordon Brae bus stop near to the exit of the Balgownie Drive Ramp; and
 - v) to implement a dropped kerb crossing on Tillydrone Terrace at its junction with Coningham Terrace and link it to Tillydrone Road; and

- vi) to involve the local community in a review of the current Zebra crossings to improve access across Hayton Road taking into consideration forthcoming developments
- vii) to design in conjunction with the local community, a gateway feature on the approach to Tillydrone from the north; and
- viii) to deploy a movable vehicle actuated variable sign; and.
- ix) to install steel litter bins alongside the 4 bus shelters along the scheme;
- c) To instruct the Head of Planning and Sustainable Development and Head of Public Infrastructure and Environment to reassess the 2017/18 capital and revenue works programmes for Roads, Transportation and Environmental services to identify where the above technical recommendations for the Third Don Crossing scheme can be addressed by prioritising any slippage in existing programmes, and report the outcomes to a future meeting of this committee; and
- d) Instruct the Head of Planning and Sustainable Development to submit any remaining technical recommendations for the Third Don Crossing for consideration by the Council's budget process for 2018/19.

3. BACKGROUND / MAIN ISSUES / OTHER HEADINGS AS APPROPRIATE

3.1 Third Don Crossing Project Review

The opening of the Third Don Crossing scheme on the 9th June 2016 has delivered a significant investment in the transport infrastructure of the city. This review intends to appraise to what level the expected benefits of the scheme have been realised and recommends where these could be optimised further. In addition it appraises the current operation of the scheme taking cognisance of concerns highlighted by the public, interest groups and elected members. The themes for the review are listed below:

- Movement
- Safety
- Environmental
- Localised Impacts

3.2 Movement

3.2.1 Anticipated Effects

The aspiration to provide a third major crossing of the River Don within the city boundary envisaged significant benefits to transport network capacity and resilience, providing improved access for the north of the city. Greater local and city wide connectivity and permeability for pedestrians, cyclists, bus users

and motorists was envisioned and promoted through the development of the scheme.

3.2.2 Pedestrian and cycle use.

An integral part of the design for the Third Don Crossing was to improve active travel through greater accessibility by ensuring that quality pedestrian and cycle provision was provided over the whole length of the scheme. This has delivered continuous footways, shared use facilities and cycle tracks over the length of the project linked with thirteen controlled crossing points.

Just prior to the opening of the river crossing route a Pedestrian/Cycle counter was installed on the western shared use facility at the point where Tillydrone Avenue joins Tillydrone Road.

Data from the counter shows over a 12 month period from 30th September 2016 almost 52,000 pedestrian trips over the facility, and an average of 142 pedestrians per day. For the same period the counter recorded just over 26,000 cycle trips over the facility with an average of 72 cyclists per day. It should be noted that cyclists have two options along this section of the route – by the shared use facility or along Tillydrone Terrace directly behind the wall which is not monitored therefore it is likely the number of users is under recorded.

Following the opening of the Diamond Bridge there have been a number of requests from the local communities requesting the installation/upgrading of crossing facilities at locations which they feel have been impacted by the change in traffic behaviour as a result of the new route.

A review of all the locations highlighted has been undertaken and reported in Appendix 3.2.2.

With regards to Hayton Road where there are no physical changes as a result of the project, a number of comments were received regarding vehicle volumes and speeds although this is not reflected in the survey data. Given the age and design of the equipment it is considered appropriate to review and improve access across Hayton Road to take into consideration forthcoming developments including the construction of the Tillydrone Community Hub and the proposed new school. Consultation recently undertaken has concluded that this could take the form of improvements to the existing zebra crossings with upgrades to LED lighting with ramped crossing points.

More general comment relates to the waiting times for pedestrians/cyclists being excessive at all the new traffic signal controlled crossings installed

along the route, with requests for reduced times to improve and promote active travel.

The timings of these traffic signal crossings are derived using Local Transport Note 2/95, which details industry standards for such facilities. The highest value available for pedestrian wait times at such facilities is 60 seconds, which is typically only used in areas with high traffic flows. The standard maximum widely used in similar cities such as Dundee and Glasgow is 30 seconds, however the new controlled crossing timings on the Third Don Crossing were set lower at a value of 25 seconds. This value is the stand alone crossing standard used within Aberdeen, which is a reduction to improve and promote active travel whilst ensuring a balance to the impact of the road network. Any reduction to such timings would reduce active travel wait times, however would have a direct impact on journey times.

No further additional infrastructure or amendments are considered necessary at this time.

3.2.3 Public Transport

Since the opening of the Diamond Bridge, First Aberdeen have introduced new routes and amended existing routes which utilise the new crossing. The service 8/9 in part replaced the former service 4 and now provides a quicker link into the City Centre from certain areas of Bridge of Don compared to the existing King Street services 1 and 2. This has resulted in more frequent bus services coming through the Tillydrone area improving access to the city centre, Danestone and Dyce.

- The Dyce (service 18) with a 20 minute frequency has been re-routed to operate via Mugiemooss, Danestone and Diamond Bridge.
- The Tillydrone (service 19) with a 15 minute frequency has remained the same.
- The new service 8/9 has a 30 minute frequency

However, journey times along Powis Terrace showed a delay. The signal timings have since been altered to maximise traffic flows and this showed an improvement to journey times.

Further detail information on the changes to access to public transport can be found in appendix 3.2.3

3.2.4 Vehicle Movements

The Third Don Crossing scheme was progressed with a predicted year of opening usage of 11,000 vehicles/day Average Annual Daily Total flow (AADT) and a design usage of 14,000 AADT (without the Aberdeen Western

Peripheral Route, Haudagain improvement and Berryden Corridor in place). Recent traffic surveys have indicated volumes on Gordon Brae reflect an AADT of 12,000 vehicles. Surveys for the southern section of the route, along Tillydrone Road and Tillydrone Avenue, are slightly lower with an AADT flow of 11,500 vehicles. The scheme therefore is accommodating traffic levels within the expected usage with further capacity available to cater for a growing Aberdeen.

Reduced journey times and improved reliability were anticipated benefits of the scheme. Journey time surveys were undertaken to inform the traffic modelling which enabled the design of the scheme. Recent journey time data has been derived from the ITS sensor network which monitors real time traffic delay. Although the survey methodologies and corridors vary a comparison of the data does give an insight in to the performance over the wider network since opening the new crossing.

Route Corridor	AM Peak Surveyed 2012/ 2017				PM Peak Surveyed 2012/ 2017			
	NB	NB	SB	SB	NB	NB	SB	SB
Haudagain to AECC	05:55	07:00	15:36	09:55	06:30	09:42	13:15	08:37
St Machar Dr to Haudagain	WB	WB	EB	EB	WB	WB	EB	EB
	04:21	03:32	03:48	03:10	07:23	05:34	05:05	03:46
St Machar Dr to AECC	NB	NB	SB	SB	NB	NB	SB	SB
	03:51	04:32	07:35	04:31	08:29	05:14	07:07	06:20
New Corridor								
Third Don Crossing Corridor		NB		SB		NB		SB
	n/a	03:36	n/a	04:30	n/a	04:16	n/a	04:39

Table 1 - Observed mean journey times for key corridors (minutes) – 2017 (Bluetooth Sensors)

The data following the opening of the Diamond Bridge indicates, in the main, improved journey times along each corridor. Slight increase in delays northbound on the Haudagain to AECC and St Machar Dr to AECC in the AM peak are shown in table 1, however, given the differing survey methodologies these are not believed to be significant. Northbound on the Haudagain to AECC corridor in the PM, an increase in journey time is also shown. There has been a significant increase in the volume of traffic utilising the Gordon Brae arm of the roundabout as a result of the bridge. It is believed the increase in traffic flows through this roundabout is the predominant factor in the increase in peak hour journey times shown on the Haudagain to AECC corridor.

Further detailed information can be found in appendix 3.2.4

The opening of the Diamond Bridge has added significantly to the cities road network resilience by providing alternative routing in the event of the other main corridors (A90, A956) having reduced capacity; as experienced recently with the closure of the Ellon Road at the Bridge of Don following traffic collision. During the summer this also allowed the closure of King Street/Ellon Road for the Great Aberdeen Run (half marathon).

The alteration of the St Machar Drive/ Tillydrone Avenue junction from a roundabout to signal controlled junction was progressed as part of the project and included an increase in capacity. Independently the junction is operating as expected within capacity, however, during peak periods queuing traffic extending from King Street and Great Northern Road compromises the junctions performance. The resolution of these issues was out with the scope of the project.

Until these wider network issues are resolved access to Tillydrone Avenue at peak times may be improved by the reallocating of the nearside eastbound lane of St Machar Drive to left only to limit the impact of traffic queuing traveling east to King Street. This minor change could be implemented on a trial basis and the impacts assessed. The estimated cost of these works is £1,000.

A separate report on the performance of the Bus Gate on Bedford Road is on the agenda for this Committee.

3.3 Safety

3.3.1 Anticipated Effects

The safety of road users was a key element throughout the development of the scheme. Appraisal work undertaken when the scheme was promoted indicated that overall the scheme was expected to have a minor benefit on safety for all road users but that users of roads connecting to the tie in points may suffer a small negative impact on safety due to an increase in traffic volumes. It should be noted that any new section of road has an inherent safety risk and there is likely to be a small negative impact on safety for most types of road users using the new roads due to increased traffic levels. To mitigate these risks the promoted scheme was designed to the latest roads design standards. Furthermore, through improved facilities particular road users of the scheme such as cyclists and pedestrians will see greater benefits in safety. In line with current design standards Road Safety Audits have also been undertaken at key stages of the project.

3.3.2 Traffic speeds

A number of comments have been received from the community regarding speeding traffic along Gordon Brae, Gordon's Mills, Tillydrone Road and Tillydrone Avenue and other adjoining roads in Tillydrone and Danestone.

Speed surveys have been conducted and results can be viewed in appendix 3.3.2.

Vehicular average speeds, over a 24hr period, tend to conform to the design speeds of the scheme.

Gordon Brae survey data shows an average speed of 35.2mph and an 85th percentile speed (see appendices) of 40.5mph which is in excess of the 30 mph speed restriction. These vehicular speeds are to be expected given Gordon Brae's open aspect and the limitations of Police resource to regularly enforce the current 30mph limit.

National guidance for the setting of speed limits would justify a 40mph limit on Gordon Brae, which was the original speed limit promoted by the Officers but subsequently amended by committee in August 2015.

On Tillydrone Road and Tillydrone Avenue, average speeds are consistently shown to be within the 30mph speed limit, with an 85th percentile speed of 33.9mph. There is a transition in terms of the place function of the route as drivers cross the Don into Tillydrone, with the presence of multiple junctions/private access and frontages south of the bridge demonstrating the more residential nature of the area. The survey results suggest that a majority of drivers utilising the route are influenced by this transition and travel at an appropriate speed through the Tillydrone area. However, local concerns and the 85th percentile speeds suggest a number of drivers still travel through at an inappropriate speed. The installation of a 'Welcome' style gateway feature will reinforce the transition of place on the approach to Tillydrone. Along with the deployment of a movable vehicle actuated sign, for use along the corridor and adjoining roads, to highlight to speeding drivers the presence of the 30mph speed limit, may reduce the level of inappropriate speed. The estimated cost of these works is £10,000.

3.3.3 Road Safety Audit

A Stage 3 Road Safety Audit (RSA) was undertaken in July 2016 following the opening of the new route.

The RSA highlighted a number of minor issues some of which were still under construction and therefore due for completion with others having been subsequently remedied.

A Stage 4 RSA monitors any reportable road traffic accidents on the new route, over a 12 and 36 month period, and assesses whether any remedial work is necessary. The Stage 4 audit will be undertaken as part of the routine monitoring of traffic safety by the Road Safety and Traffic Management team.

There have been two reportable road traffic collisions to date. Based on the recorded accident circumstances, officers are satisfied that neither the design of the scheme (in terms of road geometry, junction arrangements, traffic signing, and pedestrian/cycle facilities) or traffic conditions have been causal factors in any of the accidents that have occurred.

Further details are provided in Appendix 3.3.3

3.3.4 Driver behaviour

A small number of drivers still choose to ignore the right turn ban into Gordon's Mills Road from Gordon Brae. Police Scotland have provided enforcement from time to time. Some drivers, who are aware of the right turn ban, have been observed turning into the Tillydrone Community Centre car park and come back out again so that they can legally left turn into Gordon's Mills Road.

Concerns have been raised from the Tillydrone community regarding tail gating of those drivers who appear to be driving within the speed limit. This type of antisocial driving behaviour is unfortunate, however, it is not unique to the project location and has not been encouraged by the design.

Illegal access across the fire accesses at Coningham Road and Gort Road has been observed. Changes to the surface have recently been implemented to deter this behaviour.

3.3.5 Winter Maintenance

Aberdeen City Council is responsible for providing winter maintenance on 560 miles of road (that is more than Aberdeen to London) and over 1200 miles of footways. During severe weather conditions action is prioritised;

There are 3 levels of priority for the road network:

Priority 1 – Roads that are main transport routes including major bus routes. These roads count for almost half of Aberdeen's road network. Priority 1 footpaths are mainly city centre based and are highly used by pedestrians.

Priority 2 - Roads that carry medium traffic flows or give access to community or public facilities of a non-urgent nature. All footpaths that do not fall under priority 1 are treated as Priority 2 and they are treated on an area basis. Cycle paths are also treated as Priority 2.

Priority 3 – Minor roads where road users can make their way to the nearest higher priority route.

The carriageway of Gordon Brae, Gordon's Mills Road, Tillydrone Road and Tillydrone Avenue have been designated Priority 1.

The footways and cycle tracks of Gordon Brae, Gordon's Mills Road, Tillydrone Road and Tillydrone Avenue have been designated Priority 2.

3.4 Environmental Considerations

3.4.1 Anticipated Effects

Appraisal work undertaken when the scheme was promoted indicated that noise generated by traffic movement would likely increase at localised areas near to the new and improved roads, as would be expected. It also predicted that overall noise effects would reduce when considering the wider Aberdeen area in the long term due to the relocation of traffic from other routes such as King St/ Ellon Road and A90 offsetting the local effect.

Similarly improvements in air quality along these routes were predicted as traffic volumes reduce. The local air quality assessments indicated that the construction of the scheme would result in an overall neutral impact upon local air quality based upon the balance between beneficial and adverse impacts predicted over the effected network.

3.4.2 Noise

Under the legislation Aberdeen City Council has obligations to assess the noise impact of the road scheme once in operation. Work to progress the assessment is currently underway, following the passing of one year of opening. Those affected will be advised on completion, this is currently estimated to be spring 2018.

3.4.3 Air quality.

Aberdeen City Council records air quality by monitoring nitrogen dioxide levels via diffusion tubes fixed to street lighting columns near to the carriageway across the city.

The current data to year end 2016, for locations near the project roads, shows levels are well below the exceedance value of 40ugm-3, further details are provided in appendix 3.4.3.

3.5 Localised Impacts

3.5.1 Anticipated Effects

As the community and wider population have made use of the new infrastructure following opening, a number of concerns have been highlighted by individuals and interest groups relating to particular features. An assessment of each concern raised has been undertaken. These are listed below along with recommended actions and estimated costs.

3.5.2 User concerns

The user concerns received and assessed are as follows:

Actions concluded or currently being progressed.

Scheme Concerns

- a) Cyclists cycling on the footways provided for pedestrian use only.

Action: Additional cycling direction signage will be placed at key crossings and changes in direction along the route to guide cyclists towards the cycle tracks.

- b) Confusion caused as a result of the placement of the Gort Road street name plate by the turning head.

Action: This has recently been moved further back into the turning head from Gordon Brae.

- c) Large corner radii at main junctions requiring pedestrian and cyclists to travel further to cross at the designated crossing point.

Action: The large radii have been installed at locations where a regular bus route is anticipated, to allow the bus to turn in without crossing the road centreline.

Associated Concerns

- d) Uneven ground level in front of Tillydrone Community Centre.

Action: This area will be levelled out by the contractor undertaking the Balgownie Drive Ramp works.

- e) Replacement of the removed St. Georges Tillydrone Church signs.

Action: Replacement of the St. Georges Tillydrone Church signs has been progressed. This is currently being undertaken as part of the scheme.

- f) Bus stop shelters are located partially within the 2 metre wide footway reducing the effective width.

Action: The bus shelters could be partially placed within the grassed separation strips between the footway and cycle track. The estimated cost to do this is £1,500 per shelter. High usage pedestrian sites where conflict could cause a safety concern to be monitored.

Further Action

Scheme Concerns

- g) Cyclists cycling on the footways provided for only pedestrian use after exiting Old Tillydrone Road by Benholm's Lodge and heading northbound.

Action: The existing bollards and dilapidated hanging gate require upgrading with a new design to guide cyclists away from proceeding northwards and instead towards the nearby toucan crossing. The estimated cost of the works is £7,000.

- h) Unsightly old deterrent paving between the construction site boundary and the Pennan Road flats.

Action: The redundant deterrent paving could be removed and the area soiled and re-seeded. Estimated cost to remediate is £30,000.

- i) Poor pedestrian access across Tillydrone Terrace.

Action: The area at the junction of Coningham Terrace with Tillydrone Terrace could be paved to allow easier access for the residents of Aberdon Court and install a dropped kerb crossing on Tillydrone Terrace. Estimated cost £3,000.

Associated Concerns

- j) Associated Concern: Lack of litter bins at bus stops to deter littering. There are 4 bus shelters and 4 bus stops without bins along the full route.

Action: Steel litter bins could be installed at each of the 4 bus shelters at an estimated cost of £2000. Emptying of bins will be absorbed into current maintenance routes.

- k) With the progression of the Balgownie Drive Ramp there is a demand for a bus shelter at the Gordon Brae (southbound) bus stop which is where the ramp will exit to. Additional bus stop facilities should encourage people to travel by public transport and reduce the likelihood of litter being dropped next to these bus stops.

Action: A bus shelter could be installed at this location at an estimated cost of £5,000

- l) Cycle lane surfacing and road markings along Bedford Road are in a poor state with localised cracking on the carriageway and eroded road markings.

Action: Remediate as part of annual maintenance programme as budget allows.

For further detail on the above see Appendix 3.5.2.

3.5.3 Parking regulations.

Following the opening of the new road, the effectiveness of the implemented waiting restrictions has been examined with consideration being given to any necessary amendments, particularly in those areas where issues have been raised through enquiries.

These issues are being progressed through the Traffic Management Small Scale report. Full comment can be viewed in Appendix 3.5.3

4. FINANCIAL IMPLICATIONS

A summary of individual cost estimates of the technical recommendations is as follows:

Recommendations	'User Concern' Item	Cost
St Machar Drive – Left Turn only lane		£1,000
Replacement of the bollards and gate at Old Tillydrone Road	Item g)	£7,000
Removal of the deterrent paving adjoining the Pennan Road flats	Item i)	£30,000
New bus shelter at Gordon Brae near to Balgownie Drive Ramp	Item l)	£5,000
Dropped kerb crossing on Tillydrone / Coningham Terrace	Item k)	£3,000
Upgrading of 'Belisha Beacons' at both Zebra crossings on Hayton Road.		£20,000 (£10,000 each)
Design in conjunction with the local community, a gateway feature on the approach to Tillydrone from the north		£5,000
to deploy a movable vehicle actuated variable sign		£5,000
Install steel litter bins alongside the 4 bus shelters along the scheme. This includes maintenance costs for these bins for two years		£2,000
TOTAL		£78,000

5. LEGAL IMPLICATIONS

No Legal implications were identified for this report

6. MANAGEMENT OF RISK

6.1 A number of risks are currently identified with the delivery of the recommended improvements.

6.2 Financial

6.2.1 Implementation costs may exceed the estimate.

6.3 In terms of the following categories, no risks were identified for this report:-

Employee
Customer/Citizen

6.4 Environmental

6.4.1 Failure to follow noise assessment and insulation regulations to their conclusion may result in legal action from individual householders.

6.5 Technological

6.5.1 No Technological risks were identified for this report

6.6 Legal

No Legal risks were identified for this report

6.7 Reputational

6.7.1 There has been community engagement throughout this scheme. The recommendations have been determined based on community involvement and feedback.

7. IMPACT SECTION

7.1 Economy

7.1.1 The Local Outcome Improvement Plan has as one of its primary drivers "Investment in infrastructure - Aberdeen City is a robust and resilient economy providing a vibrant built environment and attractive place for residents, students, business and tourists."

7.2 People

7.2.1 The recommendations in this report, if approved, would benefit a variety of users whether motor vehicle, bicycle or pedestrian. Improvement of this route also helps the delivery of other Aberdeen City Council policies.

7.3 Place

- 7.3.1 The recommendations in this report, if approved, would represent improvements to the strategic road network and would benefit a variety of users whether motor vehicle, bicycle or pedestrian. These Improvements also help the delivery of other Aberdeen City Council policies that seek to improve the sense of place within the city centre.

7.4 Technology

- 7.4.1 No significant impact identified.

8. **BACKGROUND PAPERS**

None

9. **APPENDICES**

Appendix 3.2.2	Pedestrian and Cycle Use
Appendix 3.2.3	Public Transport
Appendix 3.2.4	Vehicle Movements
Appendix 3.3.2	Traffic speeds
Appendix 3.3.3	Road Safety Audit
Appendix 3.4.3	Air Quality
Appendix 3.5.2	User concerns
Appendix 3.5.3	Parking Regulations

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