

Transport and Environment Committee

10.00am, Thursday, 17 June 2021

A71 Dalmahoy Junction Improvements

Executive/routine	Executive
Wards	2 – Pentland Hills
Council Commitments	16

1. Recommendations

- 1.1 The Transport and Environment Committee is asked to:
 - 1.1.1 Note the work that has been done to date on the A71 Dalmahoy Junction Improvements project;
 - 1.1.2 Note that the current cost estimate for the project is £962,000, which is significantly greater than the funding package of £455,000 approved by the Committee in March 2017;
 - 1.1.3 Note that a low cost safety scheme involving vehicle-activated signs was installed in April 2017 and a reduced 40mph speed limit was subsequently implemented in February 2018; and that there has been a significant reduction in personal injury collisions at the junction since these changes came into effect;
 - 1.1.4 Note that, as a result of the reduction in personal injury collisions, a preliminary design has been developed for alternative road safety measures at the junction, which are expected to deliver similar reductions in casualties to the previously approved project, at a significantly reduced cost; and
 - 1.1.5 Approve proceeding with these alternative road safety measures.

Paul Lawrence

Executive Director of Place

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A71 Dalmahoy Junction Improvements

2. Executive Summary

- 2.1 This report provides Committee with an update on the A71 Dalmahoy Junction Improvements project and sets out a proposed way forward to deliver alternative road safety measures at this junction to improve road safety.

3. Background

- 3.1 Work commenced in 2014 on the investigation of possible improvements at the A71 Dalmahoy junction, in response to a petition requesting measures to improve vehicular access to Ratho village and the Dalmahoy Hotel and Country Club and to reduce the risk to pedestrians crossing the A71 at this location.
- 3.2 An initial report to the Transport and Environment Committee on [28 October 2014](#) provided a preliminary cost estimate for a signalised junction of £430,000 but noted that this cost could not be justified on the basis of potential casualty savings. At this stage, no funding had been identified for these improvements to be delivered.
- 3.3 On [17 March 2015](#), a report to the Committee provided information on options for a pedestrian refuge island, a signalised pedestrian crossing and a fully signalised junction. The Committee decided that work should proceed to develop a detailed design for a fully signalised junction and to commence the process to seek to acquire the areas of land required for this.
- 3.4 A further update was provided to Committee on design, land acquisition and funding issues on [30 August 2016](#). Although funding towards the delivery of the project had been secured from various sources, there was still a significant funding shortfall at that time.
- 3.5 Committee also approved the introduction of a low cost safety scheme as an interim measure, to address the collision profile of the junction at that time. This involved the installation of vehicle activated “staggered junction ahead” signs, which would be triggered by oncoming traffic when vehicles were either waiting at the give way line or stationary in the centre of the road, waiting to turn right.
- 3.6 On [21 March 2017](#), the Committee noted a funding package has been identified which was sufficient to meet an updated project cost estimate of £455,000:
- 3.6.1 Road Safety - £143,000;

- 3.6.2 Access to Bus Stops - £25,000;
 - 3.6.3 Cycling, Walking, Safer Streets - £30,000;
 - 3.6.4 Craigmillar Quarry S75 Agreement - £40,000;
 - 3.6.5 South West Locality (NEPS) - £50,000 (over two years); and
 - 3.6.6 Capital Investment Programme for Carriageways, Footways and Street Lighting contingency funding - £167,000.
- 3.7 In April 2017, the interim safety scheme involving vehicle-activated signs was implemented and the speed limit on this section of the A71 was subsequently reduced to 40mph in February 2018.

4. Main report

- 4.1 Detailed design work on a new signalised junction layout is now nearing completion. While developing the design, various issues have arisen that meant some aspects of the proposals had to be altered significantly from those that were envisaged in March 2017, when the funding package for the project was approved.
- 4.2 The combined impact of these changes has resulted in a significant increase in the project cost estimate, from £455,520 to £962,000. This includes the costs incurred to date in developing the project.
- 4.3 Plans showing the proposed junction layout used for the March 2017 cost estimate and the current proposed layout are provided in Appendix 1. Issues that have resulted in significant cost increases include the following:
- 4.3.1 The need for considerably more widening of the A71 than was originally envisaged to ensure the safe and efficient operation of a signalised junction, which was identified during the development of a detailed design in 2017 and 2018. This additional road widening resulted in significant increases in quantities of earthworks and new road pavement construction;
 - 4.3.2 As a direct consequence of the requirement for additional road widening, there was also a need to provide significantly more new road drainage apparatus than was originally envisaged, including the provision of a new drainage outfall solution. The current road drainage discharges by filtering surface water runoff through the ground but ground investigation work undertaken in 2019 revealed that this type of arrangement would not be able to cope with the additional runoff that the new junction layout would generate and that a completely new carrier drainage system and outfall would therefore be required;
 - 4.3.3 The original estimate made no allowance for temporary traffic management measures during construction; and
 - 4.3.4 Increased sums have been included in the current cost estimate for design and site supervision costs, the contractor's site establishment and

management costs and the allowance for project risk and contingency, to reflect the increased scope of the design.

4.4 In recognition of the additional costs identified, a value engineering exercise has been undertaken. This involved the design and costing of several alternative signalised junction layouts and pavement coring and testing to ensure that resurfacing and reconstruction work on the existing road is limited to the minimum extents required. The current proposed layout is the lowest cost option that could be identified, while providing a signalised junction that would operate safely and without causing significant traffic congestion during peak traffic periods.

4.5 As noted above, the speed limit in the vicinity of the junction was reduced to 40mph in February 2018. A comparison between the numbers and severity of personal injury collisions occurring in the vicinity of the junction in the three year period prior to this change and the 34 month period for which data is currently available following the change is shown in Table 1 below. This shows a significant reduction in collisions following the reduction in the speed limit.

	1 Mar 2015 – 28 Feb 2018 (36 months)	1 Mar 2018 – 31 Dec 2020 (34 months)
Slight	5	3
Serious	2	1
Fatal	-	-
Total	7	4

Table 1 Personal Injury Collisions - 1 Mar 2015- 31 Dec 2020

4.6 From analysis of recent collisions at the junction purely on the basis of casualty reduction and recognising the estimated cost of the junction improvements previously approved, the Road Safety team have reassessed the junction.

4.7 This assessment anticipates that a similar level of collision reduction could instead be achieved, whilst also providing facilities to reduce the danger to pedestrians crossing at the junction, by a package of alternative road safety measures. These measures could include further lowering of the speed limit, a signalised pedestrian crossing, stop lines on the side roads and vehicle speed detection systems.

4.8 A preliminary design has been developed for these alternative road safety measures and plans showing these are provided in Appendix 2. The current cost estimate for these measures, including costs incurred to date in developing the project, is £520,000.

5. Next Steps

- 5.1 Subject to the approval of the recommendations in this report, proceed with the development and delivery of the alternative road safety measures.

6. Financial impact

- 6.1 The funding package for the A71 Dalmahoy Junction described in para 3.5 of this report is already in place. Should the recommendations of this report be approved, a further £65,000 of funding would be required to deliver the alternative road safety measures. This can be contained within the Road Safety Capital budget. Including the original £143,000 contribution towards the previously approved funding package, this would bring the total amount of Road Safety funding committed to the project to £208,000, which is within the maximum sum of £341,000 that can be justified on the grounds of casualty reduction at this location.
- 6.2 Should the Committee decide, however, to proceed with the current design for a signalised junction, a further £507,000 of funding would require to be identified from within the Transport Capital programme to allow the project to proceed to delivery. This would involve either cancelling or delaying the implementation of other current projects.
- 6.3 The costs incurred to date to develop the proposals are approximately £94,000. Of these costs, approximately £29,000 is for design work and traffic surveys specifically relating to a signalised junction. The remaining £65,000 relates to work that would also have been required to develop the proposals for the alternative road safety measures e.g. topographical survey, ground/pavement investigations, drainage investigations, legal costs associated with land acquisition negotiations and tree felling work.
- 6.4 The developer's contribution of £40,000, from the S75 Agreement for Craigpark Quarry, has been drawn down in full.
- 6.5 The total budget for road safety infrastructure improvements throughout the city in recent years has generally been around £700,000 per annum. In 2020-21 this was increased to £1.0 million, due to a significant increase in the annual Cycling Walking Safer Routes funding award from Transport Scotland and a similar overall level of funding is expected to be available in 2021-22.

7. Stakeholder/Community Impact

- 7.1 Ward members were briefed on the approach proposed in this report in January 2021 and a presentation was delivered to the Ratho and District Community Council on 15 February. A written update was also sent to all affected landowners. There has been subsequent email correspondence with the Community Council in which

they have been provided with further information in response to various issues and concerns that they have raised.

- 7.2 The Community Council submitted a written deputation to the Committee at its meeting on 22 April 2021, requesting that the Council proceeds with the delivery of a signalised junction.
- 7.3 In addition, shortly after the presentation to the Community Council, emails were received from fourteen members of the public, nine of whom identified themselves as members of the congregation of St Mary's Church Dalmahoy, also expressing a desire for the delivery of a signalised junction.
- 7.4 Subject to the approval of the recommendations in this report, further consultation will be carried out with local stakeholders on the design for the alternative road safety measures.

8. Background reading/external references

- 8.1 None.


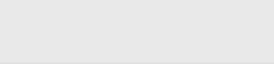






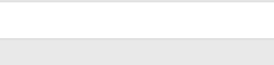

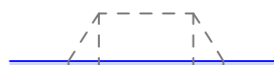



9. Appendices

- 9.1 Appendix 1 – Plans showing proposed signalised junction layout used for March 2017 cost estimate and current proposed layout
TDD/636718/2/05, dated June 2016
TCD/636718/2/25, dated July 2020
- 9.2 Appendix 2 – Plans showing proposed alternative road safety measures
TCD/636718/2/27B, dated April 2021
TCD/636718/2/28, dated February 2021



NOTES:

KEY:

-  Footway
-  Carriageway
-  High friction surfacing
-  Grass paving blocks
-  Verge
-  Filter drain
-  Kerbline
-  Round-top edging kerbline
-  Flat-top edging kerbline
-  Fenceline
-  White road markings
-  Yellow road markings
-  Tactile paving
-  Drop kerb crossing

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100023420 (2020)

REVISION	DETAILS	BY	DATE	CHECKED



The City of Edinburgh Council
Waverley Court
4 East Market Street
Edinburgh, EH8 8BG
Telephone: 0131 200 2000

PLACE MANAGEMENT
TRANSPORT INFRASTRUCTURE
TRANSPORT CONTRACTS

Proposed Traffic Signals
A71 / Dalmahoy Road
Proposed Layout
Aligned Junction Arrangement
Option 2

Date: July 2020
Scale: 1:250 @A0
Job No. 636718
Drawn by: A Parkinson
Checked by: SMS



NOTES:

KEY:

- Footway
- Carriageway - existing
- Carriageway - new
- Carriageway - resurfacing
- High friction surfacing
- Grass paving blocks
- Proposed soakaway
- Verge
- Kerbline
- Round-top edging kerbline
- Flat-top edging kerbline
- Kerb drainage
- Fenceline
- White road markings
- Yellow road markings
- Tactile paving
- Drop kerb crossing

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100023420 (2021)

B	Notes amended	AP	Apr 21	SMS
A	Soakaway details and notes amended, verges added	AP	Mar 21	SMS
REVISION	DETAILS	BY	DATE	CHECKED

EDINBURGH
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PLACE MANAGEMENT
ROADS AND TRANSPORT INFRASTRUCTURE
TRANSPORT CONTRACTS AND DESIGN

Pedestrian Crossing
A71 / Dalmahoy Road Junction
Proposed Layout

Date: December 2020
Scale: 1:250 @A0
Job No. 636718
Drawn by: A Parkinson
Checked by: SMS

NOTES:

 30 mph speed limit



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PLACE MANAGEMENT
ROADS AND TRANSPORT INFRASTRUCTURE
TRANSPORT CONTRACTS AND DESIGN

A71 / Dalmahoy Road Junction
Change of Speed Limit to 30 mph

Date: Feb 2021	Job No. 636718	Drawn by: A Parkinson
Scale: NTS / 1:100 @A0		Checked by: SMS