

Department for Regional Development – Transport NI

**ANNAGHMORE ROAD / BELLSHILL ROAD
JUNCTION**

Public Inquiry

September 2015

**Proof of Evidence
Summary**

Traffic Operational Assessment

by

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1 INTRODUCTION

- 1.1 My name is Russell Bissland. I am a Chartered Civil Engineer with a Bachelor of Science degree in Civil Engineering. I have been a member of the Institution of Civil Engineers since 1988 and a member of the Chartered Institution of Highways and Transportation since 1991. I have more than 37 years experience in civil engineering projects. I am presently employed by AECOM (formerly URS) as a Technical Director based in the Glasgow office. I have been working on major roads projects in Northern Ireland for 17 years.
- 1.2 The scope of my evidence is to report on the traffic operational assessment of the proposed junction based on the collection and analysis of observed traffic movements in the area and the predicted changes in trip patterns.

2 BACKGROUND

- 2.1 In November 2007, a local Public Inquiry was held to examine the Preferred Route for dualling the A6 between Toome and Castledawson at which time various objections were heard regarding the junction provision at Castledawson. Following a Community Information Event in December 2009, the junction layout was further developed.
- 2.2 In February 2012, a further Public Inquiry was held which has led to the development of the proposed junction, as shown in Figure 1.

3 TRAFFIC SURVEYS AND DATA COLLECTION

- 3.1 A detailed programme of data collection surveys was undertaken to assist in establishing current traffic volumes at key locations in the area and to quantify variations in hourly and daily traffic demand, as shown in Figure 2.
- 3.2 The first programme of traffic surveys around Castledawson was undertaken in October 2003. In November 2005, additional manual classified counts were undertaken. In June 2007, a further programme of traffic surveys was undertaken including eight full 12-hour manual classified counts at key junctions in and around Castledawson and five 10-day automatic traffic counts. Another programme of traffic surveys was undertaken in October 2011 which consisted of eight full 12-hour manual classified counts and two 7-day automatic traffic counts. The most recent programme of traffic surveys was undertaken in May 2013 and included manual

classified counts along the A6 between Castledawson Roundabout and Hillhead Road.

- 3.3 The results from the longer term automatic traffic counts independently verify the results from the daily manual classified traffic counts.

AUTOMATIC TRAFFIC COUNTS

- 3.4 The average hourly weekday traffic flow profiles recorded at each of the five automatic traffic count sites in 2007 indicate the following traffic flows.

- 3.5 At Site 1 on the A6 Castledawson Bypass, the average peak hour flow is 1,600 vehicles per hour.

- 3.6 At Site 2 on the Magherafelt Road, the corresponding traffic flow reduces significantly to 660 vehicles. At Site 3 on Hillhead Road, the average peak hour traffic flow reduces further to 250 vehicles.

- 3.7 At Site 4 on Annaghmore Road, the average peak hour traffic flow reduces to 120 vehicles, and at Site 5 on Bellshill Road, the traffic flow reduces again to 110 vehicles.

- 3.8 The peak hour traffic flows recorded four years later in 2011 were within 10 vehicles of the 2007 flows on Annaghmore Road and within 20 vehicles of the 2007 flows on Bellshill Road.

MANUAL CLASSIFIED COUNTS

- 3.9 The results of the manual classified counts undertaken in 2007 indicate that during the 12-hour survey period approximately 15,700 vehicles used the A6 Castledawson Bypass, approximately 6,900 vehicles used Main Street and approximately 1,000 used Annaghmore Road and Bellshill Road, as shown in Figure 3.

- 3.10 The manual classified counts undertaken in 2011 indicate that traffic flows have generally reduced relative to the 2007 flows.

- 3.11 The manual classified counts undertaken in 2013 indicate that traffic flows have generally reduced relative to the 2007 flows.

- 3.12 These results provide an indication of the significant variations in traffic levels on the road network in and around Castledawson and indicate that the volume of traffic using Annaghmore Road and Bellshill Road during the peak hours is relatively low compared to the volume of traffic on Main Street and the A6 Castledawson Bypass.

4 THE PROPOSED JUNCTION

- 4.1 The current proposal involves the provision of a compact grade-separated junction on the A6 to the east of the existing Bellshill Road junction, with various link roads.

5 OPERATIONAL ASSESSMENT OF TRAFFIC REDISTRIBUTION

- 5.1 The principal traffic effect of the proposed junction is to provide access between Castledawson and the proposed A6 Dual Carriageway.
- 5.2 A comparison between the 2013 2-way a.m. and p.m. peak hour traffic flows for the existing junction arrangement and the proposed junction indicates that the effects of traffic redistribution would not extend beyond the limits of the scheme as the proposed junction would accommodate all traffic movements, as shown in Figure 4.
- 5.3 It is expected that traffic flows along Main Street would not be significantly affected by the scheme.
- 5.4 It should be noted that the proposed junction would not generate any additional traffic on the local road network.

6 CONCLUSIONS

- 6.1 My evidence has described the background to the scheme, the detailed traffic surveys and data collection undertaken to define baseline conditions in the area, the general arrangement of the proposed junction and an operational assessment of the effects of traffic redistribution.
- 6.2 Through the collection and analysis of both manual classified and automatic traffic counts over a period of six years, a clear understanding of traffic flows in the area has been established.

- 6.3 Comparison of the 2007, 2011 and 2013 survey data indicates that traffic flows have not changed significantly during this six year period, but have reduced generally within the area.
- 6.4 In comparison with the traffic flows on Main Street and the A6 Castledawson Bypass, the volume of traffic on Annaghmore Road and Bellshill Road is relatively low.
- 6.5 The proposed junction would accommodate all traffic movements on and off the proposed A6 dual carriageway.
- 6.6 The effects of traffic redistribution would not extend beyond the limits of the scheme, and therefore traffic flows along Main Street would not be significantly affected. The proposed junction would not generate any additional traffic on the local road network.

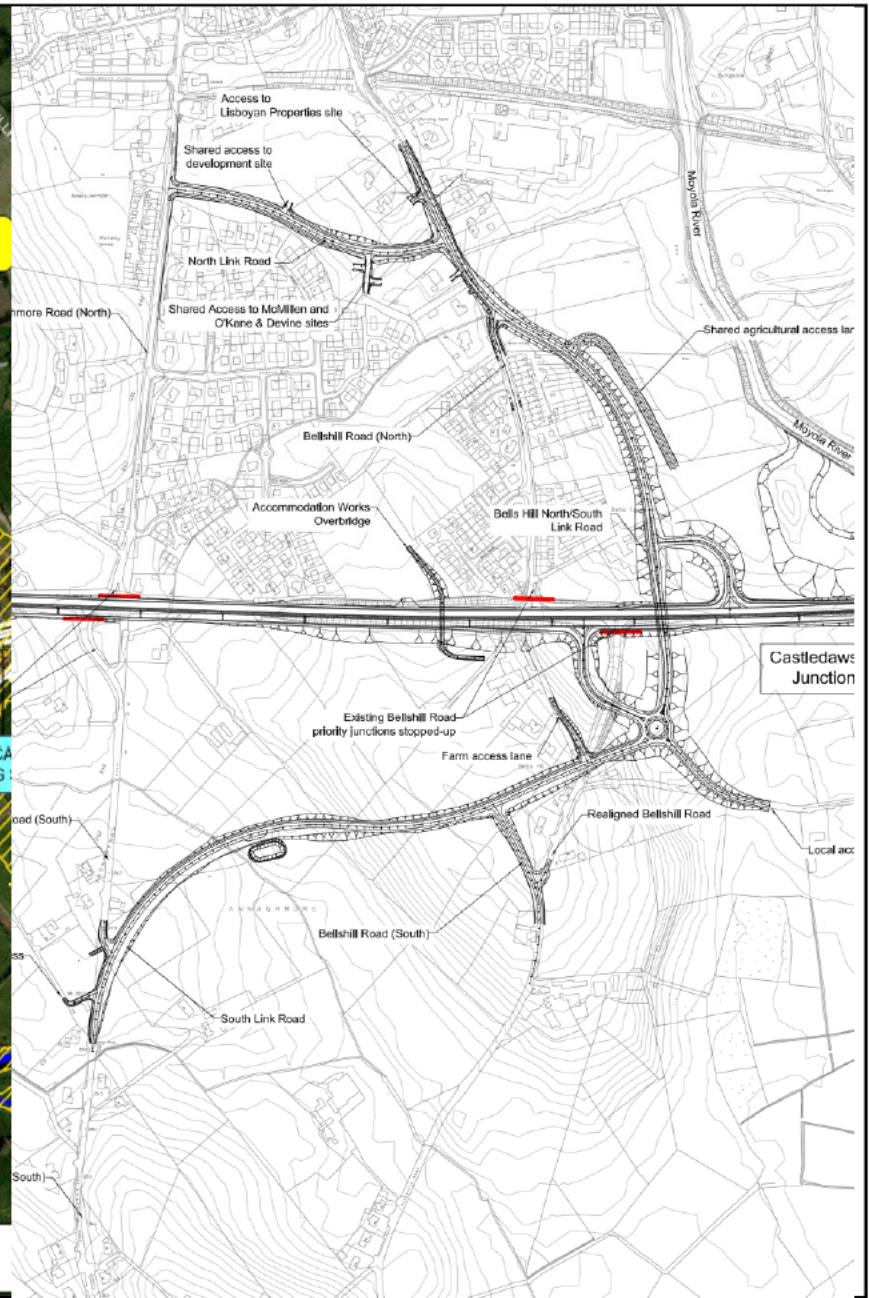
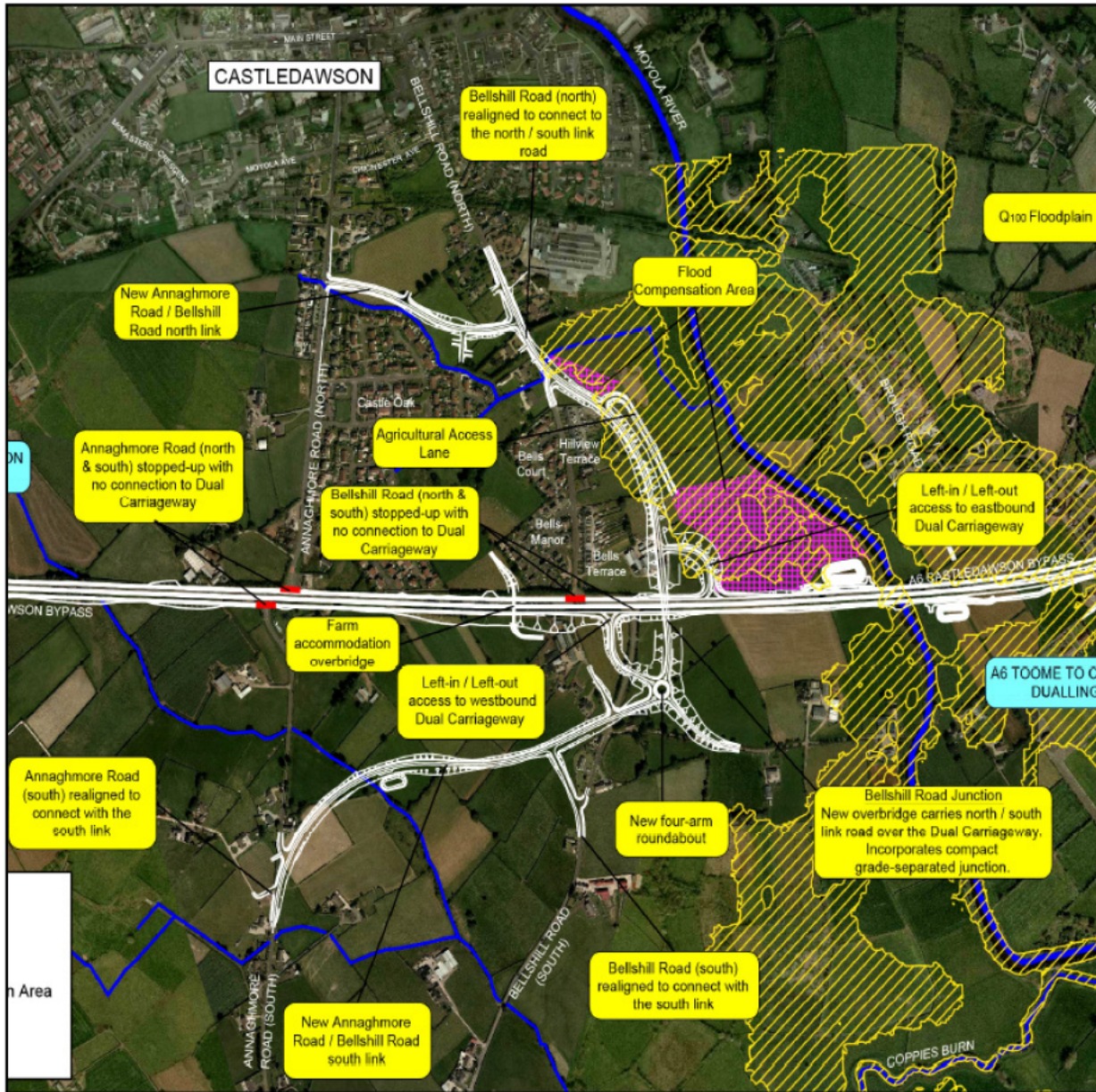


Figure N.2: The proposed Annaghmore Road / Bellshill Road Junction at Castledawson.

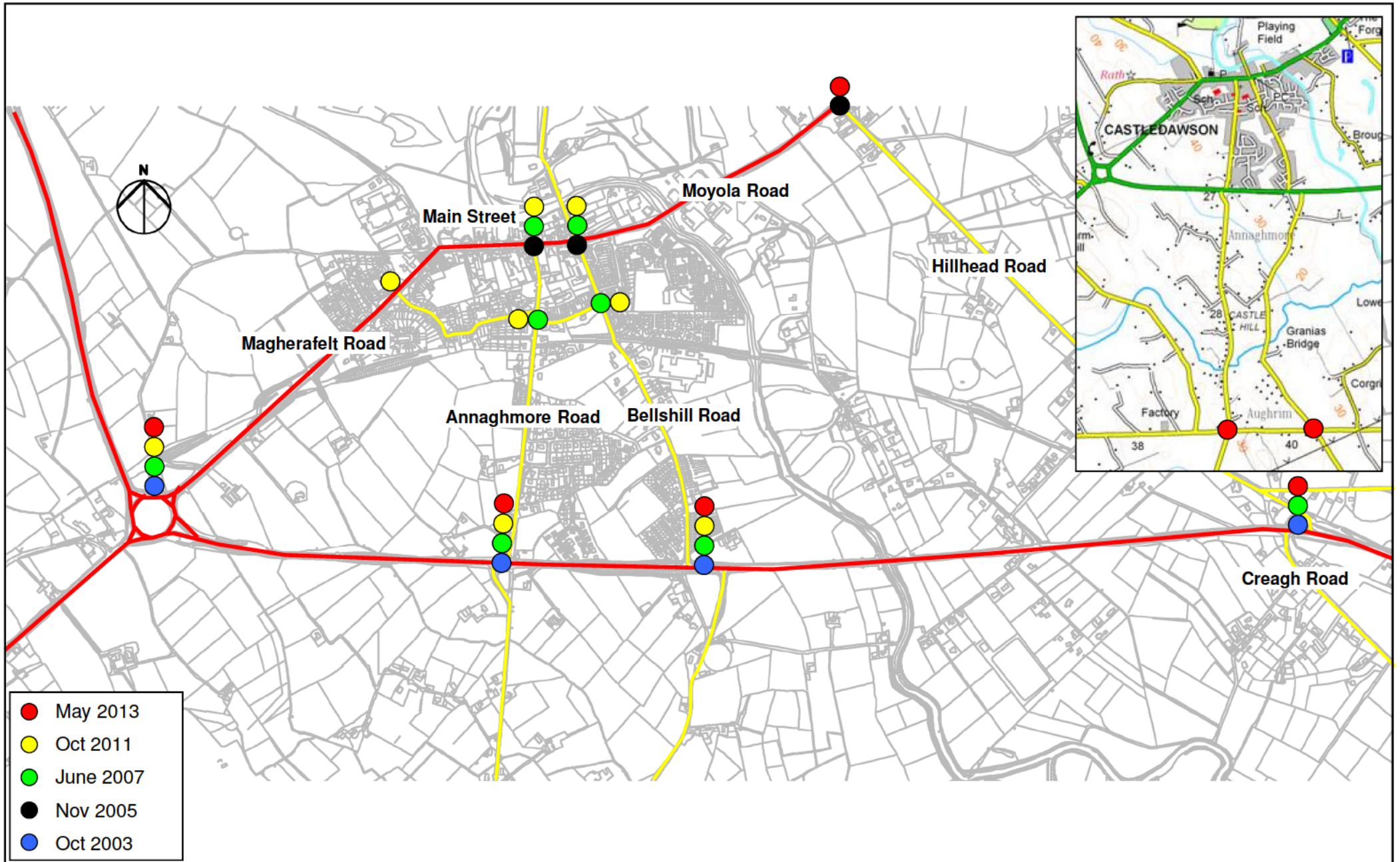
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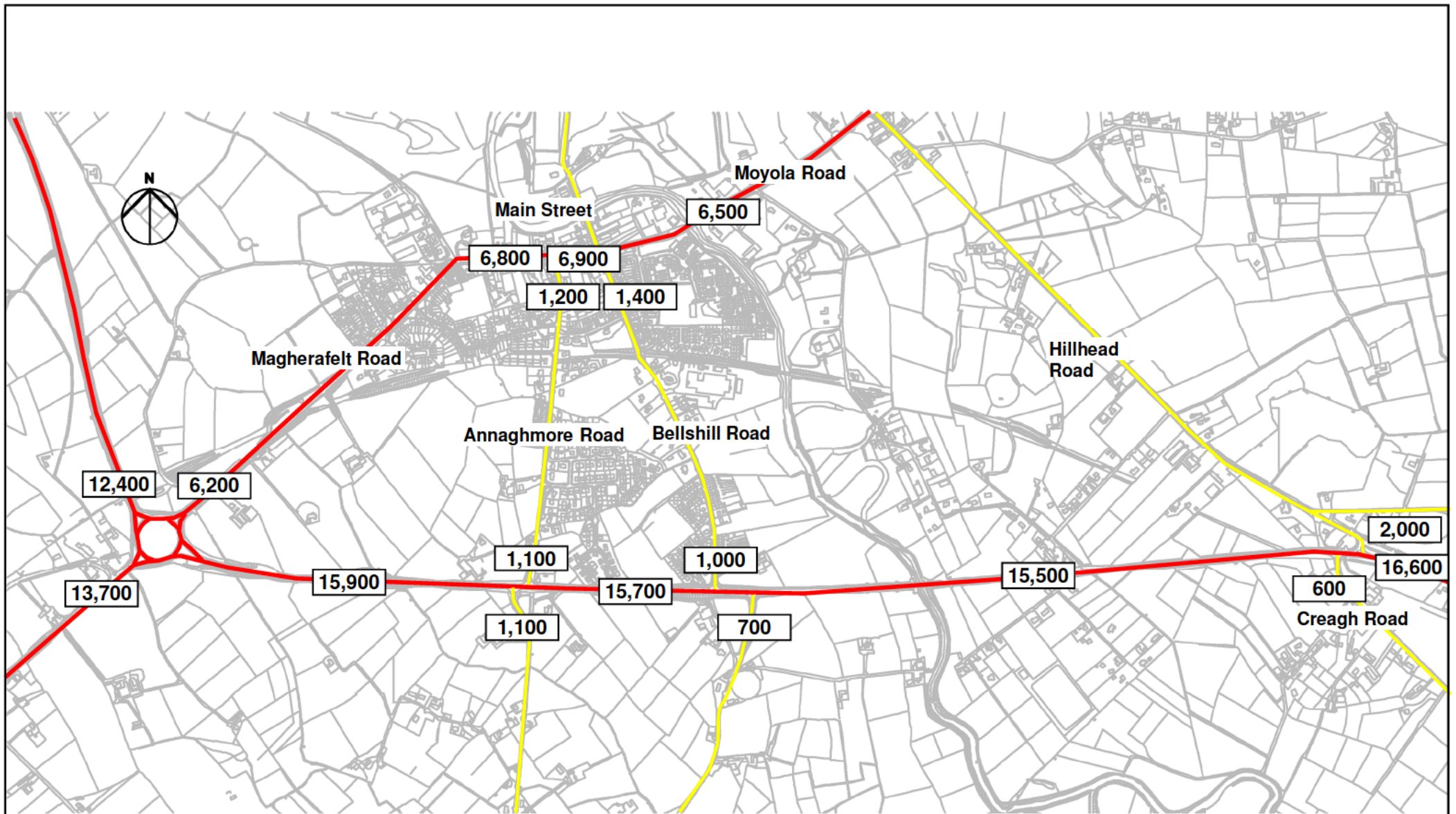
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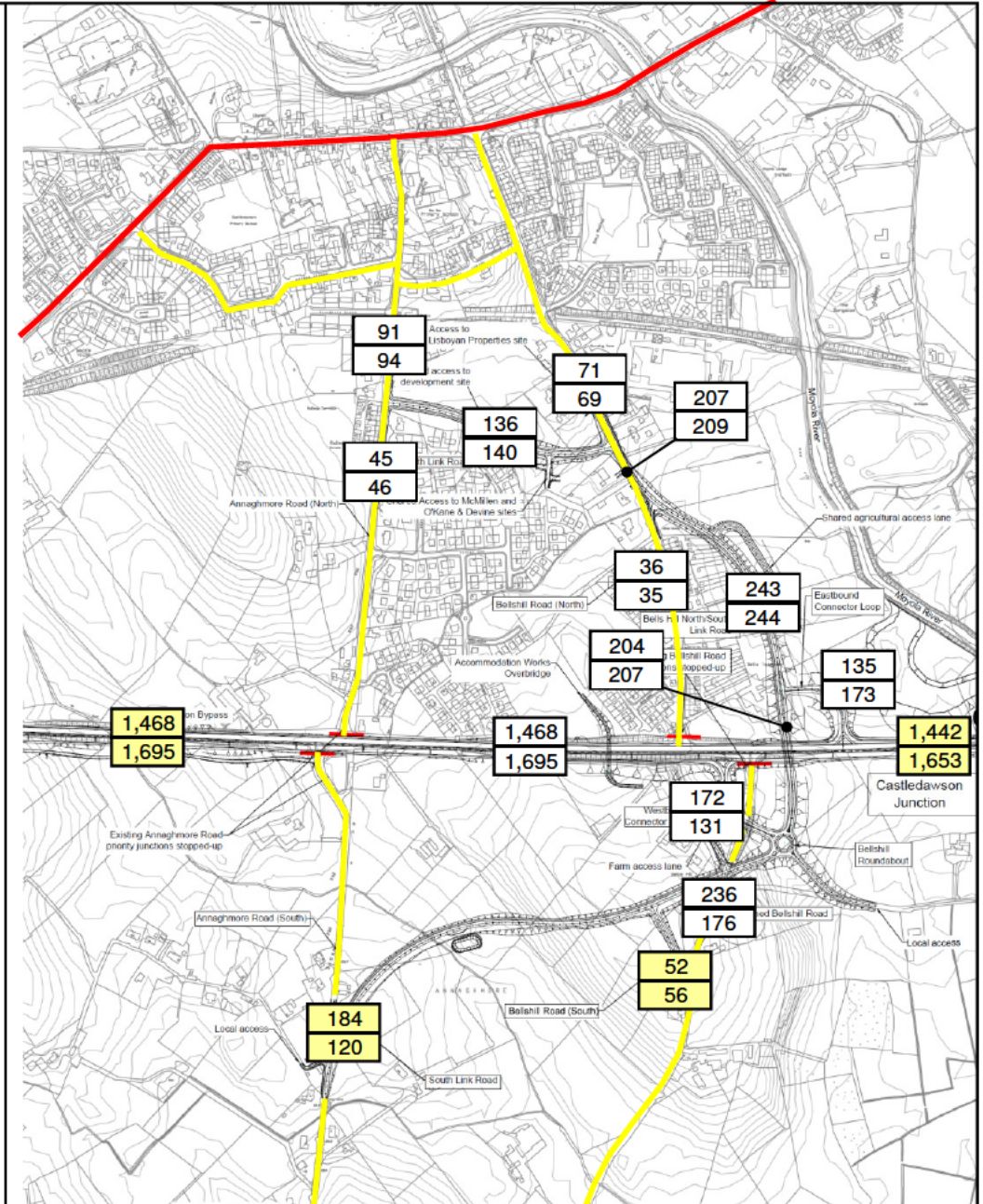
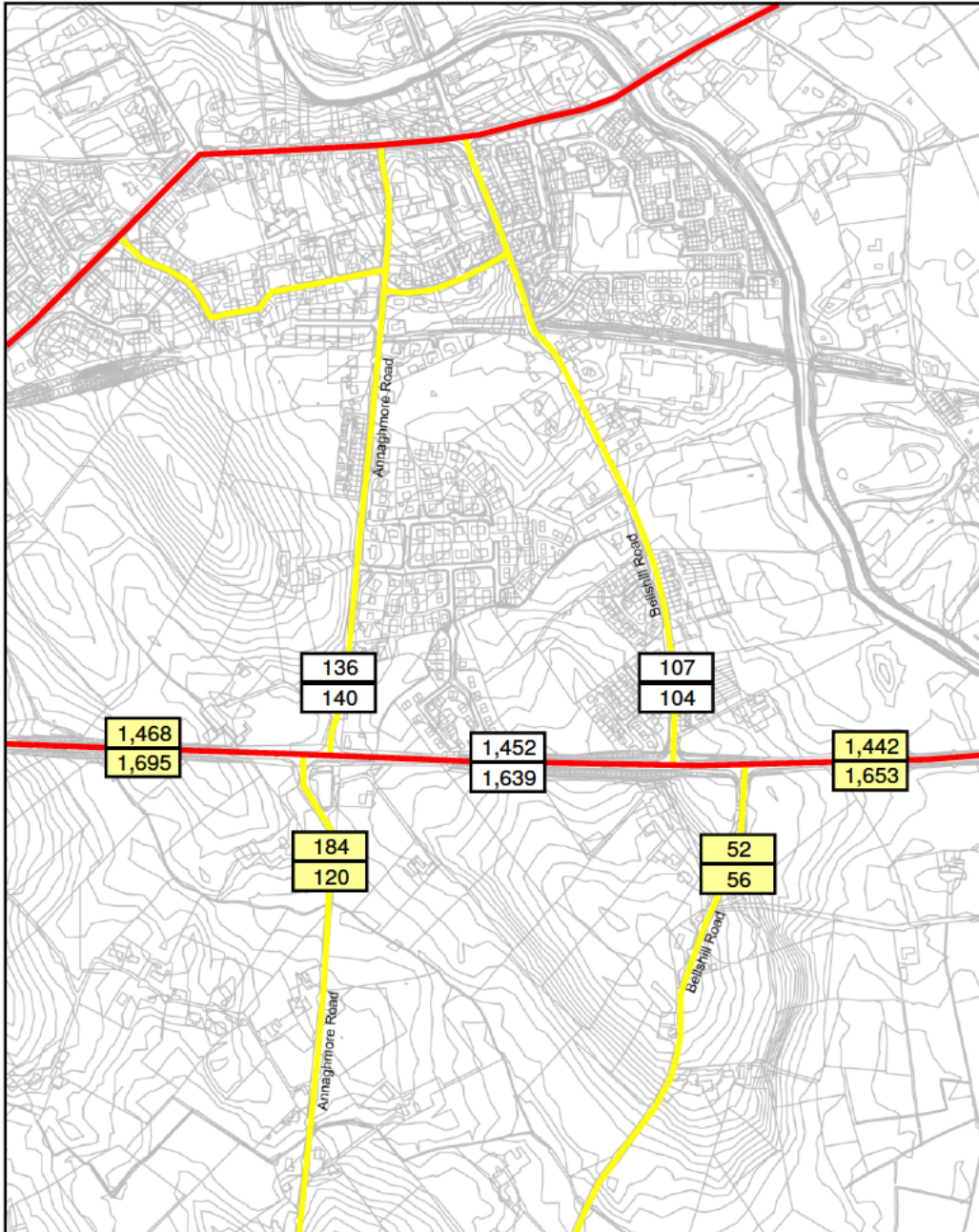
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Figure 1
Proposed Junction Scheme Drawing



- May 2013
- Oct 2011
- June 2007
- Nov 2005
- Oct 2003





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Notes

2013 2-way AM Peak Hour Flow

2013 2-way PM Peak Hour Flow

No change expected to traffic flows

North Western Key Transport Corridor
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Figure 4
Existing Network and Proposed Junction
2-Way AM & PM Peak Hour MCC Traffic Flows