

Technical Note

Project:	North Hertfordshire Local Plan Model Testing	Job No:	60271338
Subject:	Preferred Local Plan Model Testing Including Baldock Link Roads		
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NHDC requested an additional model test run to include two proposed link roads north and south of Baldock in order to understand what impact they would have on the highway network in the local area and on the local junctions identified in this assessment as problematic and in need of mitigation.

The two link roads were coded into the WHaSH-BL model based on indicative alignments from the *Land North and South of Baldock Feasibility Report, November 2014* by WYG and the following description from NHDC:

- Northern link road from A6141 north of existing settlement limit to junction of B656 Royston Road / A505 Baldock Bypass
- Southern link road broadly from junction of A507 Clothall Road / Wallington Road / South Road to B656 Royston Road

The test was conducted on the Do Something model which contained the full level of forecast traffic growth for the new housing development scenario, and the network containing all the proposed mitigation schemes.

Analysis of the test assignment when comparing to the Core Do Something scenario has shown that in both peak periods the impact of the two link roads in the local area has resulted in:

- Reduction in traffic along the A1(M) and A505.
- There is a corresponding increase in trips travelling along the A507 north road, much of which appears to be traffic diverted off the A1(M) at junction 10 and the reduction on the A505 is a result of a proportion of traffic now using the new link roads to get to the A505 beyond Baldock.
- There are also reductions in traffic travelling through Norton (Norton Road) in both directions as trips divert back to the B656.
- In Baldock itself there are reductions on Weston Road, London Road (PM only) coming into Baldock and on South Road and the High Street.
- Against these reductions, the models show large increase in trips along Clothall Road and Station Road as well as large flows on the new link roads.

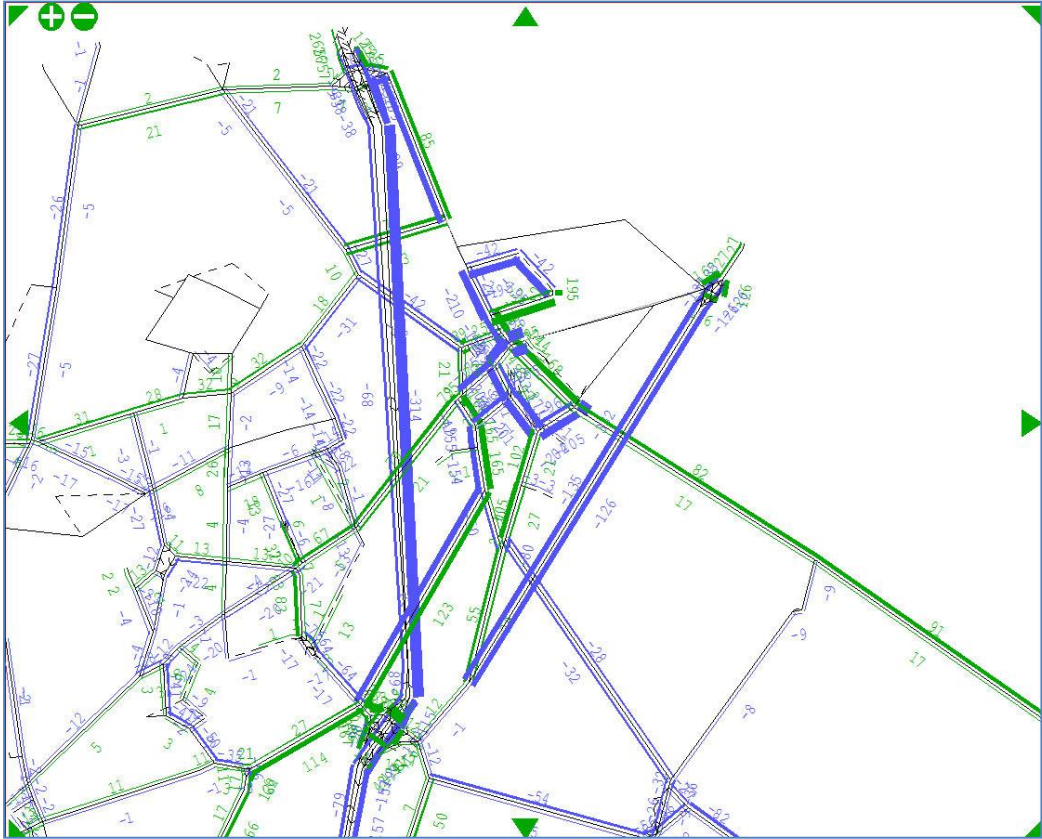
These changes in routing seem realistic in response to the additional road capacity in Baldock that the new road links provide. There are no unusual routing changes that have been identified from our initial analysis. The flow difference (Test minus Core DS scenario) plots are provided below.

There was only one problematic junction (HM3) identified in the full assessment which is the junction of Station Rd / Royston Rd / Clothall Rd / Whitehorse Street. This junction has been identified as failing in the Do Minimum scenario, before the Baldock development traffic is added. The mitigation scheme is to include a demand responsive signal system (MOVA – See **Appendix C**).

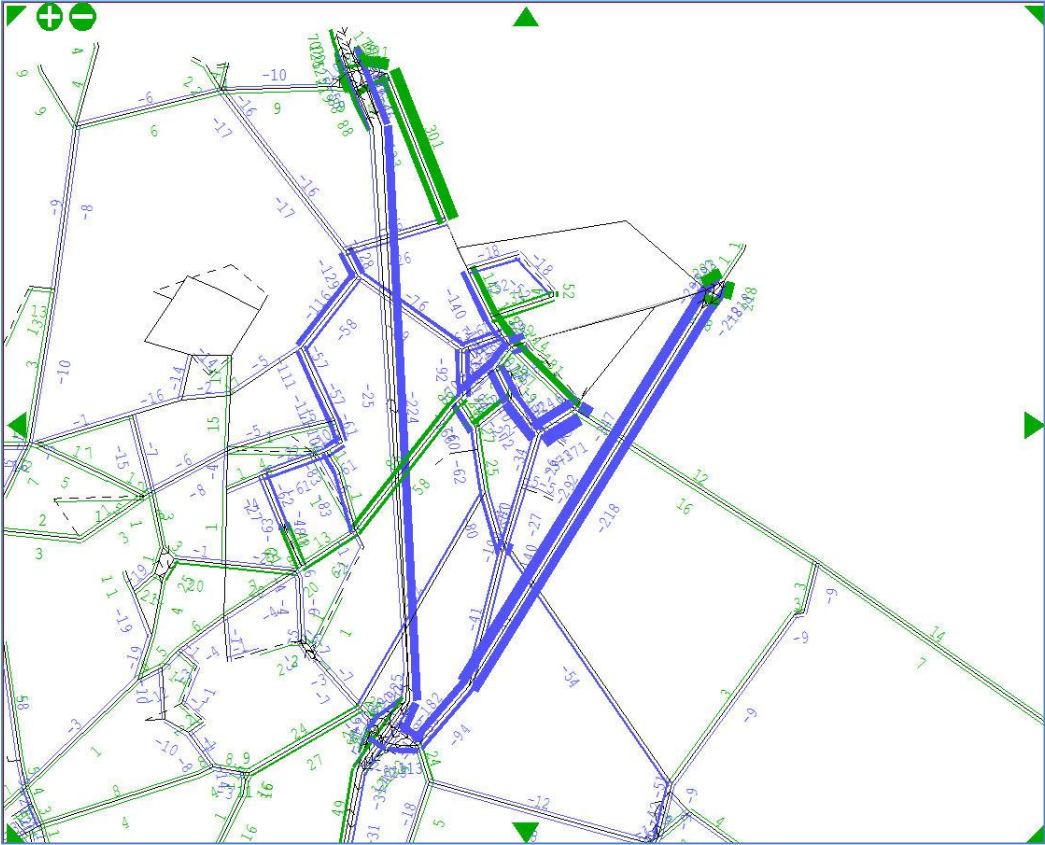
In the test scenario with the two Baldock link roads the junction still has some delays and queueing (as we can't fully model the improvements MOVA could achieve), however the key point is that the junction performs slightly better than the core scenario which demonstrates the addition of the two new links roads alleviates some of the traffic that was travelling via the junction and therefore freeing up some capacity, but the need for some mitigation at the junction would still be required.

In the AM the node delay decreases from 126 seconds to 60 seconds. In the PM the reduction is from 122 to 52 seconds. The improvement can also be seen in the link delays. The plots below show the difference between the two tests.

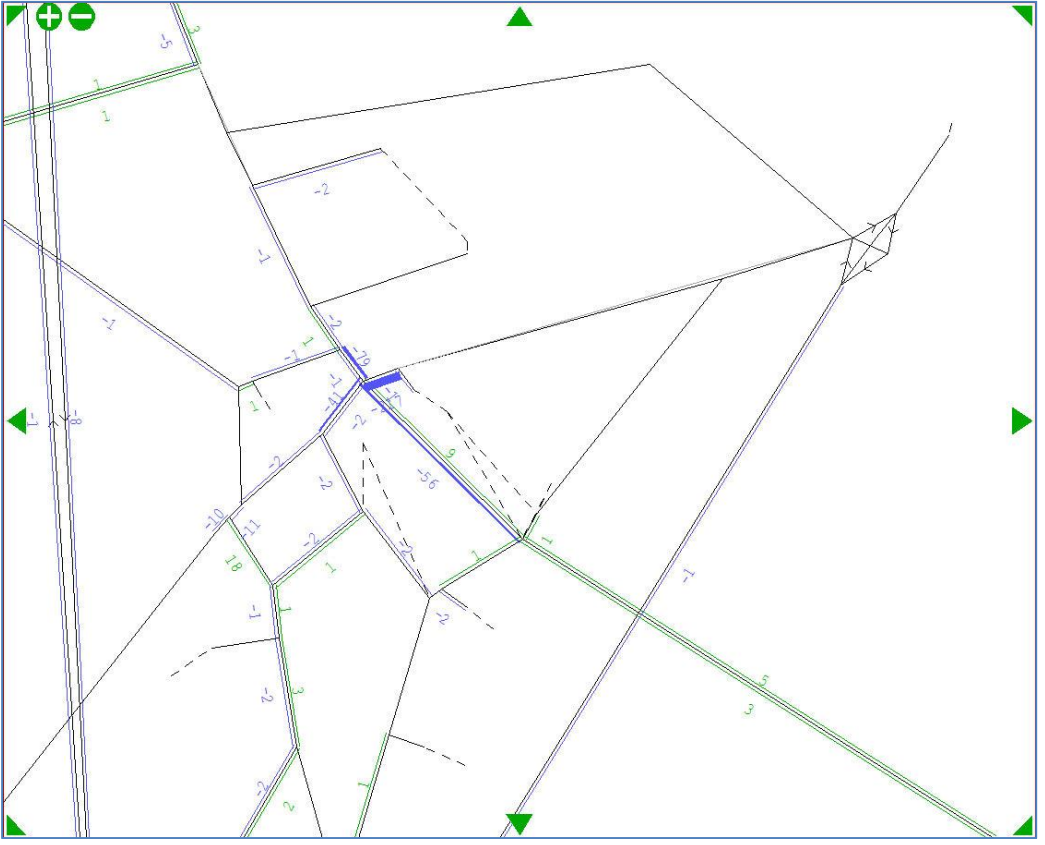
AM 2031 Link Road Test minus Core DS Scenario – Flow Difference



PM 2031 Link Road Test minus Core DS Scenario – Flow Difference



AM 2031 Link Road Test minus Core DS Scenario – Link Delay (seconds)



PM 2031 Link Road Test minus Core DS Scenario – Link Delay (seconds)

