

CABINET

Newcastle
City Council 

25 November 2015

Newcastle City Council and Highways England Strategic Highways Study

Name of Cabinet Member	Councillor Ged Bell
Director presenting this report	Tom Warburton Director Investment and Development
Report author	Phil Harrison Principal Transport Planner

Confidential / not for publication: No

Non Key Decision

Report summary

Strategic housing sites within the Newcastle/Gateshead Core Strategy and Urban Core Plan (March 2015) have a specific policy requirement that requires them to consider the cumulative impact of not only their own traffic on the highway network, but the traffic of all the sites allocated in the Plan. The cumulative impact of all these sites has been assessed jointly with Highways England to establish a baseline scenario. This report outlines the outcomes of work done to identify and approximate costs for required mitigations on the city's highway network between now and the end of the Plan period (2030).

Summary of decisions being asked for

Cabinet is asked to:

- Endorse the outcomes of the Strategic Highways Study as a baseline for assessing and determining future planning applications for sites allocated within the Core Strategy and Urban Core Plan (outcomes outlined in Section 4.5-4.11 / Appendix A).
- Agree to receive further work in relation to these sites in order to develop a strategy and potential proposals for alternative modes of transport and the impact of additional vehicle traffic on the highway network.

1. What is this report about?

- 1.1 This report is about the level of highway works at junctions across Newcastle that are likely to be necessary to mitigate the impact of expected housing and employment growth in certain areas of the city. It focuses on the efficiency of junctions in respect of vehicle movements, within the existing highway boundary and does not consider what improvements may be required to public transport provision, maintenance, or to enable significant improvements to cycling and walking.
- 1.2 Through the adoption of the Core Strategy and Urban Core Plan in March 2015, the Council has outlined a clear strategy for delivering growth and more and better jobs in the city. The land allocations in the Plan provide for 21,000 new homes and 14,000 additional jobs. Each of the housing allocations contained in the Plan has an individual policy which requires that when submitting a planning application the applicant for the site must consider the cumulative impact of the traffic generated by all the sites contained in the Plan, not just their own.
- 1.3 To prevent a piecemeal approach to that assessment of the cumulative impact one overarching study with a single methodology and a single set of outcomes has been taken forward by the Council alongside Highways England and housing developers. This has reduced the potential impact of developers using differing methodologies and setting out varied mitigations at the same key points on the road network. This approach was considered to be an effective way to achieve a baseline scenario of the cumulative impact and ensure a co-ordinated outcome for the City to allow us a framework within which to maintain a highway network that continues to operate with efficiency despite the level of expected vehicle traffic created by housing growth.
- 1.4 The Strategic Highways Study builds further on the report "*Getting Around Newcastle*" which was agreed at Cabinet in February 2015. This identified a framework by which Newcastle's key transport routes would be managed in the future. The study considers the impact of additional traffic on the Strategic Road Network (SRN - roads managed and maintained by Highways England), and the Local Road Network (LRN - roads managed and maintained by Newcastle City Council). The study combines modelling work on the LRN and SRN (as set out in Appendix A) into one comprehensive document that sets out indicative mitigations, costs and phasing.
- 1.5 This final study incorporates work on behalf of Highways England, examining the impacts of the Core Strategy allocations and future traffic growth on Highways England's Strategic Road Network (A1, A69 and A696). It sets out what works may be required to these Highways England controlled junctions in order to mitigate the impact of the growth.

2. What decisions are being asked for?

2.1 Cabinet is being asked to:

- i. Endorse the outcomes of the Strategic Highways Study as a baseline for assessing and determining future planning applications for sites allocated within the Core Strategy and Urban Core Plan (outcomes outlined in Section 4.5-4.11 / Appendix A).
- ii. Agree to receive further work in relation to these sites in order to develop a strategy and potential proposals for alternative modes of transport and the impact of additional vehicle traffic on the highway network

3. Why is this proposal being put forward?

3.1 Through the adoption of the Core Strategy and Urban Core Plan in March 2015, Newcastle City Council has laid out a sound, and tested, plan for economic growth through the building of 21,000 new homes and 14,000 jobs. However, with this increased growth, comes additional pressure on the existing local and strategic road network.

3.2 New housing and employment sites will create increased demand for travel by all modes of transport. Given the location of these sites it is likely that the private car will represent an attractive choice of travel for many and therefore car based trips represent the majority of additional trips expected onto the network.

3.3 As new sites are brought forward, it is recognised that allocating the mitigation of these impacts to individual developments could put unfair burden on those developments that come forward first, or last. For this reason, the Inspector at the Examination in Public of the Plan inserted into each site specific policy the requirement for each development to fully consider the cumulative impact of traffic on the network.

3.4 We know that there is limited available capacity on our existing road network and what capacity there is will soon be filled as developments progress. Therefore, a do nothing scenario is not an option for the City if the growth outlined in the Plan is to be achieved without significant dis-benefits including poorer air quality and increased congestion.

3.5 The Strategic Highways Study attached at Appendix A has been commissioned by Newcastle City Council and has been carried out by an external organisation, JMP. The study represents a comprehensive and independent assessment of the impact on the highway network of growth between now and 2030 to establish a baseline of the cumulative impact. The study considers the impact of the housing and employment allocations contained within the Plan, and to ensure a robust baseline situation it also contains 84 additional housing sites of 70 units or more that already have planning permission.

- 3.6 The study has been carried out in conjunction with Highways England. An element of the work has been carried out by CH2M Hill, an external organisation employed by Highways England. Their work has been incorporated into the Local Network Study by JMP to create one, comprehensive study.
- 3.7 The study enables the creation of a scenario when all the City Council's housing growth scenarios are achieved, we can then see what effect this will have on the efficiency of the LRN and the SRN. This allows us to identify what works would be required to which junctions and when, allowing us to schedule highways works into a work programme to ensure that junctions keep working effectively despite growth.
- 3.8 At the outset of the study, the brief and aims for the study were developed with input from the developers of the sites allocated in the Plan. The completed draft study was received, and the findings released to the developers for consideration in September 2015. Subsequent meetings have been held between Council representatives, Highways England and developers and the study has been generally well received.
- 3.9 This analysis does not pre-determine any future planning application as it considers only traffic movements and no other factors either planning or transport related which would be a material consideration in the determination of a planning application.
- 3.10 Although the effect of growth in private car use within Newcastle's administrative boundaries is the main focus of the report and of the proposed mitigations, the Council is committed to enabling and promoting sustainable modes of travel including walking, cycling and public transport. Further work will be done to investigate the opportunities to do this for the new development sites, with further reports on these brought to Cabinet when completed. To accommodate more sustainable modes of transport, additional work may be required which could propose amendments to some of the mitigations identified in the study.

4. What impact will this proposal have?

- 4.1 Successfully being able to manage growth and therefore demand on our highways infrastructure is a vital part of creating an environment for Newcastle to grow economically. If junctions begin to fail, and queue lengths and journey times increase, this is likely to suppress economic growth.
- 4.2 This study maps out the future of the highway network between now and 2030 in order to make sure it continues to be fit for purpose. While there will always be other speculative planning applications which cannot be foreseen and therefore modelled as part of this study, it is considered that the scenarios which have been modelled, that is the Core Strategy assumptions and the existing committed development, constitutes as robust a prediction on future traffic growth and impact as can be reasonably achieved.

- 4.3 Carrying out modelling of this nature allows us to see what the impact is of the additional traffic between now and 2030. It has allowed us to identify which junctions fail, and when. It has then allowed us to consider what needs to be done to mitigate the impact of traffic growth at these junctions along with an indicative assessment of how much these mitigations will cost and how they will be funded.
- 4.4 Where more than one junction requires mitigation within any single given year, the study has also been able to prioritise which junction require works first, and then the order any subsequent junction improvements need to be delivered in. This allows us to forward plan works to ensure our highway network accommodates the growth.
- 4.5 The study considered 40 junctions for detailed modelling and has identified that 23 junctions across the network will begin to fail due to the additional traffic between now and 2030. Designs have been drawn up for mitigations on 18 of the junctions at an indicative total cost of £8.9 million (at 2015 prices). A phasing and priority plan has also been drawn up to identify when these mitigations need to come online to allow the network to continue to work effectively.
- 4.6 Junctions identified for mitigation and indicative costs are as follows –
(* Junctions managed and maintained by Highways England)
- *A1/North Brunton Interchange - £220,000
 - Broadway/Kingston Park Road - £324,000
 - Stamfordham Road/Springfield Road - £866,000
 - Stamfordham Road/Pooley Road - £796,000
 - West Road/Silver Lonnen - £721,000
 - Blucher Interchange - £111,000
 - Stamfordham Road/Newbiggin Lane - £696,000
 - Brunton Lane/Brunton Road - £528,000
 - Ponteland Road/Springfield Road - £881,000
 - Ponteland Road/Etal Lane - £592,000
 - *A1/Ponteland Road - £546,000
 - *A1/Kingston Park Road - £1,156,000
 - Ponteland Road/Station Road - £139,000
 - B1318/A1056/Rotary Way - £71,000
 - *A1/Stamfordham Road - £131,000
 - *A1/Scotswood Road- £1,036,000
 - Scotswood Road/Scotswood Bridge - £118,000

The indicative junction designs are contained in Appendix A.

- 4.7 This study only considers the impact of vehicular traffic on the network in order to establish a base line scenario of the cumulative impact. Therefore the indicative designs are mitigations designed to reduce the impact of vehicular traffic only and do not consider options that go outside the existing highways boundary, walking, cycling or public transport priority infrastructure. As we progress toward the detailed design stage, further work will be required to fully accommodate such facilities. Therefore, costs

of junctions may vary and could increase from the estimates above.

- 4.8 Apportionment of costs has been split between developers in line with the recent changes to Community Infrastructure Levy legislation which limits the number of contributions Local Authorities can pool towards a single scheme to a maximum of five Section 106 agreements. Total cost of each mitigation has been split between the top five impacting developments in proportion to their total impact.
- 4.9 The study also identifies five junctions at which no mitigation can be provided within the remit of the study (to only use the existing highway boundary) to accommodate the additional traffic. As a result, with the additional growth traffic and without intervention, these junctions would be subject to increased levels of queuing traffic and therefore increased journey times through them. These junctions are:
- *Cowgate Roundabout
 - A69/A1/West Road
 - B6918 Ponteland Road/Burton Road
 - West Road/Two Ball Lonnen
 - B1318 Great North Road/Broadway
- 4.10 *Cowgate roundabout was modelled as per its existing layout and not the proposed. This junction is currently being upgraded as part of a major scheme which will help mitigate against future growth traffic.
- 4.11 The development of additional housing numbers will inevitably lead to an increase in vehicles travelling through them, which will in turn lead to increased queue lengths and therefore increased journey times. The mitigations proposed through the study will seek to minimise the additional queues and journey times.

5. How will success be measured?

- 5.1 The outcomes of this study have been achieved using industry standard transport modelling and highway design principles as set out in national highway engineering guidance. This will help us seek to ensure that junctions on the LRN and SRN continue to work satisfactorily with the additional growth identified in the Plan.
- 5.2 The study sought where possible to create zero dis-benefit at junctions as a result of the additional traffic. However, the remit of the study was for mitigations to be contained within the existing highway boundary. Given the significant levels of housing and employment proposed, and therefore the level of additional traffic generated, it has not been possible to achieve this at any junction. What has been achieved is the maximum level of feasible mitigation within the remit of the study. The study is intended to act as a baseline for considering future planning applications as opposed to a definitive and absolute set of preferred options.
- 5.3 As future housing developments are built, and employment sites come forward creating jobs, we will seek to ensure we are able to monitor traffic flows, traffic queue lengths, journey times, air quality and road accidents

numbers on any given junction or stretch of road. These will be tangible indicators as to how effectively junctions are working. The length of queuing traffic at junctions, the length of journey times and level of accidents are all key indicators in transport planning as to how effectively junctions and the wider road network is working.

6. What is the timetable for implementation?

- 6.1 Following the adoption of the Plan, developers are keen to progress released sites for housing and discussions between Newcastle City Council's planning department and developers are underway. However the City Council is unable to control when developers actually submit a planning application.
- 6.2 The Strategic Highways Study has used indicative proposed build out rates for housing between 2015 and the end of the plan in 2030 to identify when the additional housing is likely to be built and occupied, and therefore when it will be loading additional traffic onto the highway network.
- 6.3 Based on indicative rates of building houses (and using the numbers identified in the Plan which were approximate), the study has provided a schedule of when between now and 2030 a particular junction will begin to fail and therefore require mitigation. This schedule, together with indicative designs and costs for the mitigation measures on each junction, will help us to manage and plan works to the highway network going forward.
- 6.4 The study has attempted to establish a baseline for assessing the cumulative impact of traffic. Subject to endorsement by the Cabinet, with an established baseline in place the findings of the study can be used by applicants to develop their own Transport Assessments to accompany planning applications. The financial contributions contained in the study also provide a basis for establishing Section 106 contributions towards highways improvements.
- 6.5 While the endorsement of the study allows developers to progress with their planning applications further work is still required by the Council on developing detailed costings, looking at delivery and funding models for the work and examining the need for alternative modes of transport generated by the proposed growth

7. What are the legal implications?

- 7.1 The Council has a statutory duty to determine Planning Applications under the Town and Country Planning Act and manage road traffic under the Traffic Management Act. Highways England is a statutory consultee in the development process and has a duty to operate, maintain and improve the Strategic Road Network in England.
- 7.2 The findings of the Strategic Highways Study do not pre determine the outcome of any future planning application as all findings are indicative only,

and based on assumptions contained in the Plan which may change when site specific planning applications are submitted. The study forms an agreed baseline position against the approximate number of houses to assess cumulative impact of the additional traffic on the highway network and therefore strengthens our evidence base on which to determine applications about future housing growth.

- 7.3 The Assistant Director Legal Services has been consulted on this report. The study will be a material planning consideration in the determination of planning applications that are affected by the study.

8. What are the resource implications?

- 8.1 The Strategic Highways Study has identified £8.9 million (at 2015 prices) worth of mitigations to 18 junctions across the Local and Strategic Road Network to be delivered between now and 2030. It is currently assumed that the works will be funded through agreements using Section 278 for more localised works, and Section 106 and / or a Community Infrastructure Levy for the more strategic junctions. On this basis there is not expected to be any requirement to fund the works from capital receipts or internal resources. Nevertheless, the approval of each project on our highway network would be subject to a specific, detailed design and / or business case and delegated to the Directors of Investment & Development and Communities through existing governance mechanisms, in consultation with the relevant portfolio holder.
- 8.2 The modelling work within the study has been able to identify the expected impact from each allocation site, and then has apportioned the cost depending on the level of impact. Recent changes to Community Infrastructure Levy regulations and rules on Section 106 agreements mean that Local Authorities can no longer pool more than five contributions towards a single scheme. Therefore, the study identifies the proposed developments that have the top five impacts on a junction, and has apportioned the total cost of the mitigations between those developments proportionate to their total expected impact.

9. What are the key risks and how are they being addressed?

- 9.1 There are a number of key risks associated with this report and the implications of the City's growth aspirations on both the LRN and SRN. These are -
- 9.2 **Delays in the delivery of improvement works to the A1 (Scotswood to North Brunton Interchange)**
- 9.2.1 One of the most significant risks to the delivery of the growth contained in the Plan is the issue of capacity on the A1 Western By-Pass. Highways England supported the growth forecasts in the Plan on the basis that improvement works to create an additional lane would be implemented on the A1 between Scotswood and North Brunton Interchange. This would

create additional capacity that would accommodate the additional traffic.

9.2.2 Funding for the A1 works were identified as part of the Roads Investment Strategy, the funding for which was subsequently agreed in the Infrastructure Act 2015. It was considered at the time of the Examination in Public that the works would be carried out in the years immediately after the adoption of the Plan allowing Newcastle's allocated housing sites to be built out. However, Highways England's Delivery Plan up to the end of 2020 did not identify a start date for this work. Any delay in the works to the A1 could have a significant impact on the delivery of the housing contained in the Plan. In turn, this will have impact on the delivery of schools and services in the City.

9.3 **Some junctions can't be mitigated within the remit of this study**

9.3.1 The study has carried out detailed modelling of 40 junctions across the LRN and SRN (see Appendix B). Of these 40 junctions, there were five that were identified as beginning to fail between now and 2030 with the increased traffic as a result of economic growth, but for which no suitable mitigation could be found within the remit of this study, in that schemes must be deliverable within the existing highway boundary. Using the existing highway boundary constrained what it was possible to achieve in terms of mitigation measures. In addition, by using the existing highway boundary it has been assumed by the authors of the study that no movement of utilities owned and maintained by statutory undertakers will be required and therefore no costs have been assigned to this. Further work will be required to establish if this is the case.

9.3.2 It is acknowledged that this study is wholly traffic based and does not consider other modes of transport. The study was necessary, as through the Examination in Public, the Planning Inspector put a line in policy saying that each of the housing allocations was required to assess the cumulative impact of traffic. This has been done through this overarching study as this was considered the most comprehensive way to approach this issue and would create a baseline scenario for considering the impact of traffic, which developers could then use to inform their individual Transport Assessments as part of the planning process.

9.3.3 Whether or not it is possible to fully mitigate against the impacts of additional traffic through a junction, we must still look to support alternatives to car based trips. Additional work will be carried out going forward about how we deliver the Policies within the Plan including encouraging a change from sole occupancy car use to people to change from private car trips to more sustainable alternatives such as public transport, walking, cycling or car sharing. Cabinet is asked to note the proposed additional work as set out in the recommendations section of this report, and to agree to accept further work on this when completed.

9.4 **Developers may submit applications for numbers above the Core Strategy allocation**

9.4.1 Within the Plan, each of the housing allocations has a specified number of

units which are recommended to be built on that site. For the purposes of this study, these were the numbers which were used for the Transport Modelling, as these were the numbers which have been evidenced through the Examination in Public of the plan.

- 9.4.2 If developers choose to deviate from the housing numbers contained within their allocation, then the Transport Assessment would take the findings of the Strategic Highways Study as a base, and then add on the increased housing numbers they are proposing to consider what the additional impact would be.

9.5 **Infrastructure within the Core Strategy not being delivered**

- 9.5.1 The study assumes that all infrastructure evidenced in the Core Strategy is built out. Specifically significant in highways terms are the Callerton Road and the Airport Road. These influence traffic distributions which have informed the modelling contained in the study. Should these infrastructure projects not be delivered, then this would alter the distributions as contained in the study, and therefore would alter some of the level of impact at some of the identified junctions.

- 9.5.2 Should the Callerton Road or the Airport Road not come forward for delivery, then the individual developers would have to reflect this in the Transport Assessments accompanying their planning applications and redistribute the traffic and assess the impact of this redistribution accordingly.

9.6 **One or more of the sites identified to contribute towards the cost of each mitigation does not come forward for planning**

- 9.6.1 The study has identified the top five impacts on each junction requiring mitigation, and considered that these five sites would pay the total cost of each junction improvement between them proportionally to their impact.
- 9.6.2 There is a risk that if one or more of the sites identified to pay a proportion of the mitigation was not to come forward for planning, that there would be a shortfall in funding the mitigation schemes identified in the study. It is considered that if this were to happen, the governance mechanisms and business case development outlined in Section 8.1 of this report would be used to explore options to fund the gap.

9.7 **The impact of traffic from neighboring authorities**

- 9.7.1 The study only considers traffic from within Newcastle's administrative boundaries. Neighboring authorities, specifically North Tyneside and Northumberland are currently working on their own Core Strategies, and inevitably there will be traffic which travels from these authorities and onto Newcastle's roads. This additional traffic could require changes to the proposed mitigations in order to ensure the junctions are still able to work efficiently. Evidence is not currently available as to whether or not that would still be achievable within the existing highway boundary, which could subsequently have a significant impact on the costs associated with

required improvements.

9.7.2 Once this information is available, the impact of their development will be considered alongside our evidence base and representation made accordingly. The City Council has regular Duty of Cooperation meetings with the adjacent authorities in North Tyneside and Northumberland.

9.8 **General impact on the City's roads (as opposed junctions)**

9.8.1 This study has specifically looked at the impact of additional traffic on junctions across the city. However, increased vehicular traffic will also impact on the roads generally, with additional wear and tear putting increased pressure on our maintenance budgets. As future developments come forward putting additional strain on the general road infrastructure, the Highway Authority will have to carefully explore mechanisms by which additional maintenance budget could be generated.

Report author	Phil Harrison
Job title	Principal Transport Planner, Investment and Development
Contact	0191 211 6016 Philip.harrison@newcastle.gov.uk

Background papers

- Newcastle Strategic Land Release – Strategic Highways Study -Developer Assessment (A study by JMP) September 2015 (Appendix A)
- “Getting Around Newcastle” – Cabinet Report February 2015 available at <http://democracy.newcastle.gov.uk/ieListDocuments.aspx?CId=857&MId=5461&Ver=4>
- Newcastle Gateshead Core Strategy <http://onecorestrategyng-consult.limehouse.co.uk/portal>