Local Development Framework Working Group **1st November 2010**

Report of the Director of City Strategy

Transport Implications of Local Development Framework Core Strategy

Summary

1. This paper presents the analysis of the implications for transport arising from the proposed growth assumptions within Local Development Framework (LDF) Core Strategy. It then suggests investment in transport infrastructure and other measures that would be necessary to support the projected growth in employment and housing. In particular it:

   - Considers the impacts of a 'reference case', consisting of a 'do minimum' transport mitigation option based on assumed employment and housing growth rates aligned with those in the RSS[1] .
   - Considers the impacts of the 'do minimum' transport mitigation option based on a reduced housing growth rate.
   - Considers the potential congestion delay reduction benefits of a range of further potential mitigation options based on assumed employment and housing growth rates aligned with those in the RSS, and with reduced housing growth.
   - Proposes the essential infrastructure and other transport measures that are required to mitigate the impacts of the growth assumptions to a more acceptable level.

2. This paper follows-on from the LDF Preferred Options Topic Paper 3 – Transport prepared by Halcrow in June 2009, which considered the transport implications associated with the potential areas of search detailed in the spatial strategy methodology, presented in Topic Paper 1. Although Topic Paper 3 provided a relative assessment of future growth and the impacts on the transport network, it didn't provide an absolute assessment as to whether this growth could be accommodated, or whether suitable measures could be put in to place to mitigate the impacts.

3. The employment and housing growth assumptions that initially formed the basis of this assessment were aligned with the growth rates contained within the RSS. In the light of recent deliberations by the LDF Working Group, a reduced rate of housing growth (to reflect the changing economic climate and lower than anticipated level of completions) has also been assessed, to determine the degree to which the lower growth rate affects predicted traffic levels and congestion delays.

[1] The Yorkshire and Humber Plan - The Plan (The Regional Spatial Strategy)

4. The key outcomes from the analysis are:

- If there is insufficient future investment in transport infrastructure and other transport measures, congestion delay time across the network could almost triple by 2026.
- Investment in transport infrastructure alone will not be sufficient to adequately mitigate the increased congestion delay by 2026. Consequently, other sustainable transport measures will also need to be put into place.
- Traffic growth to 2016, predominantly arising from committed development or development with planning permission, will result in congestion delay increasing by 50% compared to the present (2008 base year)
- A reduced housing growth rate will have some effect in reducing future congestion delay, but it is not significant.
- Even with all the reasonably practicable and deliverable transport investment in place, congestion delay across the network will double by 2026
- Full dualling of the A1237 (ORR) with grade separation of junctions is not considered to be deliverable within the timescale of the Local Development Framework

5. Due to the strategic nature of the SATURN model it has not yet been possible to make a fully quantative spatial assessment of the growth scenarios. However, the previously reported Topic Paper 3 (see also Paragraph 2) suggested that the eastern part of the city was more able to accommodate traffic growth than the western part (i.e. being the 'least worst' scenario). However, most of the available brown field land is in the western part of the city.

6. More detailed information is contained in the remainder of this report, including the annexes.

Background

The need to assess the impacts

7. Future growth in employment and housing in York will generate a substantial increase in the number of vehicular trips, placing additional demands on an already congested transport network. Because of this, and the limited space available for providing additional road capacity, options that enable sustainable access to developments should be promoted.

Links with LTP3

8. The LDF and LTP3[2] are inextricably linked, as the future housing and employment rates form the crucial element in setting the long-term strategy for LTP3. Conversely, the deliverability of the strategy and actions within LTP3 will determine to a large extent how the LDF core strategy is realised.

[2] City of York's Local Transport Plan 2011 and onwards (LTP3)

Existing Traffic Levels in York and how York compares with other places

9. Congestion levels in key areas of the city are already high, with traffic on the Inner Ring Road, key radials and the northern outer ring road experiencing significant delays at peak travel times. Traffic levels recorded on the automatic traffic counters in the peak hour, as part of the indicator monitoring process for York's current Local Transport Plan[3], (LTP2) have, on the whole, remained close to 2005 levels with a slight downward trend over the longer term.

10. It is also stated in LTP2 that, according to 2001 Census data, York is a net 'importer' of approximately 5,000 commuter trips per day (22,455 in 17,199 out and 70,098 within), an increase of 65% from 1991. The majority of 'external' trips consist of movements to or from the neighbouring authority areas, particularly the East Riding of Yorkshire, Leeds and Selby.

11. The most useful indicator for benchmarking York's performance against 'comparable' towns and cities is National Indicator **NI167** Congestion – average journey time per mile during the morning peak (also LTP2 indicator 6C). However, there are several variants to this, with authorities able to chose which one to use. 28 authorities, including York, using Variant 2[4]. Table 1 shows the delay time and ranking for York in relation to 'benchmarking' authorities within the 28 using Variant 2, together with an approximate comparison to some other authorities using other variants. Taking into account the highly constrained nature of the highway network, it could be argued that congestion in York is not excessive at present, although this may be contrary to public opinion.

Table 1 NI167 Congestion – average journey time per mile during the morning peak benchmarking results

Authorities using Variant 2		
Authority	2008/09 delay time	Ranking (out of 28)
Warrington	3 mins. 12 secs.	8
York	3 mins. 19 secs.	9
Brighton and Hove	3 mins. 26 secs.	15
Kingston-upon-Hull	3 mins. 55 secs.	19
Cambridgeshire	4 mins. 12 secs.	25
Oxfordshire	4 mins. 14 secs.	28
Authorities using other Variants		
Chester and West Cheshire (Variant 3)	2 mins. 3secs	n/a
Leeds (Variant 1)	3 mins. 55 secs.	n/a

[3] City of York's Local Transport Plan 2006 – 2011 (LTP2)
[4] NI 167b: Variant 2 - Vehicle journey time per mile during the morning peak on major inbound routes in the larger urban centres, weighted by the relative traffic flow on those different routes.

Cost of congestion

12. Nationally, in 1995 it was reported that congestion cost the British economy £15 billion per year[5] and could reach £30 billion per year by 2010[6]. A reasonable estimate of the current cost of congestion in the UK is somewhere in between these extremes and could be assumed to be approximately £20 billion per year. The 'Wider costs of Transport in English Urban Areas in 2009' report indicated that excess delays cost £10.9bn but there were also additional comparable costs due to environmental and safety impacts.

Assessment methodology

13. The city's SATURN transport model has been used to determine the impact of the development projections and national traffic growth assumptions on the highway network for three target years – 2016, 2021 and 2026.

14. The employment and housing growth assumptions that initially formed the basis of this assessment were aligned with the growth rates contained within the Yorkshire and the Humber Regional Spatial Strategy (RSS); these being 1000 jobs per annum and 850 dwellings per annum. In the light of recent deliberations by the LDF Working Group, a reduced rate of housing growth, at approximately 200 fewer completions per annum (to reflect the changing economic climate and lower than anticipated level of dwellings constructed to date), has also been assessed, to determine the degree to which the lower growth rate affects predicted traffic levels and congestion delays.

15. Future trip generation rates based on housing and employment projections supplied by the LDF team were compared to trip growth rates TEMPRO, which incorporates the National Trip End Model (NTEM). This comparison showed a close correlation between the supplied housing and employment growth factors and the TEMPRO V5.4 dataset. This proved the validity of the TEMPRO traffic growth factors to be used input into subsequent analysis using SATURN to derive modelled traffic flows.

Results of the initial assessment

The reference 'do minimum' case

16. The 'do minimum' case includes improvements that are committed or confirmed as part of development proposals that have Planning Permission. The 'do minimum' case assumes there is a good probability that the following schemes will be in place by 2016:

    - **Access York Phase I -** Major Scheme Business Case 1 (MSB1), comprising one relocated/expanded and two new Park & Ride sites, plus improvements to the A59/A1237 junction and bus priority on A59. This was included in the (now revoked, by the new Coalition Government) Regional Allocation Funding Programme refresh (RFA2), and attained Department for Transport (DfT) 'Programme Entry' status. Although the scheme is 'on-hold' pending the

[5] 'Moving forward – a business strategy for transport' CBI 1995
[6] The economic costs of road traffic congestion, ESRC Transport Studies Unit, 2004

outcome of a Comprehensive Spending Review (CSR), it is considered to have a strong business case, which would warrant further progression after the CSR.

- **James Street Link Road Phase II -** An evaluation of this was presented to a City Strategy EMAP on 20 October 2008, in response to a petition presented, seeking its construction to be undertaken. The review confirmed that there would be significant journey time savings in the area if the final section of the link road was constructed.

17. The 'do minimum' case does not include Haxby Rail Station, as although this is a project included in LTP2 and was included in the RFA2 programme, it is delivery timescale is uncertain at present (see also paragraph 52).

18. The results of the 'do-minimum' assessment are shown in Table 2.

Table 2 'Do minimum' network predictions[1]

Indicator	2008 Base	2016	2021	2026
Flows (passenger car units per hour)	39,338	42,604	44,950	48,398
Modelled growth in flow	1.00	1.09	1.14	1.23
Total network delay (Hours)	2,711	4,065	5,776	7,658
Delay multiplier	1.00	1.50	2.13	2.83
% of Trip spent delayed	37%	47%	51%	58%
Time taken for what should be a 20 min. journey (mins.)[2,3]	32	37	41	47
Time taken for what should be a 30 min. journey (mins.)[2]	48	56	61	71

Notes

1 Employment and housing growth rates aligned with RSS rates.

2 The 20 minute and 30 minute journey times indicated in the first column do not include for waiting at junctions etc., hence the reason for the 2008 figures being higher.

3 Average journey distance in York, derived from a range of average journey figures[7] is 12.5 kilometres. This would equate to a journey of approximately 20 minutes duration, assuming an average speed across the network of 20mph

Implications of 'do minimum' case

19. From Table 1 it can be seen that:

- The increase in delay is not directly proportional the increase in flow
- By 2021 the delay across the network could be almost double the current delay, rising to nearly three times the current delay by 2026.
- The multipliers for congestion cost could be similar to those for delay

[7] Data sources - The 2001 Census, the 2009 'Towards a New Transport Plan for York' consultation responses and the SATURN model

20. It should be noted that up to 2016 the 1.50 delay multiplier arises from committed or confirmed development proposals, so the effective influence of future growth projections will be relative to delay in 2016 rather than at present. Therefore, the effective delay multiplier from 2016 to 2026 could be up to 1.89 (instead of 2.83)

21. In considering the more 'human' aspects of the 'do minimum' case, the cost of congestion, overall, could increase from £37 million per year, to £104 million per year (using a generalised cost associated with journey time delay in SATURN). At a 'personal' level, the cost of congestion (i.e. the cost of congestion per household in York), could increase from £441 per year (2008) to £1,030 per year (2026).

22. In terms of 'personal' travel, the average journey distance in York, derived from a range of average journey figures from the 2001 Census, the 2009 'Towards a New Transport Plan for York' consultation responses and the SATURN model is 12.5 kilometres. This would equate to a journey of approximately 20 minutes duration, assuming an average speed across the network of 20mph. From the modelling carried out, the duration of this journey increases in future years, as shown in Table 2, due to increasing delays on the network. Table 2 also shows the increases in time for a typical 30 minute journey.

23. Car use has a high degree of elasticity, compared to other forms of transport. In other words, drivers would tend to accept this extra travel time as part of their day, unless a much more attractive offer (alternative mode) is made available. The five minute increase in the time (in 2016) taken for a journey should take 20 minutes is likely to be absorbed by drivers as part of their journey. However, the increase in journey peak-hour times by 2026 may be sufficient to stretch beyond an acceptable level, so the likelihood is that more trips will be made outside of the peak hour (08:00 –09:00), leading to more peak spreading. Alternatively, these could be undertaken using other modes, or (less likely) not done at all.

24. The SATURN model is somewhat limited in its ability to model the effects on the wider area beyond York's boundary. Therefore, it can not accurately predict the effects on longer distance commuting trips, which are likely to increase as the disparity between the number of houses and the number of jobs results in more people who work in York living outside it.

Effects of reduced housing growth

25. With a growth rate reduced by approximately 200 dwellings per year, whilst maintaining employment growth at 1000 jobs per year, the modelled growth in flow at 2026 is 1.21 (compared to 1.23). The delay multiplier arising from this is 2.53 (compared to 2.83). Therefore, the overall impact of a reduced housing growth is a reduction in delay, but it is not significant.

26. Although the overall impact of reduced housing is slightly beneficial, it could be eroded by an increase in commuting trips in to York due to the wider difference between jobs growth and housing.

Other mitigation options

Range of potential options

27. A table showing the range of other mitigation measures that could be introduced to reduce traffic delays, together with the cost estimates for implementing them are shown in Annex A. This is summarised in Table 3, with a more detailed description following (in paragraphs 30 to 58) and a further breakdown of the various elements in Annex B.

28. The range of mitigation options available vary from low cost capital measures, with significant associated revenue supported measures, such as travel behaviour change programmes, through to high capital investment schemes, such as Access York Phase II (comprising Roundabout capacity improvements on the A1237 Outer Ring Road (ORR)).

29. The mitigation options as described in paragraphs 30 to 58 below, including Tables 3 and 4, are each considered separately.

Table 3 Impact of mitigation options on Traffic Delays

	2016	**2021**	**2026**
Intervention	**Increase in Delays Relative to 2008 Baseline**		
No mitigation over and above the 'do minimum' case (see also Table 2)	+50% (1.50 multiplier)	+113% (2.13 multiplier)	+183% (2.83 multiplier)
Smarter Choices (Behavioural Change, Sustainable Travel promotion, bus subsidy etc.)	-12%	-24%	-42%
Infrastructure (Sustainable Travel) Park & Ride, Cycle Network, Bus Priorities	-6%	-12%	-21%
More Off Peak Travel (peak spreading)	-18%	-24%	-35%
ORR Upgrade (Access York Phase 2 – Roundabout Capacity Improvements)	-5%	-19%	-31%

Behavioural change programme

30. The **Committee** also commented that the congestion relieving effects of transport behavioural change programmes **('smarter choices'**) can be significant if investment in them is sufficient and sustained. The DfT's document "Smarter choices: changing the way we travel", showed that such programmes could reduce peak hour urban traffic by as much as 21 per cent.

31. The outcome of travel behaviour programmes in three medium sized (100,000 – 140,000 population), relatively free-standing towns designated 'Sustainable Travel

Towns' (STTs) have been reported[8] recently. These towns implemented a programme of measures from 2004 – 2009, intended to reduce car use. The main results (largely contrary to national trends) from implementing a range of 'smarter choices' measures, were:

- Car trips fell by 9% per person, with 7 - 8% observed reduction in traffic volumes in inner areas (greatest trip reduction in short trips up to 1km and work trips)
- Cycling increased 26% - 30% and walking increased by 10% - 13% per head
- Bus trips grew by 10% - 22%

32. At a local level, it is unlikely that the 21% reduction in peak-hour urban traffic volume will be achieved in York, as many of the behavioural change measures, such as school travel plans, tele-working, public transport marketing, cycling facilities and car clubs, have already been introduced. However, there is yet more that can be done to influence travel behaviour and it is not unreasonable to expect further measures to effect a slightly higher reduction in traffic than was achieved in the STTs, due to York having a higher, but more compact population than the STTs.

33. A reasonable estimate for the reduction in future traffic flow due to a travel behaviour change programme(s) is in the range of 7% - 10%. The resultant reduction in the delay multiplier could be in the order of 26% - 46%.

34. The effectiveness of behavioural change programmes is influenced by the reluctance for motorists to consider other modes of travel unless there is an overwhelming perceived advantage in doing so. Consequently, improvements are required to the more sustainable forms of travel, such as walking, cycling and bus use to demonstrate this advantage. Research by DfT has shown the impact of behavioural change programmes could also be greatly enhanced by complementary demand management policies. It is likely that a full range of complementary capacity improvement and demand management measures, which will also avoid negative affects on York's 'quality of place' will need to be implemented to realise the maximum benefits of a behavioural change programme.

35. In order to make an assessment of how many people would travel in York by various forms of transport in the future, the 2001 Census modal split figures for the York population travelling to work were projected forward into future years using population estimates[9].. These were then used to calculate changes in modal split required to achieve reduction in car/van use to varying degrees. The results of this analysis are shown in Annex C, Table C1 to Table C3.

36. It can be seen from Table C1 that 'Driving a car or van to work' trips could increase by up to 11,609 (+27.6%) from 2001 to 2026. This compares reasonably well (albeit slightly higher) with the modelled increase as shown in Table 1. This sets a sound basis for determining the changes in overall modal split required to achieve reduction in car/van use to varying degrees as shown in Table C2. In Table C2 it has been assumed that for every 5% reduction in new driving a car or van to work

[8] The Effects of Smarter Choice Programmes in the Sustainable Travel Towns: Summary Report, DfT, Feb 2010

[9] ·Office for National Statistics (ONS) 2008-based Sub-national Population Projections

trips, there is a corresponding, potentially achievable, 2% transfer to 'bus' with the remaining 3% distributed to the other modes.

37. From Table C2 it can be seen that to achieve a significant reduction in future traffic growth (i.e. removing one in four new trips) at least a 1% increase in cycling, a half-percent increase in pedestrian and 0.16% increase in bus use modal share overall is needed to take-up the 2.6% reduction in car/van overall modal share (with a reduction in increase of new trips above the 2001 base from 27.6% to 20.7%). Whilst the percentage change in modal share for cycling and walking to take-up the transfer from driving may appear small, the actual numbers of people required to change to these modes are significantly higher, as are percentage changes for each mode as shown in Table C3 (for 25% reduction in 'Driving a car or van' to work trips.

38. The travel to work modal split targets set in LTP2 are of a similar order to those for removing one in four new car/van trips. However, accurate data on how well measures introduced in LTP2 have performed in realising these targets will not be known until 2011 Census data becomes available in 2012.

39. Results from a city-wide consultation for LTP3[10] showed that Congestion is the most important transport challenge (81% of 12900 responses). LTP2 set a target of reducing traffic growth to 7% by 2011 (instead on the predicted 14% and a further doubling by 2021 in the absence of LTP2 measures etc.). In workshops held as part of the consultations for LTP3, some participants advocated zero traffic growth beyond 2011 (hence the 105% reduction in driving a car/van to work trips in Table C2).

40. To achieve an effective zero growth in traffic the proportion of 'Driving a car or van' trips needs to reduce by 11% (to 37% of all trips) by 2026 equivalent to approximately 1 in 4 current car trips being undertaken by another mode. Bus, cycling and walking trips would need to increase substantially by 0.8%, 4% and 3.5% of the total number of trips respectively. The number of trips undertaken by these modes (combined) would need to increase from 31,000 to 50,000 (Approximately, a 60% increase). It should also be noted that nearly 10% of the working population would need to be working from home as well (working from home = 7.87% in 2001).

Investment in transport infrastructure and services to support behavioural change

Public transport

41. In order to achieve the modal shift towards more public transport use, as shown in Table C3, significant investment will need to be made in services, infrastructure (including bus priority measures) and information.

[10] 2010 Budget Consultation and Towards a new Local Transport Plan for York

Expanding the cycle network and the pedestrian environment

42. Other infrastructure improvements such as expanding the cycle network and the pedestrian environment into and within York have been and could continue to be implemented, increasing the quality of the alternative travel options to the private car. Many of these measures to influence driver behaviour are relatively low cost. York's status as a 'Cycling City' has resulted in more capital investment in cycling infrastructure over the last three years as well as revenue spending on marketing, training and events to boost cycling. Continued investment, not only capital, but more importantly revenue is needed to deliver a sustained behavioural change programme linked with infrastructure and service improvements to encourage long-term modal shift away from car use.

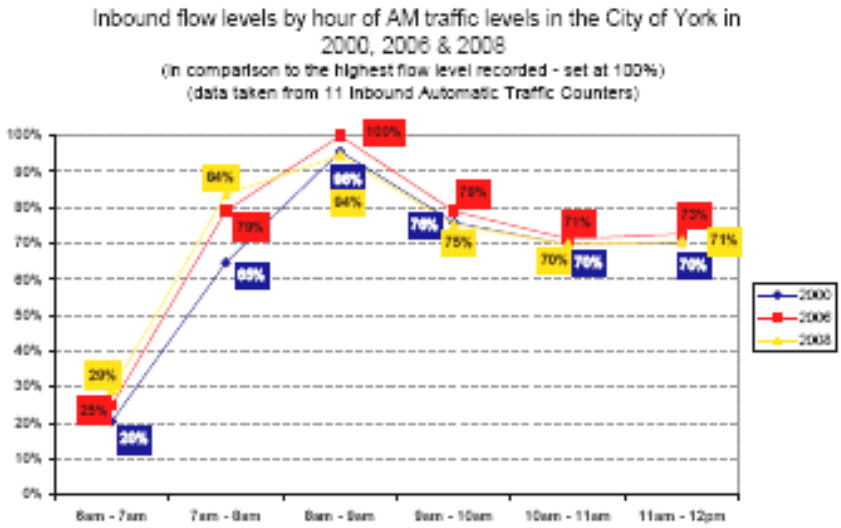
43. Until the outputs from the next Census are known, it is difficult to make an accurate assessment how much a travel behaviour programme(s) will effect modal shift in York. However, some evidence has already been presented in the light of initiatives elsewhere, such as the Sustainable Travel Towns (see paragraph 31).

Increasing capacity through 'Peak Spreading'

44. Monitoring undertaken for the City of York's Local Transport Plan 2006-2011 (LTP2) shows that area-wide traffic mileage (as a proxy for traffic growth) has a downward trend in both the a.m. and p.m. peak periods. This could be due to:

- Development not proceeding at the anticipated rate
- The network approaching full-capacity in the peak hour (08:00 – 09:00)
- More people travelling outside the peak hour, as evidenced by the following statement in The Traffic and Congestion Ad-hoc Scrutiny Committee's report[11], *'There is also evidence of the peak period spreading as a result of drivers responding to congestion'* and Figure 1

Figure 1



[11] Traffic Congestion Review – Final Report, 18 May 2010

45. As the network is (assumed to be) at capacity in the peak hour the likelihood is that more trips will be made outside of this. Analysis of traffic flows between 07:00 and 10:00 shows **there is approximately 24% and 21% spare capacity in the 1 hour pre and post peak hour** respectively, enabling the transfer of trips out of the peak hour to take place. Peak spreading might be encouraged though promotion of flexible working.

Traffic management efficiencies

46. Improving the efficiency of the traffic management systems in York, through, for example, upgrading controlled pedestrian crossings to 'puffin' crossings, further refinement of the Urban Traffic Management Control System and the wider implementation of 'Freeflow'[12] could produce delay savings of up to 5% by 2026.

Higher level investment options

Access York Phase II (MSB2) and 'enhanced' Access York Phase II

47. Access York Phase II (MSB2) consists of improvements to the A1237 Outer Ring Road (ORR) junctions not yet improved or due to be improved as part of Access York Phase I. **Enhancements to Access York Phase II** consist of a series of selected link upgrades (to dual carriageway standard) on the busiest sections of the ORR and grade separated junctions to 3 roundabouts in addition to the junction improvements to the remainder of the route. The results for the Access York Phase II and 'enhanced' Access York cases are shown in Table 4.

Table 4 'MSB2' and network predictions growth trajectory in am peak with and without partial dualling 'enhancement' of the A1237[1]

Indicator	2021	2021 + Partial dualling	2026	2026 + Partial dualling
Flows (passenger car units per hour)	44,950	44,950	48,398	48,398
Modelled growth in flow (from 2008)	1.14	1.14	1.23	1.23
Total network delay (Hours)	5,264	4,558	6833	5,693
Delay multiplier	1.94	1.68	2.52	2.10
% of Trip spent delayed	49%	46%	55%	51%
Time taken for what should be a 20 min. journey (mins.)[2]	39	37	44	41
Time taken for what should be a 30 min. journey (mins.)[3]	58	55	67	61

Notes
1 Employment and housing growth rates aligned with RSS rates
2 32 minutes for 2008 base year
3 48 minutes for 2008 base year

[12] A system that is able to better detect, in real time, changes to the operation of the road network and provide operators with highly contextual advice and support for making traffic management decisions

48. By comparing the results in Table 4 with Table 1 it can be seen that:

    i. The increases in delay are not as high as for the 'do minimum' case, with more delay 'gains' being achieved in the later years. However, the delay with Access York Phase II in place is two-and-a-half times that of the 2008 baseline by 2026.
    ii. The delay for the 'enhanced' Access York Phase II is much closer to twice the baseline delay in 2026.

49. The multipliers for congestion cost could be similar to those for delay. Access York Phase II would result in congestion cost savings of £12 million per year in 2026 compared to the 'do minimum' case (£104 million). Enhancing Access York Phase II would reduce this by another £15 million.

50. The predictions for what should be a 20 minute journey time are reduced slightly, with the maximum delay 'gain' achieved in 2026 being three minutes over the 'do minimum' case with Access York Phase II in place, and six minutes with the enhancements. For the 30 minute journey the equivalent delay gain is four minutes and 10 minutes, respectively, in 2026.

51. With the reduced rate of housing growth (see also paragraph 22) the modelled growth in flow at 2026 with Access York Phase II in place is 1.21 (compared to 1.23). The delay multiplier arising from this is 2.31 (compared to 2.52). Therefore, the overall impact of a reduced housing growth is a reduction in delay, but it is not significant. The situation for the enhanced Access York Phase II case is likely to be similar. However, as described in paragraph 26, these benefits may be eroded due to more inward commuting.

52. Access York Phase II, was presented to the Regional Transport Board in October 2008, for it to consider for inclusion in the Regional Funding Allocation Refresh Programme (RFA2). This bid was not successful, but Access York Phase II was included on a list of 'reserve' schemes. However, as Access York Phase II didn't achieve Department for Transport (DfT) 'Programme Entry' level, prior to the revocation of the RFA2 and the Comprehensive Spending Review, its status is unclear, at present.

53. Access York Phase II is included in the Leeds City Region Connectivity study which is being used to prepare infrastructure priorities in the area (principally through Local Enterprise Partnerships).

54. Although the average citywide delays would reduce with the implementation of Access York Phase II, the principal benefits would be relatively close to the outer ring road with smaller reductions in the city centre and in the south and east of the city.

Tram-train technology

55. A report describing the potential for a Tram-Train system on the York-Harrogate-Leeds line and other routes in York was presented to EMAP on 14th July 2008.. This report stated:

- The Harrogate Line has been identified as being the most suitable line for the initial introduction of tram-train technology in operational and infrastructure terms.
- There are some operational constraints that affect the feasibility of routes into development sites and residential areas.

56. This report also stated that the estimated capital costs for the York-related elements of the potential tram-train strategy are in the range of £28 - £42 million (not including approximately £51-£80 million for laying the track for a city centre loop).

57. The DfT and Network Rail are currently undertaking a national trial to test the suitability of tram-train technology in the UK. Further progress on introducing tram-train systems, is therefore, subject to the outcome of this study, which is still several years away from being concluded. Consequently no detailed assessment of the impacts of introducing Tram-Train has been undertaken to date.

Freight transhipment centre

58. A freight transhipment centre could remove some freight traffic (particularly heavy goods vehicles) from the city centre. However, no detailed evaluation of this potential project in York has been undertaken to date. At a UK level, though, a study has recently been completed for Tactran[13] on the feasibility for a freight consolidation centre serving Perth and Dundee.

Effects of environmental enhancements

59. In the modelling undertaken it has been assumed that traffic can redistribute across the entire network to find its 'optimum path'. In some cases, it would be beneficial to protect some parts of the network, such as residential areas, from suffering increases in through traffic in order to prevent a deterioration in safety or other aspects that affect local quality of life. It is likely that protection of this type will increase delays on other parts of the network, such as key corridors into the city.

60. A city centre that is viable and has vitality is crucial to the economic prosperity of York. The scale, nature and function for the future development of the city centre is currently being evaluated within the LDF City Centre Area Action Plan. One of the aspects being considered is how the city centre is to be accessed in the future and a 'City Centre Movement and Accessibility Framework' study is due to be commissioned shortly to investigate this. Some work already undertaken leading up to this study considered several options for changing access arrangements in the city centre and their effects. This work revealed that reassigning road space for the

[13] Tactran Freight Consolidation Feasibility Study - Draft Feasibility Report, April 2010

easier movement of public transport in the city centre increased traffic flows on the inner ring road, which already experiences significant congestion.

Further consideration of affordability, deliverability and benefits

61. Further information regarding the funding of transport over the last ten years and the future for transport funding is contained at Annex D

Other considerations

Induced traffic

62. Any measures to reduce congestion have the potential to enable traffic to move faster, and therefore can induce more traffic, thus reducing the benefits. Any measures that reduce traffic, or growth will need other associated measures to 'lock-in' the benefits attained.

Other development opportunities

63. In addition to the planned growth rates in the LDF, other additional development may also take place either before or after the LDF is adopted. One such example is that of the proposed Community Stadium at Monks Cross and potentially a new swimming pool at Heslington East as part of the University of York's expansion. Both of these projects will have considerable impacts on the demand for travel, and hence traffic, over-and-above that of the LDF Core strategy, which may require mitigation measures and/or lead to a revision of the growth rates in the Core strategy.

64. It has not been possible to take account of the likely impacts of these developments in the assessment undertaken.

Greenhouse gas emissions and emissions harmful to health

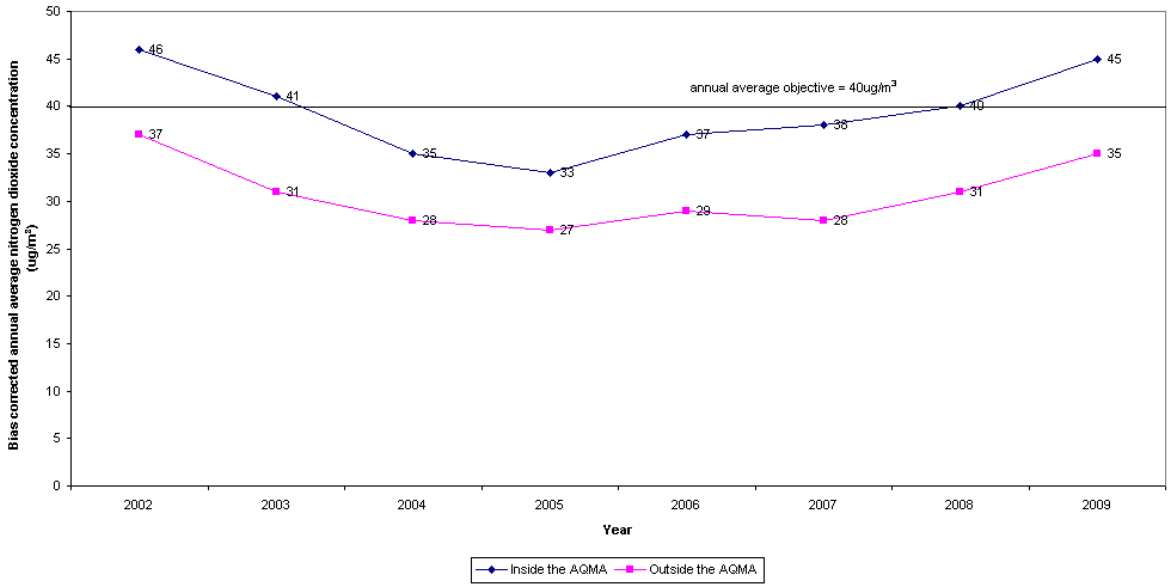
65. The Climate Change Act imposed a legally binding target for the UK of an 80% reduction in greenhouse gas emissions by 2050. City of York Council has set an intermediate target of a 40% reduction by 2020. Transport is a significant contributor of Carbon Dioxide (CO2) and developments in engine/fuel technology have reduced, and will continue to reduce vehicles' emission levels. However, these improvements are likely to be offset by traffic growth.

66. Whilst CO2 emission reductions have been realised through engine/fuel technology improvements, these same Improvements have, perversely, been at the expense of increasing the level of pollutants, such as oxides of Nitrogen, that are harmful to health. In York this has resulted in deteriorating air quality, which despite achieving some improvements during the period of LTP1 and the early part of LTP2, has now breached health-based exceedence levels for Nitrogen Dioxide (NO2), as shown in Figure 1. In 2002 York's first Air Quality Management Area (AQMA) was declared and in 2010 a further AQMA, in Fulford, was declared.

67. Continued traffic growth in the future (and peak spreading) will, unless a major reduction in vehicle emissions is achieved, result in a further deterioration in air

quality and is likely to see more AQMAs being declared. It can also lead to a further deterioration in the general 'quality of life' in the city.

Figure 1 - Rising concentrations across the AQMA



Proposed approach

68. The proposed approach can be summarised as:

- Pursue the completion of Access York Phase I and James Street Link Road Phase II before 2016.
- Implement a sustained travel behaviour change programme commencing in the 2011/2012 financial year.
- Implement the low – cost transport infrastructure and service improvements to support the travel behaviour change programme
- Pursue the enhanced Access York Phase II project for completion by 2026 at the latest (preferably by 2021).

69. It is also important to consider York's role and influence within the wider area, particularly as it is likely to draw more of its workforce from neighbouring authority areas such as East Riding and other nearby towns such as Selby. The strategic aims for transport within the emerging LTP3, for which a 'Draft Framework LTP3' has been released for public consultation, are:

- Provide Quality Alternatives to the Car
- Provide Strategic Links
- Implement Behavioural Change
- Tackle Transport Emissions
- Improve the Public Realm

70. It is likely, that in the longer-term an overall package of measures, covering a wide variety of modes (similar to as shown in Annex B) will be set-out in LTP3 to deliver improvements in relation to these aims, whilst enabling the desired spatial growth

established in the LDF Core Strategy and delivering value for money at whatever level of funding becomes available.

Corporate Objectives

71. Assessing and mitigating the transport implications of the Core Strategy has the potential to contribute towards the delivery of all the Corporate Priorities through guiding the core Strategy policies and actions, which aim to make York:

- A Sustainable City
- A Thriving City
- A Safer City
- A Learning City
- An Inclusive City
- A City of Culture
- A Healthy City

Implications

72. This report has the following implications:

- **Financial** – None
- **Human Resources (HR)** – None
- **Equalities** – None
- **Legal** – None
- **Crime and Disorder** – None
- **Information Technology (IT)** – None
- **Property** – None
- **Sustainability** – None
- **Other** – None

Risk Management

73. In compliance with the Council's Risk Management Strategy, there are no risks associated with the recommendations of this report.

Recommendations

74. That the Local Development Framework Working Group is recommended to:

i. Note the content of the report.

Reason: To enable the transport implications and transport investment requirements to be taken into account in preparing the Local Development Framework Core Strategy.

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Report Approved ✓ **Date** 22/10/2010

Wards Affected **All** ✓

For further information please contact the author of the report

Background Papers:
None

Annexes

Annex A	Suggested mitigation interventions, costs and delay benefits
Annex B	Local Development Framework transport measures up to 2026
Annex C	Assessment of modal change required to achieve various levels of reduction in future traffic growth
Annex D	Further consideration of affordability, deliverability and benefits