

NATS Implementation Plan and NDR/Postwick Update

Report by the Director of Environment, Transport and Development

Summary

This report seeks Cabinet approval for a Norwich Area Transportation Strategy (NATS) Implementation Plan (the 'Plan'). The Plan provides the transport elements of the Joint Core Strategy (JCS) and outlines schemes that are complementary to the Northern Distributor Road (NDR). The proposed Plan builds on the significant success of NATS to date, which has reduced traffic entering the centre of Norwich and provided improved travel choices. However, this success has not halted the growth of traffic beyond the ring road. Problems of journey reliability continue for bus users and other traffic. The existing transport network will not be able to cope with the growth that has to be planned for in the JCS.

The analysis to support the Plan shows that the NDR is very effective in dealing with future congestion on the network. It also provides the capacity for a further step-change in public transport provision, particularly through BRT, as well as enhanced facilities for pedestrians and cyclists. The consultation on the proposals shows, overall, strong support for the proposed changes in the city centre and there was an overall view that Bus Rapid Transit (BRT) would improve travel into Norwich. Consultation with businesses and a wide range of other stakeholders indicated that the NDR was the main transport intervention that would bring the greatest benefit. Overall, over 80% of businesses agreed that the Implementation Plan would improve the local economy.

Delivery of the Plan will be dependent on the availability of funding, and progress with the NDR and JCS. Some elements of the Plan can be implemented in advance of the NDR, but the more significant elements of BRT, and some elements of the city centre proposals depend on the highway capacity released by the NDR.

Funding for the Plan will come from a variety of sources, particularly developers through the JCS. Implementation will be phased over 10-15 years, as funding becomes available. The BRT proposals are well suited to this phased approach.

This report updates Cabinet on progress of implementing the NDR and Postwick junction.

Recommendation

- (i) That in the light of the consultation responses and analysis, Cabinet agree the proposed Plan, endorse recommended changes to a small number of NATS policies and that the NATS area becomes consistent with the Norwich Policy Area
- (ii) Approve the preparation of an application for planning permission for an NDR from Postwick to the A1067
- (iii) Cabinet agrees to underwrite the funding shortfall of £39.7M for the NDR by use of Prudential Borrowing

1. **Background**

- 1.1. The Norwich Area Transportation Strategy (NATS) is founded on the principles of increasing accessibility through widening transport choice and enabling growth through the provision of sustainable development.
- 1.2. NATS has already brought major improvements to transport and the environment that benefits thousands of people who live, shop and work in and around Norwich. However, our transport system is under strain and pressure will increase over time. We therefore need to create a further step-change in transport provision to realise the full potential of NATS and cater for the transport needs of a vibrant and growing regional centre.
- 1.3. Recent NATS projects include the starting of works on the St Augustines Gyratory, which will improve air quality and traffic circulation in this area and support the regeneration of the Anglia Square area. Work is also underway on extending the existing bus lane on Newmarket Road. New state-of-the-art electronic passenger information screens have been installed along Newmarket Road and have been well received by bus users. These feature some of the first solar powered displays installed in the UK.
- 1.4. The development of the Joint Core Strategy (JCS) by the Greater Norwich Development Partnership (GNDP) has led to the need for a more detailed Implementation Plan being developed for NATS (the 'Plan'). The Plan identifies a range of transport measures, some of which are only made possible by the Northern Distributor Road (NDR). This work supports the emerging masterplan being developed for the St Stephens area of the city and there has been close working with Norwich City Council during the development of the Implementation Plan.

The key features of the Plan are:

- A bus rapid transit (BRT) network;
 - Improvements to a core bus network as well as integrated ticketing and improved information;
 - City centre improvements;
 - A package of cycling and walking improvements;
 - Specific rail service improvements;
 - Smarter Choices initiatives, like travel planning; and
 - The NDR.
- 1.5. The Plan is fundamental to delivering economic growth and meeting key objectives such as those relating to climate change, growth and regeneration, improved accessibility, quality of life and health and improved safety and security.
 - 1.6. As part of a package of transport measures, the NDR plays a key role in NATS and is fundamental to delivering a wide range of outcomes, such as improving economic growth, reducing rat-running from unsuitable roads in villages and residential areas and improving accessibility to transport and travel. By freeing up capacity on radial routes, the NDR and complementary transport schemes enable priority measures to be introduced for buses, walking and cycling, significantly improving accessibility, quality of life and opportunities to support economic growth. Access to important employment areas, such as Norwich airport and Broadland Business Park, will be

significantly improved as a result of the Plan.

- 1.7. The Department for Transport (DfT) confirmed in December 2009 that it will invest £67.5m for Norfolk County Council to deliver the NDR from the A47 at Postwick to the A140 junction. This also confirmed £21m of CLG CIF funding for the Postwick Hub improvement scheme. Work at Postwick is scheduled to commence during May 2010 and will deliver an improved junction at Postwick, increased park and ride capacity and provide the potential to unlock sites for up to 1,600 homes.
- 1.8. The GNDP has completed pre-submission consultation on the JCS and it was submitted to the Secretary of State on 5 March 2010. The Plan will provide details of the delivery of transport infrastructure required to support the JCS.

2. **Consultation**

- 2.1. Public consultation for NATS was carried out between October and November 2009 in the form of a questionnaire and exhibitions. Over 1,000 people attended the exhibitions and just over 11,500 responses to the questionnaire were received. There were nearly 23,000 individual comments made during the consultation and these have all been considered and summarised.
- 2.2. Consultation with businesses and a wide range of other stakeholders was carried out in the form of workshops, individual meetings and a bespoke questionnaire covering specific business-related issues. Over 100 businesses responded to the questionnaire and key transport problems highlighted were delays, unreliable journey times and congestion on the transport network. In terms of helping improve business performance, the NDR was highlighted as the most important scheme within NATS. Other proposals receiving strong support were BRT and rail and bus service enhancements. Overall, over 80% of businesses agreed that the Plan would improve the local and regional economy.
- 2.3. Key transport issues raised during the public consultation as needing improvement were congestion, bus services, cycling and parking. There was overall support for the proposed changes in the city centre and the view that BRT proposals would improve travel into Norwich. The routes suggested for BRT services were supported.

3. **Assessment**

- 3.1. Schemes have been assessed against objectives related to NATS and DaSTS (Delivering a Sustainable Transport System). Overall, the Implementation Plan scores well against these with many of the interventions being consistent with objectives to support economic growth and tackle climate change. Performance against equality and opportunity is strong with the NDR, BRT, bus schemes and city centre schemes creating conditions favourable to accessing employment, leisure and training opportunities.
- 3.2. Detailed modelling work has been undertaken to assess the Implementation Plan and provide supporting evidence for the JCS. Findings have demonstrated that the Plan deals with future congestion, including traffic generated from planned growth in the JCS, and provides capacity for enhanced priority for buses, cyclists and pedestrians. Further details on this can be found in the 'JCS Transport Strategy Report, January 2010'.

- 3.3. A Strategic Environmental Assessment (SEA), incorporating an assessment of health impacts, was undertaken and an Environmental Report has been written. Consultation with Statutory Environmental Bodies (SEBs) took place during February / March 2010. Overall, the preferred package for the Plan is projected to have a neutral impact on the environment. Significant negative impacts are expected against open space and landscape and cultural heritage largely in relation to the NDR, which indicates mitigation is required if this package is implemented. However, there are significant positive impacts in respect of safety and security and beneficial effects for air quality, accessibility and social exclusion. The other packages that were assessed had similar effects on the environment.
- 3.4. Socio-economic analysis has considered the impacts of the Plan on social and economic factors and incorporated an Equality Impact Assessment. This has concluded that the Plan will have a positive impact for both economic and social development.
- 3.5. The Plan will contribute to achieving local objectives of boosting connectivity and attracting more inward investment. In terms of economic impacts, the NDR was rated as the most important of the NATS interventions and is most likely to provoke better business performance. Feedback from businesses recognises NATS as being instrumental in relieving congestion and enabling public transport measures to be implemented across the NATS area. The role of the Plan in terms of helping to attract inward investment and better skilled recruits was acknowledged
- 3.6. Some interventions will assist with tackling deprivation, accessibility and improving housing supply. BRT, for example, will be effective in boosting social development and cohesion by giving people more travel options for accessing both jobs and training opportunities. Tackling congestion through the city centre and suburbs, allied with walking and cycling improvements, will also have important benefits in terms of healthier lifestyles and quality of life. It is expected that transport investment will be instrumental in alleviating some pockets of deprivation. For example, the NDR will help to boost development of the Airport Industrial Estate, which in turn will generate some lower skilled employment positions that could be accessed by those in deprived communities.
- 3.7. The Plan is likely to result in many positive impacts for equality groups, largely through accessibility improvements.

4. **NATS Implementation Plan**

- 4.1. In developing the Plan, the opportunity has been taken to re-align a small number of the NATS policies to reflect developments in national policy and the JCS, and to amend the NATS area to that of the Norwich Policy Area for consistency with the JCS. Information on this is presented in **Appendix C**
- 4.2. **Appendix B** provides more information on the schemes proposed for the Plan.

5. **Delivery of the Plan**

- 5.1. Funding for the Plan will come from a variety of sources, particularly developers through the JCS. Implementation will be phased over 10-15 years, as funding becomes available. The BRT proposals are well suited to this phased approach. An early start is expected on the Dereham Road corridor in 2010/11 using Growth Point

funding from the GNDP. A package of city centre improvements can also be progressed.

- 5.2. A delivery programme for the Plan is presented in **Appendix A**.
- 5.3. The potential for use of the powers contained in the Local Transport Act 2008 is being considered. We have made significant improvements to public transport in Norwich and much of this has been achieved through working in partnership with bus companies – most notably the Joint Investment Plan signed with First East England and Norwich City Council. The Plan is an exciting opportunity to make a further step change through BRT. However, in the first instance, we would look to build on this partnership working, perhaps through the voluntary or statutory partnership arrangements under the 2008 Act, before considering use of quality contracts which would be expensive to implement and would not guarantee that buses do not get held up in congestion.
6. **Progress on the Development of the NDR**
 - 6.1. A previous update report for the NDR was presented to Cabinet on 12 October 2009. That report discussed the developing Plan and work completed on the NDR to that point.
 - 6.2. Within the previous report, information was also provided outlining the Joint Core Strategy (JCS) for Norwich, which has been developed by the Greater Norwich Development Partnership (GNDP). The JCS has since been developed further and has now been approved by the Partners (Norwich City Council, Broadland District Council & South Norfolk District Council) for submitting to its next stage, which is the examination in public (EIP) of the strategy.
 - 6.3. The JCS is consistent with the transport solutions detailed in the Plan, which includes the NDR. The wider details of the Plan are included within this Cabinet report, however this section will focus mainly on developments of the NDR since the last report to Cabinet in October 2009.
 - 6.4. Members will recall from the October Cabinet report, the NDR is the most complex transport project the County Council has undertaken. It has continued support from across the region, including the GNDP, East of England Development Agency (EEDA) and the East of England Regional Assembly (EERA).
 - 6.5. In December 2010, the Department for Transport (DfT) confirmed their approval of the NDR Major Scheme Business Case (MSBC) and granted it 'programme entry'. This has provided a real boost for the project and has reinforced the County Council's case that there is a good business case and value for money in delivering the NDR. However, the DfT decision has been to fund the NDR from the A47 at Postwick as far as the A140 Cromer Road junction (adjacent to Norwich International Airport).
 - 6.6. The funding announcement also released the Community Infrastructure Funding for the A47 'Postwick Hub' junction element of the NDR. This consisted of £19m towards the junction and a £2m contribution towards the expansion of the Postwick Park and Ride site. The funding investment from DfT of £67.5m does mean that there is a shortfall in funding, which the County Council may commit to underwrite, however it is considered that there will be scope for significant developer contributions generated from the growth developments detailed in the JCS. The

JCS provides the framework for the development of a Community Infrastructure Levy to ensure that such contributions can be made towards this vital element of highway infrastructure.

- 6.7. Whilst the DfT has only agreed to provide funding for the NDR from the Postwick interchange up to its junction with the A140 Cromer Road, the County Council is committed to ensuring that the NDR continues as far as the A1067, in line with the proposals made in the original MSBC and therefore proposes to seek planning permission for a road from Postwick to A1067. This will enable NATS to achieve the wider strategy for Norwich, enhance existing conditions and deliver growth.
- 6.8. The DfT has highlighted that it expects the A140 junction to be reviewed and 'value engineered' to determine whether a grade separated or an 'at-grade' solution can be achieved. This assessment is underway.
- 6.9. In addition to the junction assessment, some work has also been completed to evaluate the traffic implications if the NDR is only built to the A140. This has indicated that there are increases in traffic flows in the existing road network around Drayton and Taverham, but that in general these remain within the design capacity of these roads. It is important to note that if the NDR does stop at the A140, the increases in traffic in the Drayton and Taverham areas are similar to those levels that would exist in a scenario with no NDR.
- 6.10. The planning application for the NDR is still planned to be submitted to the County Council, as the planning authority, in the Autumn of 2010. This will include all of the necessary transport assessment information, which will be consistent with the proposals outlined as part of the Plan. It will also include a detailed Environmental Statement, which will have been developed in consultation with statutory and local environmental organisations. This will include specific species survey data and mitigation measures (where appropriate).
- 6.11. There are a number of processes that will happen ahead of the NDR. The first, and most important, is the agreement to the Plan, detailed elsewhere in this report. This sets the framework within which the NDR forms a significant element. It also forms an essential element of the JCS, which is expected to go through its examination in public process in the summer of 2010. The overall programme for the delivery of the NDR remains as detailed in the October 2009 report:

- | | |
|---|--------------------|
| • Submit planning application | Autumn 2010 |
| • Determination of planning application | Winter 2010 |
| • Publish CPO/SRO | Winter 2010 |
| • Public Inquiry (PI) | Summer/Autumn 2011 |
| • PI Decision | Summer 2012 |
| • Advance site clearance works | Autumn 2012 |
| • Main works start | Spring 2013 |
| • NDR open to traffic | Summer 2015 |

7. **Postwick Hub Junction**

- 7.1. This junction, which forms the first important improvement that enables the Broadland Gate business park development, expansion of the existing business park

site and potential new housing areas just to the north of the business parks, also provides a link between the NDR and the A47 Trunk Road.

- 7.2. It was detailed above that the DfT programme entry decision for the NDR also released the CIF funding (£19m) for the Postwick Hub junction. This is subject to completion of the necessary statutory processes, which include completion of the planning process and side road orders (SROs). In December 2009 Broadland District Council's planning committee resolved to grant planning permission for the Postwick Hub (as part of the Broadland Gate development). The SRO process of advertising the orders has been completed and a decision is awaited from the Secretary of State whether or not there is a need for a public inquiry to complete this process.
- 7.3. If the SROs are not subject to a public inquiry it is possible that the works will commence on site in May 2010. At this stage no commitment has been made with the preferred contractor (Birse Civils Ltd) to start the works and this decision will only be taken following a decision regarding the Orders and receipt of the community infrastructure funding allocation.
- 7.4. However, to date during 2009/2010, the budget for fees for developing the Postwick Hub junction detailed design information in readiness for the construction phase has been used. This figure, £1.083m, was established on the basis that the funding from CIF would be made available during this financial year. Unfortunately, due to the delay to the SROs, it is not possible to draw down the CIF funds until the 2010/2011 year. This means the expenditure in 2009/10 will need to be covered by the County Council budgets and refunded when the CIF monies become available.

8. Resource Implications

- 8.1. **Finance** : The revised NDR financial profile based on the previously reported figures is attached as **Appendix D**. The table has been updated since the previous report to Cabinet in October 2009. It now includes expenditure details as part of the development fees for the project before 2007/8, which has not been included in previous reports to Cabinet since. The project cost of £127.2M has not changed but we are now required to include those earlier costs in what is reported to Cabinet.
- 8.2. The County Council will be required to underwrite up to £39.7M, which is more than previously reported, because DfT will only contribute to the section from Postwick to the A140. DfT have announced funding of £67.5M, with a CIF funding contribution for the Postwick Junction of £19M. This is a reduction of £12.2M in RFA funding. The previously underwritten amount of £27.5M (reported in October 2009), plus the RFA shortfall of £12.2M equates to the total amount of funding by the County Council of up to £39.7M. However, it is likely that most, if not all, of this funding will be appropriate for developer and other contributions.
- 8.3. Funding for the Plan will come from a variety of sources, particularly developers through the JCS. Implementation will be phased over 10-15 years, as funding becomes available. The BRT proposals are well suited to this phased approach.
- 8.4. An early start is expected on the Dereham Road corridor in 2010/11 using £1.5M of Growth Funding from the GNDP for bus priority measures. As part of the Rackheath Programme of Development (POD), there is approximately £2M available for transport-related schemes over the next few years. Around £5M is available from Growth Point Funds and Community Infrastructure Fund (CIF) towards the delivery

of the expansion of the Park & Ride facility at Postwick. Through the Local Transport Plan, funds of around £2.2M has been set aside for delivery of a wide range of NATS schemes in the next couple of years.

- 8.5. Looking further into the future, funding from developers will be sought as future development allocations come forward. Significant development is proposed and this will release substantial funds, which will be utilised as part of the phased delivery of the Plan. In addition, Norfolk County Council has an excellent track record of securing funding through initiatives from the Department for Transport and other funding bodies. Discussions have been held with representatives from the East of England Development Agency (EEDA) responsible for European funding initiatives and we are in a good position to identify opportunities and respond appropriately. Opportunities for partnership working and joint funding with transport providers and other stakeholders will continue to be sought and developed.
- 8.6. **Staff** : The NDR project continues to be staffed from the P&T Strategic Partnership and Birse Civils Ltd. Staff across the P&T Strategic Partnership and GNDP will be involved in taking the Plan forward for delivery. For specific schemes, this will involve feasibility work, consultation and scheme delivery.
- 8.7. **Property** : Land acquisition has progressed through 2009/10, with the purchase of approx £0.5m of land. It is anticipated that further land will be acquired during 2010/11, with a necessary provision of £0.5m assumed in the figures shown in **Appendix D**.

9. **Other Implications**

- 9.1. **Any other implications** : Officers have considered all the implications which members should be aware of. Apart from those listed in the report (above), there are no other implications to take into account.
- 9.2. **Equality Impact Assessment (EqIA)** : An EqIA has being completed for the Plan.
- 9.3. **Communications** : A Communications Steering Group is set up for NATS and co-ordinates communications work with stakeholders, the general public and within NCC. A detailed communications plan exists. All appropriate communications are undertaken as schemes undergo feasibility and delivery.

10. **Section 17 – Crime and Disorder Act**

- 10.1. Requirements of the Act as it relates to the design and operation of the NDR and other NATS schemes will continue to be taken into account in the development of the project.

11. **Risk Implications/Assessment**

- 11.1. In the context of the NATS implementation plan, key risks associated with the NDR and other NATS schemes are around funding, planning and possible local government reorganisation. The scale and complexity of the project means that there are significant risks around cost and timescale, which are being closely managed. These risks are being managed through active project management and ongoing engagement with the GNDP, government bodies and advisors who are party to the decision-making process.

- 11.2. There are specific risks associated with local government reorganisation. The potential Norwich Unitary authority may decide against delivery of the Plan or may decide to take forward elements of the Plan in a different way. These risks are minimised by the recognition by the County Council and its partners in Norfolk of the strategic importance of the Plan and by our continued close working with stakeholders.

12. **Overview and Scrutiny Panel Comments**

- 12.1. The Planning and Transportation, the Environment and Waste (PTEW) Overview and Scrutiny Panel at Norfolk County Council considered the Plan on 3 March 2010. There was some discussion at the Panel meeting about specific schemes and the timing of these in relation to the building of the NDR. A motion was passed for reference to pedestrianisation plans to be removed until after the NDR is open to traffic. In response to this, some further work has been undertaken on Westlegate and a summary of this is presented in **Appendix E**. Members endorsed the recommended changes to a small number of NATS policies and that the NATS area becomes consistent with the Norwich Policy Area.
- 12.2. A verbal update will be provided at the Cabinet meeting on feedback to the Implementation Plan from the Norwich Highways Agency Joint Committee (held on 25 March) and the GNDP Policy Group (held on 25 March).

13. **Alternative Options**

- 13.1. The assessment of the Plan has tested a wide range of transport interventions. The Plan will identify the package of measures, which best meet objectives and can be delivered within the likely available resources.

14. **Conclusion**

- 14.1. Public and business consultation has demonstrated strong support for the emerging Plan. Implementation will have to be phased with the availability of funding and progress on the NDR.
- 14.2. It was confirmed in January 2010 that the DfT will invest up to £67.5m to deliver the NDR as far as the A140 junction. £21m of funding has been earmarked for the Postwick Hub improvement scheme and work is scheduled to commence during 2010.
- 14.3. The County Council should seek planning permission to build the NDR from Postwick to the A1067 and agree to underwrite any shortfall in funding.
- 14.4. Other elements of the Plan will be funded from a variety of sources, particularly developer contributions.

Recommendation

- (i) That in the light of the consultation responses and analysis, Cabinet agree the proposed Plan, endorse recommended changes to a small number of NATS policies and that the NATS area becomes consistent with the Norwich Policy Area.
- (ii) Approve the preparation of an application for planning permission for an NDR from Postwick to the A1067.
- (iii) Cabinet agrees to underwrite the funding shortfall of £39.7M for the NDR by use of Prudential Borrowing.

Background Papers

JCS Transport Strategy Report, January 2010

Officer Contact

If you have any questions about matters contained in this paper please get in touch with:

Name	Telephone Number	Email address
Jeremy Wiggin	01603 226737	jeremy.wiggin@norfolk.gov.uk



If you need this report in large print, audio, Braille, alternative format or in a different language please contact 0344 800 8020 and ask for Jeremy Wiggin or textphone 0344 800 8011 and we will do our best to help.

1. **Bus Rapid Transit**

- 1.1. There was a good level of support from the general public to proposals for a BRT network, with over 63% of those questioned stating that they considered BRT would improve travel in and out of Norwich. The most important factors identified in the consultation in terms of bus travel were frequent buses (every 10 mins), reliability of service, flexibility of routing and ticketing, better quality bus stops and shelters and improved provision of travel information. These are key attributes of a BRT service.
- 1.2. Assessment of transport corridors in Norwich against a clearly defined set of objectives for a high quality rapid transit service identified that up to six corridors could be considered for upgrading to a BRT service. Important factors considered were the ability to link major growth locations with the city centre and strategic employment areas and the ability to increase public transport patronage and public perception of public transport. Other corridors will be considered as core bus routes where service frequency, journey time and reliability will be improved.
- 1.3. Deliverability of works along BRT corridors will be based on a number of factors, including the availability of funding, delivery of housing and jobs and progress on delivering the NDR. Some BRT corridors are more dependent on the NDR than others in terms of being able to provide the necessary levels of priority for buses. Whilst it is considered that traffic light priority can be delivered along all corridors, some will only benefit from the full potential of bus priority through key junctions once levels of general traffic are reduced following the opening of the NDR. Similarly, full benefits from road space reallocation will only be realised on some corridors once the NDR is open. Corridors most affected by the NDR are those serving Rackheath, Postwick, Airport and Drayton. For these corridors, the full benefits of BRT can only be realised after the opening of the NDR. Corridors least affected by the NDR are those serving the A11 corridor and along the Dereham Road. Works can progress along these routes as early as 2010/11.
- 1.4. In addition to priority measures, there are other important factors that complement BRT and will encourage modal shift from car to bus. These include new bus shelters, high quality and up-to-date travel information, high quality vehicles (provided by operators) and improved ticketing arrangements. These are more flexible in terms of their delivery and BRT corridors can benefit from these schemes in advance of bus priority measures going in. Works could progress on delivering these measures as early as 2010/11.
- 1.5. There are significant opportunities for works undertaken to develop BRT to complement other initiatives such as Smarter Travel Choices, Park & Ride, walking and cycling networks and incorporation of green infrastructure. By adopting a whole corridor approach to BRT, it will be possible to identify where linkages with walking and cycling can be maximised and where bus stops should be located to best serve residential areas and access to key services, such as libraries, health facilities and local shops.
- 1.6. There are several options for how BRT could be run and managed and assessment work is underway to identify what would be the best option for Norwich. This includes consideration of powers available under the Local Transport Act 2008. Options include the use of Voluntary and Statutory Bus Partnerships, as well as the introduction of a Quality Contract. More work is needed on this.

2. Other Bus Schemes

- 2.1. In general, there was support for proposals to enhance public transport provision along core bus routes. These routes, provided by a range of different bus operators, serve destinations such as the Norwich Research Park, UEA and hospital and already provide a comprehensive bus network across the NATS area.
- 2.2. Improvements along these corridors will focus on smaller-scale works, particularly at junctions, to alleviate areas of congestion and provide opportunities where buses can be given additional priority through traffic signals and by using short lengths of bus lane. In addition, improvements to bus stops and information provision will be provided, as these issues were identified in the consultation as being areas where improvements are needed. The current bus shelter contract within the city centre is up for review in 2011 and this provides an ideal opportunity to consider what arrangements in terms of bus shelter provision, maintenance and design / style are best for Norwich.
- 2.3. Opportunities will be sought to address concerns raised during the consultation that existing ticketing arrangements are inflexible and expensive. This will include working with transport providers and raising awareness of the existing 'PlusBus' ticketing scheme operating in Norwich where rail and bus travel can be combined on a single ticket. In addition, the recently launched multi-operator bus ticket ('Fusion') in Norwich will be reviewed to ensure it is as effective as possible. This may involve the addition of more operators and a wider range of ticket options. Off-bus ticketing is an important part of realising the full benefits of a BRT network through reduced bus boarding times and quicker and more reliable journeys. Detailed feasibility will be required to identify the most appropriate solution for Norwich. Where possible, benefits to the wider core bus network would also be considered and incorporated. Feedback from students and younger people during the consultation highlighted that consideration should be given to fare incentives for 16-19 year olds and greater flexibility in terms of the use of student travel passes. Again, this will be fully considered and taken forward as appropriate with the full involvement of younger people and all those involved. The issue of fares is something that the County Council currently has little control over due to the deregulated bus market. All feedback received on this issue will be shared with the transport operators as it is important that this message is clearly understood. As outlined in Section 1.6, there are several options available to review in terms of controls over bus services and these will be considered.
- 2.4. Feedback was received that Park & Ride services should run later in the evenings and should run on Sundays and Bank Holidays. Questions were also raised as to whether more flexible routing could be considered to link Park & Ride sites with large employment locations outside the city centre and whether routing in the city centre could be amended. Regular reviews are undertaken on Park & Ride and these comments will be fully considered. It is likely that funding support from the private sector would be required to deliver some of these initiatives. Overall, Park & Ride was well received in the consultation.
- 2.5. New bus services linking key residential and strategic employment growth areas will be considered in partnership with developers and transport providers. Delivery of these will, in most cases, be dependent on the delivery of growth. It will be important for any new route to be supported by good quality bus stops (infrastructure

and information), good quality vehicles, convenient frequencies, journey times and routings and bus priority measures where possible.

- 2.6. The way in which bus services currently serve the city centre was raised in the consultation and it was generally felt that improved bus stop facilities were needed in the northern city centre. Current works to deliver a new gyratory traffic circulation at St Augustines during 2010, which facilitates development of Anglia Square and is part of the Northern City Centre Area Action Plan, will provide significantly improved bus stop facilities in this area.

3. **City Centre Circulation Changes**

- 3.1. There was strong support from the consultation for proposals to make the city centre more accessible for sustainable modes, such as public transport, walking and cycling. Over 73% of those responding to the public consultation stated that they agreed with the proposals. In addition to public support, there was strong support from the business community, as it was stated that there are strong links with investment and the overall economic performance of the city. There are clear linkages between the city centre proposals and those set out in the St Stephens Masterplan.
- 3.2. Proposals to change city centre circulation and restrict access for general traffic on some roads are, to a significant extent, dependent on the capacity created by the NDR. However, initial assessments indicate that some works could be implemented in advance of the NDR. These include the closure of Westlegate and Gaol Hill / Exchange Street to general traffic. Feedback from stakeholders indicates that Westlegate will have a significant positive impact on investment and will create the conditions for real improvements for pedestrians. As part of the Westlegate works, further consideration will need to be given to works required to make Chapelfield North two-way for buses and general access as locations such as the Theatre Royal and Chapelfield Shopping Centre have specific requirements in terms of coach access and delivery of goods respectively. . In terms of Gaol Hill / Exchange Street, further work will be needed to understand where traffic using these roads is travelling from and to, such as accessing city centre car parks, and what implications closing these roads will have on displacing this traffic.
- 3.3. Other works within the city centre, such as the closure of St Stephens Street and Prince of Wales Road to general traffic and two-way operation on Rose Lane will be dependent on delivery of the NDR and the alternative route options the NDR provides.
- 3.4. City centre proposals provide significant opportunities to provide much-needed additional capacity for bus stops, which will be needed to cater for new services generated to serve growth. Existing bus stops are close to capacity and delays can be caused. These proposals enable new stops to be provided in places such as Theatre Street, and enable some buses to use revised routing, which frees up capacity elsewhere in the city. The current bus shelter contract within the city centre is up for review in 2011 and this provides an ideal opportunity to consider what arrangements in terms of bus shelter provision, maintenance and design / style are best for Norwich. Two-way operation for buses on Chapelfield North and Prince of Wales Road open up new public transport corridors through the city and further enhance the concept of a core public transport route linking the rail station with the

Appendix B – NATS Implementation Plan

city centre.

- 3.5. The consultation highlighted that facilities for visiting coaches and for demand responsive vehicles needed to be improved. There are currently few locations for coaches to use for pick-up and drop-off and park during the day. Options to address this will be considered. Demand responsive vehicles have differing requirements to buses as they often need to be parked at a stop for longer periods of time so additional assistance can be provided for passengers getting on and off vehicles, often in wheelchairs. Appropriate locations will be sought and agreed with appropriate facilities provided.
- 3.6. Concerns were raised during the consultation that city centre proposals would remove access to disabled parking areas, key car parks, residential locations and areas and would restrict the opportunities for pick-up and drop-off being provided. Access to these facilities would be retained. As plans are taken forward for the city centre, consideration will be given to ensuring that adequate and convenient pick-up and drop-off locations are provided.
- 3.7. Proposals for the city centre will bring significant benefits to walking and cycling networks as there are opportunities to create the conditions required to encourage greater use of these modes. More information on this is outlined in the walking and cycling sections below.

4. **Walking**

- 4.1. Nearly 50% of people who responded to the consultation stated that reduced traffic flows in the city centre would encourage them to walk more. In addition, over 20% said that more pedestrian crossings would have the same effect. As well as reducing traffic flows and providing the opportunity for more pedestrian crossings, proposals for the city centre will also enable increased levels of priority to be given to pedestrians at signalised junctions. This will significantly improve the ability to navigate the city by foot.
- 4.2. There are a number of new pedestrian crossing facilities across the NATS that will be delivered in the next couple of years. These include works at Rosary Road, Ketts Hill, Earlham Road, Harvey Lane and Newmarket Road. The public consultation highlighted a number of additional locations where improved crossing facilities are sought and these will be fully considered. Phasing of future schemes will be dependent on funding.
- 4.3. Recent schemes, such as the opening of the Lady Julian Bridge at Riverside, have opened up new walking and cycling routes and it will be important for these routes to be supported through the NATS Implementation Plan. The St Stephens Masterplan sets out aspirations for improved walk links and these will be considered. Works will continue to develop a comprehensive walking network across the NATS area and the consultation indicated that clear and up-to-date maps showing walking routes should be provided.
- 4.4. There are opportunities to deliver public realm improvements in areas such as Tombland, St Stephens Street, Magdalen Street, Prince of Wales Road, Queens Road and St Benedicts Street as part of delivering the city centre proposals. Phasing of schemes such as this will be dependent on the delivery of funding and complementary works

5. Cycling

- 5.1. There was strong feedback from the public consultation that the cycle network in Norwich needs to be better connected and joined together. The Implementation Plan provides a significant opportunity to achieve this.
- 5.2. The most important issues raised through the public consultation related to more off-road cycle routes (22% of people stated this), more dedicated on-road facilities (17% of people stated this), secure cycle parking (13% of people stated this), reduced traffic flows in the city centre (11% of people stated this) and contra-flow cycle lanes (6% of people stated this). Over 55% of people agreed with the locations of the proposed locations of core cycle routes. The consultation also provided a significant amount of information about other locations within the NATS area where new cycle routes and facilities should be provided. All of these will be considered.
- 5.3. There are opportunities to provide complementary benefits to cycling as part of delivery of BRT and city centre proposals. Reduced traffic flows in the city centre and along some key routes will create the conditions for increased cycle use. Reduced traffic flows through busy junctions, such as in the city centre and on the ring roads, will enable increased levels of priority to be given to cycle crossings. A key part of the proposals is to develop a core network of cycle routes along less-trafficked roads linking strategic employment locations and the city centre with existing and future housing locations.
- 5.4. Plans are in place for the Lakenham Way to be made adoptable during 2010/11 and a feasibility study will start during 2010, as part of the Northern City Centre Area Action Plan, to look at what improvements are necessary to improve the cycle corridor between the city centre and the airport. Cycle route facilities associated with the Rackheath Eco-town proposal are being assessed and will be taken forward as part of the Growth Point work. Subsequent feasibility works will be carried out along the other routes identified in the consultation and full involvement of cycle groups and other stakeholders will be sought. Delivery of schemes will be dependent on the availability of funding and rate of development.
- 5.5. Feasibility work for the development of contra-flow cycle lanes at selected locations will commence during 2010 and will look at areas such as Duke Street, Bull Close Road, Carrow Hill, St Giles Street, Bethel Street and Westwick Street. Additional locations were presented during the consultation and will be fully considered.
- 5.6. Increased cycle parking within the city centre and at key locations such as the bus and rail stations and at key businesses and trip attractors will be taken forward. This will also consider options for improving the availability of parking for motorcycles. Options to combine cycle parking and cycle routes with BRT stops will be considered to ease interchange between modes. We will continue to work with businesses and schools in terms of identifying joint ways in which cycle use can be promoted.
- 5.7. The Implementation Plan seeks to review cycling in pedestrianised areas and identify the most appropriate restrictions to apply.
- 5.8. The consultation highlighted there was a need for raising awareness of cycling and its wide range of benefits (health, well-being, 'green' credentials, etc) and for high quality information (web, paper and electronic) to be available on cycle routes and facilities. It is proposed that this is taken forward with the production of a new cycle

Appendix B – NATS Implementation Plan

map, where cyclists have a significant involvement, and use being made of existing electronic media, such as bus shelter signage and information kiosks, to raise awareness.

- 5.9. The option of providing a cycle hire scheme similar to those being promoted in other UK and European cities will be considered, although this will be closely dependent on availability of significant funding and the provision of adequate facilities for cycle parking and routes.

6. **Rail services**

- 6.1. There was strong business support for improvements to rail links and there is a significant opportunity to bring about improvements through the re-franchising of the National Express East Anglia franchise, which will be re-let in 2011. The County Council is actively engaged in this process.
- 6.2. Key aspirations for rail for the Norwich to London main line include faster journey times (down to 90 mins) and higher quality inter-city style rolling stock with facilities such as wifi. Norfolk County Council is actively engaged in the 'Norwich in 90' proposal, which raises awareness of the journey time aspirations.
- 6.3. Other aspirations include the provision of increased capacity and frequency on the Norwich to Cambridge service, as this is an important route for accessing employment and serving existing and future growth. An increased level of service and capacity on the Bittern and Wherry Lines is also sought, but it is recognised that this will have a lower priority when compared to lines to London and Cambridge. We will continue discussions with developers and the rail industry with regards to options to deliver tram-train proposals from the Rackheath Eco-town.
- 6.4. Opportunities for new stations to serve Postwick, Broadland Business Park and the eco-town at Rackheath will be subject to further feasibility. Delivery would be closely dependent on availability of funding from development and programmes within the rail industry.
- 6.5. The County Council has an excellent record of delivering improvements to rail stations in partnership with the rail industry and we will look to continue this in the future. The most significant station improvement scheme within the NATS area relates to access at Wymondham, where significant investment is needed to provide DDA-complaint access to the Cambridge-bound platform. Increased cycle parking at stations will be delivered as part of on-going improvement works.

7. **Smarter Travel Choices**

- 7.1. Smarter Travel Choices play an important role in supporting modal shift from car to more sustainable modes and this will be further developed as part of the NATS Implementation Plan.
- 7.2. All schools within the NATS area have travel plans and these are proving successful in encouraging use of sustainable modes for journeys to school. Whilst there are a relatively small number of businesses with travel plans, the Implementation Plan aims to significantly increase this, with attention being focussed on the largest employers in the area. We are working with stakeholders on establishing area-wide travel plans, which provide economies of scale and a collective working towards a common goal.

Appendix B – NATS Implementation Plan

7.3. Personalised journey planning has proved to be effective in encouraging modal shift and opportunities to further develop this across the NATS area will be sought. Other initiatives include sustained publicity campaigns, promotion of car-sharing and provision of on-line travel planning and information.

7.4. There are clear linkages between Smarter Travel Choices and the other initiatives promoted in NATS.

8. **Other Highway Schemes**

8.1. There are a number of other highway schemes that will be taken forward as growth develops. These include a Broadland Local Plan link road, a link road from Broadland Business Park to Salhouse Road, new road infrastructure directly related to proposed expansion of the Norwich Research Park and improvements to the junctions on the southern bypass (A47) at Thickthorn, Longwater and Harford to cater for growth. Delivery of these schemes are closely linked with the rate of associated development.

9. **Traffic Management and Safety**

9.1. There are a number of schemes that are associated with traffic management and safety.

9.2. Feasibility will be undertaken during 2010/11 to identify whether to make an experimental one-way operation on Silver Street permanent and work will be undertaken to review the existing bus-gate at Albion Way near the Riverside development.

9.3. The principle of car-park consolidation is proposed, which involves the possible removal of smaller city centre car parks and the expansion of one or more sites to accommodate these spaces. This approach would retain a limit on the number of car parking spaces within the city. Car parks that could be removed include Chantry, Pottergate, Monastery Court, Golden Dog Lane, Magdalen Street, Westwick Street, Chatham Street, Chapelfield East and Queens Road. Delivery of this would be dependent on city centre circulation works and availability of funding.

9.4. Controlled Parking Zones (CPZs) are to be reviewed with a view to extending this and introducing on-street parking charges during the evenings and on Sundays.

9.5. The option of introducing 20mph speed limits is partially dependent on further advice from the Department for Transport on the use of 20mph speed limits in residential areas. The NATS consultation identified a number of locations where safety measures are sought and these will be considered once the national guidance is confirmed and the Norfolk County Council strategy on speed has been reviewed.

9.6. To maximise highway capacity and benefits deriving from the NDR, appropriate 'tools' will be used to control traffic flow. This includes an expansion in the use of already used technology, such as SCOOT and MOVA at junctions. This technology enables traffic signals to adapt to varying traffic conditions and provide appropriate levels of priority for other modes, such as walking cycling.

9.7. Options will be sought to develop improved communications links with transport providers and other stakeholders, such as emergency services, the media and general public, to ensure disruption on the highway network is minimised. This will include technologies such as Variable Message Signs (VMS) on the highway and

Appendix B – NATS Implementation Plan

use of media such as the internet and SMS text messaging.

10. **Freight**

- 10.1. A review of all existing waiting and loading restrictions within the city centre will be undertaken.
- 10.2. Promotion of freight consolidation will be continued with the support of stakeholders. Opportunities to expand this approach to other radial routes other than Newmarket Road will be explored.

Appendix C: Re-alignment of NATS policies

NATS Alignment	Justification
<p>NATS Area: Amend the NATS area to that of the Norwich Policy Area</p>	<p>The Norwich Policy Area is a defined area used in regional planning documents and local planning documents. There is no compelling reason why the NATS area should be different, and there are many advantages to having a commonly defined area, not least for clarity.</p>

Current Policy	NATS Alignment	Justification
<p>Policy 4: Discouraging through traffic from the city centre Motorised traffic (except buses) will be prevented from driving straight through the city centre, and will be redirected onto the Inner Ring Road, or other appropriate routes. Access to the city centre will be maintained.</p>	<p>Title: Discouraging through traffic from the city centre Text: Vehicular traffic will be discouraged from driving through the city centre where appropriate in order to deliver a more pedestrian friendly environment.</p>	<p>To reflect the realities of delivering a city centre environment which meets the needs of all road users, ie there is no one solution that will meet the needs of all users on every road. It will allow much more flexibility in order to ensure that the most appropriate measures are implemented.</p>
<p>Policy 15: Public Transport The reliability and overall quality of public transport services and information will be improved.</p>	<p>Title: Public Transport Text: To seek to improve the reliability, punctuality and overall quality of public transport services and information through a step change in transport provision.</p>	<p>To strengthen the public transport strategy and to reflect the need to deliver a major shift in emphasis across the Norwich Policy Area towards travel by public transport as required by policy NR1 in the RSS.</p>
<p>Policy 16: Bus Priority Measures Bus priority measures will be focussed on the core bus network. Where this core bus network is on main roads (Primary Distributors), new bus priority measures will not introduce delays for other, general traffic.</p>	<p>Title: Bus Priority Measures Text: Bus priority measures will be focussed on the core bus network. Where this core bus network is on main roads (Primary Distributors), new bus priority measures will lock in the benefits of the NDR.</p>	<p>To strengthen the public transport strategy and to reflect the need to deliver a major shift in emphasis across the Norwich Policy Area towards travel by public transport as required by policy NR1 in the RSS. The NDR provides an opportunity to deliver bus priority measures.</p>

Current Policy	NATS Alignment	Justification
<p>Policy 18: Frequency of bus services The strategy will seek to maintain or improve existing bus frequencies within the urban area. In co-operation with bus operators, daytime frequencies of at least 10 minutes and evening frequencies of at least 30 minutes on principal bus routes in the urban area will be sought. Improvements in reliability and punctuality will be sought.</p> <p>A twenty-minute daytime frequency (hourly evening and Sundays) will be sought for principal links from settlements in the hinterlands to the centre of Norwich.</p> <p>Hourly daytime frequency and two hourly evening and Sundays will be sought between other local market centres and the centre of Norwich.</p>	<p>Title: Frequency of Bus Services Text: We will aim to achieve a high quality bus network within the Norwich area with:</p> <ul style="list-style-type: none"> • Turn up and go frequencies on the BRT routes with 30 minute frequencies evenings and Sundays • A minimum 15/20 minute frequencies on core routes and hourly services evenings and Sundays • 30 minute frequencies elsewhere in the Norwich area, hourly evenings and Sundays 	<p>As above, in particular this policy sets more ambitious targets which are required in order to reflect policy NR1 in the RSS. Achieving these high frequency services may be dependent on the NDR on some corridors.</p>
<p>Policy 48: Improvements to the Main Roads Measures including junction improvements will be considered for implementation on the Primary Distributors to relieve problems of chronic congestion</p>	<p>Title: Improvements to the Main Roads Text: Measures to reduce congestion, including junction improvements, will be pursued where they have a beneficial impact on the road network as a whole. In particular, measures that improve capacity for sustainable modes will be considered most favourable.</p>	<p>To reflect RSS and DaSTS which emphasise the need to prioritise capacity improvements for low carbon modes</p>

Current Policy	NATS Alignment	Justification
<p>Policy 52: Promotion and education Public awareness of the problems associated with traffic growth and the benefits of alternative means of travel will be raised through publicity and public awareness campaigns.</p>	<p>Title: Smarter Choices Text: In the Norwich area measures that encourage a modal shift to sustainable modes of transport will be investigated before road capacity improvements. These will include:</p> <ul style="list-style-type: none"> • School and workplace travel plans • Residential travel plans for all new developments • Travel awareness campaigns • Car sharing schemes • Information and publicity around walking, cycling and public transport • Personalised journey planning 	<p>To strengthen the policy and align it with the RSS and DaSTS which state that significant change in behaviour will be brought about through a concerted programme of policies to raise awareness of sustainable travel. In order to better reflect Climate Change Act 2008 and associated carbon reduction targets</p> <p>The policy is usefully merged to create an overall statement around Smarter Choices</p>
<p>Policy: 53 Soft Measures Soft transport measures, designed to give better information and opportunities, will be intensively developed.</p>	<p>Title: Soft Measures</p> <p>Remove this policy and combine with the policy above on Smarter Choices</p>	<p>As above</p>
<p>Policy 54: Travel plans Local businesses, schools and other major organisations will be encouraged to develop travel plans. Travel Plans will be required for new developments, or extensions to existing developments in the following cases:</p> <ul style="list-style-type: none"> • Where a Transport Assessment is required • Where a travel plan would help address a particular local traffic problem associated with the planning application, which might otherwise have to be refused on local traffic grounds • It is a major development comprising 	<p>Title: Travel Plans</p> <p>Remove this policy and combine with the policy above on Smarter Choices</p>	<p>As above</p>

Current Policy	NATS Alignment	Justification
<p>jobs, shopping, leisure or services</p> <ul style="list-style-type: none"> • It is a smaller development comprising jobs, shopping, leisure or services that would generate significant amounts of travel in, or near to, air quality management areas • It is a smaller development outside an air quality management areas where there are local initiatives or targets set out in the development plan or local transport plan for the reduction of road traffic, or the promotion of public transport, walking and cycling 		
<p>Policy 57: Pollution The strategy will seek to address the adverse environmental impacts of traffic (primarily air and noise pollution, and greenhouse gas emissions) in the Norwich area.</p>	<p>Title: Tackling Climate Change and Pollution Text: We will seek to reduce emissions from road transport, including carbon emissions and to improve air quality in the Norwich area by:</p> <ul style="list-style-type: none"> • Encouraging a modal shift to less polluting modes of travel • Reducing emissions from vehicles that emit the most • Ensuring that new development is planned and located to reduce the need to travel and maximise the opportunities for the most sustainable modes of travel. 	<p>To ensure NATS reflects the need to reduce emissions from road transport and aligns with the strong emphasis in both the RSS and DaSTS on responding to the threat of climate change. In order to better reflect Climate Change Act 2008 and associated carbon reduction targets</p>

Current Policy	NATS Alignment	Justification
<p>Policy 59: Cleaner vehicles The Council will work with local authorities to raise awareness of and promote energy efficiency in transport, including the use of sustainable vehicles and fuels, and best practice in relation to fuel efficiency and pollution.</p>	<p>Title: Cleaner Vehicles</p> <p>Remove this policy and combine with the Tackling Climate Change and Pollution policy</p>	<p>Promoting cleaner vehicles is a key element of delivering the above policy on climate change, it could</p>

Appendix D Financial profile

Latest position

	Financial Year									
	Project Dev Fees	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Total
Capital Spend Profile with identified funding sources shown below										
RFA						3.2	26.8	36.5	1.0	67.5
Postwick Hub CIF Funding			1.1	7.05	10.85					19.0
NDR Growth Point Funding		0.5	0.5							1.0
Previous County Council funding	5.14									5.14
Funding currently underwritten by Norfolk County Council		2.61	2.75	3.2	2.8	5.0	8.85	10.4	4.09	39.7
TOTAL	5.14	3.11	4.35	10.25	13.65	8.2	35.65	46.9	5.09	132.34

Project Development Fees shown in the first cost column cover the fees generated prior to setting the project costs post 2007/08 (set at £116.5m at that time and later inflated to £127.2m when the RFA spend allocation was amended). This was detailed in the July 2008 Cabinet report. This total includes £0.690m (04/05), which was funded through a revenue contribution.

1. **Background**

- 1.1. Closure of Westlegate to general traffic was considered in 2004/5 and although the proposal received strong public and business support, the Norwich Highways Agency Committee in February 2005 resolved to keep the road open to traffic with widened footways.
- 1.2. In July 2005, the Committee considered NATS proposals, which included the pedestrianisation of Westlegate and approved in principle to the proposals but resolved to only take these forward for consideration once Chapelfield shopping centre had opened and traffic movements had settled down. A further report would be considered in Spring 2006.
- 1.3. In July 2006, the Committee resolved to defer a decision on the experimental closure of Westlegate between the hours of 10.00am to 4.00pm pending further investigations into issues of pedestrian safety and the traffic implications for other areas of the City Centre.

2. **Presentation of Westlegate in the current NATS consultation**

- 2.1. Consultation for NATS undertaken in 2009 highlighted that strong public and business support remains, particularly when the scheme is delivered as part of a wider package of transport initiatives (although there were also some concerns raised about the impact of road closures). Closure of Westlegate to general traffic is proposed as part of the NATS Implementation Plan and it is considered that this scheme could be delivered as part of the changes prior to the opening of the Northern Distributor Road (NDR).

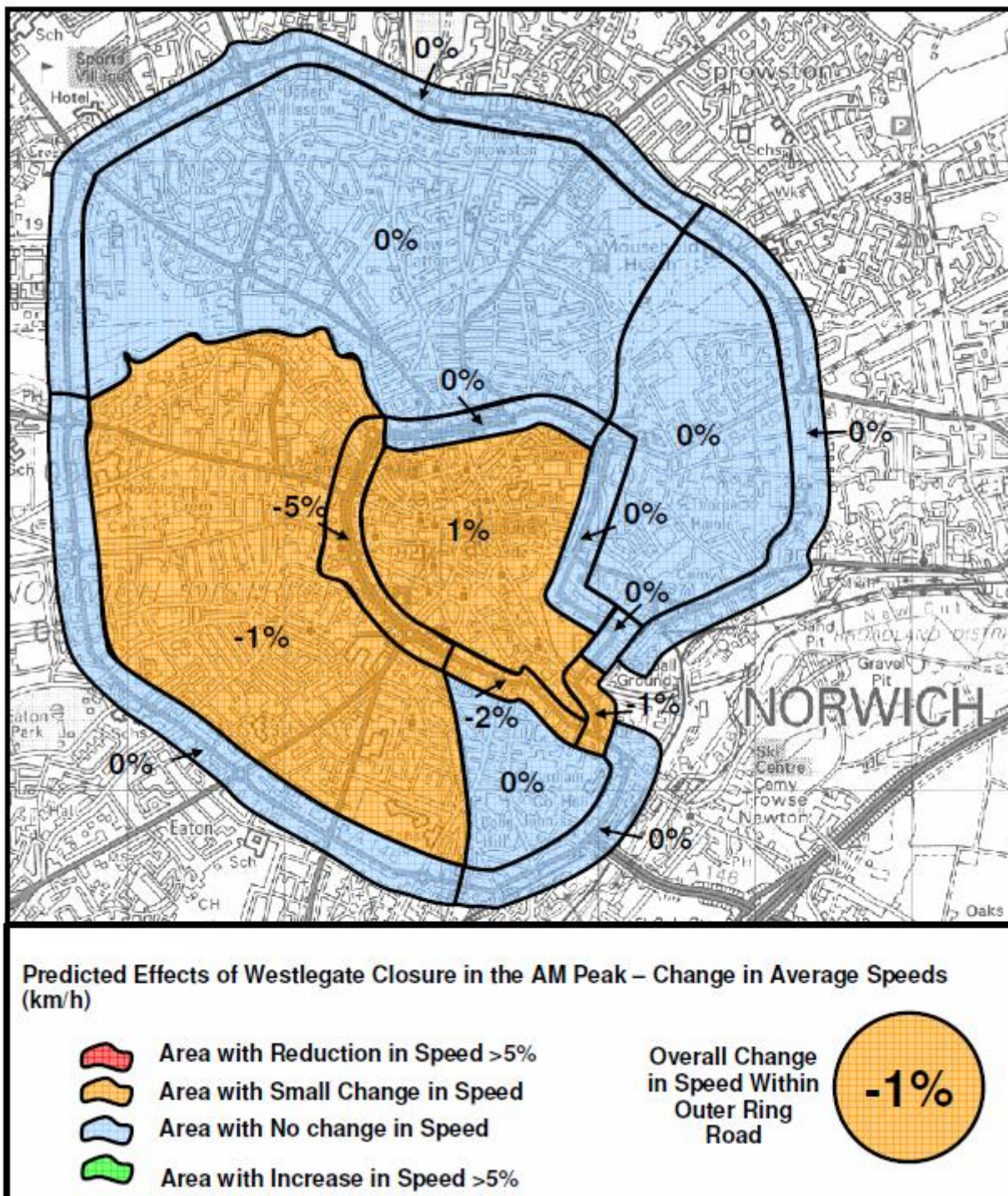
3. **Assessment undertaken**

- 3.1. Assessment has been undertaken to consider concerns raised at NHAJC about traffic implications for other areas of the city centre. This has included modelling and further discussions with stakeholders, including Chapelfield and the Theatre Royal.
- 3.2. As part of developing the NATS Implementation Plan during 2009/10, an assessment of the closure of Westlegate has been undertaken using the most current traffic model. The outputs reported in this note relate only to the closure of Westlegate and do not include any other road closures (e.g. Gaol Hill or Exchange Street) within the city centre.
- 3.3. This assessment indicates that average journey speeds within the Outer Ring Road decrease by an average of 1% following the closure of Westlegate. Changes in the morning peak are forecast to be more significant than those in the inter-peak and evening peak. A reduction in average journey speed in the inter-peak and evening peak are forecast to be less than 1%.
- 3.4. To put any change in average journey speed into context, an assessment of journeys before and after closure of Westlegate has been undertaken. A route across the city from the east to west (of around 4km) has been chosen as analysis of the model indicates that this is a typical representative journey undertaken by vehicles currently using Westlegate. Analysis shows that a delay of 10-30 seconds per journey can be expected. When considering this delay is on top of a typical journey time of 8-9 mins for this route, this level of delay is small. The higher level of

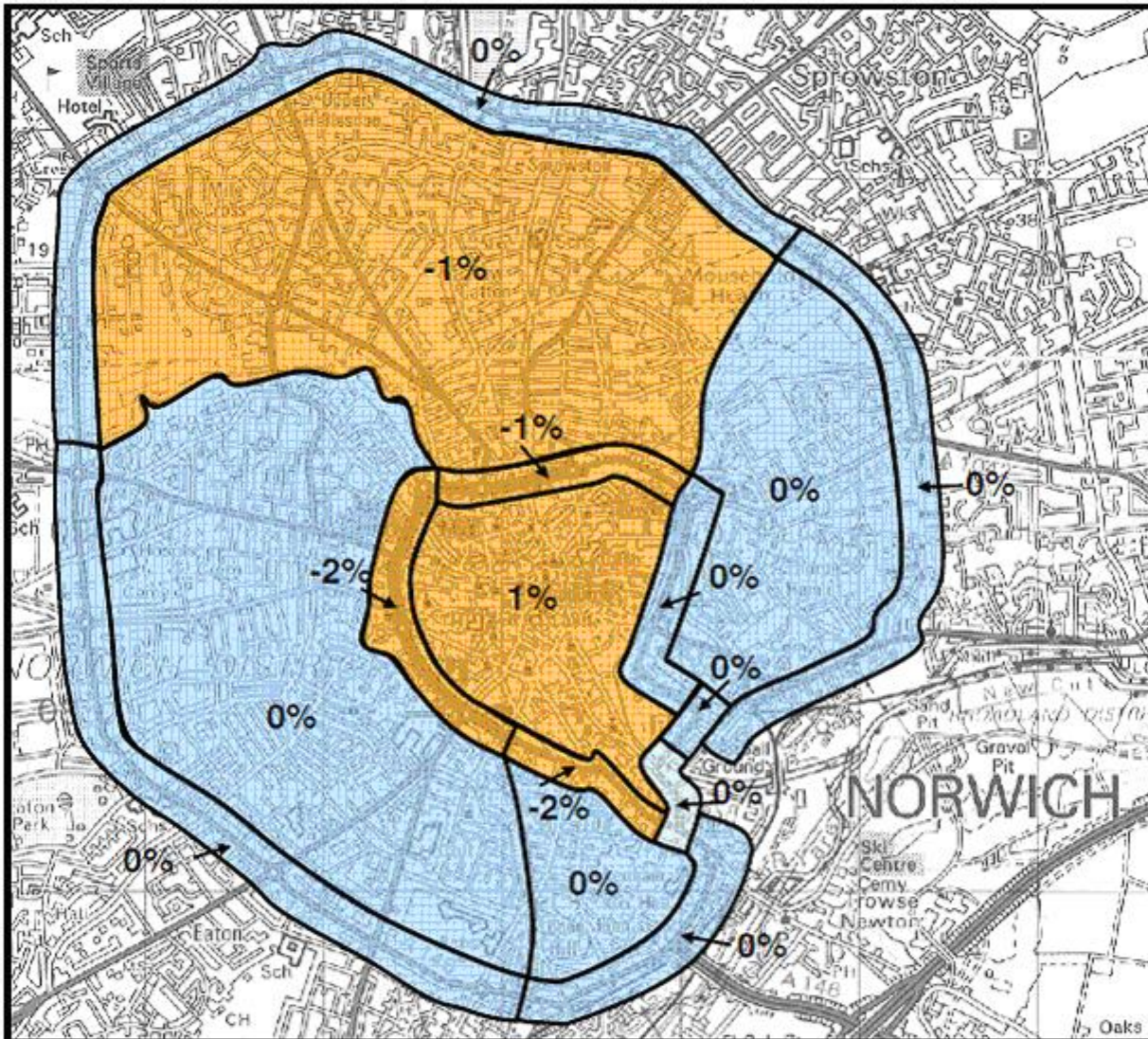
Appendix E – Westlegate Closure

delay can be expected in the morning and evening peaks.





- 3.5. Should closure of Westlegate occur only in the inter-peak period (1000-1600), impacts on wider traffic movements are forecast to be at their lowest.
- 3.6. Plots showing forecasts changes in average journey speed for the three different time periods are shown below.



Appendix E – Westlegate Closure



Predicted Effects of Westlegate Closure in the Interpeak – Change in Average Speeds (km/h)

-  Area with Reduction in Speed >5%
-  Area with Small Change in Speed
-  Area with No change in Speed
-  Area with Increase in Speed >5%

Change in Speed within Outer Ring Road



Appendix E – Westlegate Closure

