Stoke-on-Trent
Local Transport Plan 3
2011/12 - 2025/26

stoke.gov.uk/ltp

city of stoke on trent

Contents

Introduction

Introduction

Welcome to the Local Transport Plan document for Stoke-on-Trent. The following document is intended to explain the forward transport priorities within the area of Stoke-on-Trent with detailed plans for future investment in the period 2011/12 to 2013/14 but also to provide strategy and direction for the next 15 years, to 2025/26.

This document consists of nine Chapters as described below:

- Chapter 1 – describes the priorities of the previous LTP and the schemes and initiatives successfully delivered. This chapter may be of interest to policy makers and local residents;
- Chapter 2 – provides the policy background to this LTP. This chapter may be useful for those who wish to familiarise themselves with high level transport policy;
- Chapter 3 – contains an outline of recent studies conducted locally and some wider issues such as peak oil. Useful for those interested in local policy;
- Chapter 4 – details the current challenges facing the city. Useful for all readers as it provides a valuable basis for the next chapter;
- Chapter 5 – outlines the LTP goals and policies for the period 2011/12 to 2025/26;
- Chapter 6 – Defines the geographical scope of the LTP and considers existing and future travel patterns. This chapter is recommended reading for anybody interested in local transport issues;
- Chapter 7 – provides details the existing networks strengths and weaknesses, this chapter will be useful for people who do not know the area well;
- Chapter 8 – provides an overview of the value and costs associated with the transport network, describes some of the key maintenance issues within the city; and finally
- Chapter 9 – provides suggested transport investment approaches for the city. Everybody will be interested in this chapter.

Within this document, key points are highlighted in boxes as indicated below:

These boxes indicate key points within the document

Chapter 1 – Previous Local Transport Plan 2005/06 to 2010/11 (LTP2)

Chapter 1 – Previous Local Transport Plan 2005/06 to 2010/11 (LTP2)

Introduction

In this chapter the previous Local Transport Plan objectives and achievements are discussed. This LTP was produced in partnership with Staffordshire County Council and covered the whole of the North Staffordshire Urban Area. The LTP was written over a 12 month period leading up to its ratification in March 2006. Whilst it was developed primarily to steer policy and strategy objectives over the period up to April 2011 it also provided a longer term transport vision for the North Staffordshire urban area. Many of these ambitions will be carried forward over the future LTP period though the objectives are likely to be much more tightly drawn in this period due to a number of factors:

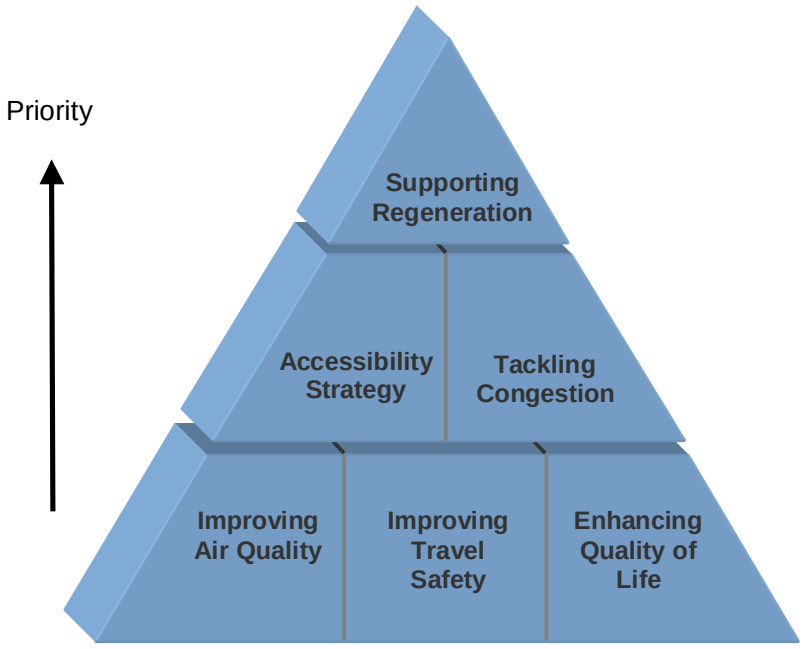
- **This LTP has been generated to specifically cover the area of Stoke-on-Trent City Council**
- **This LTP is being generated to cover a period where public funding is likely to be much more constrained and where there will be much more competition for limited additional funding and grants**

In this chapter the key priorities identified in the previous LTP and the progress against some of the measures that were developed are discussed. At the close of this chapter some particular scheme case studies are outlined which showcase some of the best work undertaken in the previous five years and the commendations that have been received.

Key Priorities Identified in previous LTP (2005/06-2010/11: LTP2)

The previous LTP highlighted seven main priorities over the 5 year period and beyond, as shown in ***Figure 1*** below. Each of these priorities were aligned to the Regional Spatial Strategy principles and to tackling the most pressing local issues. Each of the headings below contained a set of objectives that were expected to be achieved. Allied to this specific 'measures' were intended to work towards these objectives, and indicators to monitor the outcomes. Appendix A provides details of these objectives, measures and indicators.

Figure 1 North Staffordshire LTP (2005/06-2010/11: LTP2) priorities



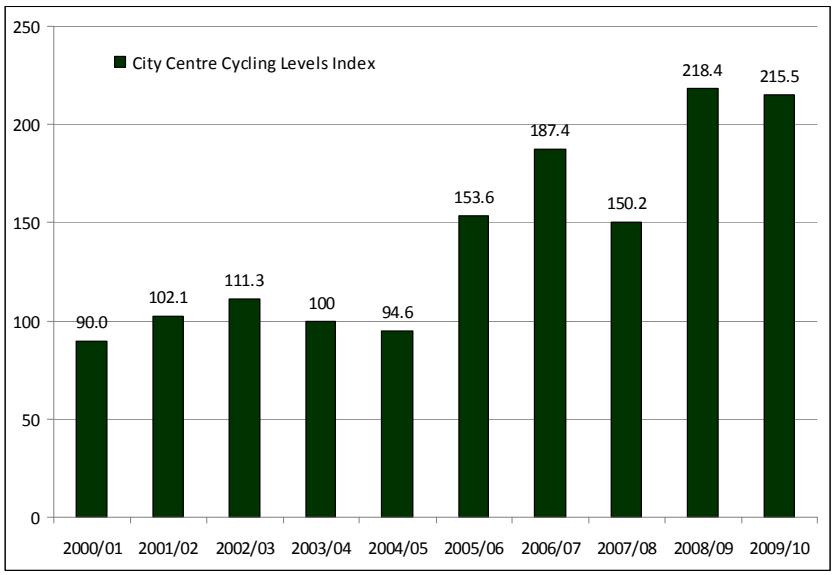
Achievement of LTP2 Outcomes & Scheme Delivery

This section provides details of the progress made locally in implementing specific measures and progress towards the identified outcomes. There are also some specific areas where the implementation of improvements has captured essential 'lessons learnt' such as better promotion of existing infrastructure (for example Greenway Network - the 'hidden gem') and services (buses).

The following indicates that Stoke-on-Trent's Transport Division are developing exemplar skills in the delivery of sustainable infrastructure, in particular cycling facilities but also in the delivery of real behavioural change through concentrated advertising and working in partnership with local businesses, schools and health practitioners.

The Cycling England Cycle Town funding has enabled Stoke-on-Trent to deliver a step change in cycling facilities and promotion locally. The monitored changes in cycling participation indicate that even with some challenging topography cycling can be increased dramatically with targeted investment, for example cycling trips in and out of the City Centre are more than double the level they were 5 years ago – see ***Figure 2*** below. In addition, the requirement to spend fixed budgets within set deadlines and deliver improvements against targets has demonstrated that the City's Highways and Transportation Division is highly capable in the delivery of projects including; fulfilling complex legal obligations, delivering targeted promotion, and new infrastructure and services.

Figure 2 North Staffordshire LTP indicator M13 – Cycling Trips



Other achievements include:

- Bus priority introduced at A34/Maine Street junction
- Improvement works in combination with the Highways Agency and developer funding at the A500/A53 and A500/A34 junctions, the A500 pathfinder major scheme to grade separate the City Road and Stoke Road junctions, and grade separation of the Trentham Lakes A50 junction
- Delivery of the Tunstall Northern Bypass – James Brindley Way, Major Scheme
- City Centre Link Road Major Scheme (Etruria Road to Broad Street) delivered by the City Centre Tesco development
- 58% increases in patronage on the local rail line through the work of the North Staffordshire Community Rail Partnership
- Full coverage of travel plans for local schools and continuous monitoring
- Nearly 30% of employees in a workplace with a travel plan introduced, around double the level at the start of LTP2
- Introduction of the high quality Plum Line bus service using developer contributions linking the City Centre, University Quarter, Stoke-on-Trent Rail Station, Stoke Town, Trentham Lakes and Blurton
- Preparation complete for delivery of the new City Centre Bus Station

There are areas where progress has been slower than originally anticipated, this relates to integration with planning departments, the delivery of bus priority measures and the development of major schemes. In some cases progress has been affected by external factors; for example there have been some significant national policy and guidance changes which have affected delivery. However, going forward, there is a real requirement to work harder to deliver step changes in transport within the urban area and consider how this delivery can be improved with the assistance of other departments.

LTP2 - Successes

Cycle Stoke (Extra Funding for Cycling via Cycling England)

The Cycling England fund has contributed £4.8m of extra funding to Stoke-on-Trent to deliver significant enhancement of cycling routes in the city and to provide an increase in the promotion of cycling. Stoke-on-Trent was chosen as a Cycling Town by Cycling England because of the potential for increased cycling due to the existing cycle network in place and the good promotion and training already taking place, the potential health benefits and commitment shown by Stoke-on-Trent.

Since 2008 Cycle Stoke has launched a number of linked initiatives including:

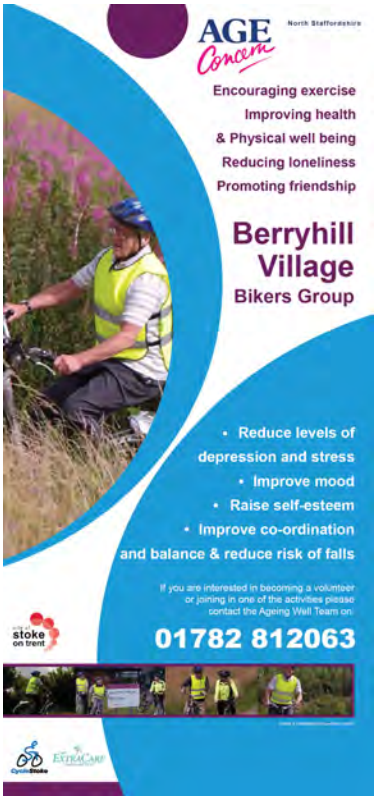
- Construction and improvement of cycle routes, 22 Advanced Stop Lines for cyclists at signalised junctions, cycle permeability schemes and crossings to join up the cycle network and make routes continuous. The City now has over 160kms of cycle routes compared to 124 kms in 2008.
- Leisure rides to discover the 'hidden gem' of these cycle routes along old railway lines, alongside canals and rivers across North Staffordshire.

- Stoke-on-Trent Cycling Map and Guide distributed City wide and beyond, plus 8 circular routes, based on the family leisure rides, and places to see and visit along the routes have been promoted in a set of route maps.
- Work with University Staff and Students on promotion, availability of bikes, bike storage and training.
- Getting Police and City Council Officers on bikes
- Workplace Cycle Challenge – in 2009 companies in the city that had a high number of employees and we knew were proactive in their travel plan were targeted, the challenge led to the level of cycling to work in these companies increasing from an average below 1.5% of employees to 4.3%.

- Cycle Stoke Logo competition - working in partnership with the local paper, the Sentinel, a competition was run to design a logo for the Cycle Stoke project, this generated lots of publicity. A young secondary school pupil, Lewis Boast, was judged the winner and his design has

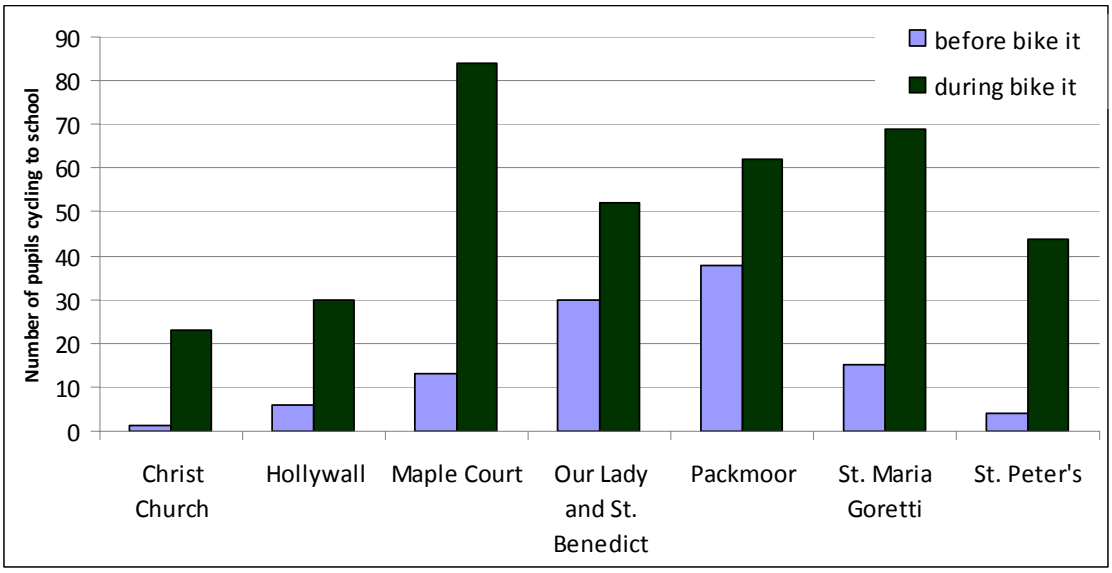
been used throughout the project. The logo competition was featured on the Cycling England website as Scheme of the Month January 2010: http://www.dft.gov.uk/cyclingengland/2010/01/scheme-of-the-month-cycling-town-logo-competition-stoke-on-trent/

- The attraction of top sporting cycle events to the city which in 2010 again includes the 'Halfords Tour Series' and the start and finish of Stage 2 of the Tour of Britain with cycle promotion and participation events. The Tour of Britain is estimated to bring in around £500,000 of additional spend during the event alone.
- Port Vale F.C. Matchday cycle rides from schools along the National Cycle Network to Vale Park and back after the match.
- Spoke City – work with Stoke City F.C. to improve health and fitness levels of supporters through cycling.
- Promotion of cycling and Cycle Stoke project with the local press and radio, car park ticket and bus back advertising.
- Work with Age UK (formerly Age Concern) on a healthy ageing project in the Bradley and Berryhill retirement villages. Cycle Stoke funded 10 lockers and quality comfortable -to-ride bikes in the retirement villages and funding for an Ageing Well Project Worker to go into the retirement villages 12 hours per week following a request for the project from Age Concern. The villages are conveniently located next to pleasant greenways forming part of our local cycle network. Ageing Well Project Worker Kerry Lawler goes into each retirement village every week to teach the residents how to ride a bike before leading each ride. She states that: "It's a great way of getting exercise and it has really had a positive effect on the groups – their fitness levels have improved significantly over the first few months. It is really all about confidence." Residents are enjoying cycling, some having not been on a bike for 20 or 30 years. Riders aged up to 82 have joined regular bike rides to help them remain active and boost their fitness. Riders are mainly in their 70's and have also been accompanied by visiting grandchildren. The residents who have been taking part in the weekly rides have stated that their fitness levels have greatly



improved as a result of the project. The project is encouraging exercise, improving health, reducing loneliness and promoting friendship. This results in physical well being, reduced levels of depression and stress, improved mood, raised self-esteem. There are indirect benefits of reducing injuries from falls because of improved fitness.

- Cycling Confidence camps (Bikeability training for families, women and commuters)
- Safer Routes to School schemes and Bikeability Cycle Training, Cycle Storage and Promotion in Schools, including Sustrans Bike It Officers, as part of school travel plan work. This has lead to an increase in school children travelling to school by bike of nearly 70% City wide, much of the work has been focused on primary schools, the number of children cycling to primary school is 4 times the level before the cycle stoke work. The graph below shows the change in number of children cycling to school from surveys in some of the schools our Sustrans Bike It Officers have been promoting cycling:



The programme delivered to date demonstrates the capability of the City to deliver a co-ordinated series of schemes to a set programme and budget. The best successes have occurred by working with enthusiastic champions of cycling, these include head teachers,

teachers, university lecturers and staff, the employers and employees at large workplaces, and working with existing community networks, such as residents associations and football club community networks. Many of these improvements and projects have been suggested by local people via a 'your ideas' form on the cycling pages of the City Council website for the project. More information on the latest projects can be found on the cycling pages of the City Council website: http://www.stoke.gov.uk/ccm/navigation/transport-and-streets-/cycling/.

This work has lead to an increase in cycling across the City. Comparing the numbers counted at monitoring locations already in place (both on highway and on greenways) at the start of 2008/09 with the same locations in 2010/11 there is an average increase of around 28% in the numbers of cyclists recorded. Figure 2 (shown previously) shows that cycling in the City Centre has now doubled compared to levels during LTP1. Far more monitoring has commenced during the Cycle Stoke project to gain a more comprehensive picture of cycling levels. A full evaluation is to be carried out by Sustrans for Cycling England regarding increases in cycling as a result of the Cycle Stoke project.

Community Rail Partnership

Community Rail Partnerships (CRPs) are a means by which stakeholders along a rail corridor can play an active role in the development of their local rail service. The North Staffordshire Community Rail Partnership joins local authorities, businesses and community groups with the aim of improving the North Staffordshire Line (Crewe-Stoke-Derby). Current partners are North Staffordshire Line train operator East Midlands Trains; Cheshire East Council; Derbyshire and Staffordshire County Councils; Stoke-on-Trent City Council; the North Staffordshire Rail Promotion Group and Railfuture (West Midlands branch).

The North Staffordshire Community Rail Partnership (CRP) is once again on the shortlist for two National Community Rail Awards. The Partnership works to promote and develop the North Staffordshire Line (Crewe to Derby route) and has been selected for the following two categories:

'Involving Young People' category: The Partnership has been shortlisted for the children's community project for Kidsgrove station, led by Clough Hall High School, in which children from five Kidsgrove schools pooled their artistic and gardening talents to improve the station frontage.

For 'Best Marketing Publication': The Partnership's visitor guide for the line, which signposts passengers to local tourist attractions, and a series of associated posters advertising great days out, off peak fares and connections to London via Derby station, have been shortlisted.

The awards are presented annually by the Association of Community Rail Partnerships (ACoRP) and are judged by representatives from throughout the rail industry. ACoRP works with local, regional and national bodies to ensure that the role of local rail is recognised.

The Partnership has already won a number of awards since beginning in 2005. In 2007, Faye Lambert was awarded a Central Trains Superpartner award. This was followed in 2008 at the National Community Rail Awards with a First in the Most Improved Station (for Longport and Longton stations), and Outstanding Community Rail Project Officer categories and Third in the Passengers Matter category for station security improvements.

Councillor Brian Ward, cabinet member for housing, planning and transportation said: "With 60 Community Rail Partnerships across the country competing for an ACoRP award, we know that competition is always extremely tough so we are delighted that we are one of the partnerships selected. By working with our partner organisations we are able to create a passenger friendly service which connects Stoke-on-Trent with other areas within the Midlands."

Claire Ansley, Route Manager for East Midlands Trains, said: "The North Staffordshire CRP team have done some fantastic work promoting the Crewe to Derby line and they truly deserve this recognition. We wish them lots of luck at the awards."

Earlier this month, projects delivered by the Partnership and station adoption volunteers to improve Blythe Bridge station were recognised by train operator East Midlands Trains with the award of Best Small Station of the Year 2010.

Highway Schemes – Tackling congestion

Hartshill Road/Shelton New Road Junction –

This scheme saw an upgrade to the previously complex junction of the A52 Hartshill Road with the B5045 Shelton New Road at the border of Stoke-on-Trent and Newcastle-under-Lyme. It was implemented to reduce accidents and tackle congestion. The scheme involved the construction of a four armed roundabout, cycle facilities, new pedestrian/cycle crossings and loading facilities for local businesses. Key bus routes between Newcastle-under-Lyme and Stoke-on-Trent run along both the A52 and B5055 and the scheme seeks to improve bus journey reliability through the junction. The scheme also provides improved landscaping for the pedestrian and cycle routes, this was possible by combining the Integrated Transport Block funds with Greening for Growth funding to achieve a better scheme. Together with the economic benefits arising from the relief of congestion and improved journey reliability, the improved quality of the local environment has helped to support local business, for example the Greyhound pub on Hartshill Road was closed, but bucking national trends of pub closures, underwent a major refurbishment reopening as a Titanic pub.

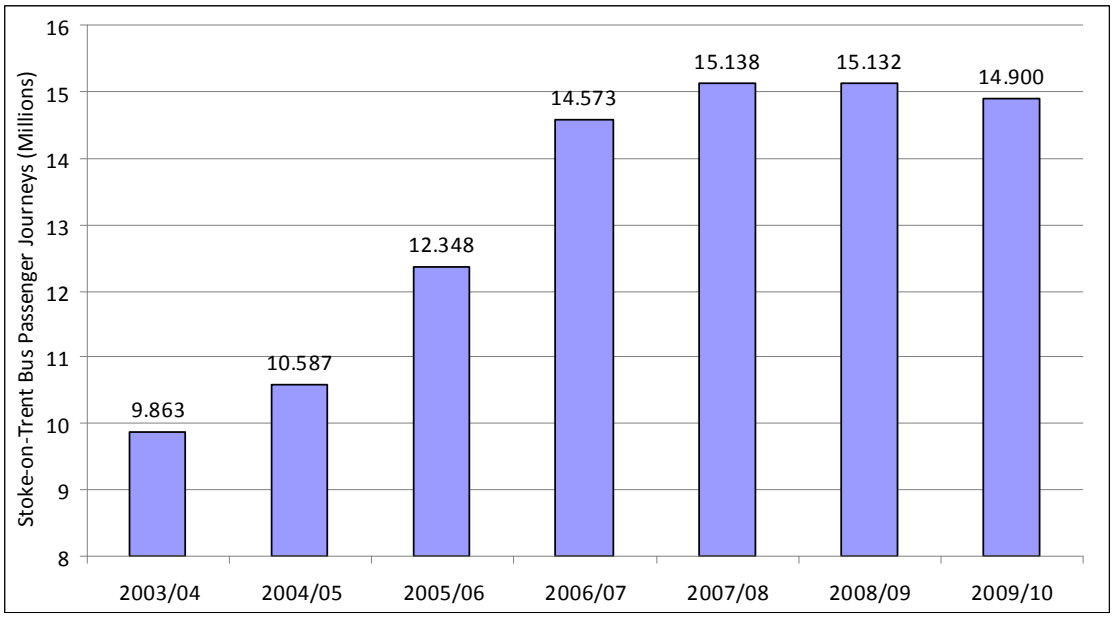
Tunstall Northern Bypass

In 2006 the much needed Tunstall Northern Bypass commenced on site. This scheme was funded primarily by the Department of Transport and completes the principle road network to the north of the City opening up valuable development land for improved housing and providing access to a regional investment site known as Chatterley Valley.

The scheme was completed 2008 and recent evaluation suggests that the route has met the original objectives defined in the submitted business case.

Bus Partnership – Increased patronage and satisfaction

The number of bus passenger boardings within Stoke-on-Trent has been recorded by bus operators and collated by the City Council in a consistent methodology since 2003/04. As shown in the graph below, from the baseline of 9.863 million boardings in 2003/04, bus patronage in Stoke-on-Trent increased year on year, peaking in 2007/08 before the global recession hit, with a slight decline in 2008/09 and 2009/10.



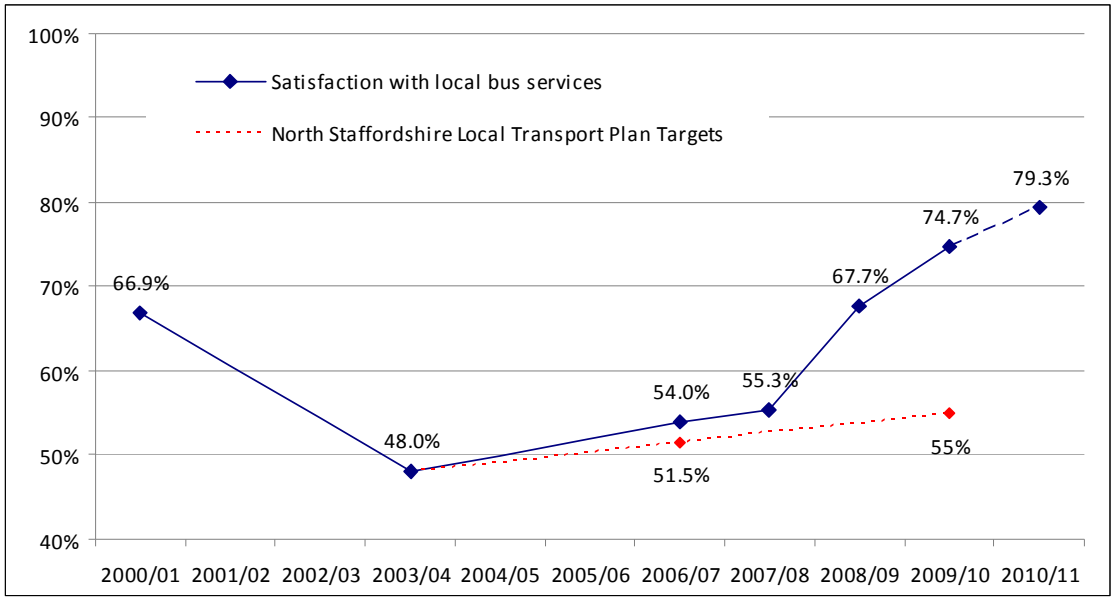
The quality of bus services is a key factor in retaining existing customers and attracting new ones. We have led on a number of initiatives with bus operators to improve the quality of bus services in North Staffordshire and a Core Bus Network (CBN) Agreement has been signed with three distinct sections:

- Core Bus Network – to concentrate improvements on the most strategic parts of the local bus network.
- Quality Bus Partnership – to target improvements on routes along which services utilise the core bus network.
- Punctuality Improvement Partnership – reliability and punctuality targets.

This has seen a number of improvements to many services such as new buses, a guarantee of information at all stops and on all buses, new bus stops with raised kerbs and bus priority measures.

The graph below shows bus satisfaction in Stoke-on-Trent. Bus satisfaction was measured by wider household surveys carried out every third year, reported as a percentage of bus users satisfied with local bus services. The base year figure in 2000/01 was 66.9%. The 2003/04 results indicated that only 48.9% of users were satisfied, due to dissatisfaction at the time with the major provider in the area, First plc. At the time the surveys were carried out there was a lot of local press coverage of the operator who were subject to an inquiry by the Traffic Commissioner. This lead to the number of operating licences being halved. Since then First plc have regained licences and continue to invest in their bus operations in North Staffordshire. By 2006/07 satisfaction recovered to 54%, ahead of the target in the North Staffordshire Local Transport Plan of 51.5%. Since 2006/07 we have switched to an annual

programme of well over a 1,000 at stop surveys of satisfaction. During this period bus user satisfaction has increased each year, with a figure of 74.7% of users 'fairly' or 'very satisfied' compared to the target of 55% for 2009/10. With most of the programme of surveys completed for 2010/11, the results so far are that 79.3% of bus users are satisfied, a further increase.



Following previous success through purchasing buses with the Award Winning City Rider bus services, an Optare Versa bus was bought for service 62 in the North East of the City (Tunstall - Burslem - Haywood Hospital – Bradeley - Ball Green – Norton - Milton – City Centre Hanley). An Optare Versa bus was also purchased for the introduction of the high quality Plum Line bus service operated using developer contributions, linking the City Centre, University Quarter, Stoke-on-Trent Rail Station, Stoke Town, Trentham Lakes and Blurton. In September 2008 Stoke-on-Trent City Council introduced a fully refurbished low-floor bus to service 58 (City Centre - Etruria Locks - Stoke - Penkhull), Wardle Transport has kept a small team of dedicated drivers on this route whose high standards have proved extremely popular with regular passengers. Weekly patronage on the Plum Line has almost doubled from 611 to 1107 passengers between March 2009 and September 2010. Service 58 has also seen a steady increase in patronage in the past two years from 749 weekly passengers to 951 weekly passengers in September 2010; before the change in operator and updated vehicle, patronage was estimated to be 600 passengers per week.

Bus Priority Case Study - Mayne Street/A34 Stone Road Junction


St Teresas SRtS: Before


St Teresas SRtS: Construction


St Teresas SRtS: Complete

After working closely with the Highways Agency, improvement works at the A34 Stone Road/Mayne Street junction were carried out at the same time as works to improve the A500(T)/A34 Hanford Roundabout nearby. These improvements benefit pedestrians, motorists, cyclists, school children and bus passengers.

The scheme at the Mayne Street/Stone Road junction aimed to reduce delays, particularly for bus passengers. This junction has been redesigned in response to concerns from bus operators and includes bus priority measures. These measures include a bus lane to the junction, advanced green light for buses at the traffic signals which allow buses to leave the Mayne Street junction ahead of other vehicles, and improved bus stops. It is hoped these improvements will help to improve reliability of buses serving the Hanford and Trentham areas (Services 21, 21A & 22). New contra-flow cycle facilities on Mayne Street, which form a link to the River Trent Path Greenway, are also part of the scheme.

Linked traffic signals have been installed on the A34 Stone Road on the approach to Hanford roundabout. These new traffic signals aim to reduce traffic delays on the A34, which is the route of the 101 and X1 bus services. In addition, pedestrian safety has been improved following the installation of a signalised pedestrian crossing on A34 Stone Road to help people cross the dual carriageway.

At the A500(T)/A34 Hanford Roundabout, changes to the traffic signal phasing has improved traffic flows through the roundabout. An unpopular pedestrian subway has also been removed as part of the scheme and replaced with at grade Toucan Crossings. This scheme also links to the St Teresa's Safer Routes to School scheme that included widening the existing footway to provide an adjacent foot/cycleway on the north side of A34 Stone

Road and marking an adjacent foot/cycleway on the south side, plus the conversion of the existing pelican crossing to a toucan crossing.

Case Study – Completing NCN55 through Stoke-on-Trent

The Whitfield Valley to Norton Greenway through North Staffordshire forms part of National Cycle Network Route 55. NCN Route 55 runs from NCN5 in Central Forest Park near to the City Centre, through signed quiet streets to the Greenway then North out of Stoke-on-Trent onto Bidulph, Congleton, Manchester and Preston.


NCN55 Bridge: Construction

The route along a former railway line has links into large areas of existing and new housing and, via Safer Routes to School schemes, to primary and secondary schools, such as Burnwood Community Primary School. The Greenway provides links to the Ford Green Hall Museum, Ford Green Nature Reserve, and the Scheduled Ancient Monument of Chatterley Whitfield Colliery.


NCN55 Bridge: Complete

The route was completed with the new Bridge over the busy A527 Bidulph Road. The bridge has a striking appearance and forms an impressive gateway when entering Stoke-on-Trent. It gives pedestrians, cyclists and equestrians access to 5km of greenway completely away from the highway environment along this length of the NCN55. The bridge was funded jointly from LTP and Greening for Growth. It was officially opened on 19th April 2007 by John Grimshaw, (former Chief Executive and founder of Sustrans). After being escorted along this and other routes by Local Sustrans' volunteer rangers and City Council Officers, John Grimshaw said "the network of Greenways is the best in the country that I've seen." Elected Mayor Mark Meredith cycled with local school children from Burnwood Primary to meet John and to jointly open the bridge. Joan Walley MP also gave her support and encouragement for the new bridge as it forms an important link on NCN 55.


NCN55 Bridge: Complete


NCN55 Bridge: Opening

The road was closed to traffic on three Sundays in January 2007 when two cranes worked together to lift sections of the bridge into place. The main structure consists of steel sections, there is a concrete deck and the bridge sits on four piled concrete abutments. The deck is hung by cables from two large arches 6 metres above the road surface. The bridge is 50 metres long, 3.5 metres wide. The structure weighs 64 tonnes.

The Greenway which the bridge completes was used in a case Study by Sustrans' in their National Cycle Network Route Monitoring Report (To end of 2005) as an example of how 'Improving and extending traffic-free routes encourages people to change their travel behaviour'. The Sustrans case study provides analysis of pedestrian and cycle usage on the Greenway:

The data below is based on surveys of in autumn 2002 and autumn 2005.

- **the number of commuting trips increased by 48%**
- **there was a 175% increase in those choosing not to use their car, from 3,000 to 9,000**
- **total usage increased 91% from 25,000 to 48,000**
- **there was a 73% increase in children using the route, from 9,000 to 16,000**
- **the number of women using the route increased by 117%, from 10,000 to 22,500**
- **4,000 users accessing the route in 2005 were registered disabled, compared to 1,000 in 2002."**

The full report is available from the Sustrans website: www.sustrans.org.uk

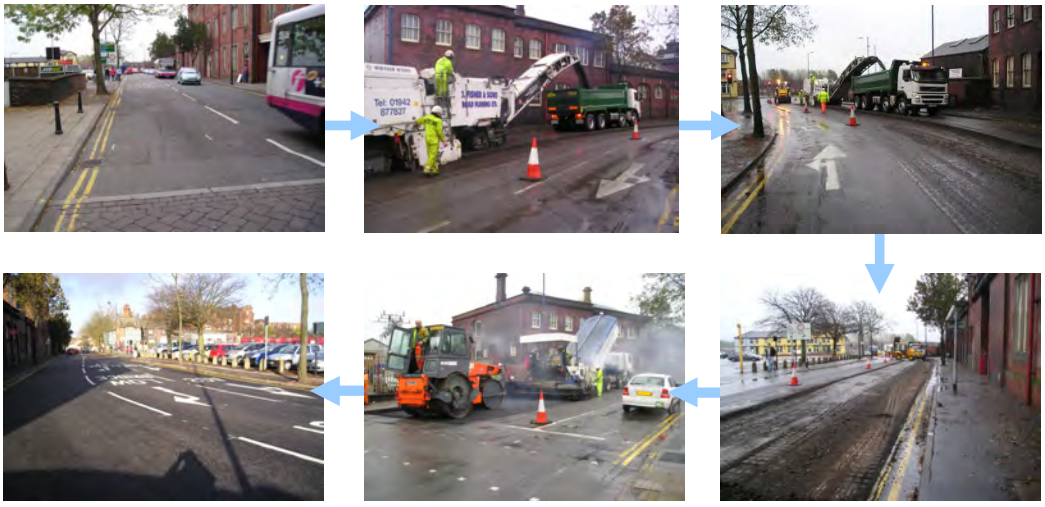
Analysis of follow up surveys conducted in 2007 shows that Sustrans estimated annual number of cycle trips on the Greenway at Ford Green have again increased, from 6,585 in 2005 to 14,167 in 2007 – over a 115% increase in two years. Furthermore the analysis finds that 92.9% of cyclists on the route state that the route has helped them increase the amount of physical activity that they take on a regular basis. Based on 2009 surveys the estimated annual number of cycle trips has continued to increase to 16,787, a further 18.5% than 2007, even though a section of the NCN 55 to the north was temporarily diverted off the greenway due to the redevelopment of the former Chatterley Whitfield Colliery into a Heritage Country Park. From 2005 to 2009 the estimated annual usage has increased 155%.

Through Integrated Transport Block, Greening for Growth, Developer Contributions and Cycling England funding, a network of over 86 kilometres of off highway Greenways along

former railway lines and through parks together with Canal Towpaths and River Paths, have been installed and improved to create an extensive network. We rate this off-road network as one of the best in the country. This includes the two National Cycle Network routes that come together in the core of Stoke-on-Trent, NCN 5 and 55, which also utilise on highway facilities and signed routes. A network of local on road and signed routes is also being joined up providing links to the NCN routes and between homes, employment and our town centres. Together with bus lanes which are useful to cyclists, this network stands at over 160km of cycle routes in Stoke-on-Trent. As shown on the Stoke-on-Trent and Newcastle-under-Lyme Cycle Map and guide, these are further complemented by many advisory routes along roads that are quiet, have been traffic calmed, are 20 mph zones and allow pedestrian and cycle permeability, whilst wider routes into Staffordshire and beyond are also available. A recent Cycling England Cycling Towns Cluster meeting held in the city identified this network as a ‘Hidden Gem’ ripe for promoting to the travelling public.

Case Study – Station Road Capital Maintenance Scheme

Resurfacing of Station Road between Leek Road and College Road was completed as part of the 2007/08 capital maintenance works. The work was carried out outside of peak times to reduce disruption on this important part of the highway network. The road is an important gateway to North Staffordshire running in front of Stoke-on-Trent Railway Station. Many bus services from the South and East of North Staffordshire to the City Centre converge along this stretch of highway. The National Cycle Network Route 5 also runs along this section en-route to the City Centre. In recent years Station Road has had extra usage; during construction of the A500 Pathfinder major scheme as it is a parallel route to the A500, and also being frequently used by extensive coach rail replacement services for access to the Railway Station during the West Coast Mainline upgrade and other rail engineering projects. This extra usage increased the need for maintenance, but also the maintenance was programmed to be carried out once these major projects were completed to avoid further disruption. The photos below document the work carried out to improve the highway condition.



Chapter 2 – This Local Transport Plan; National and Local Policy Background

Chapter 2 – This Local Transport Plan; National and Local Policy Background

Introduction

In this chapter the policy background that encompasses this forward LTP is discussed. Whilst many of the previous LTPs objectives do remain valid today, there have been some significant reports issued by central government since 2005 that have had a material bearing on the policy approaches that are exist today.

In this chapter we commence with a brief overview of some of these key studies and the subsequent policy, before considering the local planning policies that will inform this LTP. For many people transport provision and future spending is driven by the perceptions of conditions on the ground today, however LTP documents are devised to consider not just the present, but to a large extent – the future. This requires a degree of prediction in relation to how development and planning will impact on the requirement for certain modes of transport. This ensures that investment in transport over the coming years works towards wider improvements to be made over the next 15 years.

National Studies and Policies – Eddington, Stern and 'Delivering a Sustainable Transport System'

The Eddington Transport Study

The Eddington Report[1] demonstrated that the performance of the UK's transport networks is an enabler of sustained productivity and competitiveness. A 5 per cent reduction in travel time for all business travel on the roads could generate around £2.5 billion of cost savings, some 0.2 per cent of GDP. Good transport systems support the productivity of urban areas, supporting deep and productive labour markets, and allowing businesses to reap the benefits of agglomeration[2]. Transport corridors are the arteries of domestic and international trade, boosting the competitiveness of the UK economy.

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[1] The Eddington Transport Study, December 2006

[2] The concentration or clustering of firms and workers, typically in urban areas or industrial locations, are known as agglomerations.

Eddington recommended that the strategic economic priorities for long-term transport policy should be growing and congested urban areas and their catchments and the key inter-urban corridors and key international gateways that are showing signs of increasing congestion and unreliability. Government should focus on these areas because they are heavily used, of growing economic importance, and showing signs of congestion and unreliability, and these problems are set to get significantly worse. They are the places where transport constraints have significant potential to hold back economic growth.

Eddington concluded that taking action to deal with those areas where unreliability, congestion and crowding is affecting businesses' ability to meet with their clients, get their goods efficiently to market, or preventing them from employing the best people for the job should be a priority. The analysis carried out for the Eddington study showed that 8 per cent of UK road traffic is already subject to very congested conditions, and that, without action, congestion in the UK as a whole is likely to increase by a further 30 per cent by 2025. This increased congestion could see costs to business and freight rise to over £10 billion a year.

The Stern Review

The Stern Review on the Economics of Climate Change was the most comprehensive review ever carried out on the economics of climate change. The key message of the review was that climate change is a result of the externality associated with greenhouse-gas emissions – it entails costs that are not paid for by those who create the emissions.

The Stern Review makes it clear that the option of being 'rich and dirty' does not exist, because catastrophic climate change would have a huge economic cost, as well as damaging people's lives and the planet. But nor do we have to be 'poor' to be 'green'. Stern says developed countries must cut carbon dioxide (CO_2) emissions by at least 60 per cent by 2050, but that this can be achieved at a material, but manageable global cost of 1 per cent of GDP provided the right policies are put in place (although for developed countries like the UK this cost could be higher). This cost is significant, but is far lower than the costs of inaction. Similarly, the costs of failing to adapt to a changing climate would exceed those of taking early action. Transport is a major emitter of CO_2 in the UK, contributing about 23 per cent of UK domestic CO_2 emissions.

The Government recognised that urgent action to tackle transport emissions of CO_2 and other greenhouse gases is necessary and was committed to doing so in a deliverable, measurable, and cost-effective manner. In response to the Stern Review the Government looked at four principal areas of policy to meet its obligations to reduce the carbon output from transport. These were:

- To increase the fuel efficiency of vehicles and develop new technologies aimed at reducing the emissions of vehicles;
- To encourage a move towards more environmentally friendly forms of transport, particularly walking and cycling;
- To include transport in emissions trading schemes; and
- To reduce the fossil carbon content of transport fuel.

Delivering a Sustainable Transport System

Following the publication of the Stern and Eddington reports the Department for Transport embarked on a policy review process building upon the recommendations from both studies and the 'Towards a Sustainable Transport System' white paper. The resultant policy document 'Delivering a Sustainable Transport System' (DaSTS) embodies five national goals for transport:

- **To support national economic competitiveness and growth, by delivering reliable and efficient transport networks;**
- **To reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change;**
- **To contribute to better safety, security and health and longer life expectancy by reducing the risk of death, injury or illness arising from transport, and by promoting travel modes that are beneficial to health;**
- **To promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society; and**
- **To improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.**

The Government has identified the central challenge in DaSTS as that of supporting economic growth whilst reducing carbon emissions. In their guidance on DaSTS (produced in 2006), the DfT noted that:

- Reductions in greenhouse gas emissions as a result of transport interventions should be quantified in the scheme appraisal process

- The budgets for Regional Funding Allocation (RFA) 3 are currently unknown but, given current Government budget deficits, may be limited[3]
- Emphasis should be given to schemes of low-cost but high value
- Schemes (interventions) should be developed which are highly deliverable, i.e. as and when funding becomes available

Creating Growth Cutting Carbon, Making Sustainable Local Transport Happen (White Paper Jan 2011)

This White Paper was not released in time for the initial consultation on the LTP, however much of the information contained in this doscument is well covered within the LTP. The White Paper highlights the large number of trips under 5 miles which are undertaken in the UK and discusses the many opportunities to transfer these journeys to more sustainable modes such as walking, cycling and public transport.

The White Paper identifies that many UK car drivers would be willing to switch modes for some journeys if viable alternatives could be made available and that local transport investment should help promote 'choice' for these trips. It is also accepted within the White Paper and this LTP that not all trips can be easily made by other modes and that there is a place for car use in local and national transport planning. Central Government will seek to reduce the wider social costs of car use through investment in electric vehicles and the Government expects mass electric vehicle ownership by 2030.

This is part of a number of wider initiatives being undertaken to simplify funding, decentralise land-use planning and increase transparency/accountability.

In terms of central government commits in relation to transport the White Paper details the following areas of investment:

- Funding for Bikability training (training provided to young children on safe cycling);
- Enabling smart ticketing for most public transport journeys by December 2014 (smart tickets will allow users to buy plastic cards which will store credit to enable use of different transport modes without having to purchase multiple tickets; likely to be similar to the Oyster Card in London);

[3] Notes to readers: the Regional Funding Allocation is part of the regional structure implemented by the previous Government, this regional structure has been broken up and much of the larger scheme promotion will come via Local Enterprise Partnerships (LEPs) or Local Authorities.

- Reviewing transport appraisal to take into account carbon impacts;
- Setting out a road safety strategy; and
- Reviewing traffic signs policy to allow local authorities to reduce the number of signs and introduce innovative traffic management measures.

The White Paper provides a useful analysis of local transport behaviour and its estimated impacts on health, economy and carbon emissions also providing details of local transport interventions which have worked well across the country. The LTP covers many of these issues and provides links to the particular aims of the city and areas of particular concern, as a result this LTP fits well with the White Paper.

Future Transport Policy Changes

In late June 2010 the Department for Business, Innovation and Skills released a letter to all Local Authority Leaders and Business Leaders in additional to Local Authority Chief Executives launching the concept of 'Local Enterprise Partnerships' (LEPs).

These partnerships are intended to take over some of the functions which were previously managed by Regional Development Agencies (RDAs). For Stoke-on-Trent, the relevant RDA was Advantage West Midlands. The 'Local Growth' White Paper suggests that LEPs should be involved with:

- working with Government to set out key investment priorities, including transport infrastructure and supporting or coordinating project delivery;
- coordinating proposals or bidding directly for the Regional Growth Fund;
- supporting high growth businesses, for example through involvement in bringing together and supporting consortia to run new growth hubs;
- making representation on the development of national planning policy and ensuring business is involved in the development and consideration of strategic planning applications;
- lead changes in how businesses are regulated locally;
- strategic housing delivery, including pooling and aligning funding streams to support this;
- working with local employers, Jobcentre Plus and learning providers to help local workless people into jobs;
- coordinating approaches to leveraging funding from the private sector;
- exploring opportunities for developing financial and non-financial incentives on renewable energy projects and Green Deal; and

- becoming involved in delivery of other national priorities such as digital infrastructure.

In Stoke-on-Trent the LEP is formulated in conjunction with Staffordshire County Council. Just prior to the submission deadline East Staffordshire, Tamworth and Lichfield joined the Birmingham and Solihull LEP therefore these districts have membership to both LEPs. The LEP proposal for Stoke-on-Trent and Staffordshire defines the scope of the LEP and its objectives as detailed below[4]:

Scope:

- **Set a clear vision and strategic direction for the area's economic development;**
- **Agree a Delivery Plan with SMART targets;**
- **Secure, co-ordinate and manage resources to deliver objectives;**
- **Manage performance.**

We will tackle our area's "enterprise deficit". We will do this in two ways:
(a) Through creating an enterprising culture amongst young people and adults alike.
(b) Through addressing barriers to enterprise: Access To Finance; a good Portfolio of Business Premises; opening up supply chains to local small providers; extending business mentoring networks.
We will encourage all public bodies and social landlords within Stoke-on-Trent and Staffordshire to sign up to a Public Procurement Compact. This will ensure that all large contracts tendered will include clauses securing local employment and skills outcomes, as well as benefiting the local supply chain.
Partners recognise that in the current financial circumstances this will involve difficult, but essential, decisions around the allocation of scarce resources.
The LEP will also wish to play a key role in supporting local businesses, whilst recognising the need to avoid overlap and duplication between what is delivered nationally and locally. Local partners would wish to support new business starts and survival, trade development and export promotion, innovation, key sector support activities, and finance to business.

[4] This scope is taken from the original LEP submission and is likely to be amended as the LEP develops.

Marketing Stoke-on-Trent in Staffordshire to attract visitors, inward investors, students and workers is a key component of our strategy. The work of the Staffordshire Destination Management Partnership and the coordination of inward investment services should where appropriate also come within the remit of the LEP. Partners will continue to exploit all the funding streams available to support the economic regeneration of Stoke-on-Trent in Staffordshire including opportunities such as the Regional Growth Fund. Partners will be making a comprehensive bid by December 2010.

The LEP will adopt a "Total Place" approach in developing its investment thinking, looking at investment across funding streams to maximise impact. An example of this is the work in the Blake area of Cannock Chase.

In terms of housing and transport planning it is unclear what influence the LEP will have, unlike many other areas in the UK Stoke-on-Trent has a clear forward strategy defined in the Adopted Core Strategy, and as such a clear direction is defined for Stoke-on-Trent and the surrounding area. Nonetheless the LEP is expected to provide critical support to any bids for further funding, particularly for the Regional Growth Fund (RGF). The RGF has the following key objectives:

- stimulate enterprise by providing support for projects and programmes with significant potential for economic growth and create additional sustainable private sector employment; and
- support in particular those areas and communities that are currently dependent on the public sector make the transition to sustainable private sector-led growth and prosperity.

The fund is expected total £1.4bn over 4 years and any authority in England can apply to the fund, though it is accepted that more prosperous areas may struggle to fulfil the second objective of the fund. Stoke-on-Trent and Staffordshire LEP have submitted a number of bids to the fund, including:

- Media Place – a proposal to…
- Central Business District - ….
- East West Phase One - ….
- Centre of Refurbishment Excellence - …
- Energy Reduction in Ceramics - …

Local Planning Policy

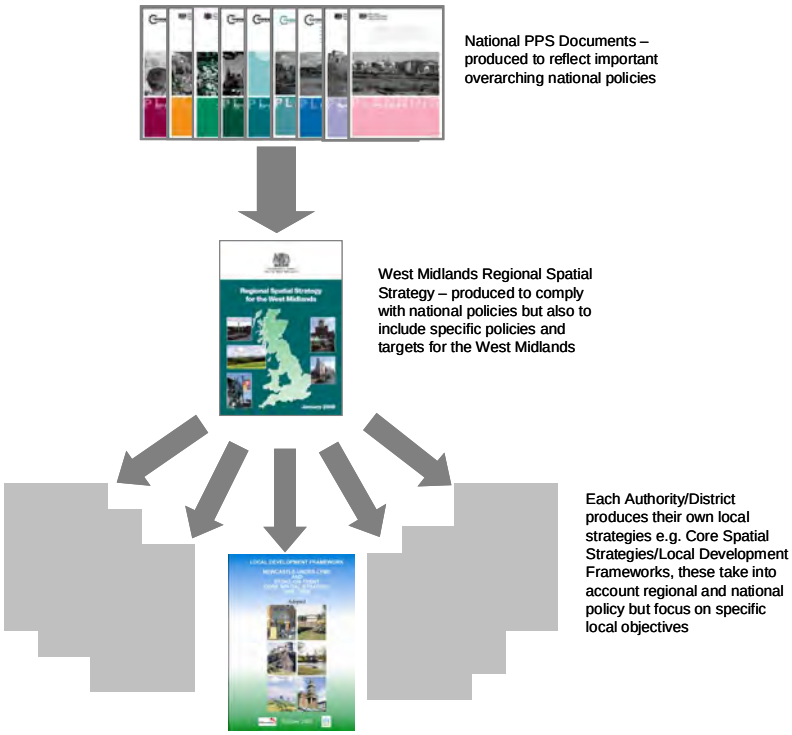
Planning for transport is a process which requires careful analysis of the potential future trends which will affect the need for, and use of, transport infrastructure and services. The demand for transport is intrinsically linked to wider economic trends; for example changes in the demand for goods and services, the price of fuel, the demand for and construction of new housing and the placement of employment.

Many of these factors are influenced by national, regional and local planning policies. These policies consider the best locations for new housing, the level of provision required, the future requirements of employers in terms of commercial/industrial office mix and the most appropriate locations for these uses. Policies are also written which protect green spaces, encourage moves to develop economies in a more sustainable way and to protect historic or culturally important areas and buildings.

The guiding planning principles are clearly stated in national Planning Policy Statements and these must be taken into account when developing regional or local planning policies. Until recently, housing and employment targets were defined at a regional level and regional planning principles were published in Regional Spatial Strategies. The West Midlands Regional Spatial Strategy completed Phase 1 of its revisions (prior to full approval) in January 2008, the Phase 2 alterations were originally expected to be completed by July 2010 – this phase would have been particularly important as it would have defined the levels of housing and employment growth expected to be delivered over the RSS period.

At the time of writing there is some uncertainty surrounding the future of these regional strategies, it is expected that the current government will embark upon legislative changes which will abolish this level of planning policy. Nonetheless, the RSS cannot be completely ignored as it forms a key link in the policy hierarchy which leads to national policy. The planning policy hierarchy is illustrated in ***Figure 3*** below.

Figure 3 Planning Policy Hierarchy



As a result of this approach, policies are not repeated throughout every document; instead, each document develops a link to the next in the hierarchy. As a result the RSS contains the links between the local polices in the adopted Core Strategy for Stoke-on-Trent and Newcastle-under-Lyme and the national policies in the Planning Policy Statements.

It is not yet clear how the wider changes in planning policy will affect the local policies enshrined in the adopted Core Strategy, however for the purpose of this document and to gain an understanding of the planning principles which will impact on transport provision we have focussed on the Core Strategy as it is adopted (which means it has gone through consultation, public examination and been approved by the planning inspectorate) and is likely to remain as a key policy document even with the removal of the RSS.

The Adopted Core Strategy for Stoke-on-Trent and Newcastle-under-Lyme

The core strategy which covers Stoke-on-Trent was adopted in October 2009. The strategy seeks to set out the overall vision for the future regeneration of the North Staffordshire area stated as:

'The Borough of Newcastle-under-Lyme and the City of Stoke-on-Trent will be a prosperous, vibrant, environmentally responsible and successful area of choice for businesses, visitors and residents in the period up to 2026.'[5]

To achieve this, the core strategy identifies that the area must:

- Retain existing population;
- Raise income levels;
- Strengthen housing markets;
- Improve the health and well being of the population; and
- Enhance the reputation of the area.

To provide detailed policy guidance the area was split into six distinct districts with different policies and visions pertaining to each. This approach captures the inherent differences in the starting points of each area and the likely investment targets that will drive economic prosperity, not just within these individual districts but in the plan area as a whole. ***Figure 4*** below illustrates these districts.

[5] Page 32 – Newcastle-under-Lyme and Stoke-on-Trent Core Strategy (Oct 2009)

Figure 4 The Core Strategy Districts

Clearly this LTP is primarily concerned with the policies which relate to the Stoke-on-Trent city area. However there are also a number of Strategic Aims which have been devised for the whole area – a selection of the strategic aims (where they pertain to, or impact upon, potential transport strategy) are provided in ***Table 1*** below with a brief outline of how these aims steer transport strategies for the future.

Table 1 Strategic Aims and Links to Transport Policy

Strategic Aim[6] (where relating to transport policy)	**Transport Strategy Implications**
(SA2) – To facilitate delivery of the best of healthy urban living in the development of the conurbation and to ensure that new development makes adequate provision for all necessary community facilities including health care, education, sports and recreation and leisure and that the quality and accessibility of existing facilities are enhanced and retained where they provide for the justified community needs	Developers and local planning officers to be provided with support and advice with respect to access arrangements for all modes to improve links between new development and existing facilities and design guidelines with respect to on site provision of access roads, footways and cycling facilities. In addition sites which are identified as key areas for new development will be considered for additional support in terms of wider links with existing transport networks
(SA3) - To reduce the need to travel, improve accessibility and increase the opportunities for development of sustainable and innovative modes of travel to support the regeneration of the plan area by securing improvements to facilities to promote walking and cycling, public transport infrastructure; and the progressive provision of park and ride and facilities to promote walking and cycling	Development of transport guidelines for developers on standards of analysis and design in relation to accessibility. In addition the development of a contributions approach to transport schemes
(SA7) - To enhance the City Centre of Stoke-on-Trent's role as sub regional commercial centre; to help Newcastle Town Centre to continue to thrive as a strategic centre, both within a network of accessible and complementary, vital, vibrant and distinctive North Staffordshire town centres	This will require a focus for infrastructure investment in growth locations such as the City Centre raising the quality of place through improvements to lighting, greening of pedestrian areas, creation of more pleasant walking and cycling routes and improving the reliability of highway access in some locations.
(SA10) - To facilitate development within identified priority regeneration areas of the North Staffordshire conurbation	This suggests that transport investment (aside from statutory duties) should be targeted towards key locations identified within the CS

[6] Page 32-34 – Newcastle-under-Lyme and Stoke-on-Trent Core Strategy (Oct 2009)

Strategic Aim[7] (where relating to transport policy)	Transport Strategy Implications
(SA12) - To renew the fabric of urban and rural areas to promote the best of safe and sustainable urban and rural living	Supporting sustainable living through investment in sustainable modes and ensuring that the urban environment is enhanced to reduce perceptions of unsafe environments.
(SA13) - To protect and improve the plan area's network of canals and watercourses, green spaces/infrastructure and parks to provide the landscape setting for high quality development of homes, employment and leisure opportunities; opportunities for physical activity and to foster a more sustainable way of life	Where possible, transport spending should look to improve the quality of local spaces to encourage more sustainable lifestyles
(SA17) - To minimise the adverse impacts of climate change in the move towards zero carbon growth through energy efficiency, promoting the use of renewable energy sources and green construction methods in accordance with best practice	While construction methods will have a role to play in reducing carbon footprint transport makes up approximately 33% of the UKs carbon emissions with private transport making up 53% of these. Clearly transport has a large role to play in moving towards a 'no growth' scenario and this will require concentrated effort on improving public transport choice and encouraging the use of no carbon modes such as walking and cycling.

The strategic aims indicate that there is likely to be an emphasis on transport supporting a more sustainable approach to development and regeneration, in addition the quality of transport services and infrastructure needs to be raised to support the new image of the area.

These strategic aims provide an initial indication of how transport investment is tied to the wider aims of the core strategy. These are made more explicit in the 'Movement and Access' policy and the 'Area Spatial Policies' discussed below.

Transport Policy in the Core Strategy

The core strategy was tested against the principles of sustainability defined within the RSS and PPS guidance. Part of the assessment of the planning policies is the ability of the core strategy to define transport policies which enable growth to happen. For example, a core strategy may be questioned by a planning inspector if they cannot demonstrate that there is

[7] Page 32-34 – Newcastle-under-Lyme and Stoke-on-Trent Core Strategy (Oct 2009)

a strategy for dealing with the transport impacts of additional housing or employment. In the development of this core strategy the transportation departments at both Stoke-on-Trent City Council and Staffordshire County Council provided supporting evidence to the planning inspector that the growth and regeneration of the area can be accommodated with improvements to the transport network. These areas of attention are described in the Core Strategy and in ***Table 2*** below.

Table 2 Transport Policies in the Core Strategy

Policy SP3 Spatial Principles of Movement and Access[8]	**Local Transport Plan Implications**
Improving accessibility and social inclusion through providing for a compact sub region of sustainable linked communities, which have a range of services and facilities, and which are well connected to major employment and service centres and the network of green open space.	Improving internal connectivity to support the regeneration of the City Centre but also to link complimentary land uses (e.g. housing and employment)
Maximising the accessibility of new residential, employment, retail, development, health and education centres, green open space, leisure and sport facilities as well as strategic transport interchanges, such as railway stations, by walking, cycling and public transport.	Detailed consideration of the access arrangements at all important development locations and to existing important land uses, particular attention to be paid to improving the links to the wider cycle and public transport network.
Where necessary allocating land for the provision of essential infrastructure.	Early identification of potential links
Promoting travel awareness and encouraging the production of Green Travel Plans and the latest information and communication technologies	Behavioural change schemes to encourage people to move towards more sustainable travel.

[8] Page 47-48 – Newcastle-under-Lyme and Stoke-on-Trent Core Strategy (Oct 2009)

Increase the safety of travel by ensuring that developments adopt design principles which work to create safer environments and where appropriate by delivering infrastructure improvements with new development.	May have implications on local transport strategies if these improvements require further complementary interventions by the City Council
Progressive development of Park and Ride facilities.	Park and ride facilities are linked to the density of employment likely to be achieved in the City Centre, it is essential that Park and Ride proposals are considered in terms of the necessary revenue required to ensure financial viability
Encouraging the use of waterways as lines of communication and enhancing and safeguarding rail travel.	The canals in the area are a valuable resource for walkers and cyclists as well as providing a stream of tourists to the area on boating holidays, some routes may require further enhancement where the canal could provide obvious links. Rail travel has grown in the area through the efforts of the Community Rail Partnership and this growth should be encouraged to continue
Addressing the environmental impacts of travel including congestion, air quality and noise pollution.	Air quality is of particular concern with the whole City currently designated as an Air Quality Management Area
Secure developer contributions towards the delivery of schemes that support the key objectives of the Staffordshire and North Staffordshire Local Transport Plans.	Staffordshire County Council successfully launched Newcastle-under-Lyme Transport and Development Strategy. Stoke-on-Trent City Council should consider the development of a similar strategy.

Some of the above measures are likely to be more urgent than others, for example, the requirement for park and ride facilities hinges on the development of the inner core before it can become truly viable.

City Centre of Stoke-on-Trent Area Spatial Policy (ASP1)

More specific planning guidelines are encapsulated in the principles of planning laid out in each districts spatial policies, these can be found (for the city centre) on Pages 57 and 58 of the Core Strategy document. ***Figure 5*** shows an abbreviated version of these policies.

Figure 5 City Centre of Stoke-on-Trent Area Spatial Policy

Transport implications

The policies associated with the City Centre will have implications on renewal and design of footways, highways, lighting and public realm. Where possible schemes or maintenance in this area needs to consider the physical appearance of the area and incorporate elements of greening and de-cluttering. In addition the CS also indicates that maintaining good permeability across the ring road will be a key objective going forward. There area also some key transport schemes highlighted in these policies including:

- **New City Centre Bus Station**
- **Park and Ride**
- **University Boulevard**
- **Hanley to Bentilee Link Road (HBLR)**

Stoke-on-Trent Inner Urban Core Area Spatial Policy

Figure 6 below indicates the policies associated with the inner urban core. Once again these have been abbreviated for the purposes of this document but full details can be found on pages 67 and 68 of the Core Strategy.

Figure 6 Inner Urban Core of Stoke-on-Trent Area Spatial Policy

Transport Implications

In this section of the Core Strategy there is a clear emphasis on bus priority as a solution for improving public transport in the area, to encourage mode shift and control traffic growth. There are also some larger infrastructure schemes discussed; notably the Hanley to Bentilee Link, this scheme is referenced as being 'under review'. This link road has been a long term aspiration of the Council but it has seen estimated costs escalate over the past 10 years and it is now doubtful whether the road will provide a sufficient return for this level of expenditure. The Core Strategy seems to recognise that there is still some uncertainty surrounding the provision of major infrastructure largely because this is tied into the success of the region in bringing forward additional employment and housing which will generate larger transport demand.

Outer Urban Core of Stoke-on-Trent Area Spatial Policy

Figure 7 reflects the policies outline in relation to the outer urban area, as with previous diagrams, the policies have been abbreviated but the full versions can be viewed on pages 79 to 80 of the Core Strategy.

Figure 7 Outer Urban Core of Stoke-on-Trent Area Spatial Policy

Transport Implications

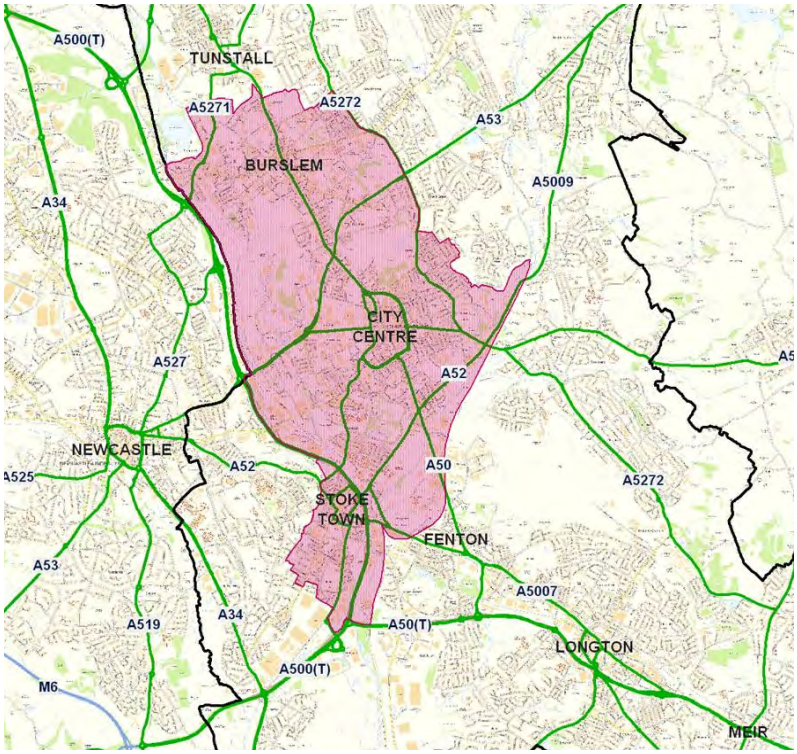
In keeping with the inner urban core strategies there is emphasis on bus priority. In terms of general planning, the core strategy presumes lower growth in housing and employment in the peripheral towns, this approach makes it much easier to focus transport expenditure and control transport demand. However, there are still a number of large employment sites in these outer areas; Chatterley Valley, Chatterley Whitfield and University Hospital will all require ongoing support to improve accessibility for the workforce.

The canal network can also be used (in combination with other investment, particularly cycling) to improve commuter transport links, perhaps as important is the use of the canal for increasing tourism, as the route experiences a high number of holiday makers on boating trips in the summer months. Clearly the canal and its environs will play a role in establishing the area as a pleasant and lively city.

What does this mean for LTP3?

The above Core Strategy policies clearly emphasise the importance of improving the transport offer in the City, primarily through providing bus priority to improve reliability and journey times. This investment is seen as integral to supporting economic growth without increasing traffic congestion. In addition there is a very clear spatial investment priority in getting the public realm right in the city to attract investment and improve the quality of environment for existing residents and employees. These policies filter through both the inner and outer urban core areas. ***Figure 8*** below provides an illustration of the key inner urban core area.

Figure 8 Inner Urban Core Area.



While the investment in transport highlighted within the core strategy is largely sound, it is worthwhile remembering that transport demand is likely to be affected by the success of the wider policies in relation to developing the City and Inner Urban Core, particularly where this pertains to projects such as Park and Ride. These are long term strategies and policies which extend to 2026 and beyond and as such the transport elements should be considered over the same longer time periods. In Chapter 4 the key problems and challenges facing the area today are discussed in more detail. Given the focus on reducing public spending over the coming years it is essential that the LTP3 strategy focuses on these present day challenges while also making way for longer term aspirations and policy shifts.

Summary and Conclusions

The Core Strategy for the area places emphasis on the development of the City Centre and Inner Urban Core as a driver of both economic growth but also as a further attraction for investors bringing companies into the area. This is coupled with plans to rejuvenate the housing stock and raise the residential offer within these urban areas. Transport has a role to play in this through encouraging highway designs which are attractive, remove unwanted street clutter and improve the attractiveness of the area through greening.

In addition the primary role of transport is to support the movement of people and goods in an efficient manner. The Core Strategy provides a clear remit to improve public transport so that additional growth within the area can take place without subsequent rises in traffic leading to congestion and unreliability. One of the key priorities is raising the public transport offer through improving bus quality and speeds in addition to reducing unreliability. This is largely envisaged in the Core Strategy as the development of bus priority measures.

The development of Park and Ride is a specific solution to tackle potential congestion as a result of the continued growth of the city. As a result the concept of P&R is predicated on the achievement of substantial development in and around the City Centre. This is not the only condition for successful P&R there are several measures that also have to be implemented:

- **Access by private vehicle must be restricted, and/or;**
- **Parking needs to be reduced and prices altered;**
- **The P&R service needs to be quick, regular and of a high standard**

If any of these measures are not implemented than the viability of P&R will be undermined, for example, if P&R sites were to be introduced with high frequencies and modern vehicles but parking was readily available and cheap then many people would continue to drive into the city. This is because, for many people the convenience of the car in terms of both travel time and cost is better than stopping at the P&R waiting for a bus and paying a fare. Similarly if car parking charges were raised and parking restricted but the P&R facilities and services were poor then many people would simply choose to go elsewhere. In addition the P&R would have to be supported by appropriate bus priority such that the journey by bus is comparable to using the car, without this some drivers will consider that switching to bus is not a good use of their time.

It is also worthwhile considering the cost of subsidy in relation to P&R sites. Nearly every site in the country is subsidised by the local authority/highway authority, clearly the extent of subsidy relates to the relative success of P&R, premature provision may lead to considerable subsidy levels. As a result it is important to get the timing of P&R right.

The LTP continues to hold P&R as a forward ambition but it is likely that the focus in the short to medium term will be on developing a viable system through:

Improving bus speeds through the city

Identifying (and where necessary) protecting sites which could be used for P&R

Raising the service level of local buses (in conjunction with operators) to improve end to end journey experience.

The potential to open and operate P&R sites will be reviewed periodically within this LTP timeframe, such as when larger developments come forward or when bus corridors are improved.

Hanley Bentilee link road is also a scheme within the Core Strategy which is mentioned as a future option for reducing congestion through the Lime Kiln junction and hence on one of the key routes into the City. The scheme has been in existence for some time, though recent cost estimates suggest that the scheme may require some value management to reduce the total cost, the City are also exploring other potential measures to improve connectivity through this route particularly for buses.

These examples may become more viable as the transformation of the City occurs, though other external factors (such as peak oil prices) may impact negatively on the viability of these options going into the future. Nonetheless it appears unlikely that delivery of these improvements will be warranted in the 2011/12 to 2013/14 period.

Other policies in relation to the improvement of links to the main cycle routes in the city and the improvement of canals also support the continuation of the very successful work being undertaken as part of Stoke-on-Trent's Cycling Cities work (see Chapter 2).

Some Bus Priority measures for the area have been grouped to form one large programme which is currently known as 'Streetcar'. This project was developed to couple bus priority measures with other improvements such as better stops/interchanges and improved buses. It is likely that the business case for this will be considered during this LTP period as a result of its links with other key schemes such as University Boulevard, Central Business District, Sixth Form College and the development of University Hospital.

The central challenge of the Core Strategy is the improvement of public transport options, in particular bus priority, a method which is adopted to improve bus journey speeds. The LTP will continue to explore the delivery of bus priority but will also consider whether journey speeds can be improved through technology for example smartcards and bus priority using traffic signals.

Chapter 3 - Recent Studies

Chapter 3 – Recent Studies

Introduction

There have been two recent major studies completed for the area. In 2005 the North Staffordshire Integrated Transport Study (NSITS) reported its findings discussing (amongst other things) the potential for charging as a future scenario in the North Staffordshire conurbation. This report was developed against a backdrop of increasing Central Government pressure to consider road user charging as a way of raising revenue for better public transport. This policy of encouraging local charging schemes proved too difficult to implement with a number of failed referendums in Edinburgh and Manchester indicating that neither the business community nor the individual was willing to support this approach.

More recently, the North Staffordshire Connectivity Study was chosen as one of four regional 'Delivering a Sustainable Transport System' (DaSTS) studies. This study completed Stage 1 in June 2010 and was commissioned to consider transport problems in relation to underlying problems and causes and consider more innovative approaches to reducing traffic congestion, improving reliability, reducing carbon emissions and most particularly promoting economic growth.

These studies are discussed in detail in the following pages. In addition, some other pressing trends and conditions are highlighted in this Chapter, the first relates to the increasing concern about peak oil and the second relates to the current air quality issues in Stoke-on-Trent which have led to the City being designated as an Air Quality Management Area.

North Staffordshire Integrated Transport Study

The NSITS study produced in 2005 concentrated on addressing transport problems within the area from Kidsgrove to the north and Trentham and Blythe Bridge to the south and extending from the M6 to the west and Werrington to the east. The study focused on addressing transport problems within the core area and where appropriate, the Inner Study Area.

The study aims and objectives were closely linked to existing policy guidance at the time; namely the five 'Towards a Sustainable Transport System'[9] policy goals:

[9] Towards a Sustainable Transport System, DfT, October 2007

- Accessibility
- Economy
- Safety
- Environment
- Integration

These were also mapped against local and regional priorities which included;

- Minimising the need to travel
- Improving public transport
- Promotion of other sustainable modes of travel
- Improving peoples health
- Enhancing freight movement
- Protecting and enhancing the environment
- Improving safety
- Improving accessibility

Other broader objectives included:

- Assisting overall regeneration of the study area
- Promoting urban regeneration within the study area
- Strengthening the vitality of key centres
- Enhancing and strengthening the viability of local communities

The range and scope of objectives and potential mechanisms identified represented a complex challenge for the NSITS study team; the approach to appraising against each of the above objectives was based on LTP Guidance and NATA, considering four key strands:

- Assessment of the degree to which Central Government objectives for transport would be achieved;
- Assessment of the degree to which the local authority objectives for transport would be achieved;
- Assessment of the extent to which problems would be mitigated; and
- Supporting analyses of: distribution and equity; affordability and sustainability; and practicality and public acceptability.

The strategy consists of and comprehensively examines the following measures:

- Public transport service and infrastructure improvements;
- Establishment of a three site Park & Ride system;
- The aggressive promotion of increased cycling and walking;
- The aggressive promotion of other measures aimed at ‘Winning over hearts and minds’;
- A limited number of replacement capacity based highway improvements;
- A limited number of highway schemes aimed at reducing congestion, improving road safety and environmental conditions;

- The introduction of wider controls on parking in Hanley, Newcastle-under-Lyme and Stoke centres;
- The ultimate implementation of a Congestion Charging Scheme;
- The adoption of land use planning policies which seek to encourage new development to locate in the Inner Core Area.

The NSITS study helped to drive out priorities for LTP2 and became the seed for the concept of park and ride (with accompanying parking strategies), Streetcar and to a degree University Boulevard.

The Study also looked at the implementation of a congestion style charge to enter the city (in line with Government policy approaches) the study concluded that charging was feasible but that the implementation of charging was mired in public and political acceptability issues. However, had the charge been introduced it would have provided an important revenue stream for the provision of P&R. Unfortunately this debate overtook the messages of the study; the DaSTS study (described below), did pick up many of these messages, though the remit for this work was considerably broader than for NSITS.

North Staffordshire Connectivity Study (DaSTS Regional Study)

This study was commissioned jointly by the West Midlands Regional Leaders Board, Advantage West Midlands, Stoke-on-Trent City Council and Staffordshire County Council and was part funded by the Department for Transport. The overall study was divided into three parts. The fist stage submission was submitted to the DfT by the region in June 2010. The stage 1 report outlined the key base evidence which will be used to inform proposals and potential interventions developed and appraised under the subsequent stages of the study (should it continue).

The aim of the North Staffordshire Connectivity Study is to use existing evidence to identify the key challenges in North Staffordshire in relation to the way the transport system impacts on the economy of the sub-region. The study identified the underlying economic and transport problems and to ensure that proposals were developed with these in mind and to be compliant with the DaSTS goals.

In order to do this, a comprehensive evidence review was undertaken. The principal objectives of the study as set out in the Study Brief were:

- **To reduce congestion and improve journey reliability on the strategic highway network across North Staffordshire through better management and prioritisation of traffic movements within and through the study area**
- **To improve the capability, capacity and attractiveness of public transport as an option for travel to, from and within the North Staffordshire conurbation**

- **To deliver a reduction in the levels of transport's contribution to greenhouse gas emissions, thereby positively contributing to tackling climate change**
- **To decrease the modal share of peak time journeys by car**
- **To significantly enhance opportunities for transport to contribute positively to people's safety, security and health, for example through the availability of travel modes that are beneficial to health**
- **To deliver a transport system which is more inclusive for all members of society in terms of accessibility and affordability**

The brief required that several questions associated with transport in the sub-region were examined to gain an understanding of:

- **The patterns of travel in the conurbation**
- **Identify which journeys are most important to the economy**
- **How travel conditions inhibit economic activity**
- **The most inhibiting factors and what their underlying causes are.**

In considering the wider economic and social issues associated with the North Staffordshire economy, several themes and causes emerged, these were then considered in terms of how transport could help to ameliorate these wider issues. Table 3 below provides details.

Table 3 Components of Economic Problems, Causes and Potential Transport Role

Components	Causes	Potential Transport Role
Slow transition to knowledge economy	Knowledge related businesses require greater access to staff, high quality buildings and links to other financial and service sector suppliers	Internal connections to residential areas could be improved – public transport for commuting also good highway links for business to business interaction
Low levels of inward investment	Stoke is competing at a national level for business, the appearance of areas such as the City Centre and gateways needs to be capable of creating a positive image	Transport can facilitate a regeneration change in two ways, firstly though facilitating access to new or regeneration areas and secondly by generating a positive image through high quality public transport and prominent interchange facilities
Low skills base	Rapid changes in the make-up of industry have left a workforce which is highly trained in a discrete number of moving industries. Adapting skills requires access to new job opportunities and access to educational establishments. The area also has two major universities training highly skilled staff for the future, however the areas ability to hold on to these people is made difficult by both a lack of appropriate local business and the image of the city	Improve access to education and work opportunities further away by public transport (this is in relation to the localised travel behaviours exhibited) – particularly in the short term
Lack of enterprise	Also likely to be connected to low educational attainment levels but also may be as a result of a general lack of mobility reducing the opportunities for people to interact with the wider area and identify emerging opportunities	Improve access to education and wider potential business markets to encourage innovation

These initial conclusions were then examined in greater detail with respect to the existing transport network. The detailed analysis from this work is used in Chapters 6 and 7 later in this document.

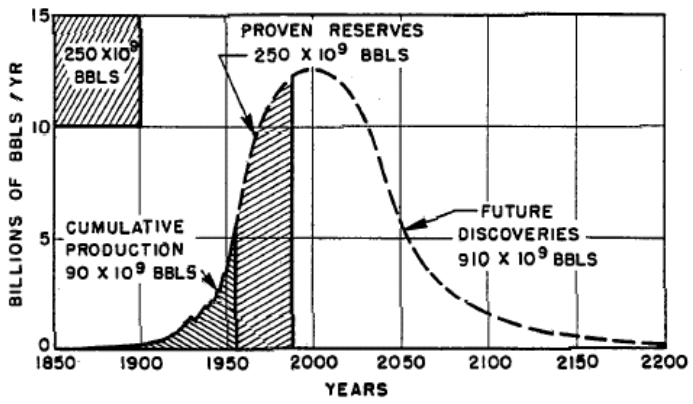
Much of the work completed for the DaSTS study has been used to inform this Local Transport Plan. The work has been useful in defining the overall goals for the area but also in the development of forward schemes that can be delivered within the next 5 years. As a result the reader will note many references to this work throughout the document. This

section would not be complete without considering the final two factors, peak oil and air quality.

Peak Oil/Oil Depletion

There have been increasing concerns regarding the potential impact on transport of 'peak oil'. In this context it is appropriate to gain an understanding of the correct terminology, peak oil refers to the point at which maximum production is achieved, and oil depletion refers to a period of falling reserves and supply. The current interest in peak oil and oil depletion stems from the logistic model developed by M. King Hubbert in 1956. The Hubbert curve (see ***Figure 9*** below) is a symmetric logistic distribution curve which is widely used in the industry to predict the likely peak oil point and total oil available from potential supplies. The model has been successfully used to predict oil production curves from oil wells, fields and producing countries, for example; Hubbert successfully predicted that America's oil production would peak between 1965 and 1970.

Figure 9 Hubberts Curve (from original 1956 paper)



The debates surrounding peak oil and oil depletion are complex and there remains a great deal of conflicting evidence and opinion regarding predictions. There are four main groups of thought:

- That peak production has already occurred and we are already in the depletion stage of the curve;
- That peak production will occur around 2020;
- That peak production will occur in the distant future (100 years);
- That peak production will occur but rather than a steep decline, in supplies production will plateaux and remain steady through the continual exploitation of new sources.

- That production will decline but the losses will have minimal effect due to improved engine efficiency and the exploitation of new energy sources.

The official group which provides information on oil supplies and other energy matters the 'International Energy Agency' has indicated that peak oil will be reached in 2020. This is the stance currently supported by the DfT.

There are other more optimistic views regarding this situation (see the last two bullet points), for example, that the demand for oil will fall due to economic conditions and greater efficiency of use going into the future and that this, coupled with the discovery of new oil supplies will ensure that a steep decline in oil supplies against current demand will not occur, thereby avoiding some of the dangers of economic collapse which surround some of the other peak oil and depletion arguments.

However, as early as 2006 questions about the impact of oil depletion scenarios were being discussed by MPs. The following extract from the House of Commons Environmental Audit Committee, illustrates the underlying concerns about this scenario on the transport sector:

'There are conflicting views in the "peak oil" debate, and we have not examined them closely enough to take an informed view ourselves. We would observe, however, that even if the Government's projections of conventional reserves extending to 2030 are correct, this is still quite a short time, given transport's current 99% reliance on oil, and the lifetime of major infrastructure projects. While the Government also projects that improved technology and unconventional reserves could extend this period by another 30 years, we are concerned that the recovery and refining of such reserves could itself (given the extra energy required to process them) lead to higher "well-to-wheels" emissions. All this speaks of an extra imperative for the Department to make a step-change in funding and policies to wean the UK off the use of fossil fuel oil. To appraise the risks, inform priorities, and raise public awareness, the Government should commission its own equivalent to the US Hirsch Report, and study the example of the Swedish policy to reduce oil use by 2020.'[10]

While current government policy places emphasis on reducing emissions across all sectors there are no specific policies which are designated purely to reduce the UKs dependence on fossil fuels – particularly for transport.

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[10] Pg 73 House of Commons Environmental Audit Committee; Reducing Carbon Emissions from Transport (Ninth Report of Session 2005–06 Volume I) August 2006

Air Quality Management Areas

Local Authorities have had a statutory duty to monitor air quality since 1997; the legislation which formulated this duty began in the European Community prior to being enshrined in the 1995 Environment Act (Part IV).

The original intention of the legislation was that monitoring would reveal issues at a discrete number of locations which could then be closely managed, however, since monitoring commenced 58% of all authorities have declared AQMAs, many of which cover the whole area of the authority, revealing that air quality issues are far more wide-spread than originally predicted. Stoke-on-Trent is one example, with the whole of the City being designated as an AQMA[11] (see ***Figure 10*** below).

Figure 10 Air Quality Management Area – Stoke-on-Trent

[11] This city wide designation has been implemented to reduce localised blight, however some 608 properties within the city are affected.

In Stoke-on-Trent the two main pollutants which have triggered the AQMA are:

- Nitrogen dioxide (NO2), PM10 particulate matter (PM10)

Table 4 below provides some information on the current health impacts associated with common chemical emissions associated with transport including those which are a particular problem locally.

Table 4 Details of Typical Road Transport related Pollutants and Health/Environment Impacts[12]

Pollutant	Description and Main UK Source	Potential Effects on Health/Environment
Particulate Matter (PM-PM10 and PM2.5)	Particulate Matter is generally categorised on the basis of the size of the particles (for example PM2.5 is particles with a diameter of less than 2.5µm). PM is made up of a wide range of materials and arises from a variety of sources.	Concentrations of PM comprise primary particles emitted directly into the atmosphere from combustion sources and secondary particles formed by chemical reactions in the air. In the UK the biggest human-made sources are stationary fuel combustion and transport. Road transport gives rise to primary particles from engine emissions, tyre and brake wear and other non-exhaust emissions. Both short-term and long-term exposure to ambient levels of PM are consistently associated with respiratory and cardiovascular illness and mortality as well as other ill-health effects. The associations are believed to be causal. It is not currently possible to discern a threshold concentration below which there are no effects on the whole population's health. PM10 roughly equates to the mass of particles less than 10 micrometres in diameter that are likely to be inhaled into the thoracic region of the respiratory tract. Recent reviews by WHO and Committee on the Medical Effects of Air Pollutants (COMEAP) have suggested exposure to a finer fraction of particles (PM2.5, which typically make up around two thirds of PM10 emissions and concentrations) give a stronger association with the observed ill-health effects, but also warn that there is evidence that the coarse fraction between (PM10 – PM2.5) also has some effects on health.

[12] Pg 16-19, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 1) July 2007

Oxides of nitrogen (NOX)	All combustion processes in air produce oxides of nitrogen (NOX). Nitrogen dioxide (NO2) and nitric oxide (NO) are both oxides of nitrogen and together are referred to as NOX. Road transport is the main source, followed by the electricity supply industry and other industrial and commercial sectors.	NO2 is associated with adverse effects on human health. At high levels NO2 causes inflammation of the airways. Long term exposure may affect lung function and respiratory symptoms. NO2 also enhances the response to allergens in sensitive individuals. High levels of NOX can have an adverse effect on vegetation, including leaf or needle damage and reduced growth. Deposition of pollutants derived from NOX emissions contribute to acidification and/or eutrophication of sensitive habitats leading to loss of biodiversity, often at locations far removed from the original emissions. NOX also contributes to the formation of secondary particles and ground level ozone, both of which are associated with ill-health effects. Ozone also damages vegetation.
Benzene	Has a variety of sources, but primarily arises from domestic and industrial combustion and road transport.	Benzene is a recognised human carcinogen which attacks the genetic material and, as such, no absolutely safe level can be specified in ambient air. Studies in workers exposed to high levels have shown an excessive risk of leukaemia.
1,3-butadiene	Mainly from combustion of petrol. Motor vehicles and other machinery are the dominant sources, but it is also emitted from some processes, such as production of synthetic rubber for tyres.	1,3-butadiene is also a recognised genotoxic human carcinogen, as such, no absolutely safe level can be specified in ambient air. The health effect of most concern is the induction of cancer of the lymphoid system and blood–forming tissues, lymphoma and leukaemia.
Carbon monoxide (CO)	Formed from incomplete combustion of carbon containing fuels. The largest source is road transport, with residential and industrial combustion making significant contributions.	Substantially reduces capacity of the blood to carry oxygen to the body's tissues and blocks important biochemical reactions in cells. People with existing diseases which affect delivery of oxygen to the heart or brain, such as angina, are at particular risk.

A recent report, commissioned by the Department for Environment, Food and Rural Affairs has highlighted some of the difficulties currently faced in the implementation of measures to removed or mitigate AQMAs. The report notes that:

'Measures put in place locally through LAQM action planning have had very limited impact, and few AQMAs have been revoked following the successful implementation of pollution

reduction measures. Pollution levels which exceed EU limit values are far more widespread than a few hotspots, and LAQM is contributing little to reducing them."[13]

More recently, London has been issued with a warning from the European Commission over its failure to satisfactorily improve air quality in the capital. This is despite the government asking for an extension to meet the required levels for PM_{10} particles. This recent headline reflects increasing pressure to meet the targets previously agreed with the European commission.

Locally, there has been some success in the management of a specific Air Quality Management Area in Fenton which was triggered largely by an industrial use. ***Figure 11*** below shows a plan of the AQMA.

Figure 11 Air Quality Management Area – Fenton

13 Review of Local Air Quality Management - A report to Defra and the devolved administrations, Jan 2010

Summary

Previous studies in the area have identified key priorities for transport investment and these have included schemes to improve connectivity, reduce congestion, change travel behaviour and improve journey reliability.

The recent DaSTS study considered some of the major economic issues in the area and formulated links between these, the existing transport network and solutions (this is discussed in greater detail in chapter 4)

These studies and the core strategy (discussed previously) advocate significant improvement in public transport and public realm combined with better management of the existing transport network.

More recent concerns (which may shape future policy) relate to 'peak oil' or oil depletion scenarios; whilst guidance related to this matter is yet to emerge it is expected that future policy may be radically altered if this scenario becomes a certainty. Air quality issues have gained prominence recently largely due to London's troubles with the European Commission, this serves as a reminder that the UK has entered into binding agreements on air quality targets and in Stoke-on-Trent this is particularly important as the whole city has been designated an Air Quality Management Area.

This next chapter aims to provide the reader with a more detailed understanding of the current economic and social position of Stoke-on-Trent and sets the scene for the development of LTP goals and strategy going forward.

Chapter 4 – Current Challenges

Chapter 4 – Current Challenges

Introduction

In this chapter some of the background associated with the challenges in Stoke-on-Trent is discussed. The aim is to allow the reader to think beyond pure transport and consider the wider social and economic issues facing the area, before considering where transport can play a role in wider objectives. Transport is not a product in itself – it is a factor in production and an essential part of everyday life and business. As a result transport is affected by changes in people's behaviour and wider economic and planning changes.

The previous chapter discussed the policies which will affect future transport demand within the City over the longer term. These policies seek to shape forward investment in infrastructure, property, housing and transport to reflect structural changes in the economy.

This chapter is concerned with the recent past and its affect on the present day challenges within Stoke-on-Trent. Even prior to the recent recession, the statistics and evidence gathered present a stark picture of how the past continues to impact on the City in terms of skills, productivity, worklessness and health.

In considering these wider issues the LTP seeks to ensure that transport interventions are targeted on areas where they can achieve the best outcomes. It should also ensure that transport funding is aligned against the wider priorities for the city, such that all funding streams across departments are seeking to achieve similar goals. Given the likely funding constraints over the next 5 years this LTP will have to be focussed with a clear hierarchy of objectives which tackle some of the immediate challenges in the City.

In the following pages some of the key statistics for the area are discussed. Where possible, comparison figures for neighbouring authorities and the North Staffordshire area are shown in addition to regional and national comparisons. Much of this analysis was completed as part of the North Staffordshire DaSTS Study (discussed in Chapter 2) and some readers may already be familiar with this research.

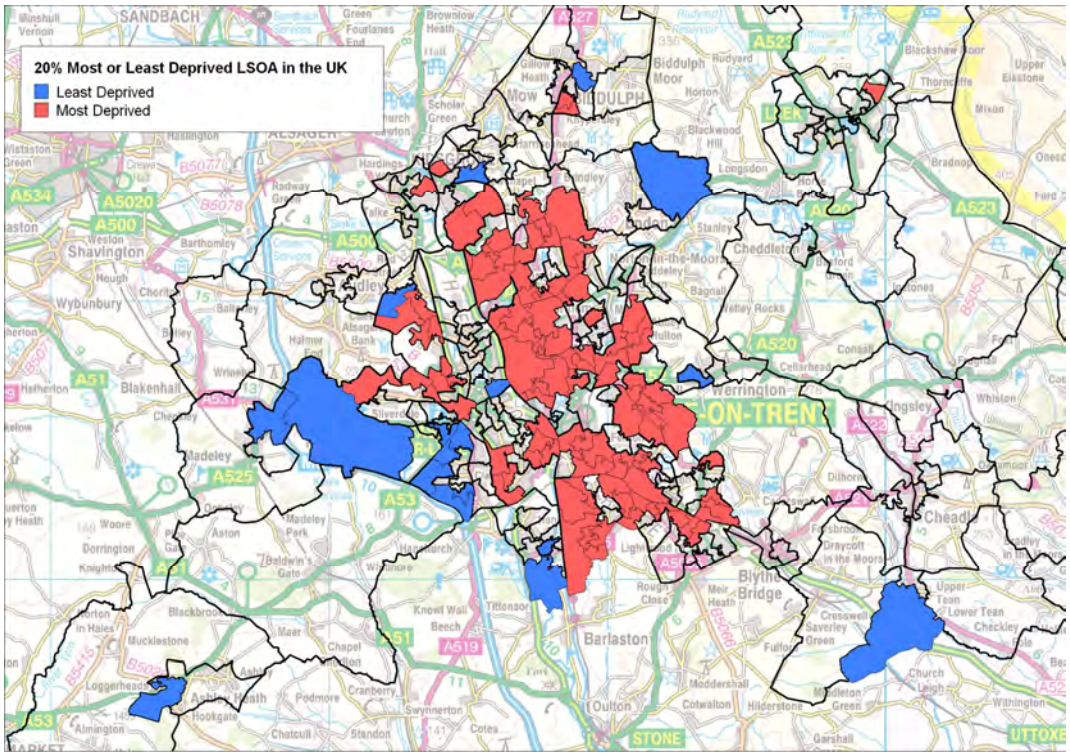
Key Socio-Economic Factors

The population of Stoke-on-Trent, consisting of residents of the 'six towns'- City Centre (Hanley), Stoke, Tunstall, Burslem, Fenton and Longton – is currently estimated at around 240,000 people.

The area has a rich tradition in manufacturing but has suffered with the decline of traditional industries and is now one of the most deprived areas in the UK, ***Figure 12*** below provides an illustration of this; red indicates areas which are in the 20% most deprived in the UK, while blue indicates locations in the 20% least deprived. This demonstrates a clear grouping

of deprivation almost wholly within the City boundary. Factors which generate this picture are discussed in turn below, starting with the economy.

Figure 12 Indices of Multiple Deprivation (2007)



Source: Office for National Statistics

The economy in Stoke-on- Trent

In 2007, the unemployment rate in Stoke-on-Trent and neighbouring Newcastle-under-Lyme was higher than both the regional and national rates, and higher than in the North Staffordshire sub-region. Analysis of worklessness at local level shows that Stoke-on-Trent has the highest level of worklessness of all West Midlands local authority areas, in comparison, worklessness in neighbouring Newcastle-under-Lyme is comparable to the national average.

At every qualification level, Stoke-on-Trent has lower rates of attainment, with the gap increasing at higher qualification levels. The proportion of the working age population with level 4 (degree level) qualifications and above in Stoke is 14.6 percentage points behind the UK figure.

In 2007 the gap between average gross annual pay in Stoke-on-Trent and the UK was £2,511.60. Average pay in Stoke-on-Trent also lags behind the regional and sub-regional averages. In contrast, pay levels in neighbouring Newcastle are slightly higher than the national average.

The economy has been over-dependent on a small number of major industries in the recent past, particularly coal mining, ceramics and steel, all of which have been subject to significant changes at a global level since the 1970s. The steel and coal industries in the sub-region, in particular, have effectively been closed for the past 20 years. Despite these losses, a higher proportion of jobs in Stoke-on-Trent remain in the manufacturing sector than in the West Midlands region or the UK. The UK as a whole still remains the fifth largest manufacturing sector in the world, ahead of Italy and France but behind the USA, China, Japan and Germany[14].

There is an increased reliance, across the whole North Staffordshire area, on public sector employment which is higher than in the West Midlands or the UK as a whole but a much lower number of people working in finance and other service industries. The lack of a major private sector knowledge-based industry in the sub-region has been noted and the NSRP[15] business plan includes proposals to provide for such a sector in the City Centre Business District.

Table 5 shows the productivity gap between North Staffordshire and the West Midlands/ Great Britain and the increasing gap over the decade to 2004.

Table 5 Productivity in Stoke-on-Trent and Neighbouring Authorities

	Stoke-on-Trent	Newcastle-under-Lyme	North Staffs	West Midlands	UK
GVA at current prices (£m) 2004	£3,268	£1,611	£6,113	£81,741	£1,044,165
% change in GVA 1995-2004	26.7%	58.8%	39.7%	53.8%	63.0%
Share of national GVA 2004	0.3%	0.2%	0.6%	7.8%	100%
Share of regional GVA 2004	4.0%	2.0%	7.5%	100%	
GVA per head at current prices 2004	£13,731	£13,121	£13,403	£15,325	£17,451
% change in GVA per	32.7%	57.4%	42.4%	51.6%	58.1%

[14] World Bank Survey, 2008

[15] North Staffordshire Regeneration Partnership: set up in 2007 to draw various organisations (both public and private) together, to encourage better coordinated working practices and deliver faster regeneration of North Staffordshire. This group is now disbanded.

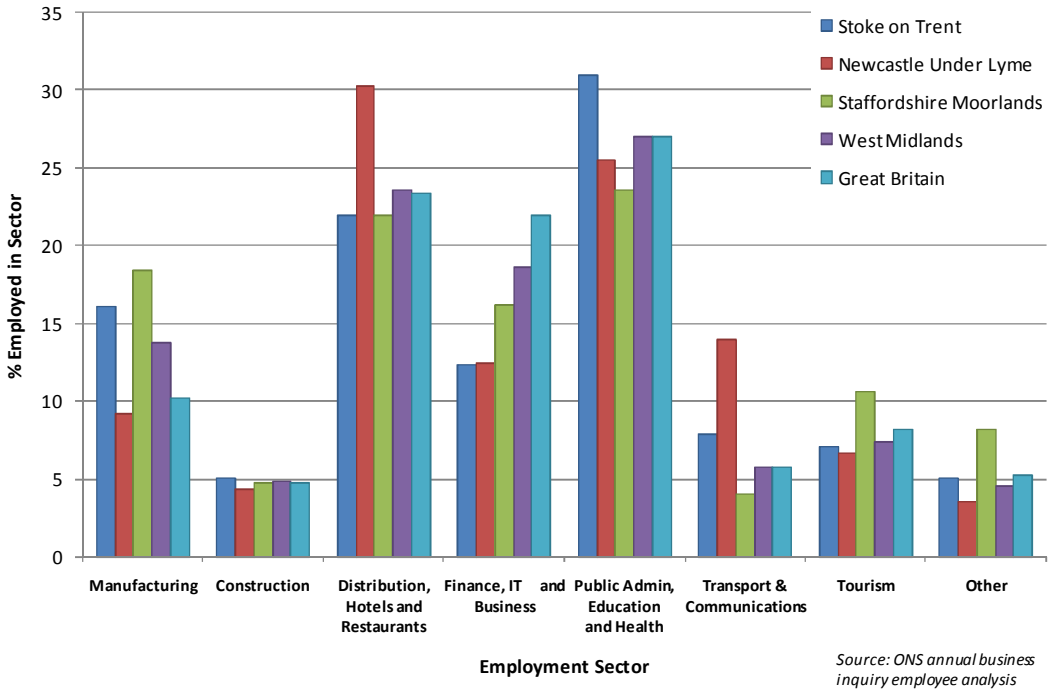
head 1995-2004

Source: Work Foundation Report: Transforming North Staffordshire, 2008

Stoke-on-Trent in particular suffered from significantly lower growth in GVA in the 10 year period to 2004 and this is unlikely to have changed in the past 5 years. Although the GVA per head in Stoke is marginally higher than in Newcastle, they are both significantly lower than the West Midlands (which includes the North Staffordshire figures) and the UK as a whole.

As ***Figure 13*** below shows, the major employment sectors within the wider area are distribution, hotels and restaurants, and public administration, education and health. In Stoke-on-Trent and Staffordshire Moorlands, manufacturing remains relatively important. A third of manufacturing jobs in Stoke-on-Trent are still connected to the ceramics industry (though this will be affected by the recent closure of the Spode factory).

Figure 13 Employment by Sector (2008)

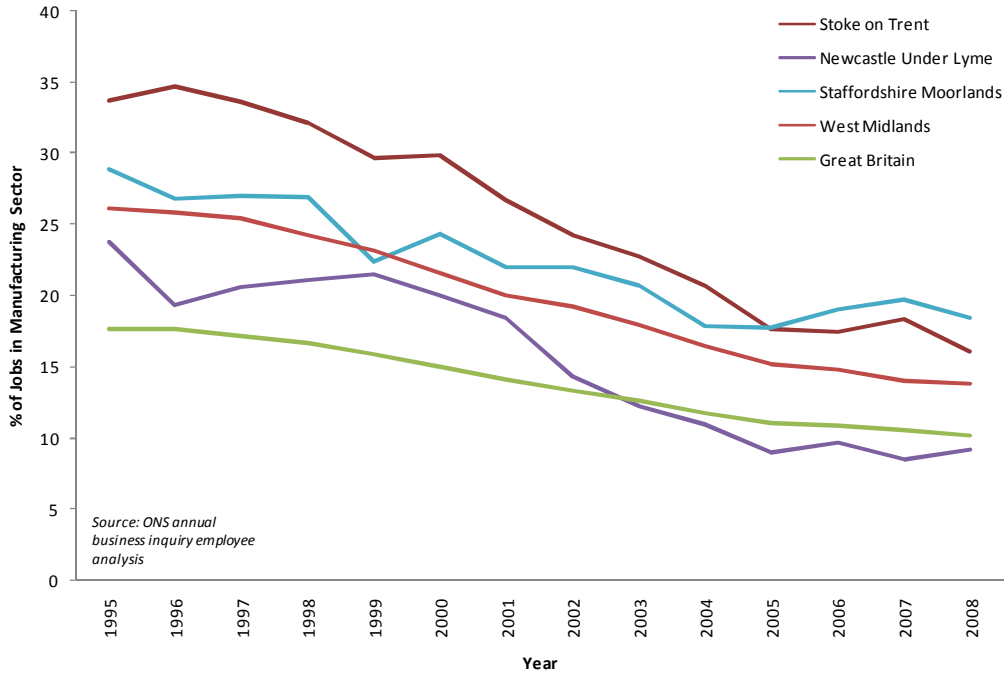


The move from manufacturing to service industries has been significant over the past 15 years. As ***Figure 14*** shows, between 1995 and 2008 there was a 50% reduction in manufacturing jobs in Stoke-on-Trent with the jobs being mainly replaced by distribution, consumer and public services, but far less towards financial and business services. Manufacturing jobs in Newcastle and Staffordshire Moorlands also fell by significant

amounts, with Stoke-on-Trent and Newcastle contracting faster than the regional and national rates.

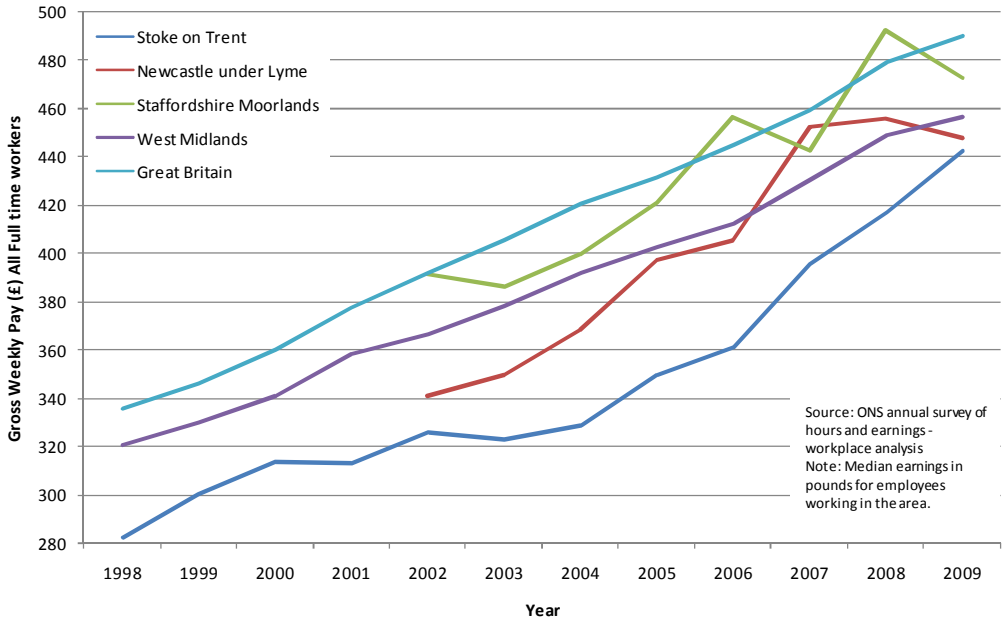
The restructuring of the area's economy, and the under representation of employees within financial and knowledge industries is reflected in average weekly earnings which are significantly lower in Stoke-on-Trent than regional and national averages as shown in ***Figure 15*** overleaf. (The fluctuations in the figures for Staffordshire Moorlands and Newcastle-under-Lyme are likely to be due to the small sample sizes for the workplace analysis surveys by ONS).

Figure 14 Changes in Manufacturing Jobs 1995-2008



Source: Office of National Statistics

Figure 15 Changes in Weekly Average Pay 1998-2009
(2002-2009 for Newcastle-under-Lyme and Staffordshire Moorlands)



Source: Office of National Statistics

The historical dependence upon a narrow range of traditional industries has also arguably contributed to the fact that neither the City nor its neighbouring Borough can be described as particularly entrepreneurial. Both have business start up rates (based upon VAT registrations) significantly lower than national levels. The conurbation does however possess a number of significant key assets that are driving the economy forward (as evidenced in the North Staffordshire Integrated Economic Development Study) including good access to markets in the City Centre of Stoke-on-Trent and Newcastle town centre, which in the case of Newcastle includes its prominence as a home to financial and professional services industries.

There is also a cluster of prestigious, high value medical technologies and research industries centred on Keele University and Science Park, the growing campus for Staffordshire University; significant professional employment at the University Hospital, and an abundant supply of developable brownfield land; and the excellent strategic position in relation to key regional and national transport links.

Tourism

Tourism also plays a central role in the economy of the study area. A report produced by the Tourism team within the City Council[16] indicated that there were around 257,000 overnight stays in Stoke-on-Trent in 2009 of which 16% were for business purposes with 36% associated with holidays and 43% connected to visiting friends/family (possibly affected by the student populations at Staffordshire and Keele Universities). The city also attracted nearly 3.4 million day visitors and it is this sector of the visitor market that generates the most local expenditure at just over £158 million per annum representing 80% of all visitor spending. The largest beneficiary of this tourism income is the retail sector; receiving an estimated £76 million, the catering sector being the next largest beneficiary receiving £66 million.

The report estimated that tourism was responsible for the generation of over 4,000 jobs in the area related specifically to tourism. However reports written in the past have suggested that the City is losing out on potential new trends in travel, for example short breaks. The report suggested that this may in part be related the quality of the urban environment in Stoke-on-Trent in comparison to other cities[17].

There are other major tourist attractions outside the urban area of Stoke-on-Trent, particularly in Staffordshire Moorlands, including Alton Towers - one of the most significant visitor attractions in the UK, (the number 1 theme park in the county) and the western edges of the Peak District National Park. These attractions are important drivers for the local economy in Staffordshire Moorlands and whilst they have some spin-off benefits to the city in terms of day visitors the current offer within the city seems unlikely to encourage visitors to take more time to explore the heritage within the city.

Deprivation, Health, Education, Jobs and Places

Much of the City suffers from many of the social issues frequently associated with areas of economic deprivation. ***Table 6***, whilst only showing data at local authority level, and therefore concealing many of the more extreme conditions within some areas of the conurbation, clearly shows that the area suffers from issues such as poor health, poor educational achievements, high levels of worklessness, low wages, etc, in comparison to regional and national levels. The highlighted figures in Table 6 are for those local indicators which are significantly higher (+20%) than the national figure.

[16] Stoke-on-Trent Tourism Economic Impact Assessment, 2009

[17] Stoke-on-Trent Tourism Team Briefing Note, 2005

Table 6 Comparative Social Statistics in Stoke-on-Trent and Neighbouring Authorities

	Base	Stoke	Newcastle	West Midlands	England*	Data Source
People not in good health	Resident population	12.8%	10.6%	9.7%	9.0%	2001 Census
People with limiting long term illness	Resident population	23.9%	20.8%	18.9%	17.9%	2001 Census
Standardised mortality ratios	Resident population	122	102	103	100	2008 Clinical Health Indicators
Population living in the 20% most deprived Super Output Areas	Resident population	50.4%	14.5%	26.3%	20.0%	2007 indices of deprivation
Average weekly wage by residence (full time employees)	Economically active residents	£442.30	£447.40	£456.40	£490.20	2009 Workplace Survey
Residents claiming Job Seekers Allowance	Working Population	5.9%	3.8%	5.5%	4.1%	2009 Claimant Count
Residents claiming Incapacity Benefit	Resident population	12.2%	7.9%	7.3%	7.1%	2010 Claimant Count
Residents claiming Disability Living Allowance	Resident population	8.0%	5.7%	5.5%	5.0%	2008 Claimant Count
Residents who are economically inactive	Working Population	24.2%	20.3%	22.7%	21.1%	2008 annual population survey
Residents with no qualifications	Resident population	23.3%	11.1%	16.0%	12.4%	2008 annual population survey
Residents with qualifications at degree level or	Resident population	14.4%	22.0%	24.5%	29.0%	2008 annual population

above						survey
Households living in Local Authority rented properties	Resident households	19.5%	10.3%	14.3%	13.2%	2001 Census

* Great Britain for Census derived data

Indices of Multiple Deprivation

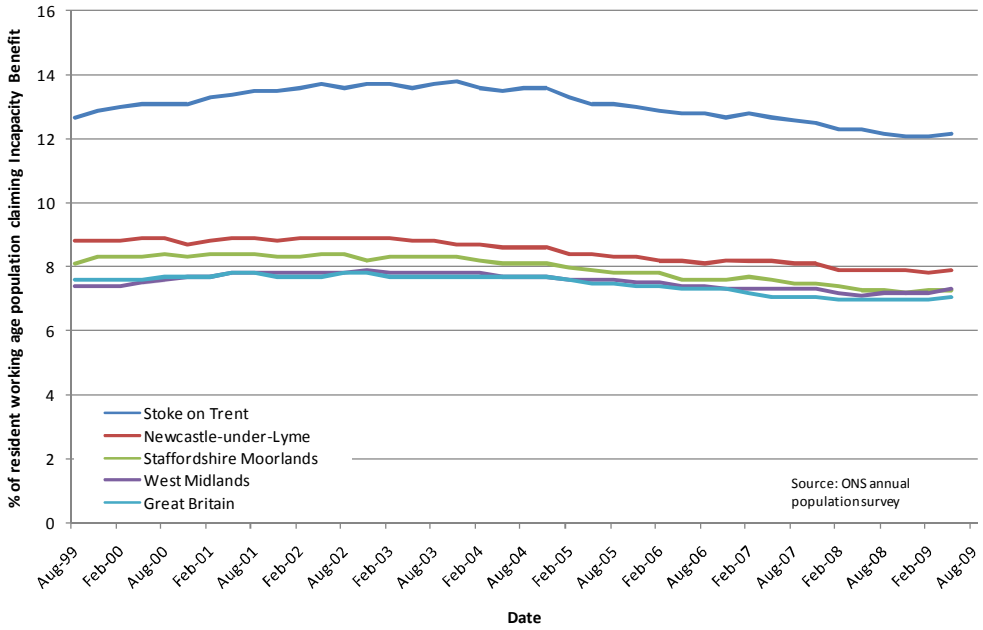
The 2007 Indices of Multiple Deprivation placed Stoke-on-Trent as the 16th most deprived local authority in England, ranked from a total of 354 local authorities, based on the average of super output areas (SOAs) measures (which is the population weighted average of the combined scores for the SOAs in a district). Around one-third of Stoke-on-Trent's population live in the 10% most deprived SOAs. Stoke-on-Trent performed particularly poorly in terms of the Education and Health Domains, being ranked as the 7th and 10th most deprived in the country on this basis respectively. Neighbouring authorities are less deprived with Newcastle-under-Lyme being ranked as the 151st most deprived authority and Staffordshire Moorlands ranked 190th (out of 354).

Figure 12 shown previously in this chapter clearly shows that deprivation is concentrated in Stoke-on-Trent and (to a lesser degree) adjoining urban areas of Newcastle-under-Lyme.

Benefit Claimants

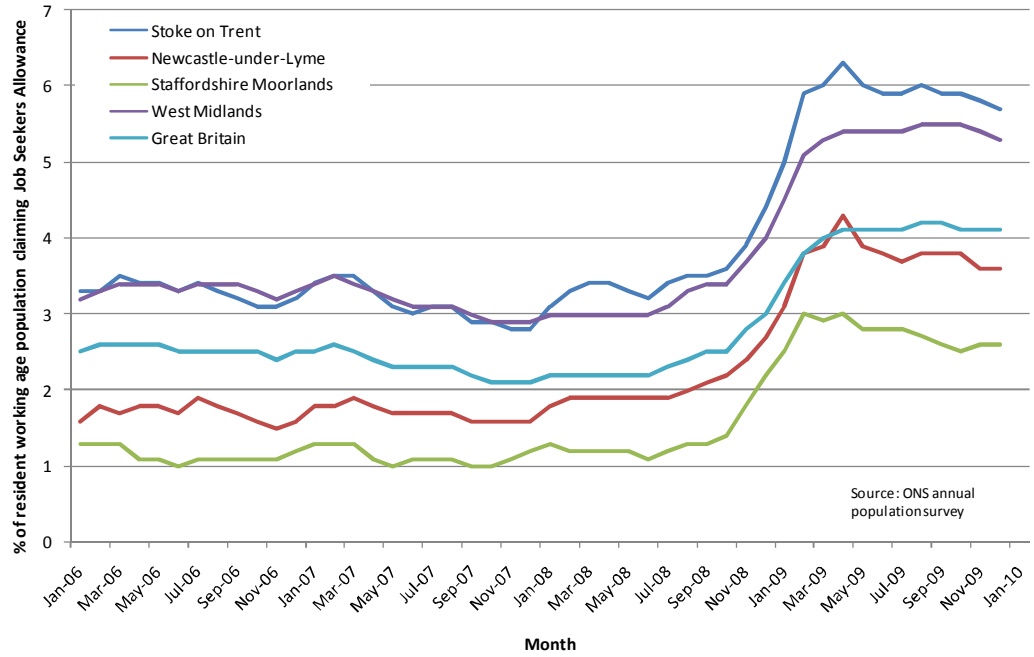
The statistics examined to formulate this portrait paint a more recent picture of benefit claimants in the area. ***Figures 16, 17*** and ***18*** below show the benefit claimants for each of the local areas and the regional and national data. The figures illustrate Stoke-on-Trent's much weaker position in comparison to Newcastle and Staffordshire Moorlands, particularly in relation to incapacity benefit. Stoke-on-Trent has a significant issue in relation to a higher than national average percentage of Disability Living Allowance claimants, many of whom are long term claimants.

Figure 16 Incapacity Benefit Claimants (1999-2009)



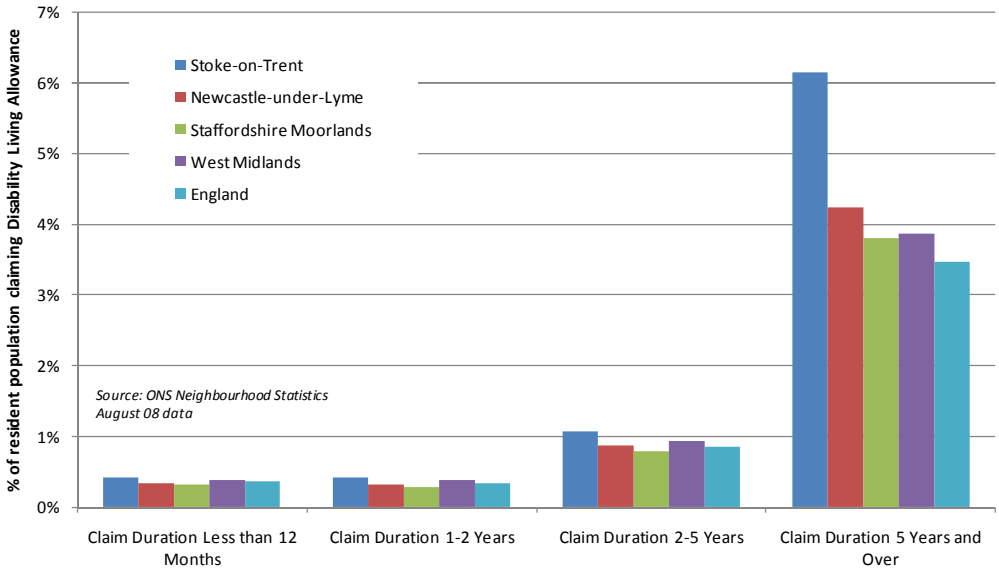
Source: Office of National Statistics

Figure 17 Job Seekers Allowance Claimants (2006-2009)



Source: Office of National Statistics

Figure 18 Disability Living Allowance Claimants (2008)

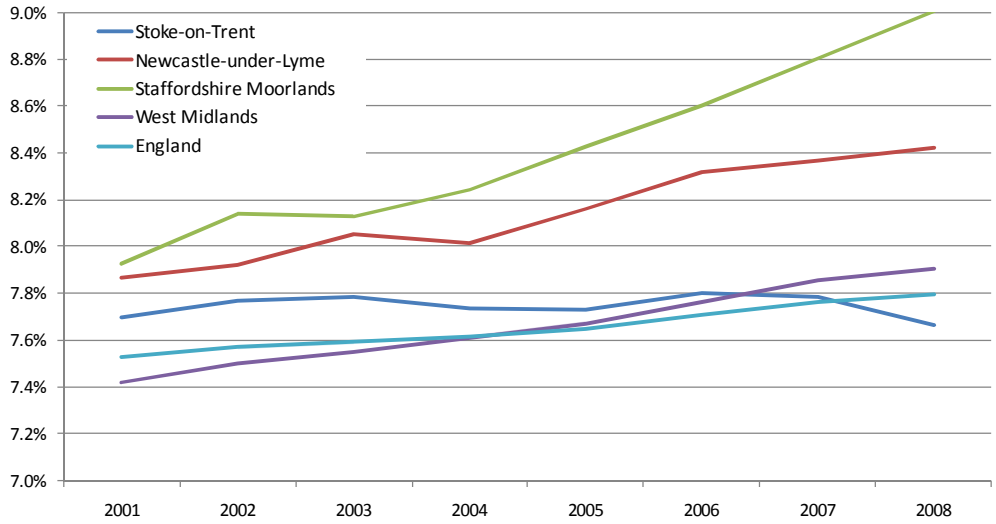


Source: Office of National Statistics

In terms of the general health of the population the city, its difficulties are acknowledged at an international level through its designation as a 'Healthy City' under the World Health Organisation. The city has specific issues in relation to teenage pregnancy, low levels of breastfeeding, high incidents of strokes and other heart conditions, child obesity and higher levels of smoking. These are areas that are priorities for action for the local health authorities. These are likely to be a result of complex interactions related to the declining economy, previous occupations in mining and steel, low aspirations, poverty leading to poor nutrition and low educational attainment. The outcomes from these are the domain of health professionals but these causes are more likely to involve other partners such as planners, transport practitioners and educators. Increasing prosperity is likely to have a much greater impact on these issues than the resources of the National Health Service.

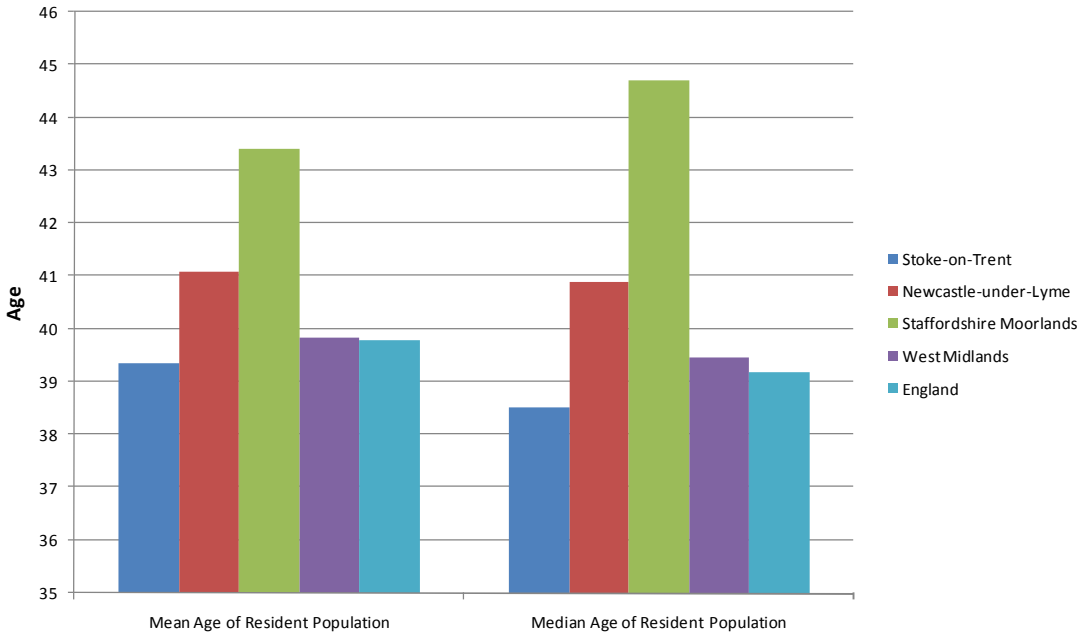
The age profile of Stoke-on-Trent illustrated in ***Figures 19*** and ***20*** indicate that the higher levels of incapacity benefit claimants and health issues cannot be explained by an ageing population. In fact, Stoke-on-Trent has the lowest median age of its neighbours and compares favourably with regional and national figures.

Figure 19 Age Profile (Over 75s)



Source: Office of National Statistics

Figure 20 Mean and Median Age Profiles (2008)



Source: Office of National Statistics

Education and Skills

One of the principal reasons for the social deprivation in the conurbation is the loss of skilled manual jobs, particularly those associated with the coal and steel industries, as the local and national economies move towards service industries. ***Table 7*** shows the shortfall in Stoke-on-Trent compared with the other parts of North Staffordshire and national education levels. It is worth noting that the GCSE analysis indicates a smaller shortfall than at degree level, suggesting that the area may be capable of making ground in this area going into the future. The highlighted figures in ***Table 7*** are for those local indicators which are significantly worse than the national figure.

Table 7 Educational Attainment

	Base	Stoke-on-Trent	Newcastle-under-Lyme	West Midlands	England*	Data Source
Pupils at the end of KS3 achieving level 5 or higher in Maths, English and Science	Pupils at end of Key Stage 3	65.3%	75.0%	72.7%	74.3%	2008 annual population survey
Pupils at the end of KS4 achieving 5 or more GCSE grades A*-C	Pupils at end of Key Stage 4	60.9%	63.5%	64.2%	65.6%	2008 annual population survey
Adult residents with no qualifications	Resident population	23.3%	11.1%	16.0%	12.4%	2008 annual population survey
Adult residents with qualifications at degree level or above	Resident population	14.4%	22.0%	24.5%	29.0%	2008 annual population survey

Source: Office of National Statistics

The lower educational attainment of the Cities population has a significant impact upon longer term quality of life and entrepreneurship. This is serious issue in relation to the forward strategy suggesting that many of the higher paid jobs in the area may be filled by people who live outside the city – increasing the flow of traffic into the city from areas which are difficult to serve by public transport. The positive aspect is that GCSE attainment levels are improving which will provide a forward pool of skilled staff provided these people can access appropriate higher education or training. Improving the skills of the local population is fundamental to raising the economy of the area and improving overall quality of life.

Place and Image

The sub region's topography and historical development has meant that the City has developed as an unusual polycentric collection of distinct but connected settlements rather than a conventional monocentric city structure. However the nature of this settlement pattern has, to some extent amplified the adverse impacts of several decades of economic decline, decentralisation of services and employment, and out migration. The reality is that the City, rather than being a network of vibrant, complementary centres within a spacious and green urban environment, appears as a series of disconnected centres without any clear direction.[18]

The loss of employment in traditional industries has led to considerable pressure to replace these losses as quickly as possible. This has led to a tendency towards accepting poorly designed or inappropriate development for fear of turning away much needed inward investment. This has, in turn, had a significant impact upon the quality of both the physical environment of the conurbation and the quality of newly created employment opportunities. However there are examples where innovative, high quality design has been instrumental in raising aspirations, attracting high quality investment and transforming the external image of the sub region.

[18] Core Strategy, Oct 2009

Recent developments at the Keele University Science Park; the residential development at No.1 London Road in Newcastle Town Centre; the Victoria Hall extension in the City Centre; live/work units at Queens Street, Burslem; and the new medical school at the University Hospital of North Staffordshire are all examples of high quality commercial design both in Stoke-on-Trent and the surrounding area. Stoke-on-Trent and the wider area also has a unique and distinctive built environment with around 570 listed buildings, 41 Conservation Areas, 17 ancient monuments, and 7 historic parks and monuments.

The County of Staffordshire has more miles of canals than any other county in England, a legacy of the rapid economic transformation of the area during the industrial revolution. The Trent and Mersey Canal, the Caldon Canal, the Newcastle to Stoke Canal and the Burslem Branch Canal were all central elements of the transport infrastructure serving North Staffordshire's then thriving ceramics industry. Today, what remains of this canal network (the Newcastle and Burslem canals were both closed early in the 20th century and are now largely abandoned) continues to be a valuable local asset, serving the region's growing leisure and tourism industries. The 'ring' formed by the Trent and Mersey, the Staffordshire and Worcester and the Shropshire Union canals being a particularly popular route.

The historical landscapes, townscapes and buildings of the sub region are irreplaceable; not only for their intrinsic architectural and aesthetic value and their contribution towards creating a collective sense of place and civic pride, but also for their contribution towards making the sub region an economically attractive and competitive focus for inward investment.

However, there is also clear evidence of lack of investment in both public and private infrastructure and the decay and degraded environment that comes from lack of investment. A report prepared by the Work Foundation on behalf of NSRP[19] stated that:

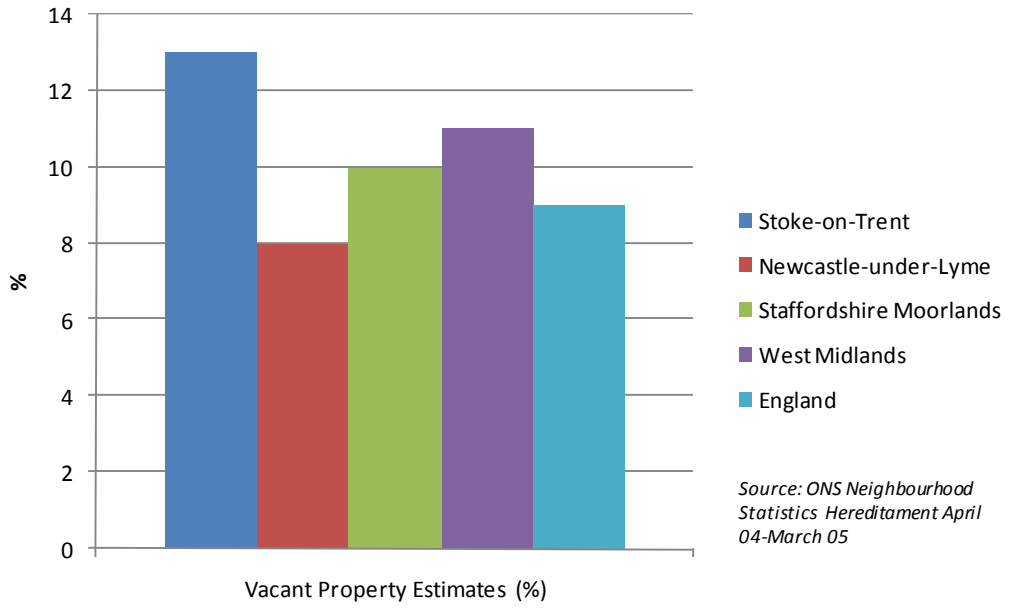
[19] The Work Foundation conducted interviews with approximately twenty key stakeholders (including local, regional and national representatives) to ensure that their findings were accurate. These interviews, together

"The image of North Staffordshire is intrinsically linked to the economic history of the sub-region. Whilst this image may contribute to the tourism offer, it has been found to hamper inward investment and to contribute to the perception of decline and decay. Interviewees and strategy documents recognise how the external perceptions of the sub region are hindering transformation, for example the North Staffordshire Zone Implementation Plan comments that 'poor internal and external image is apparent'. Another report remarks that 'outdated infrastructure, degraded environment, gaps in local business, high levels of social exclusion, inadequate skills levels and low educational attainment…paint a very negative image for the area'."

Commercial Property

Figure 21 shows the levels of commercial and industrial property vacancies in Stoke-on-Trent (the latest available figures are from 2004-05).

Figure 21 Vacant Property Estimates (2004-2005)



Source: Office of National Statistics

Stoke-on-Trent has a higher vacancy rate than its neighbouring authorities and the national figures, but not excessively so. However, it is likely that the impact of the 2008/09 recessions, particularly on the ceramics industry, will have increased the levels of vacant (and demolished) commercial properties significantly. The widespread areas of unused

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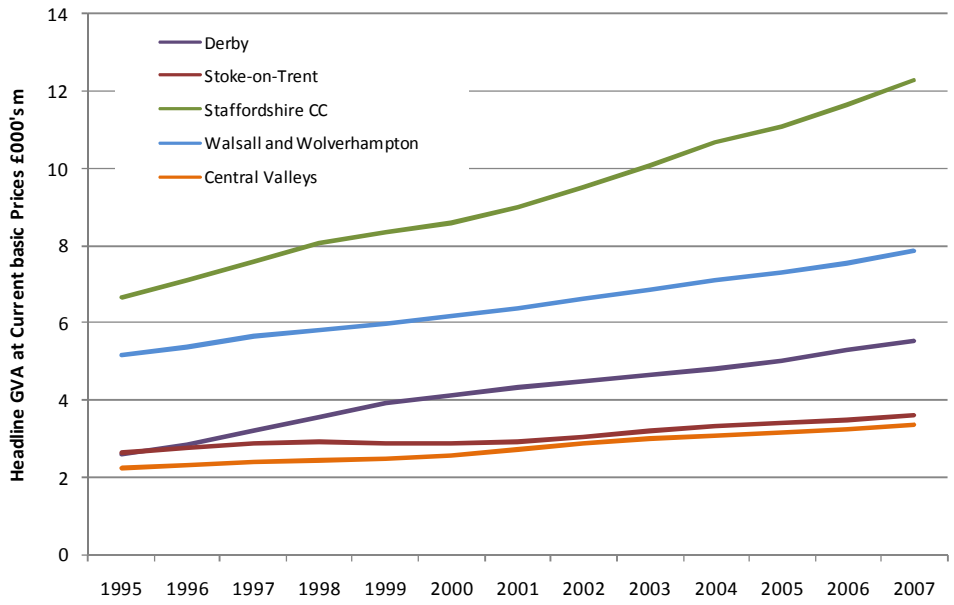
with the literature review and data analysis, were used to produce a clear analysis of the key difficulties and opportunities facing North Staffordshire.

land and property in the conurbation and the length of time it often takes for new uses to be found for commercial land and property frequently leads to poor maintenance and a degraded environment which can have a significant effect both on land values and the image of the conurbation.

Key Issues and Challenges - Prosperity

In the past decade growing prosperity has brought economic success to many areas which have experienced an accelerated rate of economic growth. Stoke-on-Trent and Newcastle-under-Lyme have sustained relatively flat economic growth in the same period. ***Figure 20*** below highlights the growth rates experienced by Stoke-on-Trent in comparison to Derby, the Central Valleys in Wales, Staffordshire and Walsall and Wolverhampton. It is clear from ***Figure 22*** that, although there has been growth in GVA in the conurbation, it has been sluggish and is lagging behind growth in comparator areas.

Figure 22 Headline GVA for Stoke-on-Trent and Comparator Areas (Workplace Based)



Source: Office of National Statistics

This economic weakness affects the wider quality of the area through dereliction, out migration of local people and businesses, poorer quality of life for residents and an increasingly degraded public environment. A vicious circle of cause and effect is started which is difficult to halt even with significant investment. The Core strategy attempts to

formally plan the strategies to change this: The Newcastle-under-Lyme and Stoke-on-Trent Core Spatial Strategy[20] sets out the economic issues for the conurbation:

"The conurbation faces significant economic and social difficulties. These difficulties persist despite Government intervention, ongoing investment in the area, and the considerable efforts of many stakeholders to begin the transformation of the area. The risk of a business as usual approach would be that this trend will continue. The other key issue is the significant variations in economic performance and social conditions across the plan area.

"The historical dominance and subsequent decline of a narrow range of traditional industries has had a significant impact upon the environmental, economic and social landscape of the plan area. The ability of Stoke-on-Trent, particularly, to compete is impeded by low or falling GDP, poor productivity, low levels of investment, low levels of educational achievement and post 16 educational participation and low earnings. Consequently a large part of the workforce is ill equipped to participate in the kind of high technology, high value knowledge based industries that are needed to provide quality jobs, revitalise the economy and help the plan area to contribute to the competitiveness of the region. As a result the economic performance of the area is poor in comparison to other parts of the region and there is below average growth particularly in business start ups which are significantly lower than national levels.

"The continuation of a weak sub-regional economy would perpetuate the trend of out-migration and the existence of unsustainable communities, further exacerbating the problems of a weak local economy."

The goal is to improve local competitiveness by radically transforming the skills base of the sub region's labour force and by fostering local enterprise and a creative and innovative culture by supporting the development of a strong education sector, in particular harnessing the knowledge assets of Keele University, Staffordshire University and the North Staffordshire University Hospital, and facilitating excellent transport links to good labour markets, particularly in high value business growth areas such as the growth sectors of medical and healthcare technologies and creative industries. Training and education provision is vitally important therefore in terms of ensuring that economic growth becomes an increasingly indigenous process, governed by and catering for the needs of the local population and business expansion, as well as business modernisation.

In terms of transport there is a need to develop physical infrastructure which facilitates and supports business creation and sustained growth to create a location with a strong and competitive economy; capitalising on its excellent strategic position in relation to key

[20] Newcastle-under-Lyme and Stoke-on-Trent Core Spatial Strategy

regional and national transport links and the area's growing economic specialisms which include; ceramics; design; medical, healthcare and environmental technologies; and logistics as well as realising the full potential of service-based industries in particular the growing cluster of financial and professional services.

Key Issues and Challenges - Place and Image

The Core Spatial Strategy[21] states that:

"The inner urban core suffers from a particularly degraded physical environment of older industrial areas compounded by a fractured urban form inhibiting free and easy access and a standard of design which is frequently just functional and mediocre. This has had knock on effects for the identity and image of the area amongst both residents and visitors, which has acted as a deterrent to new investment, particularly in the priority sectors, which has in turn hampered change. Indeed there is general agreement that the poor physical layout of the plan area is one of its major weaknesses.

"In contrast the rural area provides a highly attractive environment. This distinctive landscape with its wealth of international, national and locally designated wildlife sites and nature reserves; and distinctive and attractive villages, has been central to the image of North Staffordshire as a pleasant and attractive location for both people and inward investment and consequently it provides an important pool of labour for the conurbation. However, the desirability of the rural area around the conurbation as a place to live has arguably had a negative impact both on the image of the conurbation and its housing market. The potential to capitalise on this asset is constrained by limited access to local services for many villages, relatively high house values and sites of environmental/ecological importance that are particularly sensitive to air pollution resulting from intensive development.

"Newcastle and Stoke already possesses a strong, creative cultural identity. This individuality is an important asset, and should be utilised in terms of creating a positive image, which the sub-region can exploit as a 'brand name' in terms of marketing itself across the region and beyond. This has obvious positive implications in terms of tourism and culture."

[21] Newcastle-under-Lyme and Stoke-on-Trent Core Spatial Strategy, 2008

The CSS sets out five challenges for place and image:

- **To raise civic pride and develop a distinctive positive image for Newcastle-under-Lyme and the City of Stoke-on-Trent through the creation of a thriving regional city centre with excellent internal connections to a network of vibrant and complementary town centres, each with a strong identity, well connected to key urban centres outside North Staffordshire.**
- **To catalyse a transformation in attitudes and quality of place through the provision of high quality well designed user friendly developments which are exemplars of modern living supported by a successful transport infrastructure, an attractive network of parks and green spaces, canal side environments and a bold public realm which conveys a strong sense of place and which raises the bar in terms of design quality and adds value to our heritage areas and countryside.**
- **To promote North Staffordshire's unique heritage and its cultural distinctiveness to strengthen its viability as a tourist destination; to underpin its image as a vibrant, dynamic and innovative sub-region and to promote the economic potential of re-use of buildings, particularly those of heritage value.**
- **To enhance the plan areas competitiveness by bringing the large tracts of sustainable previously developed or brownfield land into productive use in a way which makes better sense to prospective investors and people living, visiting and working in the plan area.**
- **To foster a community of people and organisations with the desire and means to make an important contribution locally and strategically to reducing carbon emissions and their harmful impact on climate change.**

Conclusions

Stoke-on-Trent and the wider urban area face a number of challenges, including structural economic challenges and significant problems of deprivation formed from both poor health and low levels of educational attainment. Gross Value Added (GVA) per head in Stoke-on-Trent is particularly low and the area has not experienced the high growth of the UK, instead appearing to have maintained flat levels of growth during periods of wider economic prosperity. A significant part of this trend stems from the long-term decline in the industrial base within the wider sub-region, particularly the closure of coal mines and steel works and the transfer of many manufacturing jobs and industries to the Far East.

There are major concerns that the current downturn will affect the sub-region's and Stoke-on-Trent's long-term competitive position. The failure of businesses and the redundancies

of workers could result in a reduction in the region's skills and knowledge base in some sectors that will be difficult to reverse. There is a risk that in response to short term pressures, businesses will cut investment in innovation, research and development, and skills development which would adversely affect long term competitiveness.

In addition, the high number of people in poor health and those claiming state benefits means that a large proportion of the population is struggling to contribute to wider society through work and education.

Stoke-on-Trent is clearly suffering from a range of different (and interlinked) issues, with nearly all indicators highlighting significantly worse figures in most measures when compared against national or regional figures. The most striking statistic relates to 50% of the population living in wards defined as the 20% most deprived in the country. However, looking to the future, Stoke-on-Trent is generating a high number of 16 year olds with relatively good GSCE attainment; these students will be aiming higher in terms of future careers and may currently struggle to find appropriate jobs locally (potentially leading to further out-migration).

However, some of Stoke-on-Trent's most well known businesses have shown a continuing commitment to the City; Portmeirion, the famous ceramics company has experienced good growth in 2009 (a 36% increase in revenue) and remains a major local employer (479 staff), its founder Susan Williams-Ellis, spoke of the area when receiving an honorary fellowship from University of Arts, London in 2005:

"Being in Stoke has been a wonderful part of my life. The people of Stoke are really the nicest people one could ever meet, and their hard work has established Portmeirion and enabled us to sell our pots around the world. I have been very fortunate."

Another local ceramics business which has achieved worldwide renown - Emma Bridgewater - also paid credit to the City on their website which is currently commemorating 25 years of business:

"We're very proud of the fact that we're the sixth biggest employer of potters in Staffordshire. Stoke-on-Trent is rightfully proud of its reputation as home to the Potteries and we're delighted to affirm our commitment to making here and to playing our part in the local business community. We

make our wares in a warm cream coloured earthenware which is a quintessential Staffordshire product; we are drawing on a long and well-evolved expertise and a tradition which stretches back 200 years."

This demonstrates that the City still has a role in the development of ceramics with particular emphasis on well crafted, quality manufacturing. This may not be at the levels of the mass production once witnessed within the area but is likely to have a greater degree of security in the future.

Vodafone recently chose Stoke-on-Trent for a major call centre located in Etruria Valley; the center opened in December 2009 and now houses approximately 1000 staff. The new office is a centre of expertise for the company, dealing with Customer Care for its higher value customers, technical support, sales and credit control.

These are just a few examples of businesses locally which continue to demonstrate their loyalty to the area and commitment to the retention of the staff and skills which make Stoke-on-Trent unique. While wider economic changes will always affect the viability of companies going forward, these examples demonstrate that the area can hold on to leaders in industry sectors and this offers hope that more top flight manufacturers, professional services and creative designers can be attracted to the area.

Transports role in this is multifaceted, with a requirement to ensure that employers can get easy access to wider markets, large labour pools and to suppliers. In addition, these employers need to attract high quality staff who in some cases may be highly specialist; to do this the area must remain attractive for prospective employees whilst retaining a good outward face to attract new investors to the area who may be switched off by poor quality urban environments. In the final chapter of this first part of the LTP the overall transport challenges and problem are pulled together; this chapter summarises the key factors which are common to national and local policy, the interrelation of these policies to the present day challenges and how these relate to the transport strategy for this LTP3.

Chapter 5 – LTP3 Goals

Chapter 5 – LTP Goals, Supporting Policies and Evidence

Introduction

In the previous chapters the national and local policy objectives and challenges have been discussed. Chapter 4 focussed on considering the current and past trends which have led to significant changes in the economic and social well-being within Stoke-on-Trent. Clearly the area has significant challenges to face but it also has managed to retain a number of top marque businesses which continue to show their loyalty to the area.

Transport has a role to play in conquering these challenges and altering the status of the area, although the stringent budgets for transport will have an impact on the options available to the City Council. In this chapter the goals which this LTP should seek to achieve are set out; these will largely be driven by realising the economic change which is critical to raising the social characteristics of the City. A strong local economy with a range of employment options will improve the overall viability of both the City and surrounding areas and should reduce reliance on Central Government funding. In the interim period however, all available funding will be required to support an area which has witnessed some significant employment changes over the past twenty years.

The LTP goals reflect this but also provide links to the wider national policies (and emerging themes), local planning objectives and transport policies and goals currently enshrined in 'Delivering a Sustainable Transport System'. The themes of the previous LTP will not be abandoned (for example regeneration is tightly bound into the economy goal below), but there has to be much more focus in this period on key areas with limited funds.

Based on the evidence provided in the previous chapters three key goals have emerged:

- **Economy; improving the local economy through increasing productivity for existing businesses and encouraging new investment by making the area more attractive;**
- **Environment; improving the local environment through reducing the impact of traffic (air and noise) and moving towards more sustainable transport technology and modes, coupled with improving the appearance of local areas; and**
- **Health; caring for local health through improving access to transport, transport safety and encouraging walking and cycling.**

Further information regarding each goal and the rationale behind the goals and supporting policies is provided below.

LTP3 Goal – Economy

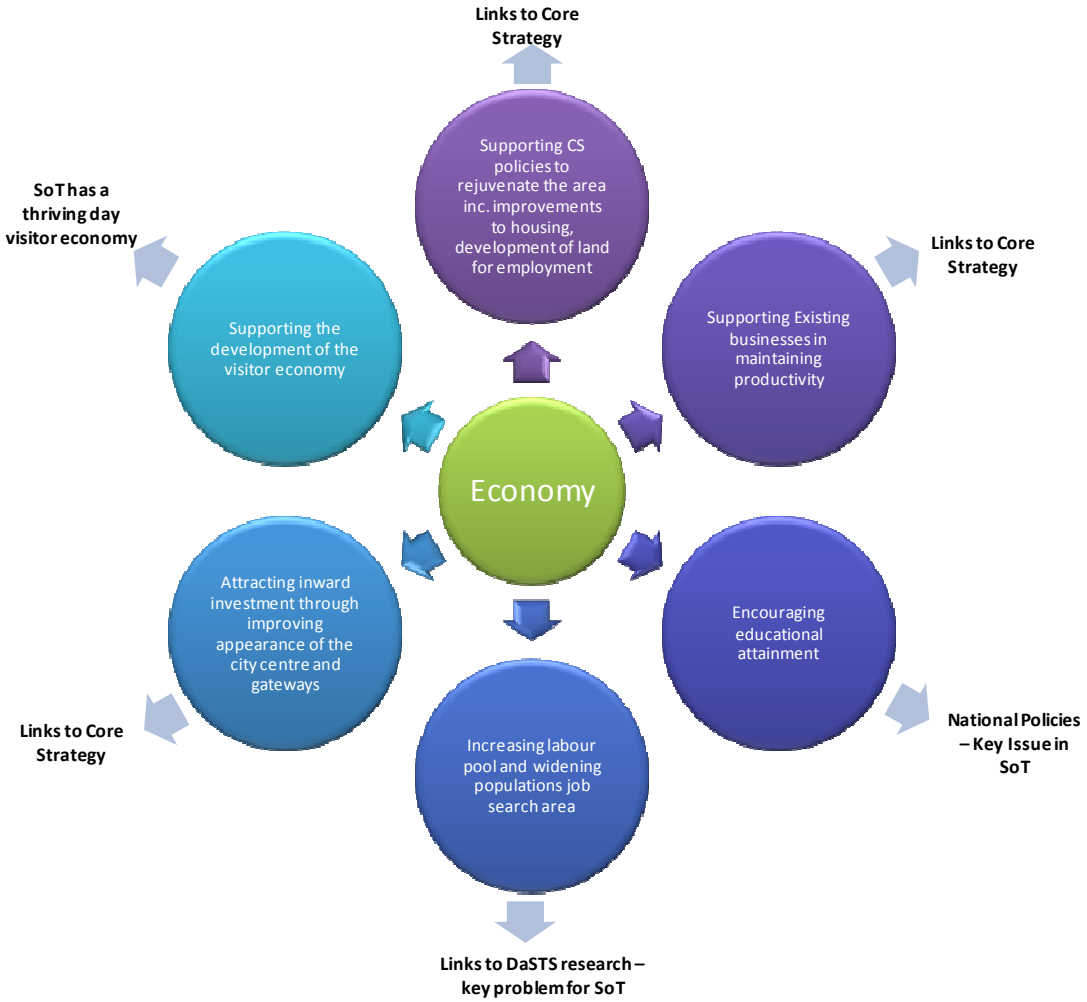
This LTP must seek to support the further development of the local economy as a priority; this will be particularly relevant over the next five years when the Government seeks to stimulate the

economy. The current position of Stoke-on-Trent is precarious, unlike other locations in the UK the City has not been able to capitalise on the period of economic prosperity experienced over the previous 15 years.

The rejuvenation of the local economy through regeneration and structural planning changes lies at the heart of the transformation for the area. Transport policy and investment has to support this aim as a priority and therefore, supporting economy is a key goal for this LTP.

The diagram shown below provides details of the core policies which provide the focus for the economy goal, these policies are discussed below.

Figure 23 Economy Goal – Supporting Policies



Policy 1 - Supporting Core Strategy policies to rejuvenate the area including improvements to housing and development of land for employment

Evidence

The evidence base related to this lies within the work completed to support the Core Strategy. The core strategy policies were discussed in detail in Chapter 2 but the overall focus of these is to promote Hanley as the City Centre and main focus for retail activity. This will be supplemented in the south of the city by the development of the Business District and University Quarter leading development activity south towards the railway station. The wider plans for the area centre on the 'inner urban core' which was illustrated in Figure 8. Clearly this re-development and renewal is key to encouraging inward investment, job creation and improving the quality of the City; the economic rationale for this is well defined in the Core Strategy.

There are a number of more detailed plans being developed in relation to areas within the inner urban core; these Area Action Plans (AAPs) will contain specific approaches and targets across a range of themes to ensure that areas are brought forward in the best possible way. The council's transportation team will always seek to provide the best advice to planners regarding these AAPs in relation to transport; as they emerge.

Policy 2 – Supporting existing businesses in maintaining and improving productivity

Evidence

Eddington described the potential benefits to the economy of reducing congestion suggesting that a 5% reduction could be worth up to £2.5bn to GDP nationally[22]. The Eddington study also emphasised the importance of reliable journey times as a key concern, particularly where businesses are seeking efficiencies through carrying reduced stock and relying on 'just in time' delivery.

Chapter 7 describes current journey speeds on key corridors; the analysis highlighted particularly slow speeds on the principle routes through the area away from the A500. These speeds impact on the economy in several ways:

- Increased transport costs for businesses through higher operational costs i.e. fuel and wear and tear
- Increased journey times leading to increases in staffing numbers and increases in non-productive time.

Congestion and slow speeds also have a resultant negative impact on other areas, for example reliability, which leads to lost working time. The social costs of congestion are also high; stop start traffic leads to increased vehicle emissions which then impact on air quality and the general environment. Clearly there is a need to protect and maintain traffic flows on key routes to reduce these impacts and maintain productivity for businesses and the efficiency of the transport network as an asset to wider society.

[22] Eddington Transport Study, December 2006

Policy 3 - Encouraging Educational Attainment

Chapter 4, outlines the current educational attainment within Stoke-on-Trent, this analysis shows that:

- The percentage of the resident population without any qualifications was almost double the national figure
- The percentage of residents with qualifications at degree level or above was less than half the national figure.

The future generations are increasingly achieving good grades, the latest results for students achieving 5 grade A-C grades at GSCE level in Stoke-on-Trent suggest that educational attainment is beginning to reach national average levels.

However, research indicates that in areas associated with deprivation and low income people find it more difficult to engage in educational activities. The social exclusion unit[23] examined how transport impacts on participation in education; of those in post-16 education, almost 20% of students reported difficulties associated with the costs of education. Transport costs represent the biggest single expenditure for many people participating in post-16 education and training; 50% of 16-18 year olds reported that transport costs were difficult to meet. It should be noted that there is no evidence to suggest that the cost of transport is a deterrent to engagement in higher education; rather it is a hidden expense that impacts once a student starts at an institution.

In terms of older people on low incomes around 2% of people aged between 45 and 64 were reported to have refused training due to difficulties with transport.

The issues surrounding those on low incomes or in socially deprived locations participating in further education are far more complex than the provision of transport. Peer group support, childcare facilities, knowledge of education benefits and other factors are more likely to be important for those considering access to education.

In terms of accessibility of educational opportunities in Stoke-on-Trent the accessibility plots contained in Appendix B indicate that for many students bus services to colleges are only as fast as cycling. Areas on the periphery of the City face particularly long public transport journeys to access education. Though overall daytime access to colleges is no worse than for access to main employment sites it is expected that access to locations offering night school may be extremely

[23] The Social Exclusion Unit was set up in 1997 by the Prime Minister, in has since been moved to within the Cabinet Office and is now known as the Social Exclusion Task Force. The Task Force seeks to provide research in relation to social exclusion and co-ordinate efforts across government to tackle these issues. Social Exclusion is defined as: being unable to participate fully in normal social activities, or to engage in political and civic life, its remit is far more wide reaching than considering just poverty and looks at other factors such as housing etc.

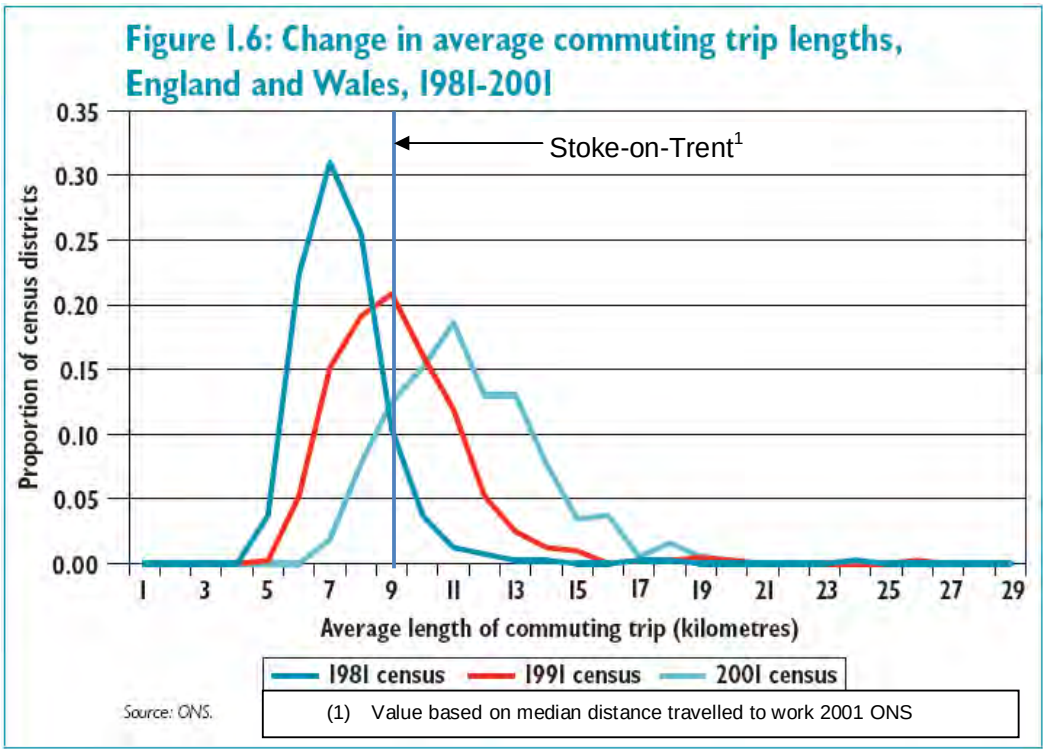
difficult for people without a car. The cities educational department does however offer lots of courses out of local schools and community centres however most of these consist of activities which are not accredited, for example sewing or crafts based courses.

Policy 4 - Increasing the labour pool and widening the job search area

Evidence

A key component of the LTP lies in the analysis of local travel patterns within Stoke-on-Trent. This analysis has revealed very limited travel horizons for those travelling to work, most notably 56% of the population travel less than 5km (3 miles) to get to work.

Clearly there is a strong sense of localism associated with these patterns which has been, and to an extent still is, facilitated by the polycentric make-up of the city. However, job opportunities in some locations have reduced following the closure of industry and as a result access to opportunities requires more travel. This is true of the patterns of travel nationally as described in the figure below (reproduced from the Eddington Study)



Eddington considered that whilst the progression towards longer commuter journeys invoked a higher social cost; the ability of the labour market to be flexible in terms of work location has benefited the UK economy. Deep labour pools and wider access to work has benefits to both employers and employees; employers get access to more applicants leading to a greater chance of getting the best candidate. Employees get access to a larger number of opportunities such that they can tailor their career towards the right employer.

Car accessibility within the area is generally good but the public transport network is constrained by low journey speeds throughout the urban area.

Analysis conducted in 2010 regarding accessibility and regeneration[24] identified that people searching for work generally imposed a 30 minute travel time limit when considering work opportunities, in very deprived locations that limit dropped to 20 minutes. In some locations in Stoke-on-Trent this imposed barrier generates a very small search area with limited employment opportunities.

This situation is not helped in the City by a lack of employment density, in comparison, locations on the outside of Birmingham still attract large numbers even though journey times are much longer (45-60 minutes) this attraction is potentially a function of several factors:

- A larger number of opportunities in the City with high density
- A differential wage rate which reflects that additional travel time
- The types of businesses that locate in the city, larger more prestigious companies which may have several offices across the UK, this generates a perception of greater promotional opportunities.

Stoke-on-Trent does not currently have this density, though it is a key part of the Core Strategy to encourage and promote greater development within the City Centre. Even so, there are employment opportunities scattered throughout the urban area which could be made more accessible to housing locations for those without access to a car or with limited access (some 36% of the working age population).

Many of these approaches will require cooperation with bus operators to improve the services and journey speeds and Stoke-on-Trent City Council are already committed to this through Bus Quality Partnerships and regular meetings and forums. The accessibility study previously discussed also analysed how much people who were looking for work were willing to pay to travel. The study found that in urban areas, close to medium sized employment centres, respondents were willing to pay in the region of £14 per week to travel. It is not within the power of the City Council to influence commercial decisions relating to pricing, but care must be taken to ensure that bus travel remains an affordable option for those on low incomes.

Policy 5 - Attracting Inward Investment through improving the appearance of the City Centre and gateways.

Evidence

Much of the evidence in relation to this policy was provided by the Work Foundation report commissioned by the North Staffordshire Regeneration Partnership.

[24] North West Regional DaSTS Programme; Regeneration and Accessibility, JMP 2010

The Work Foundation carried out an independent review of the economic and social circumstances of North Staffordshire (the three local authorities of Stoke-on-Trent, Newcastle-under-Lyme and Staffordshire Moorlands) in 2007 and 2008. There were three objectives for the study: first to develop a distinctive and evidence-based vision for North Staffordshire; second to ensure that key stakeholders were engaged in the process and agreed with this vision; and third to raise the profile of the area.

The first strand of work was an independent analysis of the evidence about where North Staffordshire stands now, based on an extensive literature review and data analysis, and on analysis of wider changes in markets, regeneration policy and practice, and social trends. The framework for this analysis was the Work Foundation's research into the drivers of successful knowledge cities and knowledge city regions.

The economic analysis undertaken by the Work Foundation, and in particular the issues and problems facing the conurbation and the wider area, has been subject to review through the North Staffordshire Regeneration Partnership and through engagement with key stakeholders. The Work Foundation conducted interviews with approximately twenty key stakeholders (including local, regional and national representatives) to ensure that their findings were accurate. These interviews, together with the literature review and data analysis, were used to produce a clear analysis of the key difficulties and opportunities facing North Staffordshire, these are outlined in ***Table 8*** below.

Table 8 Work Foundation; Main Issues in North Staffordshire and DaSTS Conclusions

Components (from Work Foundation)	**Causes (Transport related from DaSTS Study)**	**Potential Transport Role**
Slow transition to knowledge economy	Knowledge related businesses require greater access to staff, high quality buildings and links to other financial and service sector suppliers	Internal connections to residential areas could be improved – public transport for commuting but good highway links for business to business interaction
Low levels of inward investment	Stoke is competing at a national level for business, the appearance of areas such as the City Centre and gateways needs to be capable of creating a positive image	Transport can facilitate a regeneration change in two ways, firstly though facilitating access to new or regeneration areas and secondly by generating a positive image by high quality public transport and prominent interchange facilities
Low skills base	Rapid changes in the make-up of industry have left a workforce which is highly trained in a discrete number of moving industries. Adapting skills requires access to new job opportunities and access to educational establishments. The area also has two major universities training highly skilled staff for the future, however the areas ability to hold on to these	Improve access to education and work opportunities further away by public transport (this is in relation to the localised travel behaviours exhibited) – particularly in the short term

	people is made difficult by both a lack of appropriate local business and the image of the city	
Lack of enterprise	Also likely to be connected to low educational attainment levels but also may be as a result of a general lack of mobility reducing the opportunities for people to interact with the wider area and identify emerging opportunities	Improve access to education and wider potential business markets to encourage innovation

It is clear from the above issues that 'place' functions and general legibility of the City is felt to be a major stumbling block to inward investment and economic prosperity. The City either does not have, or does not promote, any key benefits that could attract people and businesses to the area which would outweigh other considerations. Interestingly, there are two local universities which generate thousands of qualified students every year but the area cannot hold onto to these people in stark contrast to other university cities. This is likely to be both a function of the structure of businesses in the City; offering limited employment choice and the image of the City; which whilst affordable in terms of living doesn't have enough other attractions to hold young people there.

Another key economic driver affected by appearance and place is tourism. In chapter 4 details of the income generated by tourism in 2009 were provided. This amounted to £158m The largest beneficiary of this income was the retail sector; receiving an estimated £76m, the catering sector was the next largest beneficiary receiving £66 million.

The report estimated that tourism was responsible for the generation of over 4,000 jobs in the area related specifically to tourism; however there is a fear that the tourism offer within the city shows signs of weakening, largely due to competition from other Cities. This was identified as an issue in 2005:

"Although we have some excellent attractions and facilities, the urban environment of the City is poor. Competition, nationally and internationally for the visitor market is now fierce and visitors expect and demand good quality. Many of the larger Cities and many of our peer group of Cities have invested heavily already in regeneration programmes and now have vibrant, attractive City Centres, fit for the 21st Century. Stoke-on-Trent City Centre still has some way to go to compete in this marketplace. … Nonetheless the wealth of industrial heritage; attractive green spaces; proximity to tourism magnets and the sustained investment resulting from the designation as an Assisted Area and Regeneration Zone should be powerful economic drivers, safeguarding the region". (Stoke-on-Trent Tourism Team Briefing Note, 2005)

Outside the North Staffordshire conurbation there are major tourist attractions, particularly in Staffordshire Moorlands, including Alton Towers, one of the most significant visitor attractions in the UK and the western edges of the Peak District National Park. These sites generate significant visitor numbers and more could be done to capitalise on the Cities proximity to these sites.

Policy 6 - Supporting the development of the visitor economy

The importance of the visitor economy to Stoke-on-Trent's economy has been described above. The visitor economy is also fundamental to retaining the cultural memories of the city, with many of the museums in the city supported by external visitors. The visitor economy represents a chance to display the best of the city to people who visit from all over the country. This tourism can generate interest once the holiday is over and can gradually change the perceptions of the area. There are some key tourist entry points for the City:

- By road; Junctions 15/16 M6 and the A500
- By Rail; Stoke-on-Trent Railway Station
- Finally, and equally important; the Trent and Mersey/Caldon canals

The overall legibility of the City is still a fundamental issue for visitors. It isn't clear where the key locations in the urban area are in relation to these gateways. Whilst road signage has been improved over recent years, there is still much to be done in relation to the station and canals. Recent visitors and local community groups have highlighted a lack of signposting on the canal to point to visitor attractions, local retail and appropriate mooring locations.

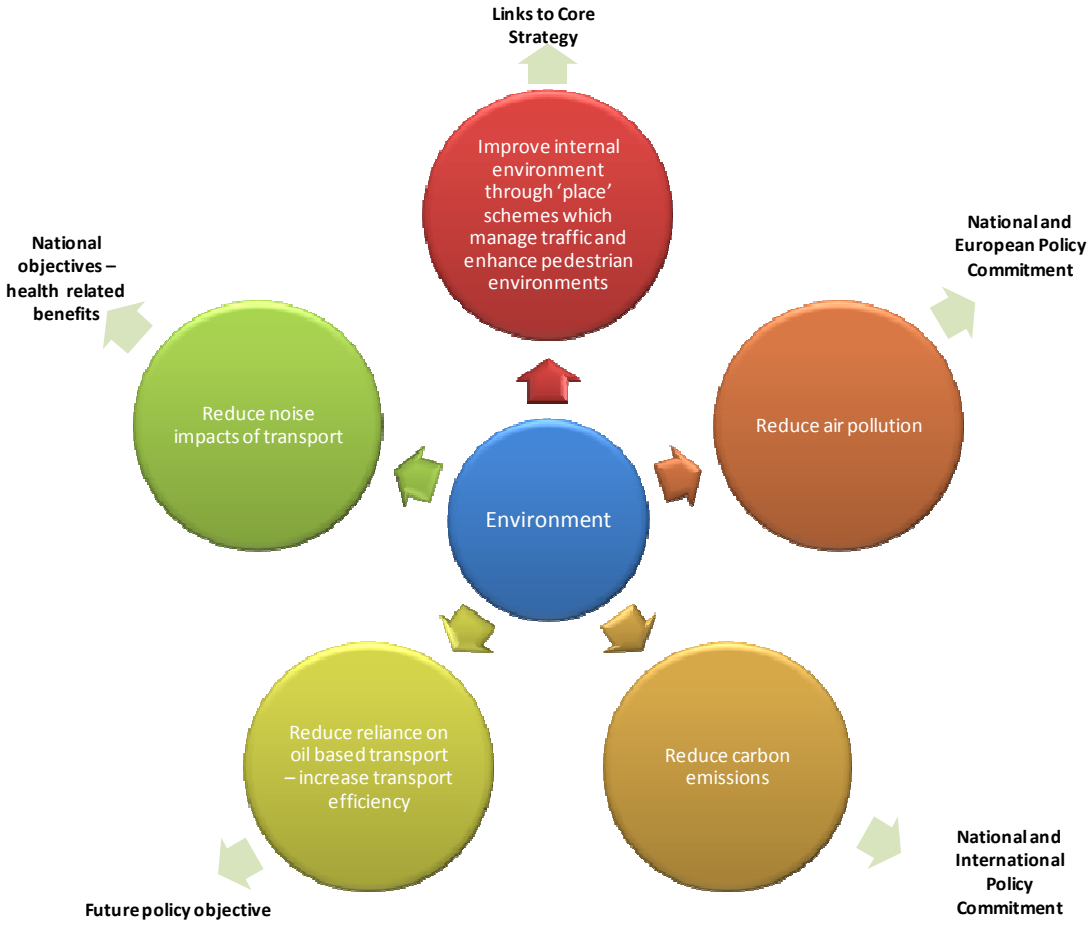
Many of these are fairly minor issues which could be resolved easily by a concerted effort with Train Operators, Network Rail, British Waterways. These external parties do not tend to view these minor works as particularly important (when compared with core activities), but equally require that they input into projects which can sometimes lead to delays in delivering even minor schemes.

The transport contribution in this area needs to support the changing emphasis of the tourism offer being developed currently. There has been a much needed re-focus of 'potteries' tourism recently, moving away from a previous strategy which many felt did not work well with the unique selling point of the city, namely its industrial ceramic heritage. This 'unique selling point' is likely to be revived as the central theme for visitors to the potteries but it is acknowledged that many of the large local 'lynchpins' of a potteries tours have disappeared – leaving the potentially lucrative museum and factory shop trade looking at little bit geographically disjointed. Linking the remaining sites via public transport and or walking/cycling will be a key challenge for both the tourism and transport teams. In addition local ceramics sellers may need to consider re-grouping shops and attractions to boost sales and revive interest in local ceramics.

LTP3 Goal – Environment

The local environment of Stoke-on-Trent has been named in many studies and reports as a key issue affecting the regeneration potential of the area. Some locations and routes have been considered to be a major issue in the reluctance of potential investors to come to Stoke-on-Trent. In this goal, transport strategy seeks to improve the appearance and quality of the urban environment through public realm investments which may include greening, de-cluttering and repaving key areas. There are also increasing concerns that car technology is unlikely to eradicate air quality problems within the timescales originally envisaged, as a result there will be a requirement in this LTP to ensure that air quality impacts are reduced. The policies also reflect an anticipated move towards reducing the reliance on oil based transport through encouraging new technology and improving the efficiency of the transport network.

Figure 24 Environment Goal – Supporting Policies



Policy 1 – Reduce Air Pollution

Evidence

Air pollution is of concern in many urban areas and evidence collated by the European Union suggests that poor air quality reduces the life expectancy of everybody in the UK by 7-8 months. In Chapter 3 the components of air quality effects in the city and details of the types of emissions which cause air quality issues were discussed in detail.

In Stoke-on-Trent the majority of air quality issues are caused by a combination of high traffic volumes and congestion on key strategic routes and the position of properties close to the main carriageway, for example:

- A funnel effect as a result of housing densities on either side of a route which prevents the dispersion of fumes from the traffic
- Congestion at key junctions which cause stop start traffic conditions; this is also aggravated by on street parking which can generate this issue on main links.

Improving the flow of traffic on some of the major routes through the conurbation are likely to have the best effects on air quality issues, while the continuous improvements to engine efficiency in cars and gradual technology changes will take effect in the longer term.

Policy 2 - Reduce reliance on oil based transport; increase transport efficiency.

Evidence

The basis for a reduction in oil based transport dependency is related to several factors which were previously discussed:

- The potential for a peak oil scenario which could lead to oil depletion scenarios
- The harmful by-products associated with oil based fuels e.g. NO2 and PM10
- The carbon costs of production; particularly as oil exploration leads to more difficult and potentially environmentally damaging extraction

This stance reflects increasing central government investment in alternative power for vehicles; there is investment in the research and development of technology (at Aston University, Birmingham) and production (at Nissan, Sunderland) along with pilot trials of electric charging points in cities. The recent Local Transport White Paper (see Chapter 2) highlights that mass ownership of electric vehicles is currently anticipated in around 2030, which means that this issue remains a priority for this LTP period. We will also need to consider what infrastructure provision should be made in advance of electric vehicle adoption. The potential influence of this LTP in relation to reducing oil dependency will be limited and is likely to be guided by policy and funding allocated at a national level. However there are some commitments that can be made at a local level to work towards wider aims and this approach also overlaps with efforts to reduce air quality.

Policy 3 - Reduce noise impacts of transport

Noise is considered a major contributor to quality of life and is an increasing issue in urban areas. Recent studies have suggested that noise levels affect the price of housing with some estimates

placing as much as a 12% difference in prices depending upon noise levels. In a recent cabinet office report[25] the economic cost of noise was outlined as lying at between £3-5bn based on house price impacts.

Noise forms only a part of the general 'feel' of a location and obviously not all noise pollution is generated by transport. Noise impacts are usually considered as part of regeneration objectives and it will be important to consider this in relation to shopping areas and high streets where a combination of noise and high traffic numbers can make these areas unpleasant.

As a result this LTP should consider the reduction of noise impacts from transport as far as possible seeking to incorporate this into masterplanning exercises.

Policy 4 - Improve internal environment through 'place' schemes which manage traffic and enhance pedestrian environments

Evidence in relation to the enhancement of urban 'places' was examined in detail with the Cabinet Office report previously highlighted. The document provides some useful clarity in relation to improving spaces for both residential and city locations.

The report recognises the multiple functions of many roads and streets facilitating:

- Vehicle Movements
- Pedestrian and Cyclist movements
- Utilities
- Public space
- On-street parking
- Public Transport
- Deliveries, waste collection etc
- Social functions (for example children playing in the street)

The report highlighted that the characteristics of high quality streets in residential areas are:

- Parking should not dominate
- Streets should primarily be designed for people e.g. pedestrians cyclists and children
- Good quality designs create 'living streets' which encourage people to interact more
- Streets should be designed to facilitate the private, deliveries and service vehicles but not overtly so.

For high streets the main principles are:

- As with residential streets the priority should be given to pedestrian movements with relative freedom of movement

[25] Analysis of Urban Transport, Cabinet Office, 2009

- Streets should be free from clutter
- Wide footways, places to sit and trees are also identified as key elements

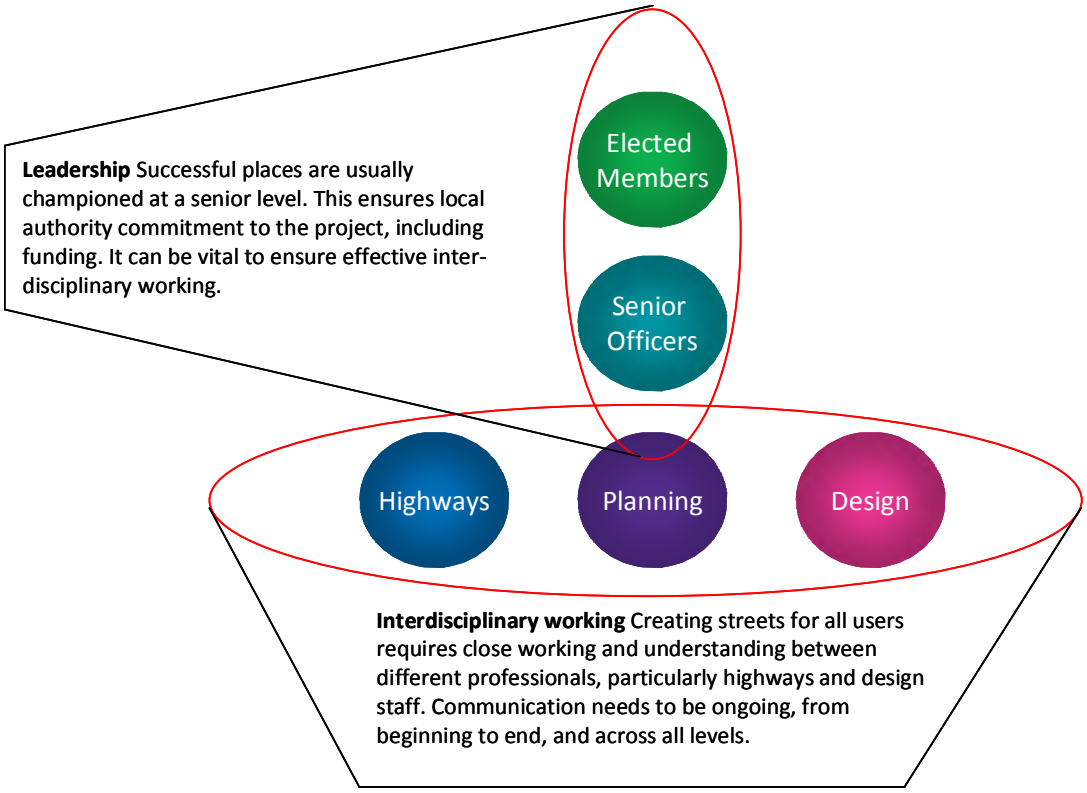
In these instances designers need to establish whether priority needs to be given to 'place' or 'movement'.

The report highlights some evidence in relation to improved streetscapes, improvements to the pedestrian network, priority improvements for pedestrians creating attractive gathering locations and introducing street trees were shown to have a positive effect on these locations:

Location	% increase in Pedestrian Numbers
Melbourne (City Centre)	40% day 100% night
Copenhagen (City Centre)	40%
Brighton (New Road)	62%

The report indicated that successful development of these schemes requires close integration between separate delivery partners in addition to strong support at senior officer level. ***Figure 25*** below indicates the key groups and champions.

Figure 25 Working to Deliver Public Realm Improvements



The concept of improving places to create 'living streets' is thought to have benefits to local economies through

increasing footfall, reducing fear of crime and contributing to communities' or persons' general sense of well-being.

Policy 5 – Reduce Carbon Emissions

Transport is a major emitter of CO2 in the UK, contributing about 23 per cent of UK domestic CO2 emissions. Transport is the fastest growing source of greenhouse gas emissions in the UK, and commuter and business travel constitute nearly 40% of all miles driven by car.

The Government recognised that urgent action to tackle transport emissions of CO2 and other greenhouse gases is necessary and was committed to doing so in a deliverable, measurable, and cost-effective manner. In response to the Stern Review the Government looked at four principal areas of policy to meet its obligations to reduce the carbon output from transport. These were:

- To increase the fuel efficiency of vehicles and develop new technologies aimed at reducing the emissions of vehicles;
- To encourage a move towards more environmentally friendly forms of transport, particularly walking and cycling;
- To include transport in emissions trading schemes; and
- To reduce the fossil carbon content of transport fuel.

The coalition government has since re-iterated a commitment to reducing C02 emissions and look set to push for electric vehicles as a key area of forward policy intervention. The recent release of the 'Creating Growth Cutting Carbon, Making Sustainable Local Transport Happen' White Paper suggests that the government expects mass ownership of electric vehicles by around 2030. Though this is mass take up is some time away there is still a need to plan effectively for the potential requirements of this form of power for vehicles, as a result the LTP must recommend that planning practitioners and developers consider the potential requirements associated with electric vehicles.

LTP3 Goal – Health

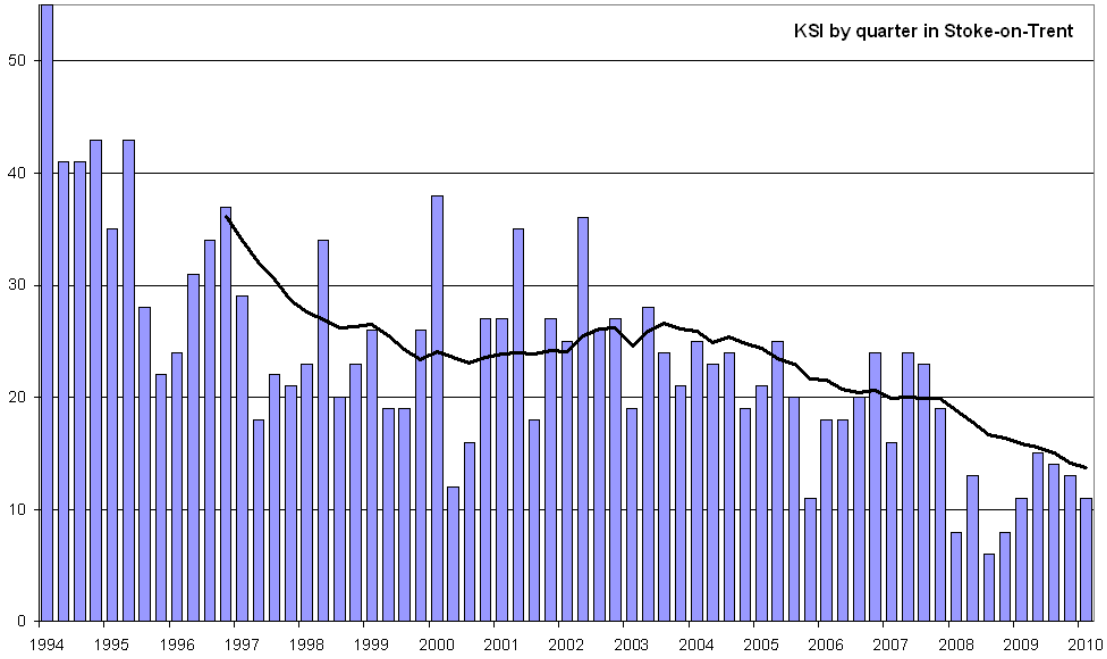
The figures in Chapter 2 related to the health of local people are particularly worrying; this has a serious effect on quality of life through reducing choice and ability to play a role in wider society. It also impacts on the economic viability of the area through the level of Government intervention required and high numbers of people who are unable to work. The health goal reflects these issues and is likely to be highly linked to the internal environment of the city; for example, the promotion of walking and cycling as ways of improving and maintaining health will be linked to the quality of the local environment. It will also be important to ensure that access to health services for those with health problems is improved, particularly in relation to the centralised University Hospital site. The delivery of health improvements will require close working with local health authorities and GPs. The rationale behind each of the policies is described in the following text.

Figure 26 Health Goal – Supporting Policies

Policy 1 – Continue to reduce the risk of death or serious injuries associated with transport

The risk of death or injury on the transport network in Stoke-on-Trent has been significantly reduced during LTP periods 1 and 2 (i.e. since 2001); this has been achieved through co-ordinated efforts by the North Staffordshire Road Safety Partnership and targeted investment in safety schemes throughout the area.

The results from this approach are clear from the steady fall in people 'Killed or Seriously Injured' (KSI) since 1994.



Going forward, there is a clear need to continually maintain the downward trend; this will be more challenging both as a result of reduced funding and the low base which is currently recorded. Nonetheless the approach adopted during LTP2 has been highly successful and the structure of this approach will be maintained with partnership working across the Police and Local Authority continuing. It is expected that the Government will release target figures in relation to transport related accidents in Spring 2011.

Policy 2 - Tackle high numbers of people in ill health/incapacity claimants (now known as Employment and Support Allowance (ESA))

Stoke-on-Trent has a high number of people classed as being in 'ill health' and a large percentage of the population is claiming some form of incapacity (now ESA) allowance. Many of these existing claimants have been in this situation for some time and research conducted recently by the West Midlands Observatory indicates that these people are the hardest to reach in terms of support to get back into employment. In addition the low skills base within the city makes it more difficult for many to find paid employment – particularly in peripheral locations which are easily accessed from the wider area.

Strategies outlined under wider economy and health goals will go some way to providing employment opportunities but this goal is more concerned with improving the physical and mental health and wellbeing of the local population as a specific target.

Transport strategy is limited in terms of how much influence it can have over these health related issues, however transport is a key part of letting people interact with wider society, friends and

relatives. It is these relationships which provide individuals with 'resilience', the ability to bounce back from poor health and misfortune. In addition schemes which promote active travel can have a beneficial effect on people who are suffering with health problems, for example[26];

- The release of the chemical serotonin during exercise can help to elevate moods and reduce anxiety and stress;
- There is a large body of evidence to suggest that regular, moderate exercise increases the efficiency and effectiveness of the immune system, helping to prevent infection. For example, one study found that those people who walked for at least 30 minutes a day, took half as many days sick, as a result of colds, or sore throats, compared with those who did not exercise regularly.

For those in poor health or currently without any major health problems regular exercise can:

- In combination with a healthy diet, be the best way to maintain a healthy body weight. Being overweight increases the chances of developing many different conditions, such as high blood pressure (hypertension), type 2 diabetes, heart disease, stroke, and osteoarthritis.
- Strengthen the heart and prevent many of the contributory factors that can cause heart disease, such as high blood pressure (hypertension), high cholesterol levels, and obesity.
- Stimulate cells that strengthen bones, reducing the chances of getting osteoporosis. Osteoporosis is a condition that affects the bones, causing them to become thin and weak.
- Reduce the chances of developing colon cancer by 50% according to research. There is also evidence that women who exercise regularly have a lower chance of developing breast cancer.

Policy 3 – Encourage use of sustainable modes

The use of sustainable modes (public transport, walking and cycling) is generally considered to be better not only for the health of each individual but also for the wider population. In terms of the benefits to the wider population, the air quality and noise impacts of traffic caused by thousands of private vehicle trips have been well documented elsewhere in this LTP. The benefits to the individual are linked to the previous policy, people who catch public transport generally incorporate a walk to and from the bus or rail station at either end of each journey and as a result are likely to be gaining the benefits of increased exercise. A recent report published by the Institute for European Environmental Policy[27] identified that the decline in walking was a fundamental factor in growing obesity, perhaps more so than previous arguments regarding increased food consumption and calorie intake:

[26] All data taken from the 'NHS Choices' website: http://www.nhs.uk/Pages/HomePage.aspx

[27] Institute for European Environmental Policy; a charity organisation that performs research and provides policy advice in relation to environmental issues established in 1980

Our report records the decline in routine physical activity in the form of active travel with growing car use. Cycling was one of the principal modes of travel in the first half of the 20th century, but declined dramatically from the early 1950s and has remained at a stable but low base since the 1970s. Thus it seems unlikely that this decline is a major determinant of the recent upsurge in obesity, so we have focused largely on walking. Walking is the most widely available form of physical activity, and also a useful means of transport. However, levels of walking have steadily declined in recent decades, and as car ownership increases, many journeys that would once have been made on foot are being replaced by car travel. This has been going on ever since mass motorisation began in the 1960s. Year on year a greater proportion of the time spent travelling is by car and the distance travelled on foot declines. In consequence of this:

- **Main car drivers walk only half the distance and for half the time of adults in non-car owning households;**
- **This equates to a deficit of 56 minutes of walking every week for these drivers relative to adults in non-car households; and**
- **Over a decade we calculate that this could lead to a weight gain of more than 2 stones.**

It is important to understand that for most obese adults their weight gain has accumulated over many years. Small energy imbalances on a daily basis can lead to major weight gain over a decade and more, and *our calculations indicate that this decline in walking is in itself enough to account for much if not all of the recently observed upsurge in obesity*.[28]

There is clearly more scope for research in this area, and it is likely that poor diet will also have an effect on calorie intake thereby compounding the lack of exercise. Nonetheless the promotion of travel by public transport and increased walking for short distance trips would go some way to improving the wider environment whilst also improving the general health of the population.

This policy is therefore intended to ensure that public transport is also promoted as a form of travel for health in parallel with the more obvious active modes.

Policy 4 – Reducing obesity in the local population

Obesity is an increasingly serious health problem in the UK affecting a large proportion of the population nationally and locally. The scale of the problem going into the future is predicted to be immense; by 2050 90% of the adult population and 66% of children could be obese. The current

[28] Unfit for Purpose: Hw car Use Fuels Climate Change and Obesity, Institute for European Environmental Policy, August 2007

cost of obesity for the UK is estimated at £9.8bn per annum, taking into account the cost of care for heart attacks, strokes, falls, fractures, sickness absence and premature death.

Stoke-on-Trent struggles against a number of health indicators and obesity is no exception, both child and adult obesity in Stoke-on-Trent is higher than the national average. It is likely that this is due to a number of multiple factors such as poor diet in addition to a lack of physical activity.

Obesity for the majority of the population is driven by the 'energy in' and 'energy out' balance with many people consuming more calories than they expend coupled with current lifestyles (long working hours/both parents working) it can be difficult for people to weave additional exercise into the working day.

This is an area where transport can play a role through the promotion of 'active travel'. The travel patterns within the city suggest that many people could incorporate physical exercise through walking or cycling to work regularly, or as described above, using public transport. Many people could also get more physical activity into their day through walking in their lunch break or walking to the local shops instead of taking the car.

The barriers which prevent people from making these choices are complex and can be a combination of:

- Over-estimating the time required to travel by public transport or walk/cycle
- Lack of security
- Feeling unsafe on the highway (for cyclists)
- Not being encouraged to walk through poor or dull surroundings
- Cost for public transport; unlike the car, public transport is pay on entry so the memory of spending money is more deeply ingrained than for a car where running costs are absorbed into the monthly bills.
- For children; fear of child safety when crossing roads etc, lack of time to walk children to school.
- General lack of personal motivation

In terms of transports contribution; providing speedier public transport journeys, bettering the end-to-end journey experience and improving pedestrian environments and links to housing, employment and retail have the potential to remove some of these perceived barriers.

Policy 5 – Promote the development of local Community Facilities

There is a growing body of evidence regarding how spatial planning and development can impact on health, particularly where poor planning leads to fragmented housing, employment and amenities. In recent years planning policy has sought to respond to growing concerns that the style of development in the 80's and 90's has led to increased car use. Planning policies are today more rigorous regarding 'sustainable' development; where employment, housing and community facilities are incorporated into the development of masterplans. For large sites, mixed use proposals are increasingly popular and have begun to incorporate areas of green space, doctor's surgeries and

community centres. In existing housing areas Stoke-on-Trent have introduced improved community facilities, for example GPs and JET centres.

Most importantly, in the short to medium term, the placement of key amenities within housing areas reduces the dependency on the car and other motorised forms of transport making it easier for people on low incomes to take advantage of these facilities.

Policy 6 – Improve access to healthcare (University Hospital)

In this LTP period this particular policy relates specifically to the development of the University Hospital. This emphasis is due to the development of the site into a consolidated centre with the infirmary site functions to be transferred to the new complex. This development will have a significant impact on transport and accessibility, particularly for public transport.

The focus on the main site is largely justified by the scale of operations there; in 2008/09 there were over 127,000 admissions, of which only 50,000 were emergencies. The average length of stay at the hospital is 4 days and of the total admissions:

- 9% were aged 0-14
- 46% were aged 15-59
- 23% were aged 60-74
- 20% were aged 74+

It has not been possible to gain information regarding the split of admissions by diagnoses for the hospital but national figures indicate that:

- Up to 10% of admissions are related to ‘malignant neoplasms’ i.e. tumours
- Approximately 8% relate to circulatory and heart diseases i.e. heart attacks, strokes
- 4% relate to injuries to the body of which 17% are injuries to the hip and thigh[29]

In Stoke-on-Trent a key concern is the high number of deaths from heart disease and strokes (though figures related to this are gradually improving). The health priorities for the City include:

- Stopping smoking
- Obesity in children (see previous policy)
- Teenage pregnancy
- Reducing deaths from cancer

Treatment methods associated with cancer and heart disease can involve significant periods of inpatient activity and multiple visits to hospital as an outpatient. The low income base within the City means that many people seeking treatment will struggle with the journeys to and from the hospital and the cost of private hire vehicles. Visitors and carers will generate even more trips to the hospital

[29] HES Online – Primary Diagnoses summary 2008/09

and even in cases where people do come by car; the cost of this over a typical 4 day stay can be as much as £24.

There is also likely to be a real need to reduce the traffic impact of this consolidation through encouraging the use of public transport, walking and cycling for the 6,500 staff associated with the Hospital Trust.

As a result the hospital will be the focus of attention for improvements to health accessibility in the short term, in the longer term accessibility to other key hospital sites such as Haywood should be considered and improved.

Summary and Conclusions

This chapter has highlighted a requirement for the city to focus on three main goals; Economy, Environment and Health. Within these goals there are items which provide links to wider policy objectives at local, national and international levels. In terms of the relationships between these goals and the national DaSTS policies there is a clear link to each of the five principle goals – for example better safety security and health objectives are incorporated with the overarching health goals in this LTP.

The inclusion of three main goals for the LTP reflects the problems in the area which are mainly driven by a low performing economy which subsequently impacts upon the local environment and most particularly the health and welfare of local people.

The local planning policies reflect this, emphasising the requirement that planning will play a major part in the regeneration of the area in order to halt out-migration of people and businesses and attract new investment to the area. This needs to be recognised as a key element within the LTP. At the same time the City faces some growing air quality issues with the whole City area currently subject to a Management Area status. Whilst many of the health problems in the city may be linked to other issues local air pollution will not help those in ill health, nor will it encourage people to switch to healthier modes of transport.

In the chapter 9 the goals are expanded upon further and greater linkage between the goals and the objectives of the LTP are described.

Chapter 6 – Geographical Scope, Existing and Future Travel Patterns

Chapter 6 – Geographical Scope, Existing and Future Travel Patterns

Introduction

Previous chapters have provided detailed information on the existing socio-economic issues within the area and the planning policies which are seeking to improve prospects within Stoke-on-Trent in the future. This background culminated in the development of three key overarching LTP goals:

- **Economy; improving the local economy through increasing productivity for existing businesses and encouraging new investment by making the area more attractive**
- **Environment; improving the local environment through reducing the impact of traffic (air and noise) and moving towards more sustainable transport technology and modes, coupled with improving the appearance of local areas**
- **Health; caring for local health through improving access to transport, transport safety and encouraging walking and cycling.**

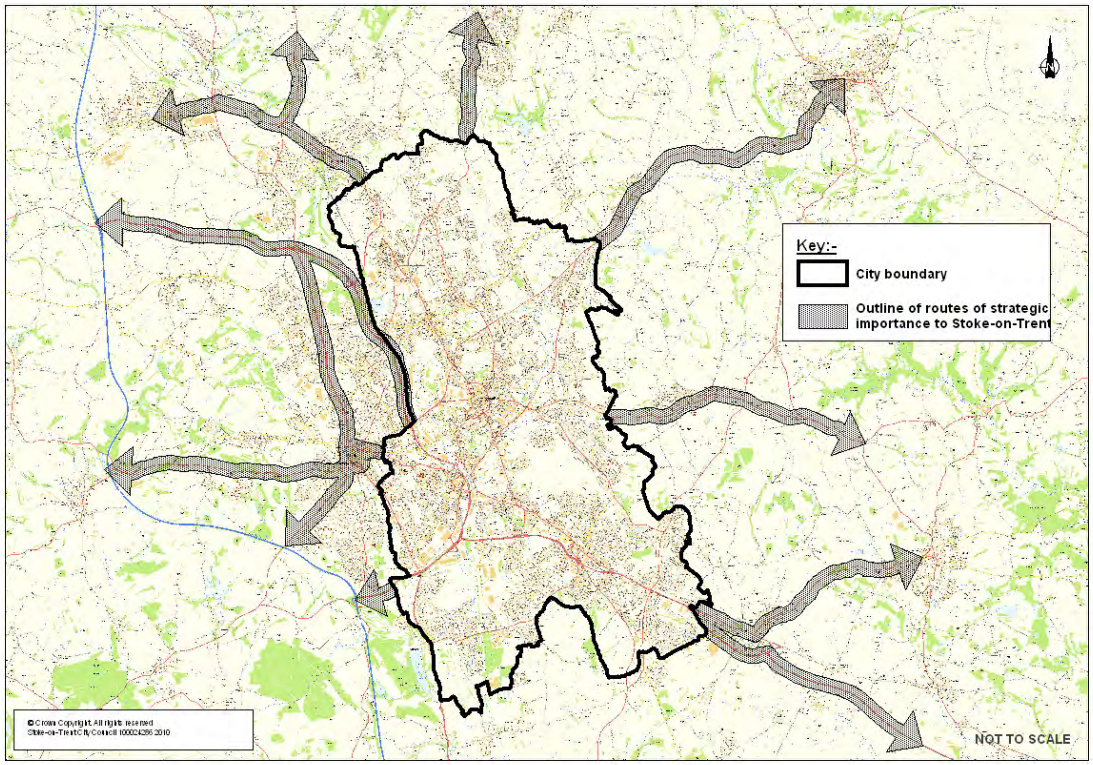
The goals have been tightly drawn to reflect the biggest priorities in the area and also to ensure that schemes and interventions are targeted towards these priorities, this is particularly relevant over the coming five years when budgets are expected to be stretched.

Geographical Scope

The geographical scope of the LTP is inclusive of everywhere within the City boundary, however, the issue is more complex as Stoke-on-Trent's economy and subsequent travel patterns are also highly linked to the areas under the control of Newcastle-under-Lyme Borough and Staffordshire Moorlands District Councils. In terms of transport, both areas are managed by Staffordshire County Council who have been involved in the development of this LTP. There are cross boundary issues which broaden the geographical scope of this LTP; however both councils have a long history of joint working; in terms of transport this joint working includes the previous LTP and local road safety partnerships.

So while the absolute boundary for analysis is linked to the City boundary there are likely to be a number of locations where the scope will be extended due to the nature of travel movements. This is illustrated in ***Figure 27*** below.

Figure 27 Map showing City Boundary and wider Geographical Scope for this LTP



Of particular interest are the areas of the network that are key commuter links for both private cars and buses and main links over the A500:

- A52
- A53
- B4045 – Shelton New Road
- Additional sites of interest include routes immediately around the Bus Station and the Bus Station itself due to the interaction between services.

Travel Patterns

Travel to Work Area Analysis

Travel to work data from the 2001 Census shows that over 75% of those who live in Stoke-on-Trent also work within the City, while 11% commute to neighbouring Newcastle-under-Lyme, with smaller proportions commuting to nearby Stafford and the Staffordshire Moorlands area. Data for Newcastle-under-Lyme residents show that just over half work within the Borough, while almost one-third commute into Stoke-on-Trent. The census also shows that relatively few journeys into both Stoke-on-Trent and Newcastle-under-Lyme originate from outside of the North Staffordshire sub-region.

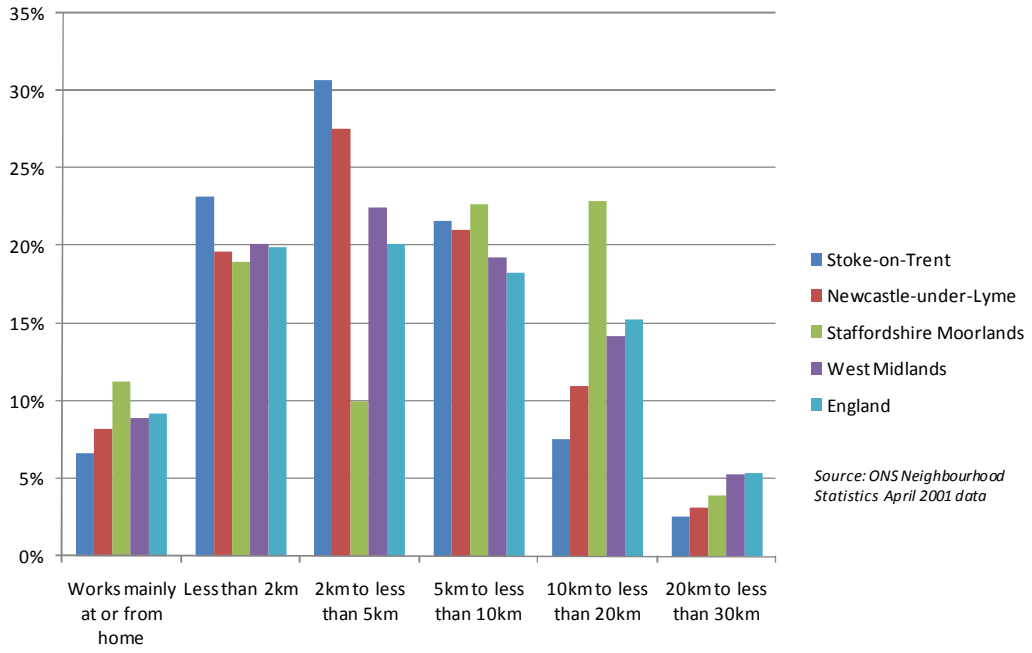
Longer Distance Commuting

The main longer-distance commuting destination is Greater Manchester with far fewer journeys to the West Midlands conurbation and the South-East region (including London). Typical journey times by train of 50 minutes to Birmingham and 90 minutes to London would normally indicate the likelihood of greater numbers of commuting trips to these major destinations, but the socio-economic profile of residents in North Staffordshire and the ability of higher-paid workers to live closer to their workplaces is likely to be the principal cause of the limited numbers of out-commuters.

Overview of Travel Patterns and Mode[30] Choice

In order to provide an overview of travel patterns within the study area we have examined data contained within the 'Neighbourhood Statistics'. ***Figure 28*** below illustrates distance travelled to work for each of the local areas, region and national data.

Figure 28 Distance Travelled to Work; Stoke-on-Trent and Surrounding Areas (2001)



The graph above indicates that Stoke-on-Trent has a significantly higher percentage of people travelling from 0-5km than both its local counterparts (Newcastle-under-Lyme/Staffordshire Moorlands) and regional and national comparators. Newcastle-under-Lyme shows a distance pattern which is similar to Stoke-on-Trent's while Staffordshire Moorlands is unique due to its much lower commuter split in the 2-5km band (this is likely to be attributed to its more rural nature). None

[30] Mode: refers to the method used to travel e.g. bus, car, rail, walk and cycle

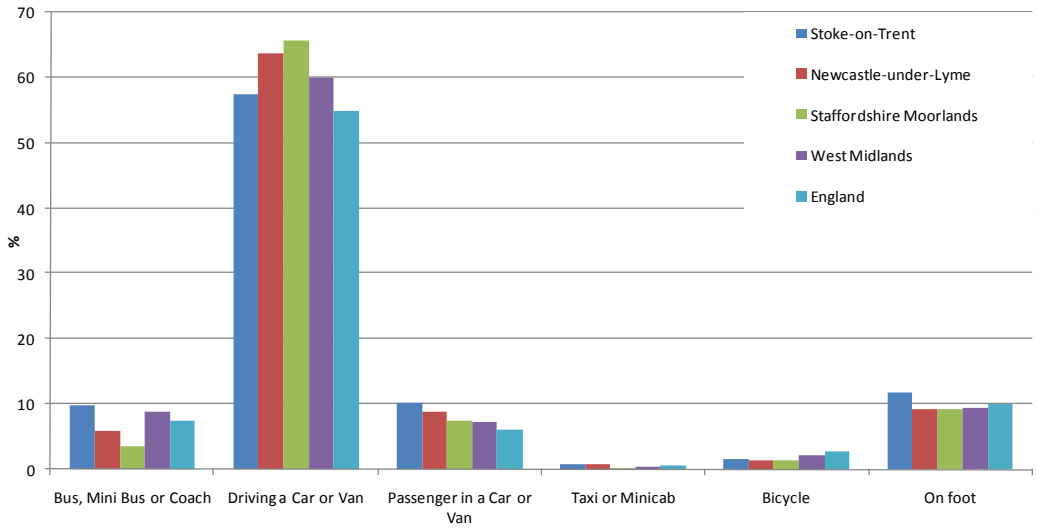
of the areas, but particularly Stoke-on-Trent matches the regional or national comparators in relation to travel over longer distances (20-30km).

These travel distances represent a unique opportunity within this LTP period, particularly in relation to achieving mode shift to sustainable modes such as walking and cycling.

Mode Share

Figure 29 below shows the normal mode share for travel to work for each of the local areas against regional and national data.

Figure 29 Mode used to travel to work (2001)



Source: ONS Neighbourhood Statistics April 2001 data

The mode share data indicates that Stoke-on-Trent has the lowest percentage of travel by car or van of its neighbours; it is also lower than the region but slightly higher than the national percentage. This lower mode split is reflected in the higher mode share for both bus use (slightly higher than region) and walking. All of the local areas have higher percentages of passenger travel than the regional or national figures.

Linking these figures back to the socio-economic profile described in Chapter 4 suggest that this travel behaviour is mainly due to the depressed economic situation of the area (there is generally low car ownership), it may also be a benefit generated by the polycentricity of the urban area as there are a number of local employment areas in each of the six towns. This

has implications for forward strategies if these increase prosperity. For example prosperity normally leads to higher car ownership and then increased car trips and longer trip distances.

In order to provide more detailed travel pattern analysis we have also examined data from the updated North Staffs Transport Study Model[31] (NSTSIV) which is currently being updated by the City Council, information provided from this source is discussed below.

NSTSIV Journey Data

The City Council is has had a transport model for the entire urban area (including Newcastle-under-Lyme) since the 1970s, they are currently developing an updated transport model for the study area which is due to be completed in 2010. The model is used extensively within the City Council as an aid to decision making in relation to transport schemes and land use changes and will form an integral tool for the assessment of LTP schemes going forward. Data has been provided from the modelling and surveys for the transport model to provide an overview of travel patterns for this LTP. This data provides information in the form of matrices of movement split by mode, journey purpose and time of day. Whilst the data represents only a snapshot of travel patterns, it is based on 2009 surveys and is significantly more accurate therefore than any other travel data available locally or nationally. The data is used within this LTP to provide the reader with a demand based rationale for future investment in transport.

Analysis of Travel Patterns; Private Car and Freight

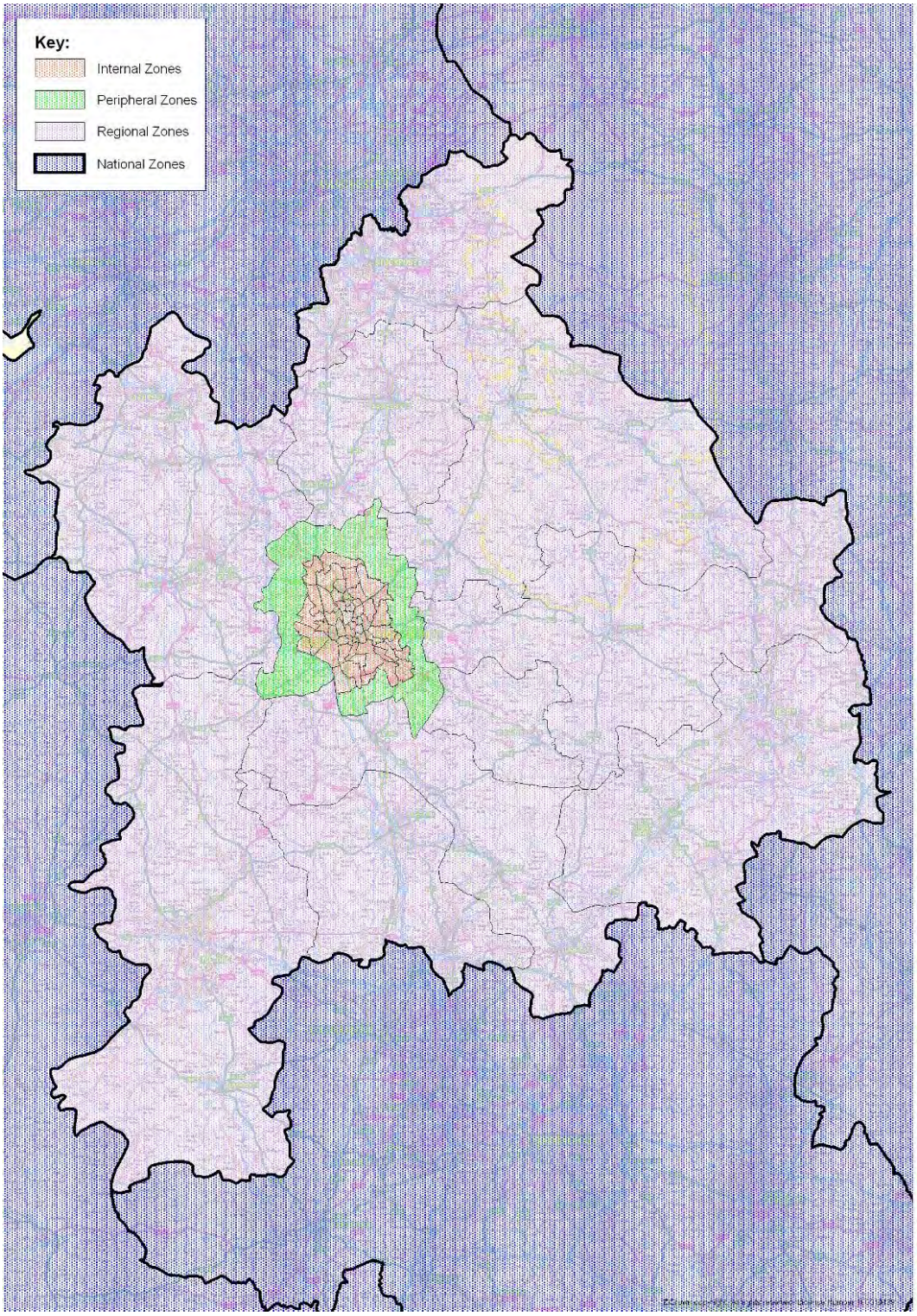
For the purpose of targeting the largest generators of transport demand this section concentrates on journeys which are connected with employment, including commuting (journeys to work), employers' business (journeys while at work and being paid) and freight (journeys carrying goods).

Total Trips within and Beyond the Urban Area

The model zones have been split into local, peripheral, regional and national areas. ***Figure 30*** illustrates the divisions used for the analysis.

[31] Transport models are a common policy and transport investment tool and most areas in the UK have developed these tools. Essentially these models seek to replicate travel patterns and the resulting traffic flows on a transport network using bespoke software and through use of base data which includes; existing traffic counts on routes, mix of traffic, and origin and destination information (from interviews). More recent models combine highway and public transport information so that changes in the provision of either can be fully assessed. They are used to assess the impact of both 'supply side' changes such as increasing highway capacity and 'demand side' changes such as increases in housing, employment.

Figure 30 Areas defined in the Analysis of Trip Patterns



In the AM peak hour 72% of all car traffic in the urban area is generated within the boundary of the internal zones shown above. This rises to 76% for LGV and HGV traffic. Peripheral locations generate between 8-11% of trips into the internal zones, with regional trips showing a spread of

between 7-13% and national trips between 9 and 5%. ***Table 9*** below provides the details of the split of trips between car, LGV and HGV from locations travelling into the urban area.

Table 9 High Level Travel Patterns by Vehicle Class (AM Peak)

		From Internal zone	From Peripheral	From Regional	From National
To internal zones	Car	72%	11%	13%	5%
	LGV	76%	10%	9%	5%
	HGV	76%	8%	7%	9%

In terms of interregional locations where trips are attracted to and from, Crewe and the surrounding area are the top locations followed by Buxton and Leek. ***Table 10*** below contains details of the main locations for travel to and from Stoke-On-Trent.

Table 10 Travel Patterns to Inter-Regional Locations in the AM Peak

Location	Car	LGV	HGV
Crewe / Northwich / Nantwich / Winsford	23%	16%	9%
Buxton / Leek	15%	21%	14%
Stone / Rugeley	13%	15%	17%
Stafford / Cannock	10%	13%	15%
Burton / Derby / Uttoxeter	10%	12%	6%
Ashbourne	10%	11%	19%
Telford / Bridgnorth	10%	6%	6%
Macclesfield	7%	1%	8%
Stockport	2%	5%	5%

LGV traffic generates a similar pattern with the addition of a high proportion of trips going to/from Uttoxeter, Derby, Burton, Leek, Buxton, Stafford and Cannock. HGV traffic is primarily generated from Ashbourne, Stone and Rugeley.

In the PM peak the patterns of travel are broadly similar, as with the AM the majority of trips take place within the urban area; HGV and LGV trips are still dominated by travel from the Crewe area

with Buxton, Leek, Stone and Rugeley also featuring highly, surprisingly, in the PM peak trips to Burton/Derby/Uttoxeter are significantly higher than the AM.

The NSTSIV model matrices were also interrogated to gain an understanding of local ties to the broader locations, most importantly the North West and the West Midlands and Birmingham and Manchester. Our analysis suggests that interactions with the north- west are marginally bigger than those with the West Midlands; this is unsurprising taking into account local perceptions which suggest that more business is done with Manchester than Birmingham.

Freight Movements

Freight movements from and to North Staffordshire from the surrounding areas are outlined above. This demonstrates that the majority of freight movement from and to the area is focussed on:

- Crewe/Northwich/Nantwich/Winsford
- Buxton/Leek
- Stone/Rugeley
- Stafford/Cannock
- Burton/Derby/Uttoxeter
- Asbourne

HGV traffic is limited in terms of the immediate north and south (entrances to Manchester and Birmingham). The relationship with Crewe is strong as with the areas of Burton and Uttoxeter. This begins to indicate that the North Staffordshire conurbation as a whole is playing an important supply chain role either as an agent or a final consumer.

In terms of freight through movements (using the NSTSIV), the largest through movements are for HGVs travelling from the south-east/north-west, closely followed by trips from the north-west/West Midlands and West Midlands to the north (and visa versa).

Summary – High Level Travel Patterns

Analysis of the NSTSIV matrices suggest that:

- A high proportion of trips in both peaks (three quarters) are trips within the urban area (which includes Newcastle-under-Lyme).
- The majority of HGV trips are either within the urban area or from wider regional and national locations with very few originating from peripheral locations
- Overall interaction with wider national destinations is small; representing less than 10% of the trips
- The interaction of the urban area with wider regional centres indicates stronger ties to Manchester than Birmingham though the figures are much closer in the model than presented in other reports.
- Strong links are shown to Crewe and the surrounding areas followed by Buxton and Leek.

- There is very little out-commuting from the central areas to peripheral locations.

Commuting Trips

Travel patterns within the conurbation for car commuting trips focus around a few distinct centres, these centres attract nearly 30% of all the trips in the AM peak hour:

- City Centre
- Longton
- Newcastle
- Lymedale Business Park
- North Staffordshire University and Infirmary Hospital (North Staffs Hospital)

Trips to these centres in the morning peak are largely mirrored in the opposite direction in the evening peak. Each destination is shown in the table below. While this focussing of activity around the city and town centres is encouraging, there is still a significant dispersion of trips within the conurbation. The destinations shown below only account for around 26% of all the trips within the urban area, each destination attracting between 5-3% of total internal trips.

Table 11 Top Six Commuter Destinations

Centre (AM To)	Centre (PM From)
City Centre	Newcastle Town Centre
Newcastle Town Centre	City Centre
Longton Town Centre	Longton Town Centre
North Staffs Hospital	City Centre Southwest
City Centre Southwest	North Staffs Hospital
Lymedale Business Park	Lymedale Business Park

In addition to these locations there are a couple of centres outside of the top five which have either a large single site trip attraction or the potential to attract large numbers. Talke has a large number of trips generated for just one location, whilst the University Quarter has the potential to be a sizeable trip attraction in the future. Therefore analysis of the trip pattern has been undertaken for these centres in addition to the main business centres.

These key employment destinations and the commuter patterns which support them are shown in ***Figures 31 to 36*** below[32].

[32] Note to reader: the figures associated with the sites are snapshot of the total trips to locations

Commuter Trip Origins for trips going to the City Centre in the AM Peak

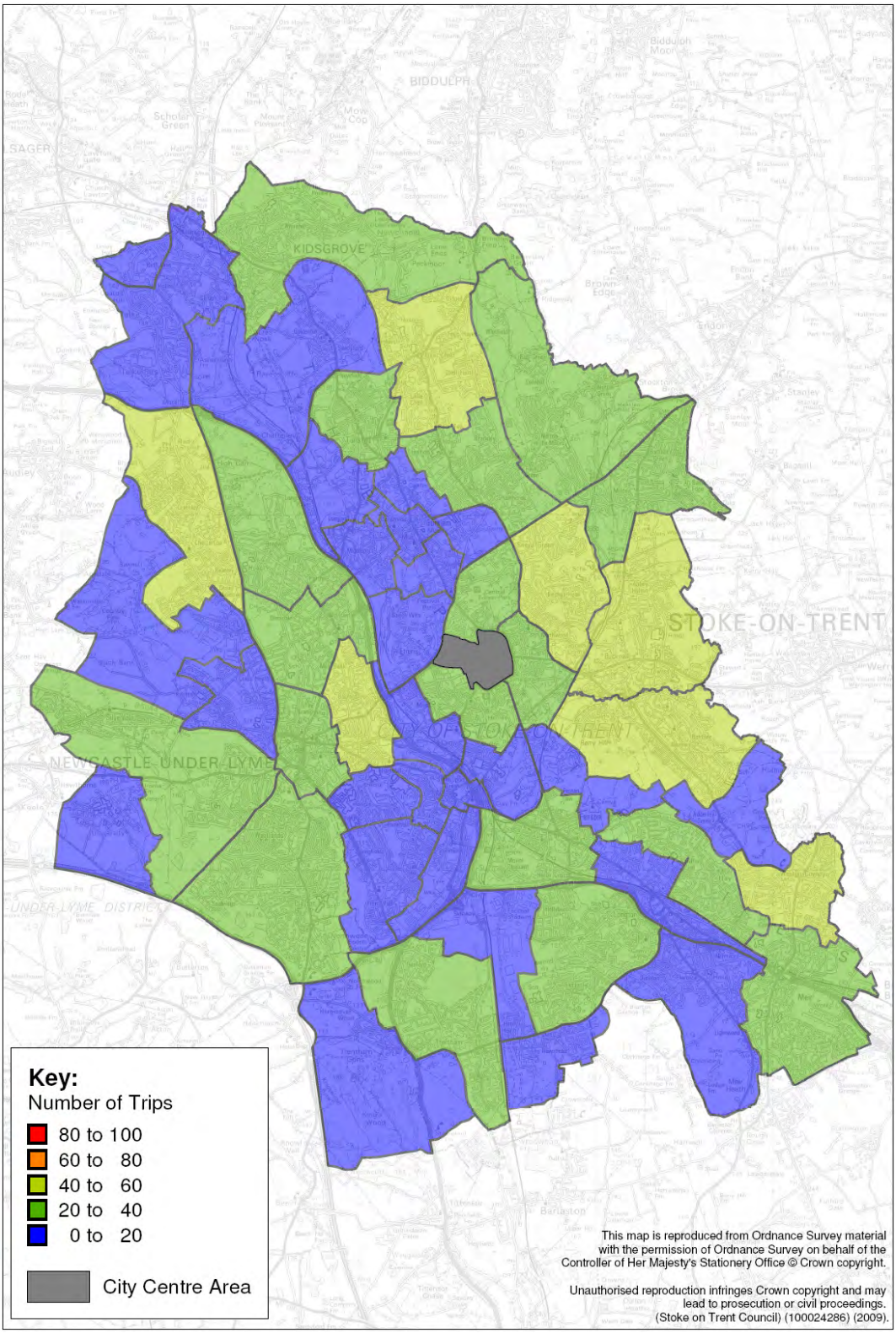


Figure 31 Commuter Trip Origins for trips going to Newcastle in the AM Peak

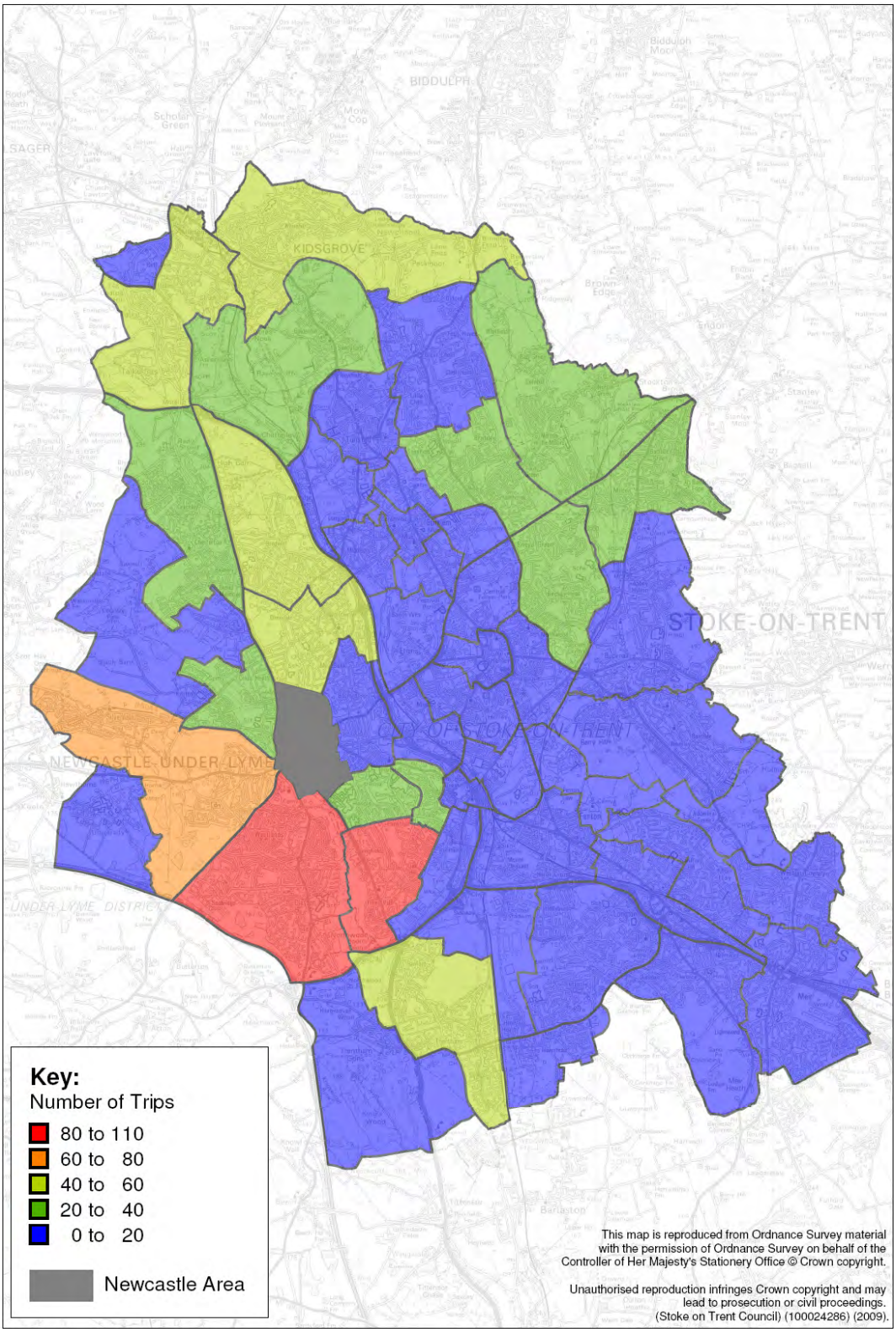


Figure 32 Commuter Trip Origins for trips going to Longton in the AM Peak

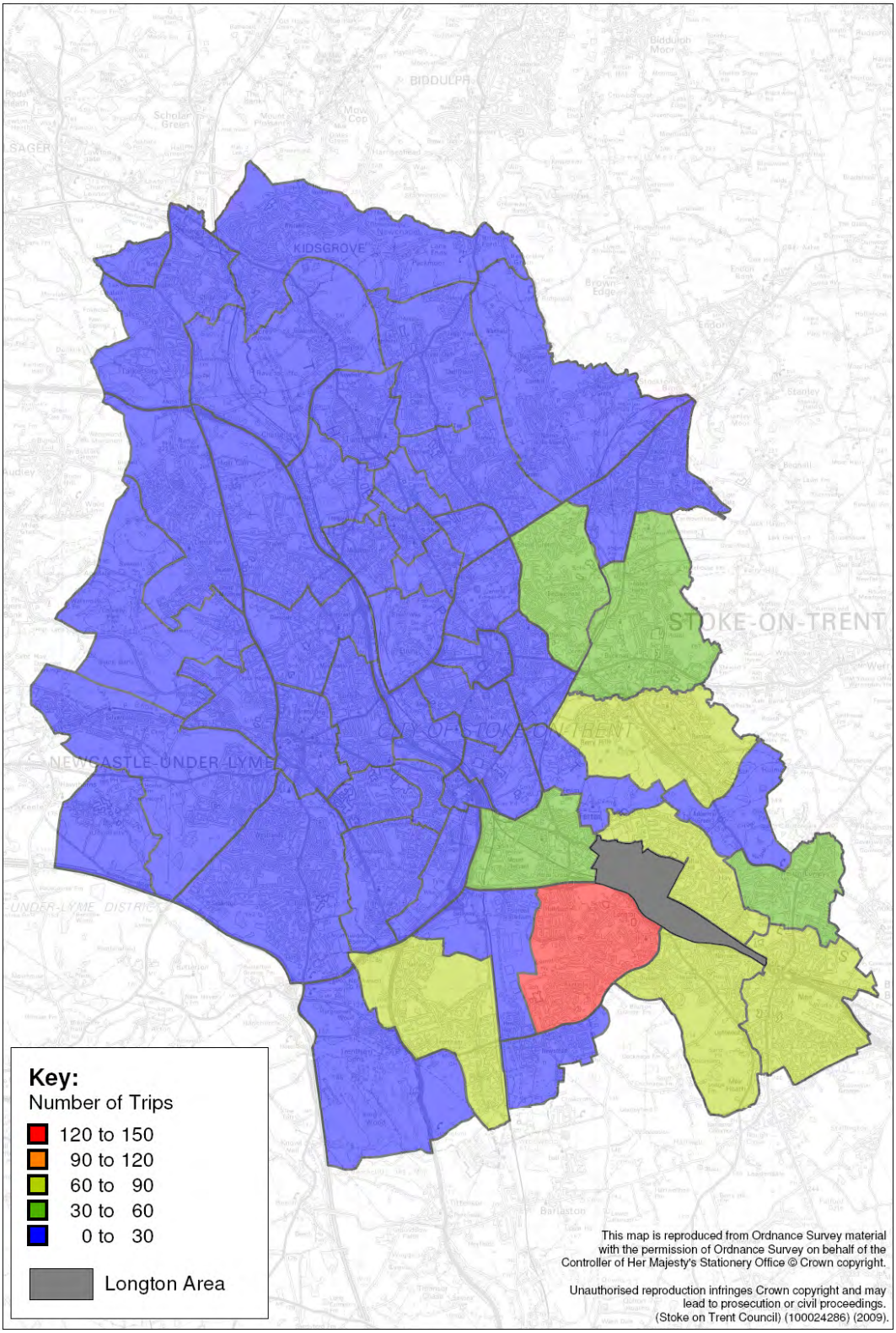


Figure 33 Commuter Trip Origins for trips going to North Staffordshire Hospital in the AM Peak

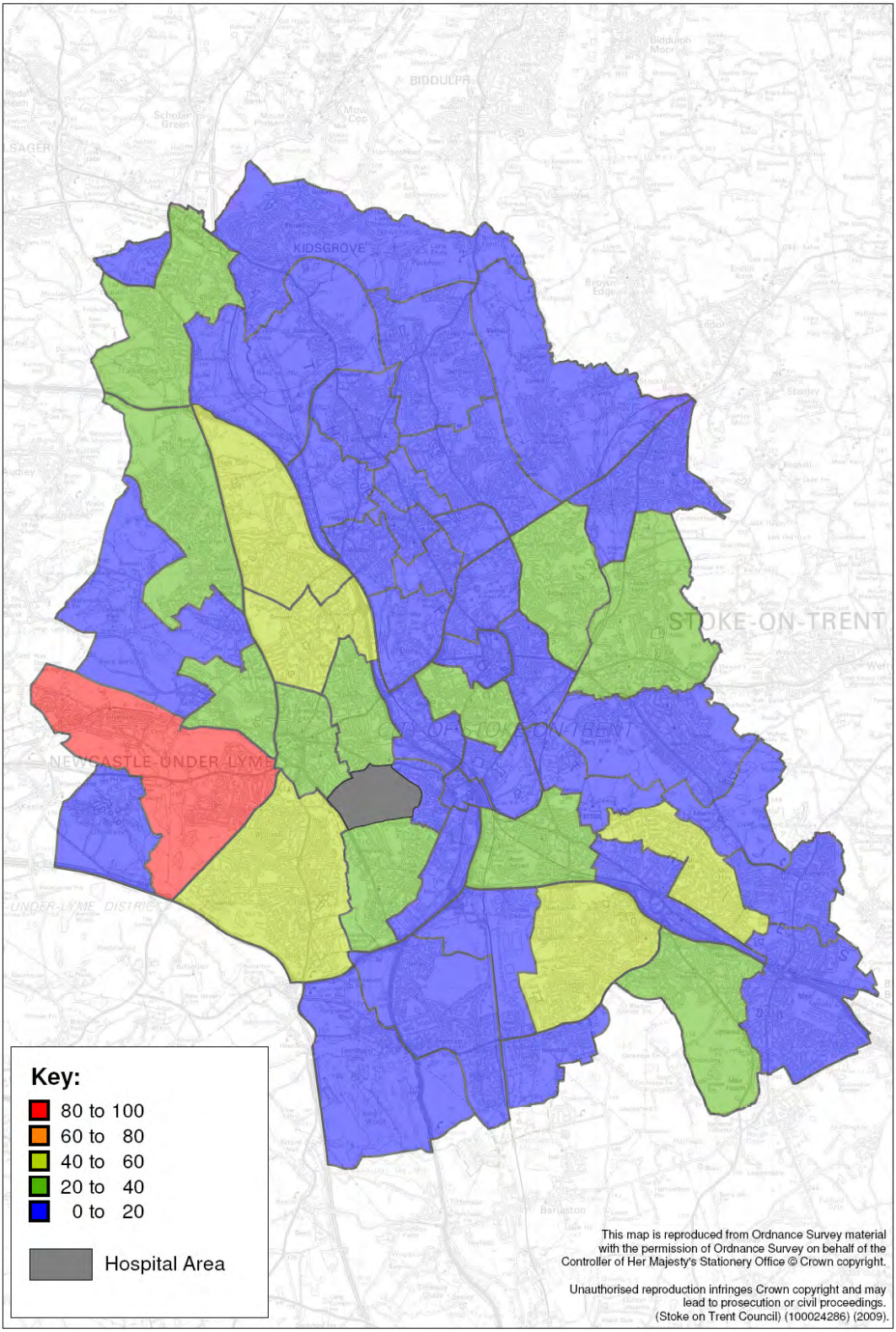


Figure 34 Commuter Trip Origins for trips going to Lymedale Business Park in the AM Peak

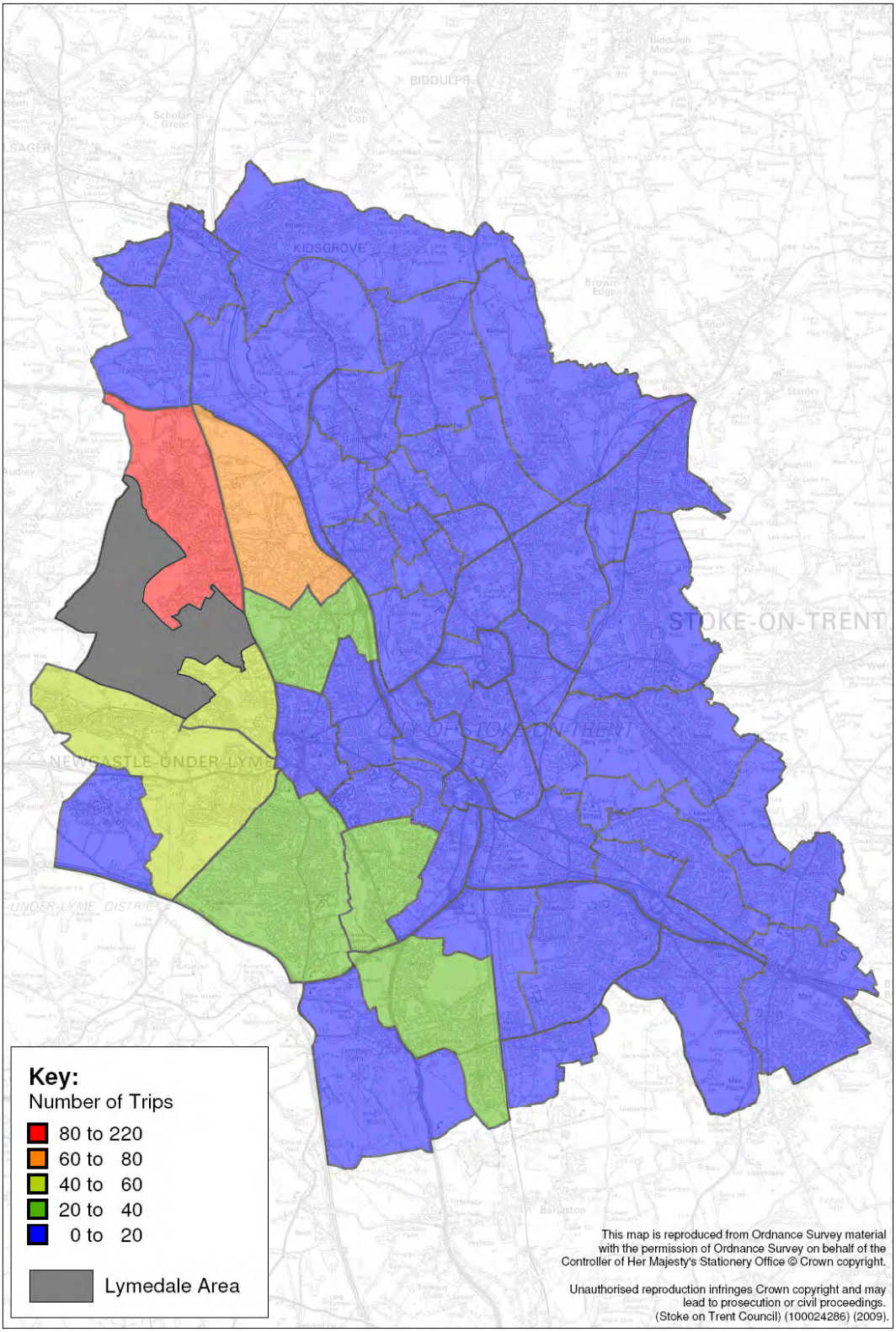
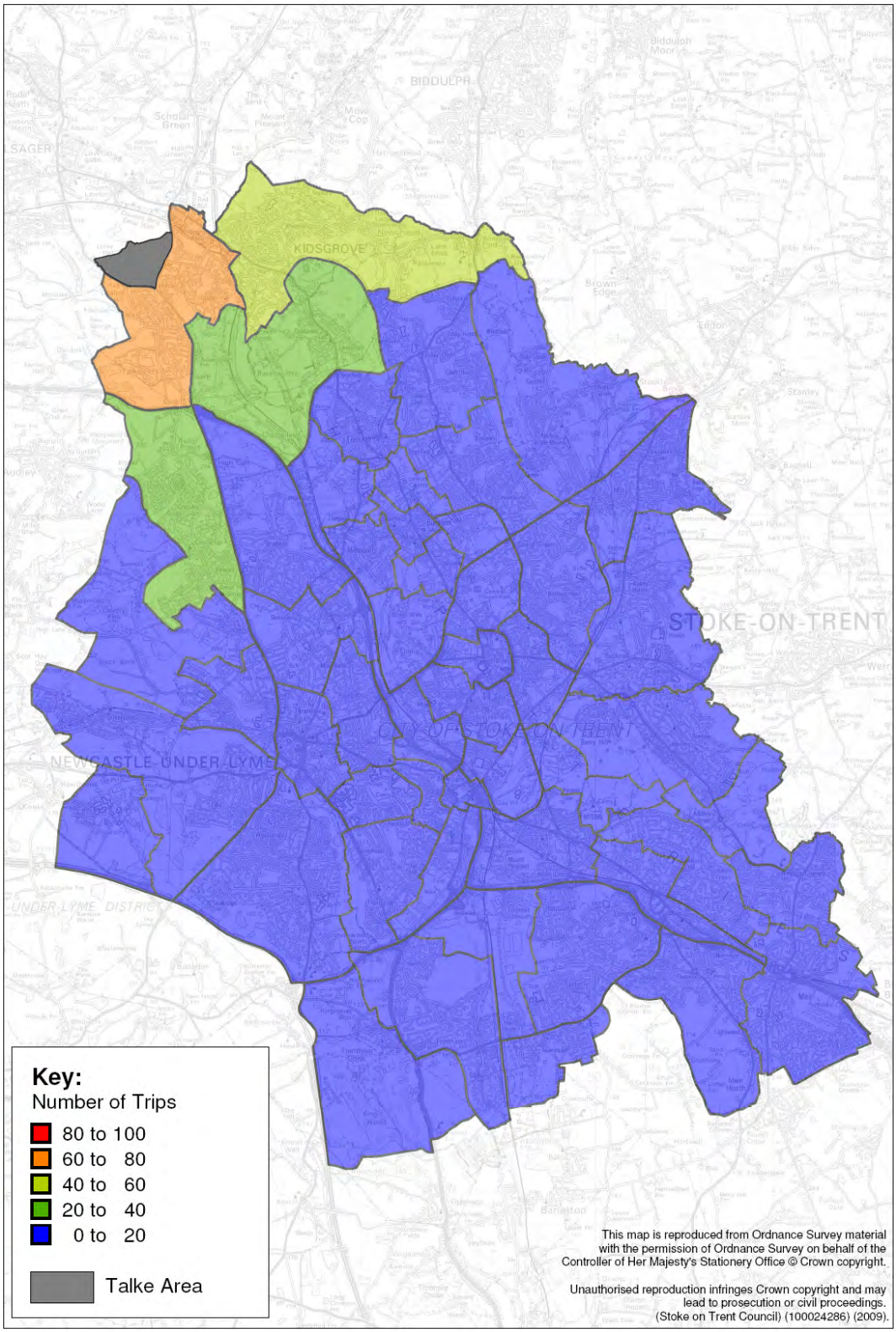


Figure 35 Commuter Trip Origins for trips going to Talke in the AM Peak


BIDDULPH
KIDSGROVE
STOKE-ON-TRENT
CITY OF STOKE-ON-TRENT
NEWCASTLE UNDER LYME
Key:
Number of Trips
80 to 100
60 to 80
40 to 60
20 to 40
0 to 20
Talke Area
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(Stoke on Trent Council) (100024286) (2009).

Commuter Travel Patterns

The analysis of commuter travel patterns indicates strongly localised travel behaviours with the primary commuter patterns close to the centres of activity (within 3-5km). The City Centre is the only location with a more dispersed pattern of commuter travel but even in this location 40% of trips come from the east along the A5272 corridor and along the A53 Etruria Road (Basford).

There is also a lack of concentration of trips with locations at Longton generating almost as many commuter trips from within the urban area as the City itself. The top six commuter attraction locations only account for 30% of all commuter trips within the urban area.

Where travel from further away is noted it is primarily on a north south axis. This reflects the importance of the A500 and A34 as key routes for connectivity within the North Staffordshire conurbation and for Stoke-on-Trent, providing links between employment in the centres and residential areas on the periphery of the conurbation. East- west movement between areas are less pronounced suggesting that the town centre of Newcastle and the City Centre are not yet interacting fully, and as a result the conurbation is currently not operating as one united whole, rather locations to the west and to the east serve populations in these areas.

This is partially explained by the historical development of the two locations, but may also suggest that east west journeys are more difficult to undertake, with the lack of a clear strategic route between the two areas. Certainly movements north and south are more popular, probably because of the A500 and the A34 (for Newcastle-under-Lyme).

Employers Business Trips Summary

Analysis of employers' business trips indicates that a significant proportion of business trips within the urban area are internal rather than external. The conurbation does not generate or attract significant percentages of trips from areas on the periphery (mainly due to the make-up of the areas) but it would also appear that there are relatively small interactions at a regional or national basis. In some ways this is encouraging indicating that North Staffordshire is a relatively self sustaining conurbation but it could also be an indication of a weakness, that if this internal economy declines there is very little outside interaction that could help to boost the local economy.

Public Transport Trips

The absolute numbers for trips into and out of Stoke-on-Trent using public transport is, as expected considerably lower than for private vehicle usage. However the main public transport travel patterns for different journey purposes can be analysed in a similar fashion to the private vehicle analysis for commuting. Analysis of other trip purposes e.g. business trips cannot be undertaken due to the very small sample sizes involved.

Commuting Trips

Of the five centres highlighted as main attractors for car commuting trips, three appear in the top five commuter destinations using public transport in the morning peak: City Centre, Newcastle; and Longton. Interestingly, in the public transport analysis, Fenton also becomes a popular destination.

This pattern is likely to be as a result of the high numbers of services to these locations making the use of public transport a more viable option. The trip pattern of public transport trips to these centres is very locally based. Only the City Centre attracts a significant proportion of trips from outside of the local vicinity, with trips from Newcastle fourth in the list (6.6%). This is likely to be because of the interchange at Newcastle providing a good service to City Centre bus station.

The travel patterns by public transport are similar to those recorded for private vehicles particularly for the City Centre. This suggests that there may be scope for further transfer of trips from private vehicle to bus as these areas are already using public transport. However some of the areas which show greater levels of bus use are also areas of deprivation and lower incomes.

Future Travel - Core Strategy Implications on Travel Patterns

The approach within the strategy is to develop the city centre into a key economic destination by enhancing the retail offer in the city centre and linking this to more dense employment opportunities through the development of a business district to the south of the city.

The overall strategy plan provides the following target figures for housing, office and retail space up to 2026.

Table 12 Core Strategy Target Figures to 2026 for Housing Employment and Retail

Development Type	Newcastle-Under-Lyme	Stoke-On-Trent
Housing (dwellings) Gross	6,257	13,500
Office (floorspace m2)	60,000	85,000
Retail (floorspace m2)	35,000	120,000
Employment Sites (ha) total provision	83 (not including RIS site)	270

Source: Core Strategy pages 44-52

The majority of the housing allocation will be met through expansion of areas on the periphery of the urban area, although it is understood that significant housing renewal will take place in areas within City Centre and the surrounding centres. This approach will ensure that the existing city centre is consolidated to be the main shopping and employment destination, with smaller town centres

receiving smaller scale enlargement. This approach and the wider aspirations within the core strategy could have three main impacts on travel patterns and behaviour:

- Firstly, the improvement of local prosperity and jobs, with a resultant impact on wages could increase car ownership and hence car use within the urban area. Currently large stretches of the conurbation have relatively low car ownerships levels, thus reducing the potential for trip generation and its impacts. It is realistic to expect this situation to change with growing prosperity if public transport is not significantly improved. In terms of the future picture this particular impact would require further examination.
- Secondly, the development of the city centre into a stronger focus of economic activity may generate a stronger economic pull between the City and Newcastle, this will place further strain on the links crossing the A500 and some of the central links on the A500 itself as people and businesses try to access increasing opportunities around the city.
- Finally, the potential migration of those living close to the city centre today to locations further away in the suburbs (another plausible move if the area increases in prosperity) could lead to longer distances being travelled to access work. The extension of housing stock in peripheral locations will allow such migration with a resultant effect on journey times and access. This expansion of the periphery may be harder to serve by public transport unless specific corridors are defined and strengthened.

This was discussed as part of the transport evidence developed for core strategy. This evidence concluded that the demand for car based travel would have to decrease by around 20% in the peak hours by 2026, this effect is largely achieved as a result of congestion forcing trips off the network in the peak hours to travel in less congested time periods (peak-spreading) but this approach would still mean that much of the A50 and A500 would be heavily congested in the peaks with subsequent overspill onto the local highway network.

Summary and Conclusions

Overview

Travel pattern analysis indicates that despite relatively good connections by both road and rail in the area, only limited economic interaction (proportionally) occurs between Stoke-on-Trent (and the wider conurbation) and the West Midlands and North West conurbations. Travel patterns indicate that the labour force is still dominated by local ties to industry. To the east of the city centre there is little trip making beyond the boundary of the A500. Similarly residents of Newcastle tend to focus on opportunities to Newcastle and the western edges of the city centre.

The A50, A500 and A34 help to facilitate access to labour markets, but analysis also shows the beginnings of a barrier formed along the A500 and WCML between the east and west of the conurbation. This situation may worsen in the future as the A500 and its junctions become more

congested, preventing further east west interaction and reducing access to labour markets in the potentially growing economy.

Travel to work analysis indicates that the conurbation is squeezed to the north and south by the greater pull of Manchester and Staffordshire's outer fringes. While economic rejuvenation within the area may draw in people living further away, the conurbation will always be competing in terms of skilled staff with its bordering conurbations. These larger and generally more prosperous cities and in the outer areas of the conurbation will be more attractive in the short to medium term for those with the ability to travel longer distances to seek out better opportunities.

Travel Behaviour

Current travel patterns and behaviours indicate that, in general terms, residents tend to work relatively close to the home location. 76% of all trips in Stoke-on-Trent and Newcastle-under-Lyme originate and end within the main urban area. This is another opportunity in terms of transport policy as the analysis of car trips indicates high proportions of car travel occurring within 5km of the work location. Stoke-on-Trent have been awarded funding as part of a 'Cycling Cities' promotion[33] and have recently begun to see the number of cycle trips into the City Centre increase as a result of new and improved cycling facilities. The analysis indicates that some of the employment locations out of the city centre could also be targeted for more bus, cycling and walking trips.

Business Trips

In terms of business trips and freight, the preliminary analysis indicates that the majority of business is conducted within a 30 mile radius and particularly with the areas surrounding Crewe which have a relatively high interaction for car and LGV business trips. Much smaller interaction takes place with the immediate north including Stockport and Macclesfield. HGV proportions are focussed around the M6 corridor (Stafford, Cannock, Stone and Rugeley). Surprisingly HGV flows are much smaller to areas like Derby and Burton with much more HGV traffic coming from/to Ashbourne (this is partially explained by the location of JCB factories in Stoke-On-Trent and Rocester). There are also significant HGV flows coming from the Leek and Buxton areas.

Analysis of the NSTSIV model matrices provided some supporting evidence in relation to the relationship between Stoke and the bigger cities of Birmingham and Manchester. Manchester generates larger HGV trips suggesting that it has a stronger pull in terms of economic interaction than the West Midlands.

[33] Note: Cycling Cities funding will no longer be available – the monies for such schemes will therefore require bids to the 'Local Sustainable Transport Fund' or via the LTP allocation (see Chapter 9).

Core Strategy

The successful implementation of the core strategy has the potential to increase prosperity within the area and this in turn could increase the number of people with access to a car and hence increase car use. Currently the conurbation has areas of relatively low car ownership and as a result has a higher mode share for walking. This needs to be retained as far as possible as the area increases its prosperity.

The other potential impact of the Core Strategy is the consolidation of the City Centre with significant increases in retail square footage and a new business district. This approach has the advantage of creating a real economic powerhouse within the area but to successfully facilitate this, the transport system will have to be capable of supporting businesses from the outside trying to access economic opportunities within this area. In terms of labour access, clearly a central business district will encourage a concentration of flows to the City Centre, in some areas this can be supported by public transport routes which exist currently, but there are concerns about locations which may be constrained by the A500 and WCML acting as a barrier and to locations on the edges of the conurbation which are currently poorly served by public transport.

The location of new housing on the periphery of the urban area is also an area which will require careful consideration in terms of transport impact. The existing bus network does not serve these areas particularly well today with service frequencies dropping off considerably in peripheral locations.

Key Messages for LTP

- **Trips are mainly focussed within the urban area; census data on distance travelled to work indicates that up to 59% of the population travel less than 5km (3 miles). This represents a huge opportunity for mode shift to walking and cycling which is currently only 13% of total mode share.**
- **There are issues of a lack of labour market activity across the A500 suggesting that these trips are discouraged by the existing network and difficulties crossing**
- **The successful implementation of the core strategy is likely to significantly increase congestion on some links if the public transport offer cannot be significantly improved, even with this it is likely that peak spreading will occur.**
- **It may be that job horizons are currently being limited by the public transport network, it appears that employment locations which are popular by car are not always popular using public transport, this suggests that existing public transport provision is driving employment searches rather than actual job locations**

Chapter 7 – Current Transport Network

Chapter 7 – Current Transport Network

Introduction

In this section we examine the existing transport network within Stoke-on-Trent and the surrounding area. The issues are considered by examining connectivity, accessibility and congestion before considering detailed traffic and public transport capacity and network issues. This criteria was established within the DfTs 'Future of Urban Transport' but has been neatly summed by the Cabinet Office:

Connectivity The quality of the transport network in providing access between places that people want to travel to, measured by travel times and journey reliability.	This is the ease with which the transport network provides access between places. Good connectivity is vital to the future economic growth of urban areas and can help to provide wider economic benefits to businesses.	Good connectivity within and into Stoke-on-Trent is vital to future economic growth. Most benefits of connectivity come from time savings, but agglomeration[34] is important in dense urban areas. However, connectivity is difficult to measure and there is little evidence on how well UK towns and cities perform.
Accessibility The degree to which key services and employment can be easily reached by everyone, including those with disabilities or without access to private cars.	Poor accessibility within urban areas limits access for people to get to jobs and public services, and the access of businesses to people and customers. Good accessibility, particularly by public transport, is an essential part of the development of successful cities.	There are pockets of poor accessibility in the City that can limit access to jobs and public services for those without access to cars. The current dispersion of employment locations makes it much more difficult to provide adequate public transport solutions – the Core Strategy approach to consolidation will help to tackle this.
Congestion The temporary impairment of connectivity during periods of high demand or when system capacity is temporarily reduced (e.g. by an incident).	The cost of congestion in large urban areas on the busiest routes is significant and impacts directly on the economy. Delays due to congestion are likely to increase if more movement is generated by growth in the economy without any provision of additional capacity or the management of demand for travel.	The cost of congestion is highest in dense urban areas and during peak times. Reliability is often as important as congestion, providing that reliability improvements are not offset by significantly increasing journey time. Without intervention, congestion and the cost of excessive congestion in the City are anticipated to increase significantly over the next 15 years.

Source: Cabinet Office, An analysis of urban transport, November 2009

[34] The concentration or clustering of firms and workers, typically in urban areas or industrial locations, are known as agglomerations.

Over the following pages we will consider each of these measures in turn. In addition, this chapter also provides details of:

- Current parking provision and forward strategies
- Rail and Bus Travel
- Cycling and Walking.

As with the previous chapters reference will be made to infrastructure and linkages which lie outside the City boundary, this approach reflects the requirement to consider transport in a wider sense and ensure that cross boundary impacts are considered.

Connectivity Issues

External Connectivity

Connectivity from Stoke-on-Trent to key external destinations is generally good. The Trunk and Motorway networks which serve the area are high quality and, with minor exceptions, are 2 or 3 lane dual carriageway with grade separation. Stoke-on-Trent station is on a branch of the West Coast Main Line and is well served by passenger rail services with fast and semi-fast trains to London, Manchester and Birmingham. However, the issues of capacity and congestion on the M6 through North Staffordshire, and congestion at Junction 15 in particular, are growing and will need to be resolved if this key link in the national road network is not to result in impacts on Stoke-on-Trent and the surrounding areas.

Proposals to increase the capacity of the M6 between Birmingham and Manchester have been under consideration for more than 20 years with hard shoulder running at peak times being the current most likely proposal following the dismissal of proposals for widening and for a separate or combined expressway. Hard shoulder running will need significant work to be undertaken at Junction 15 due to the limitations of the junction design and the adjacent landscape. The Highways Agency currently do not anticipate this further improvement to be completed within the LTP timescales. However, the current junction causes serious delays to traffic leaving or joining the M6 at peak times and its capacity is an issue for the connectivity of the urban area to the national motorway network.

The A50, which connects the City to the East Midlands and the M1 (and to east coast ports), is generally of 2 lane dual carriageway standard with mostly grade-separated junctions. However, there are still at-grade roundabouts at Sudbury, Uttoxeter and Blythe Marsh. These junctions are currently congested at peak times, but not generally excessively so. There are no significant issues for the sub-regional economy in terms of the capacity of the A50, although the impact of any significant incidents on the road can affect the reliability of journeys. The removal of the non grade-separated junctions on the route and improvements to safety rather than capacity will help to support the economy by improving connectivity and journey reliability along this corridor. Once

again, the Highways Agency are the managing agent for this route and have no plans to make significant improvements along this corridor given the current operation.

The analysis in NSITS study of the trunk road network shows that there are issues of congestion on the A50 inside the City, mainly associated with junction-hopping, but the flows (and delays) outside the urban area are significantly lower and journey times from the edge of the City to (say) the M1 south of Derby/Nottingham are rarely a problem now that the A50 connects directly to the motorway.

The only significant issue in external connectivity by road is to destinations other than London, Manchester, Birmingham and the East Midlands/M1. This is relatively poor due to the nature of the highway network away from the M6 and A50/A500. All roads connecting the conurbation to the west, the north and north-east, and the south-east of the conurbation are single carriageway with at-grade junctions and frontage access and almost all have very poor alignments. Although it is unlikely that any significant improvements will be made to the principal road network outside the area within the LTP time horizon, this does mean that the quality of connectivity away from the M6 and A50/A500 corridors will remain relatively poor.

Connectivity to and from Stoke-on-Trent by rail is relatively good with 2 fast and semi-fast trains per hour to London, Manchester, Birmingham and, via Crewe, to a significant number of other destinations on the West Coast Main Line. It is less good to the East Midlands with one train per hour to Derby where changes have to be made for other destinations. Journey speeds are good to London (around 175kph/110mph), but slower to Birmingham and Manchester (around 100kph/60mph) and much slower to Crewe and Derby (around 50kph/40mph).

Connectivity by public transport to other destinations outside the City is generally poor with limited bus services to local towns and villages and no direct connections to any larger towns outside the immediate hinterland of the conurbation. Longer distance journeys by bus into the conurbation are extremely slow, typically being around 15kph/10mph for timetabled journeys to relatively nearby towns and villages such as Biddulph and Leek.

There has been a recent development in relation to local rail services, a new company known as the ‘Moorlands and City Railways Ltd’ (MCR) have taken ownership of the previously disused route between Stoke and Cauldon Lowe. This total length of the line is around 32km (20 miles) and the 8 mile section between Leekbrook Junction and Cauldon Low has been renovated and is in use for heritage running. MCR is a privately owned company which seeks to:

- restore the Stoke - Cauldon line to full use within 18 months;
- operate its own line infrastructure and run its own trains;
- run heavy freight trains from the Cauldon Lowe quarries and cement manufacturing operations to end destinations all over the UK;

- access Alton Towers by rail via its line and the Churnet Valley Railways heritage line. A significant percentage of Alton Towers' visitors can be carried in this way;
- reconnect Leek to the national railway network (via Leekbrook Junction);
- run commuter and passenger services covering stations between Leek and Alton Towers and Leek to Stoke; and
- investigate the possibilities for light rail transport from the MCR network (via the west Coast Main Line) into Festival Park, the City Centre and elsewhere in the City using former rail routes.

Transport officers from the City Council have met with representatives from the company on several occasions to gain an understanding of the company's plans. As a potential new supplier of transport for freight and passengers the LTP broadly supports the aims of MCR.

Internal Connectivity

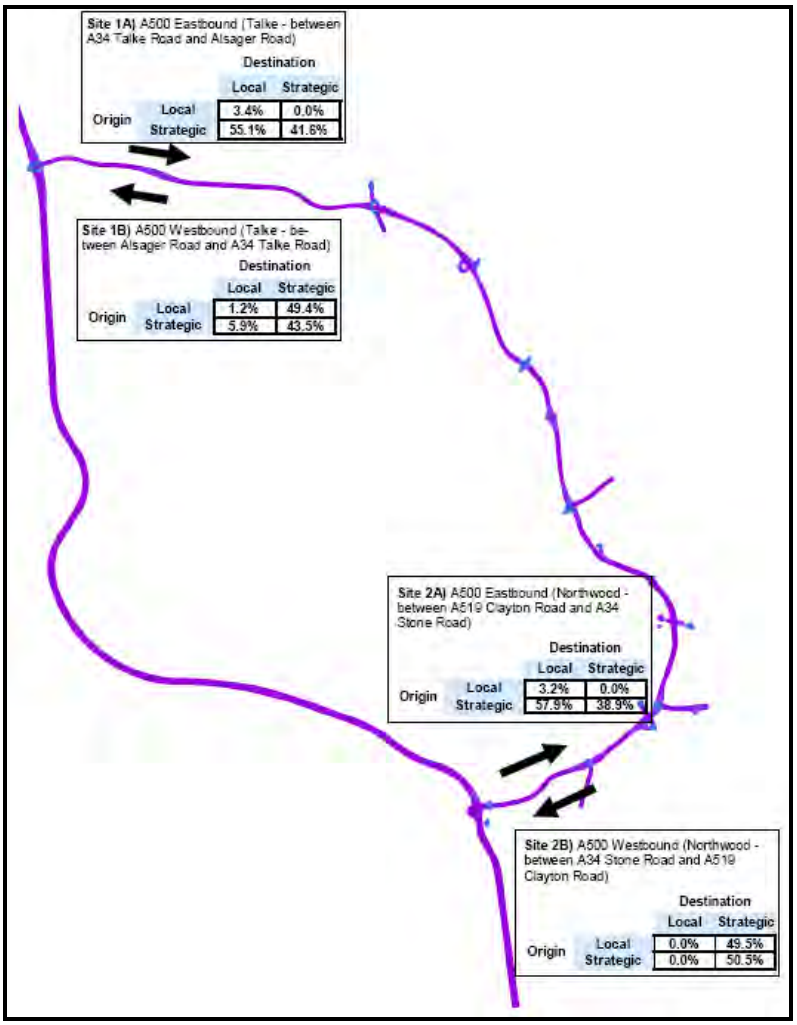
Internal connectivity is generally poor away from the trunk road network. This reinforces the way in which the current infrastructure acts as a barrier to rather than supporting economic growth. Recent projects have improved internal transport infrastructure with the A500 Pathfinder Project, the A50 connection to Trentham Lakes and the A527 Tunstall Northern Bypass completed in 2008. These have improved internal connectivity and local transport infrastructure and most new build residential areas are within 30 minutes public transport travelling time of key facilities, but much remains to be done to connect the city and its environs internally.

There are clear issues with the severance that the A500, West Coast Main Line and the Trent & Mersey Canal create in the centre of the conurbation, with limited numbers of crossing points and congestion at junctions on the A500 for east-west traffic movements, particularly the A53. The A500 Pathfinder Project has made a significant difference to connectivity in the southern part of the City, by the removal of two major congestion points for north-south movements, but there is still a lack of good connectivity between Newcastle and Stoke-on-Trent, partly because of the severance issue and the lack of alternative routes for many journeys.

A50 and A500 Usage

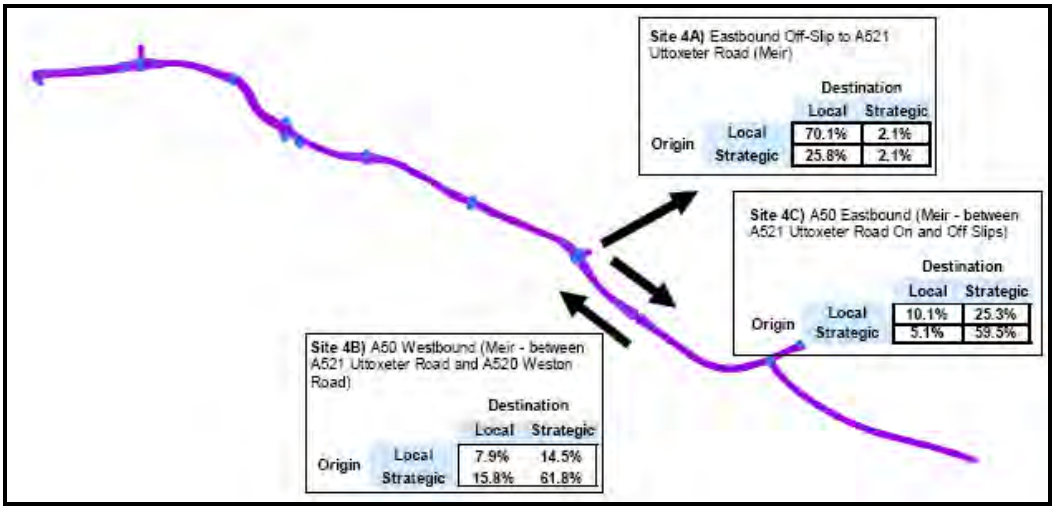
Analysis produced for the Highways Agency provided key details regarding the make up of trips on the A50 and A500. ***Figures 37 and 38*** below have been reproduced from the report; these indicate that in most cases between 40 and 60% of all traffic on the A50/A500 is strategic traffic travelling to strategic locations with varying levels of local traffic in different locations. As you might expect local to local traffic percentages are extremely low in these locations on the edge of the conurbation. The data indicates that the A500 is still performing a relatively large strategic function.

Figure 36 Local and Strategic Traffic Mix Joining and Leaving the M6 from the A500



Source: A50/A500 Route Utilisation Report Oct 2009

Figure 37 Local and Strategic Traffic Mix Joining and Leaving the A50



Source: A50/A500 Route Utilisation Report Oct 2009

The A500 and A50 (T) are increasingly prone to congestion in the peak hours particularly around Longton and the sections between Stoke and Longport. Based on current modelling predictions developed by the Highways Agency (who are responsible for the trunk road network) this situation is set to worsen going into the future with significant speed reductions predicted in the peak hours by 2026.

The Highways Agency are conducting analysis in relation to the introduction of better traffic management measures for the A500. This may include variable speeds and greater management of on-slips to reduce stop-start traffic conditions and improve the flow of traffic in peak periods (a similar approach to the M42). The analysis of these potential solutions is in the early phases; though a report outlining the benefits of this is expected to be given to the DfT late in 2010. The City Council and Staffordshire County Council are working closely with the Highways Agency in relation to the development of feasible solutions to congestion on the trunk road going forward. This LTP should help to improve conditions by increasing the efficiency of the road network off the A500 providing the potential for some trips to use local routes, improving the Public Transport offer to reduce the number of local commuter journeys on the A500 and A50 (T) and through the development of schemes to promote cycling as an alternative for short distance commuter trips.

The accessibility analysis shown in Appendix B illustrates the severance issues related to the A50 and A500, this was supported by the analysis of travel patterns which suggested that the combination of these routes and the WCML were acting as a barrier. We will continue to work with the Highways Agency to promote links across the A500 and A50 (T) where feasible.

Apart from the A500/A50 there are very limited sections of dual-carriageway in Stoke-on-Trent away from the trunk road network and those sections which exist elsewhere (such as the A53 Etruria Road, Potteries Way) and new roads (such as the A527 Tunstall Bypass) are quite limited in length compared with the major road network as a whole.

Congested and unimproved routes within the urban area can cause significant loss of connectivity if there are no good alternative routes available. Typical of the problems of connectivity off the trunk road network is the nature of the A50 north of the City Centre which should act as the major route between the City Centre, Burslem and Tunstall. Local traffic is much more likely to join the A500 to the west of the City Centre and to come off at the A527 or A34 junctions further north.

For example, the journey from the City Centre to Kidsgrove at off-peak times takes around 18 minutes to cover 13km (27mph average) via the A500 but via the A50 the same journey takes around 25 minutes to cover 9km (13mph for average). Traffic using the A50 between the City

Centre and Kidsgrove faces a route which, in only 9km, includes 8 sets of traffic signals, 14 pelican crossings, 2 zebra crossings, 4 roundabouts, 2 mini roundabouts, 56 significant right turns into side roads with generally no or very short right turn lanes, 28 bus stops and a significant amount of on-street parking and waiting, both permitted and on yellow lines, and direct frontage access.

This level of activity on what should be a major connecting road in the conurbation shows that major roads often have to operate at a lower level in the route hierarchy due to their historic usage which is difficult to remove or improve despite the desire of the highway authority to control usage more closely. In other locations, notably London and the West Midlands conurbation, the introduction of greater controls on important internal major roads has sought to resolve some of the problems in order to give the movement of economically important journeys a higher priority in locations where movement functions are more important than place functions.

Individual congested junctions can also cause significant loss of connectivity in the urban area if there are no reasonable alternative routes to avoid the junction. Typical of this issue is the A52/A5009 Lime Kiln junction south-east of the City Centre which, although improved, still causes significant loss of connectivity for the Bentilee and Bucknall areas to the City Centre due to the lack of alternative routes to avoid the congestion at the junction.

The NSTSIV model development includes journey time surveys for model validation purposes. The surveys were carried out in May 2008 and illustrate the time taken to travel on a selection of typical cross-conurbation journeys. ***Table 13*** shows average speeds for the journeys, highlighted boxes are those routes where the average speed is 10% below the average for all similar roads. It should be noted that the figures in Table 13 are not traffic weighted.

Table 13 Average Journey Speeds for Cross-Conurbation Routes

Route		Length km (m)	Average Journey Speed in kph and (mph)		
			AM Peak	Inter-peak	PM Peak
3	A500 Northbound	13.40 (8)	84.2 (52)	85.5 (53)	63.5 (39)
4	A500 Southbound	13.45 (8)	53.7 (33)	84.5 (53)	66.4 (41)
5	A50 (Non Trunk) Southbound	14.44 (9)	26.1 (16)	28.7 (18)	24.2 (15)
6	A50 (Non Trunk) Northbound	14.58 (9)	27.1 (17)	28.4 (18)	22.7 (14)
7	A5271/A527 Northbound	11.15 (7)	28.8 (18)	32.3 (20)	26.9 (17)

8	A5271/A527 Southbound	11.17 (7)	24.3 (15)	33.2 (21)	26.1 (16)
9	A53 Northbound	13.89 (9)	24.7 (15)	32.0 (20)	22.8 (14)
10	A53 Southbound	13.88 (9)	23.8 (15)	32.7 (20)	27.2 (17)
11	A5272 Southbound	11.97 (7)	28.2 (18)	36.1 (22)	30.0 (19)
12	A5272 Northbound	12.09 (8)	28.7 (18)	36.1 (22)	30.8 (19)
13	A52 Westbound	12.52 (8)	25.4 (16)	33.8 (21)	29.9 (19)
14	A52 Eastbound	11.64 (7)	30.8 (19)	34.8 (22)	26.9 (17)
15	A50 (Trunk) Westbound	8.02 (5)	40.5 (25)	80.6 (50)	76.0 (47)
16	A50 (Trunk) Eastbound	7.95 (5)	77.8 (48)	82.3 (51)	74.9 (47)
		Length km (m)	Average Journey Speed in kph and (mph)		
			AM Peak	Inter-peak	PM Peak
Average (Principal Roads)		159.24 (99)	27.5 (17)	33.6 (21)	27.3 (17)
Average (Trunk Roads)		42.82 (27)	60.3 (37)	83.6 (52)	68.5 (43)

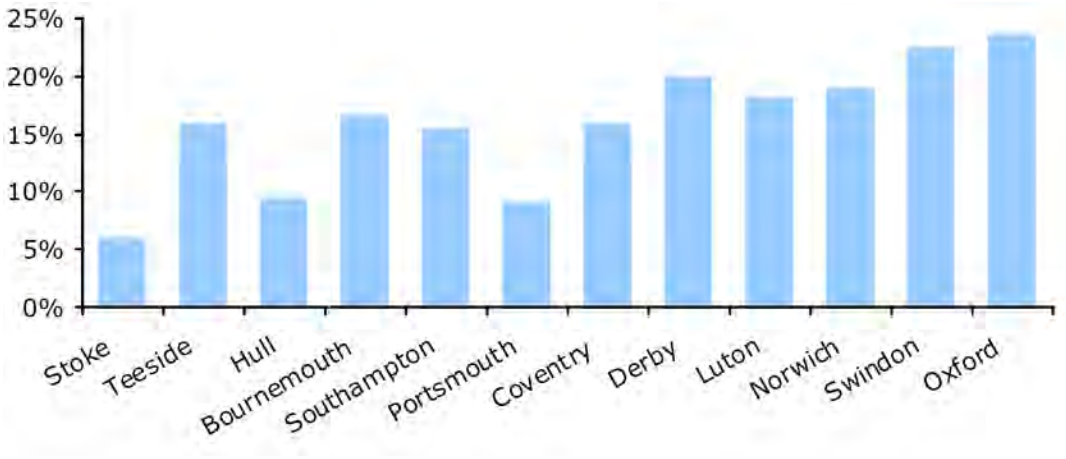
Source: NSTSIV Model Validation Surveys

As ***Table 13*** shows, average speeds are higher in the inter-peak than the two peaks and the speeds on the A50 and A500 (T) are significantly higher than on other major roads in the conurbation. Excluding the trunk roads, average peak journey speeds of around 27kph (17mph) are typical across the conurbation. The average inter-peak journey times on the A50 and A500 are 83.6kph (52mph) which is above the 50mph speed limit on parts of the trunk road network and shows that it is the peak periods and the local major road network which provide most negative impact on connectivity and therefore on the local economy.

Figure 38 illustrates that the congestion experienced in Stoke-on-Trent is generally less problematic than for other urban areas, perhaps due to a combination of the existence of the

A50/A500, low car ownership levels and low wages. Many cities outside the PSA[35] target areas experience significant congestion during peak periods

Figure 38 Percent reduction in average speed on selected links during peak period compared to off-peak (1999/00, 2004)



Source: Cabinet Office, An analysis of urban transport, November 2009

More detailed analysis of the connectivity issues are shown in the detailed analysis for each route. Using journey speed as a proxy metric for connectivity, there are some very poor sections of route within the City and key surrounding areas. The slow speeds (and lengthy journey times) for relatively short journeys off the trunk road network will have a particular impact on connectivity, resulting in development sites being less attractive and reducing the pool of labour for locations which are not well connected to the A50 and A500 (T). There is also a knock-on impact on bus services as these are directly affected by slow traffic speeds in most locations due to a lack of bus priority measures.

The most notable sections of road where speeds are very low (<15kph) and which are therefore likely to severely affect connectivity are shown in Table 14 and Figure 40 below.

Table 14 Sections of Routes experiencing very low speeds (highlighted sections are those within the City Boundary)

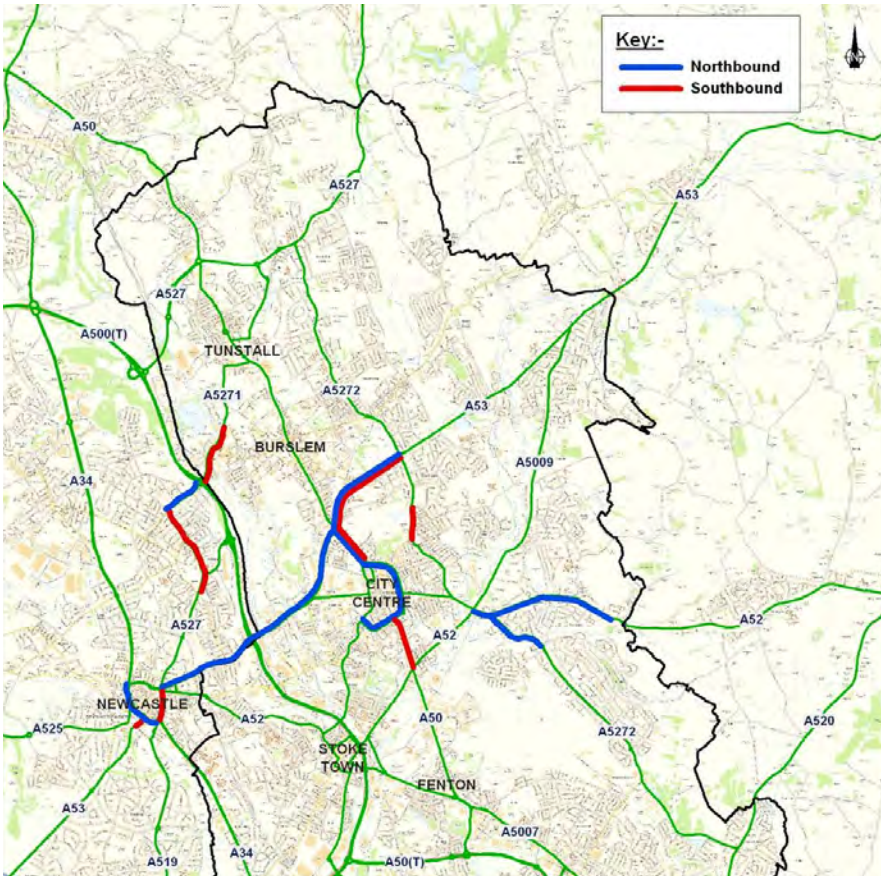
Route	AM Peak	PM Peak

[35] Public Service Agreement – details the aims and objectives of UK government departments for a three-year period (to March 2011). Such agreements also describe how targets will be achieved and how performance against these targets will be measured. In this case the DfT is measured against “PSA 5: Deliver reliable and efficient transport networks that support economic growth”, measured in major cities and the trunk road network.

5	A50 Southbound				Waterloo Road	Lichfield Street
6	A50 Northbound				Potteries Way	Waterloo Road
7	A5271/A527 Northbound	Porthill Bank				
8	A5271/A527 Southbound	Davenport Street	High Street		Davenport Street	
9	A53 Northbound	Lower Street	Etruria Road	Leek New Road	Etruria Road	Cobridge Road
10	A53 Southbound	Leek New Road	Blackfriars Road		Barracks Road	
11	A5272 Southbound	Chell Street				
12	A5272 Northbound	Dividy Road				
13	A52 Westbound	Werrington Road	Bucknall Road		Bucknall Road	

Source: NSTSIV Model validation Surveys

Figure 39 Sections of Routes experiencing very low speeds



Details of the speeds on each section of the routes analysed as part of the NSTSIV modelling process shows that there are generally poor levels of service on many of the major distributor roads in the conurbation away from the A50 and A500 which adversely affects connectivity within the urban area.

This analysis does not take account of any non-principal roads, which provide alternative routes for many cross-conurbation journeys and which also serve the dual purpose of frontage access on traffic distribution. Most non-principal roads, with a number of significant exceptions such as Shelton New Road, provide for local traffic but are increasingly being used for longer distance cross-conurbation journeys due to the speed and congestion issues with major non-trunk roads.

Summary

The analysis in this section indicates that the connectivity within the area is largely affected by a lack of key route 'hierarchy' through the urban area. This results in routes that should be key 'movement' corridors losing capacity to provide a range of other functions such as parking, frontage access etc. Of particular concern because of their strategic importance are the A50, A52, A53 and the A5272.

Access Issues

Road Access

Access from the motorway, trunk road and principal road network (and particularly from the M6/A50/A500) into areas where there is development potential has been raised by stakeholders as a serious issue for the regeneration of the study area. While the trunk road network has some congestion problems, it generally operates at below 85% of its nominal capacity for most of the day. However, access to a number of key locations in the conurbation, particularly for larger vehicles, is relatively poor and could restrict the market for inward investment as much as connectivity issues.

The original road network in much of the conurbation will continue to be utilised for access to most existing and potential future development and is, for the most part, not designed for modern traffic and large vehicles in particular. Major traffic generators away from junctions on the trunk road network are likely to continue to have problems with access and could remain unattractive and a constraint for new development and therefore the economy. However, any potential solutions to these issues will remain problematic due to limited funding for access improvements and the potential impact on the urban fabric.

Access from the major road network into Stoke-on-Trent has been considered under the connectivity heading and is likely increasingly to be a major constraint on the potential redevelopment of sites for new economic uses. The local road network is not as efficient as the trunk road network, mainly due to its age and mix of use, apart from those locations where there has been significant upgrading as described in the connectivity section above.

One of the principal issues for internal road access for larger vehicles is that the road network was not designed for the size of goods vehicle now being used in the UK for longer distance haulage. This has resulted in the manufacturing and distribution centres in the older parts of the City finding it increasingly problematic to get supplies and to ship out finished and part-finished goods and materials in a timely manner as required by the “just in time” philosophy of modern manufacturing. Those manufacturing and distribution sites which are located in newer premises, with access more or less directly onto the A50/A500, such as Trentham Lakes, have a significant access advantage over other businesses which are located further away from major roads and in older parts of the City.

Access to jobs and services by car for residents in the urban area is generally reasonable, although many of the issues referred to in the connectivity section are applicable to commuter and business journeys away from the trunk road network. Journey times to major destinations within the City and wider urban area are not excessive compared with similar journeys in other large urban areas, but it is clear from the data on journeys to work in Chapter 6 that the market for employees within Stoke-on-Trent and the wider urban area tends to be quite local with relatively few people travelling for

more than 15 minutes by car to get to work. This is likely to be as much about perception of journey times and a strong sense of locality for many residents as it is about real accessibility issues.

Public Transport Access

As a result of the levels of car ownership and car use in the conurbation, there are many people in Stoke-on-Trent who find access to key services and local facilities difficult or impossible. **Over 31% of households have no access to a car and a further 45% have access to only one car (2001 Census), this equates to around 60% of the population of the population of the city with limited access to a car, even if the percentage of young children are removed this still accounts for around 125,000 people.** These households are much more reliant on local facilities providing them with food or essential services and their choices for accessing jobs and training will be less than car owning households. Recent analysis conducted as part of the DaSTS studies in the north-west suggests that those looking for work are unlikely to consider locations greater than 30 minutes away, in more deprived locations this falls to 20 minutes.

These households are also sensitive to changes in local services such as the closure of a post office, changes to opening times of a food store or the re-routing of a bus service. ***Figures 41 and 42*** show car ownership levels within the City.

Figure 40 Car Ownership – Households with No Car

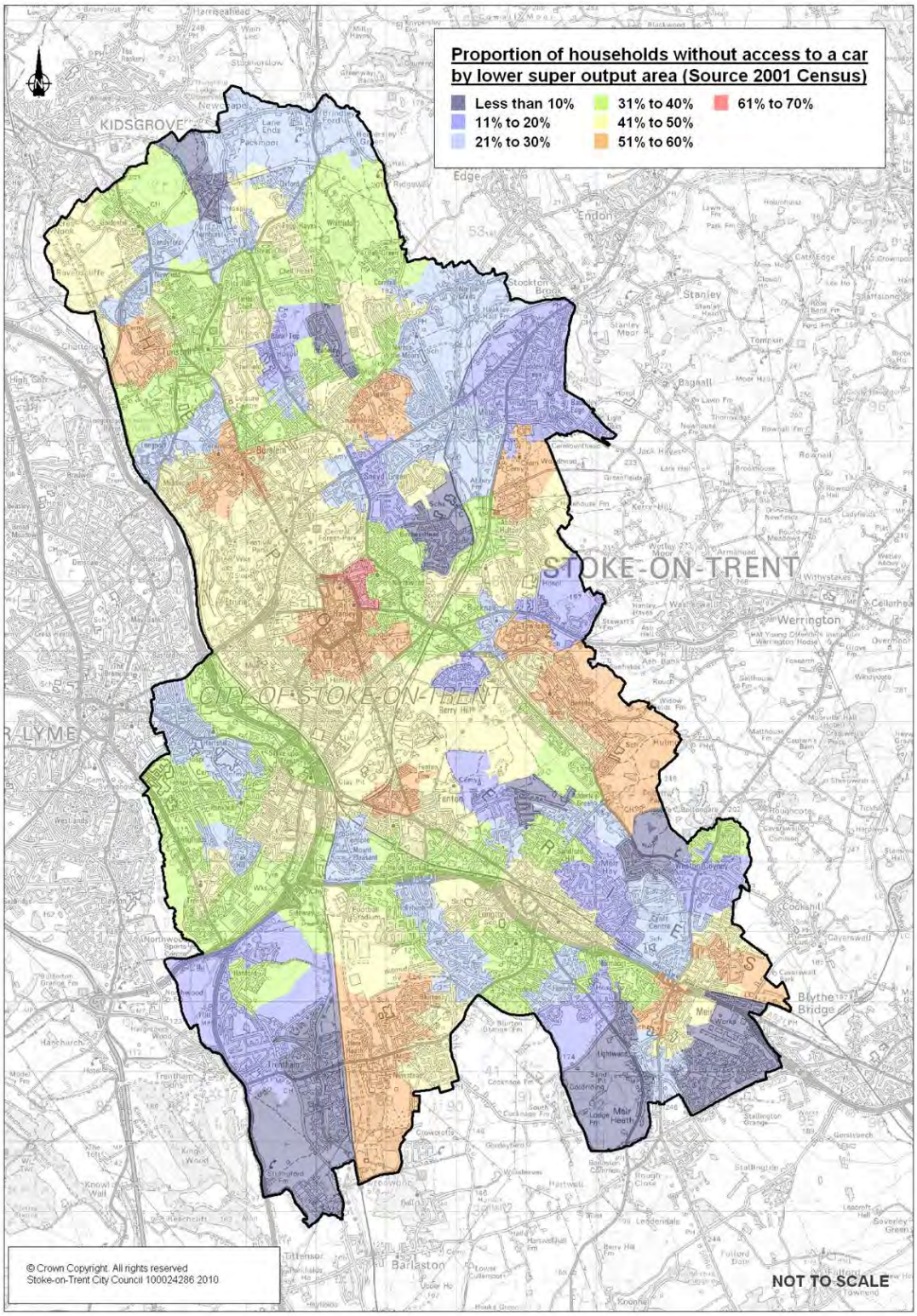
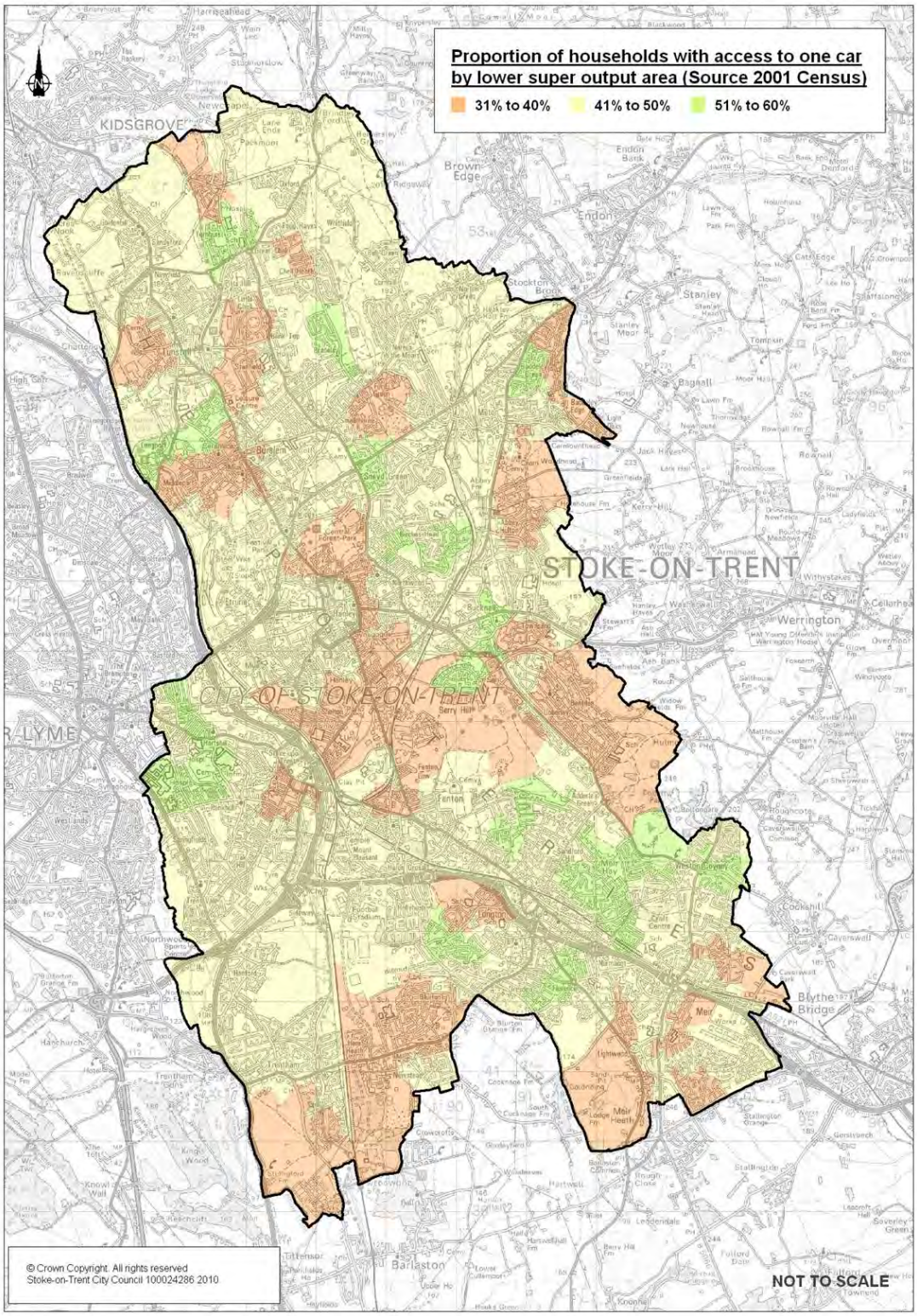


Figure 41 Car Ownership – Households with access to one car



Accessibility planning for the previous North Staffordshire Local Transport Plan shows relatively good accessibility from most parts of the conurbation to major shopping centres (Stoke-on-Trent City Centre and Newcastle Town Centre). This work concludes that:

- There are no major car-based accessibility problems in North Staffordshire;
- Access by public transport in the urban core is generally good;
- Key areas for future action should be access to employment and hospital services as well as giving access to food shopping and education facilities some attention;
- Access to facilities by bus in the evening and on Sundays is generally poor;
- More frequent bus services are needed in some areas to reach the City Centre or Newcastle Town Centre;
- Too many public services are centralised and this reduces people's options to travel.

There is also some concern regarding the limited number of cross conurbation services which mean that for many trips from north to south or east to west a change is required at the City Centre or Newcastle-under-Lyme. This is perhaps not such a big issue for existing users but becomes a more serious barrier for first time users, those looking for work and those trying to reduce their car use. The element of interchange introduces both uncertainty and some additional delay for the user making the switch even less attractive. This coupled with the condition of the bus stations particularly at the City Centre serve to make bus travel much less attractive.

Accessibility Mapping

Bus Accessibility

Figures contained in Appendix B highlight bus accessibility times to major employment locations within the City. Each location has been modelled using bus timetable information and this is compared against an average journey time to cycle to the same location. This analysis and the journey times contained in the table below highlight the slow speeds of the network. This causes particular problems for people living on the edge of the City for example in parts of Meir and Longton. The analysis also highlighted the additional time penalties imposed by interchange for locations away from the city centre, particularly the hospital site which is difficult to access by bus for those living to the north east of the city.

In ***Table 15*** below bus journey times are compared to car vehicle times. To do this we have used a journey planning website which includes up to date vehicle speeds by time of day to calculate journey times.

Table 15 Comparison Journey Times

Journey	Distance (m*)	Vehicle Time	Bus Time
Tunstall to City Centre	6.4km (4)	12 mins	21-30 mins
Burslem to City Centre	3.3km (2)	10 mins	11-20 mins
Fenton to City Centre	3.7km (2)	8 mins	11-20 mins
Longton to City Centre	7km (4)	11 mins	21-30 mins
Meir to City Centre	8.9km (6)	13 mins	31-40 mins
City Centre to Newcastle Town Centre	5.2km (3)	11 mins	11-20 mins
Longton to Newcastle Town Centre	9.4km (6)	15 mins	31-40 mins
Meir to Newcastle Town Centre	11.3km (7)	16 mins	41-50 mins
Burslem to Newcastle Town Centre	5.9km (4)	17 mins	21-30 mins
Tunstall to Newcastle Town Centre	6.8km (4)	16 mins	21-30 mins

* Figures for miles rounded up

In this context, although the general accessibility by public transport is viewed as generally good, journey times by public transport are relatively poor in comparison to car, in particular for those attempting to access Newcastle from the other side of the A500. Longton and Meir (identified in the NSITS Study as being key commuter areas and also identified by the Highways Agency as being congestion hotspots) show significantly longer journey times than those able to be achieved by car.

Summary

The slow speeds for buses in comparison to private car are increasingly an issue for this area. Firstly because research indicates that that people looking for work in areas similar to Stoke-on-Trent impose a 20-30 minute time barrier in terms of job search areas, secondly because mode shift is difficult to achieve where time penalties are this large. It also demonstrates that a significant proportion of the population are losing valuable time in travelling, being unfairly penalised for choosing the bus.

Congestion Issues

The evidence suggests that congestion affects significant parts of the main road network at peak times but the problems are not generally serious enough to limit demand. However, this is likely to change over the next 15 years as redevelopment takes place and the economy improves.

Congestion on the A500 north of the A50 junction is currently a problem at peak times and is likely to become significantly worse by 2026 (the Core Spatial Strategy time horizon). The primary cause of this congestion appears to be the proximity of junctions to each other, resulting in interactions between junctions, and the use of the strategic road network for short trips due to the absence of good alternative routes on the local road network, although evidence for this will be need to be collected through the Highways Agency Managed Roads Study[36].

There are a limited number of locations where congestion is a serious problem at peak times, particularly since the A500 Pathfinder scheme has been completed, but speeds the road network in the conurbation away from the M6/A50/A500 remain relatively poor due to limitations in capacity arising from the number of direct accesses from uncontrolled junctions and accesses, on-street parking and loading/unloading, and the limited nature of the highway network.

Those junctions where delays are most severe at peak times include the following key junctions, which are recognised as major causes of congestion and delay in the conurbation. This list is not definitive and it is likely that additional locations will be identified through the work currently being undertaken by Stoke-on-Trent City Council to update NSTSM4:

- M6/A500 junction at Hanchurch
- A519/A5182 at Hanchurch
- A50/A500 junction at Sideway
- A53 Etruria Road junction with the A500
- A52/A5272 junction at Lime Kiln
- A50/A52 junction at Joiners Square
- A50/A53 junction at Cobridge

Source: North Staffordshire Integrated Transport Study, Halcrow, 2005

With the exception of the A500/A53 junction at Etruria Road and the M6 junction with the A500 at Junction 15, the junctions on the trunk road network generally operate satisfactorily. However, the speeds on both the A50 and A500 through the densest parts of the urban area are significantly reduced at peak times and the forecast traffic increases due to the Core Strategy proposals are

[36] The Highways Agency are continuously seeking to improve and maintain the existing reliability and speeds of the A500 as the Authority responsible for this route.

likely to result in significant congestion unless action is taken to reduce journeys in the conurbation. Figures 43 to 46 below are reproduced from the Core Strategy Transport Impact Assessment report and show the modelled congestion levels on roads and at junctions in 2007 and 2026 respectively using the NSTSIII model data.

Figure 42 Junction and Link Problems AM Peak 2007

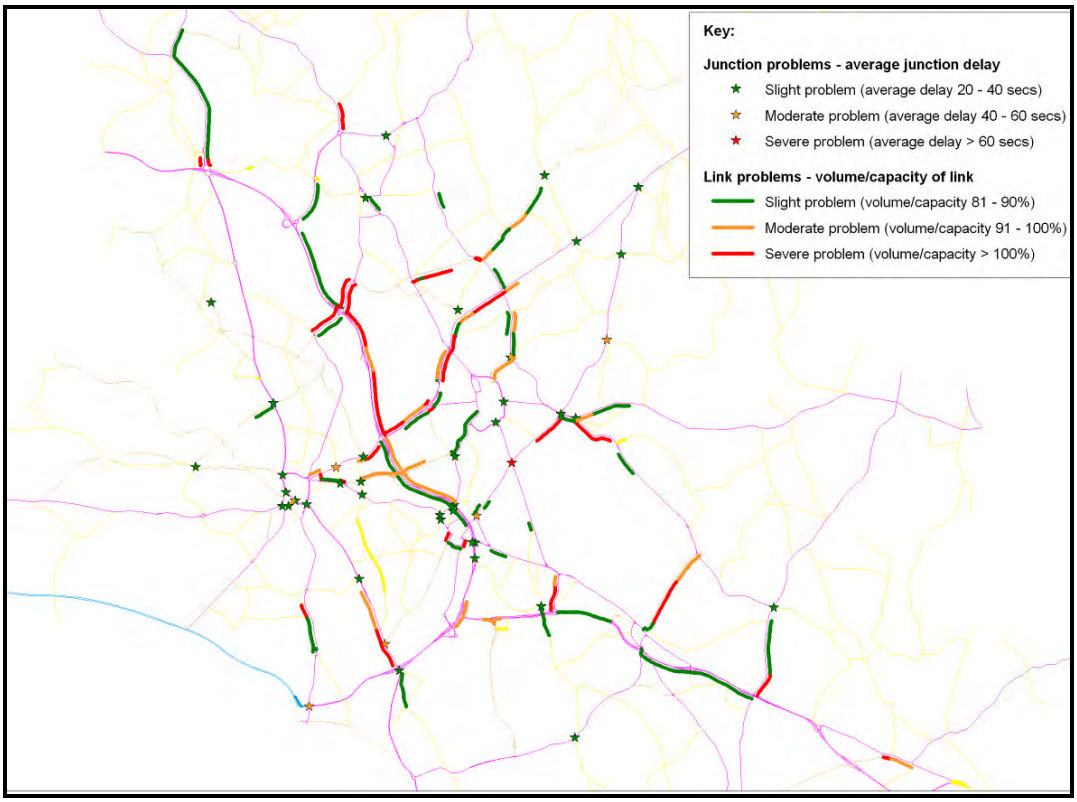


Figure 43 Junction and Link Problems PM Peak 2007

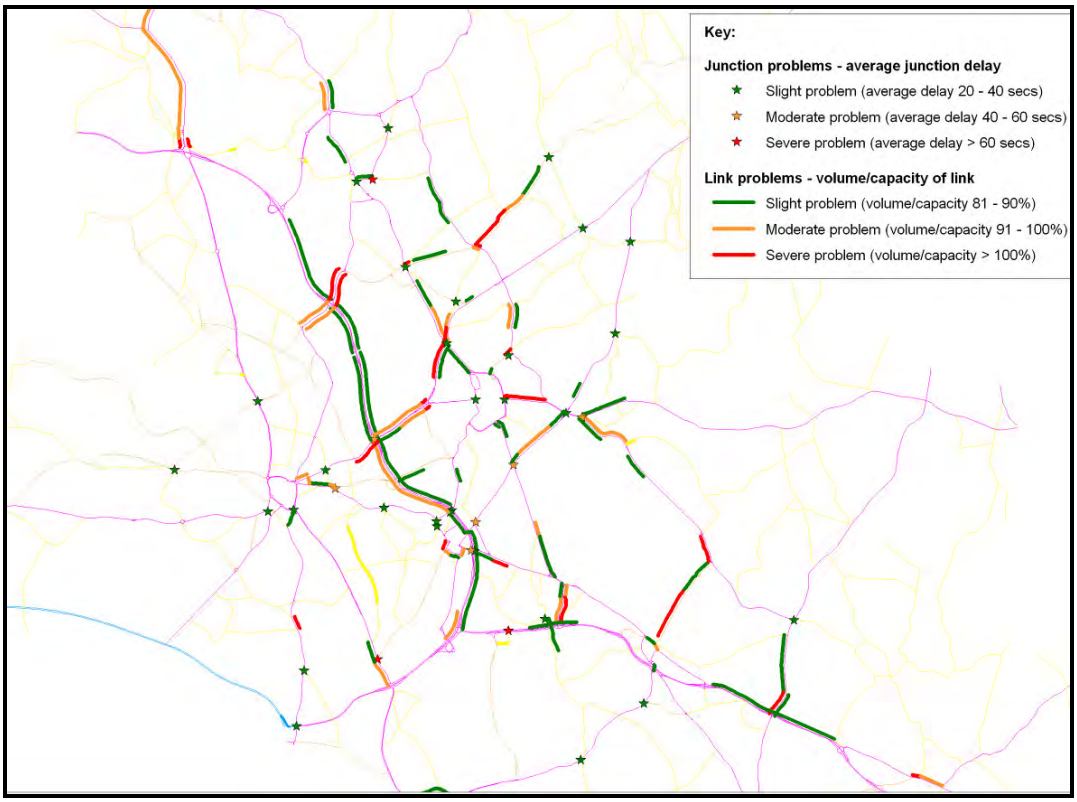


Figure 44 Junction and Link Problems AM Peak 2026

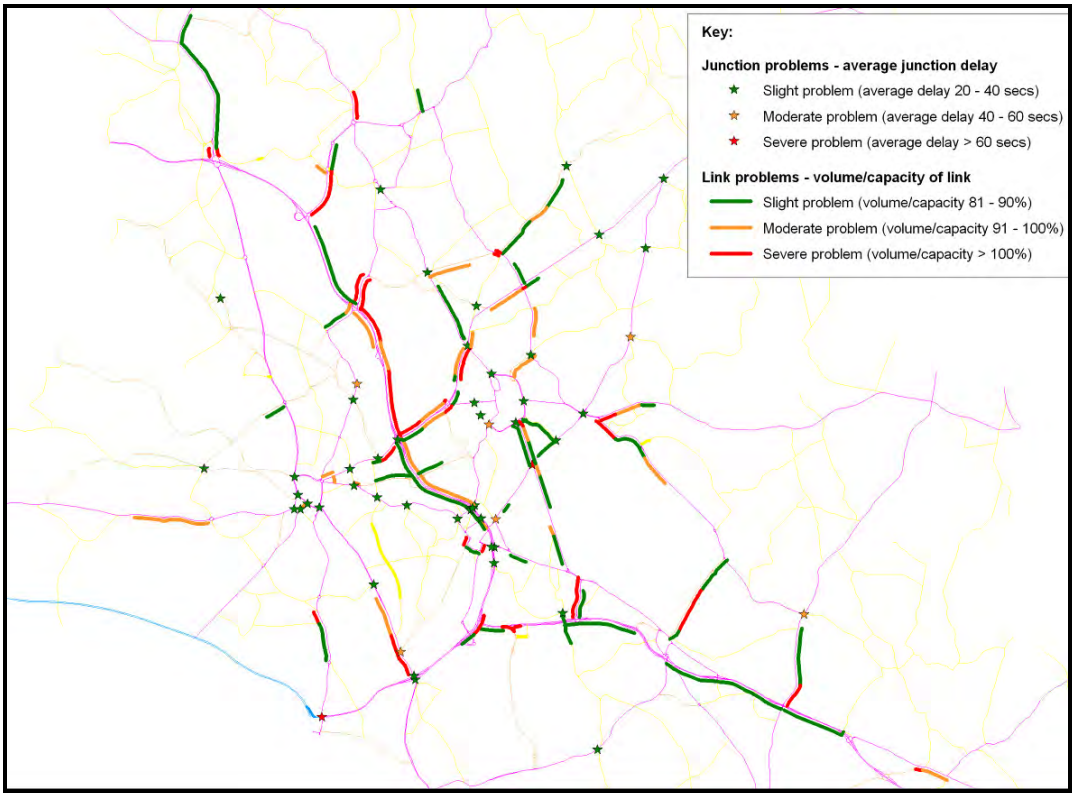
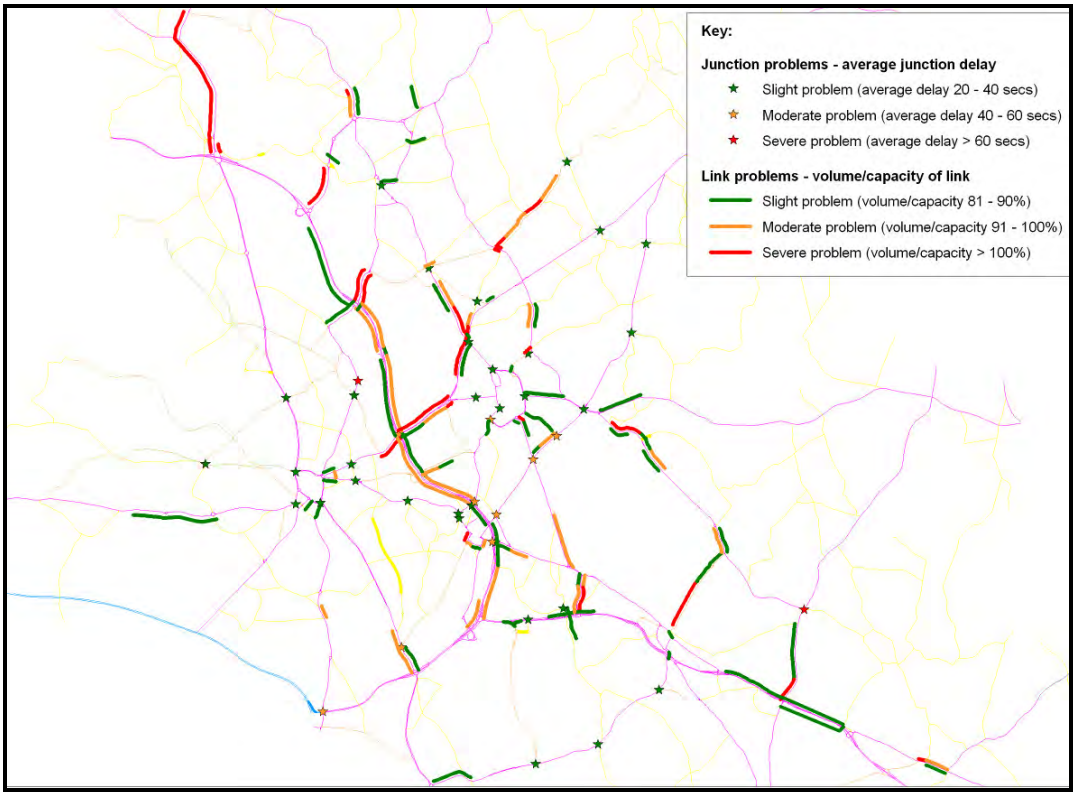


Figure 45 Junction and Link Problems PM Peak 2026



The levels of congestion in the City are not untypical of large urban areas as the previous (***Figure 38***) shows. Larger cities tend have more congestion than smaller cities and towns and congestion tends to be associated with problems at junctions, particularly roundabouts, where there are limited opportunities for traffic control and management. Congestion on links is more likely to be associated with barriers such as railways where crossing places are limited to major roads, or where the road is more attractive than the alternative routes even when the capacity is exceeded. This latter issue is the case for all major grade-separated roads in the conurbation.

The work undertaken Stoke-on-Trent City Council for the Core Spatial Strategy recognises that there is likely to be a serious problem of congestion on much of the major road network (and spilling over into more minor roads) if the aspirations of the City and Borough Councils for the regeneration of the area are met. This analysis shows that unless around 20% of the predicted traffic flows are removed from the network, there is likely to be a significant deterioration in congestion which will, in itself, reduce the demand for travel. This constraint may have an effect on future economic activity in the wider urban area and particularly Stoke-on-Trent.

Table 16 shows the reduction in peak hour trips which have been assumed by the modelling.

Table 16 Total Vehicle Trips from NSTSIII

Scenario	Total Vehicle Trips			
	AM Peak-Hour		PM Peak-Hour	
	Unconstrained	Constrained	Unconstrained	Constrained
2007 Present Year	68,684	67,232	68,926	67,370
2016 Intermediate Year	81,343	72,038	83,109	72,977
2026 Forecast Year – including committed highway schemes	94,280	73,626	96,890	74,318
2026 Forecast Year – including Core Spatial Strategy highway schemes	94,280	74,441	96,890	75,095

Source: Newcastle and Stoke Core Spatial Strategy Traffic Impact Assessment, 2008

The argument for the constrained approach is one of reality. If the highway network becomes significantly congested, users will generally make changes to their journeys to avoid the worst problems by changing their destination (particularly for non-essential journeys) or time of day (through the use of flexitime or similar arrangements). This effectively limits the level of congestion at peak times and allows for an assumption of reduced matrix totals to be made.

Nevertheless, the increased total vehicles trips in the peak periods which have been modelled for the Core Spatial Strategy are likely to produce significant levels of congestion on the major road network in 2026. Even with this significant reduction in peak hour traffic a significant number of routes on the following strategic and principle roads are likely to be consistently over capacity for all of the scenarios and time periods assessed:

- The A500(T) and A50(T) trunk road network
- A53 Etruria Road/Cobridge Road
- A50 Waterloo Road/Lichfield Street/Victoria Road/Victoria Place Link corridor
- A5272 Dividy Road/Hanley Road
- B5051 Moorland Road/Ford Green Road
- B5039 Anchor Road

Source: Newcastle and Stoke Core Spatial Strategy Traffic Impact Assessment, 2008

Major junctions which are predicted to be consistently the source of congestion problems are concentrated in the following areas of the Inner Urban Core:

- City Centre and immediately surrounding environs
- A50 Waterloo Road/Lichfield Street/Victoria Road corridor
- Stoke Town Centre including the junctions on the A500(T) Stoke Pathfinder Project

Source: Newcastle and Stoke Core Spatial Strategy Traffic Impact Assessment, 2008

Frontage access and parking on major roads invariably results in conflicts between the use of roads for access and connectivity and their use for other purposes such as shopping and commerce. This conflict remains intractable in larger urban areas, particularly where they are polycentric, due to the lack of opportunities to effectively bypass smaller centres without causing significant environmental and severance issues. The management of traffic on major roads to accommodate movement as well as local commerce will be an essential part of the management of congestion in Stoke-on-Trent.

During this LTP period in the short to medium traffic management will be a key element of delivering improved journey speeds and more importantly reliability on the existing network. In this period we will continue to pursue improvements to the highway network via appropriate schemes but these will have to deliver improvements to public transport journey times in addition to any gains for private vehicles.

The City already has an extensive management centre for the control of signals and monitoring of traffic. Much greater emphasis will be placed on this to improve vehicle flow.

Parking

Parking Issues

A survey of parking in the City Centre was undertaken by the City Council in 2008 in support of the development of a parking strategy for the City. The headline figures from the survey show that there are over 5,800 publicly available parking paces in the City Centre (excluding on-street parking) but that the maximum usage of those spaces is only 53% (2.00pm on Saturday), indicating that there is a significant surplus of parking available for visitors to the City Centre.

Table 17 Parking in Stoke-on-Trent City Centre

Location	Spaces	Usage						
		Fri			Sat	Mon		
		0900	1000	1100	1400	0900	1000	1100
Potteries Shopping Centre	1194	20%	50%	69%	90%	16%	51%	55%
John Street MSCP	620	14%	17%	16%	13%	15%	18%	17%
Hinde Street	595	27%	37%	39%	12%	33%	47%	49%
Clough Street[37]	540	17%	18%	19%	18%	15%	20%	28%
Tesco MSCP	520	44%	70%	68%	78%	20%	40%	44%
Meigh Street MSCP	457	20%	33%	43%	67%	7%	22%	32%
Birch Terrace MSCP[38]	441	7%	10%	12%	25%	4%	9%	13%
John Street Surface	285	34%	50%	54%	84%	26%	47%	54%
Sampson Street	185	49%	62%	65%	84%	51%	55%	70%
Clementsons Mill	168	8%	14%	18%	45%	4%	17%	18%
Lower Huntbach Street	155	48%	86%	91%	92%	32%	65%	63%
Castle Street	113	2%	4%	10%	9%	2%	3%	4%
Broad Street	104	15%	17%	18%	26%	12%	18%	24%
Glass Street	90	53%	78%	84%	86%	49%	76%	90%
Upper Huntbach Street	78	42%	40%	46%	17%	41%	46%	44%
Meigh Street	72	38%	67%	85%	88%	39%	56%	60%
Hope Street	72	43%	40%	44%	61%	31%	46%	49%
Lichfield Street	48	77%	113%	73%	106%	73%	85%	98%
Pall Mall	38	50%	68%	68%	68%	18%	32%	55%
Crown Street	30	23%	47%	33%	33%	33%	40%	43%
Meigh Street Surface	25	96%	96%	100%	96%	88%	76%	100%
Lichfield Street Lay By	12	17%	33%	25%	17%	0%	0%	25%
Warner Street	10	60%	100%	50%	80%	40%	60%	70%
Total	5852	25%	40%	45%	53%	20%	36%	41%

Source: Stoke-on-Trent City Centre Parking Study 2008

[37] Clough Street is currently closed but will re-open as a Tesco Car park

[38] Birch Terrace closed in 2009

There is a north-south split in the utilisation of parking in relation to the main shopping area. All existing car parks located to the north of the City Centre are highly utilised due to their close proximity to the main shopping area. The car parks to the south of the City centre, however, have lower levels of usage, arguably because they are less attractive in terms of their location.

There are a significant number of car parks with occupancy levels well below 50% at peak times. The least used car park was John Street MSCP with only 15% occupancy at its busiest. The most heavily utilised car park was the Potteries Shopping Centre MSCP with a usage level of 90% at its busiest.

Stoke-on-Trent City Council has embarked on the preparation of a car parking strategy for the City Centre aimed at ensuring that the provision and quality of parking matches its aspirations for the regeneration of the Centre as the major employment, shopping and leisure centre for the whole area. Some initial recommendations from this study are, in the short term, to:

- Adjust pricing to encourage shoppers and other visitors to stay longer
- Improve facilities at some of the more popular/well located car parks
- Market car parks more appropriately to encourage use in areas connected with economic activity

In the medium term:

- Consider closure of some of the smaller underutilised car parks
- Increase parking control in areas of free parking on the edge of the City
- Consider discount schemes linked to public services i.e. cheaper discounted parking for residents visiting leisure centres, libraries etc.

In the longer term (depending upon regeneration progress):

- Move towards fewer high quality car parks
- Consider re-pricing to reflect demand and congestion

Summary

The proposed parking strategy seeks to use parking as a tool for raising footfall and economic activity in the city in the short term and then looks to tie in with wider policy objectives in the medium to longer term in order to reduce congestion around the city and support the wider public transport strategy.

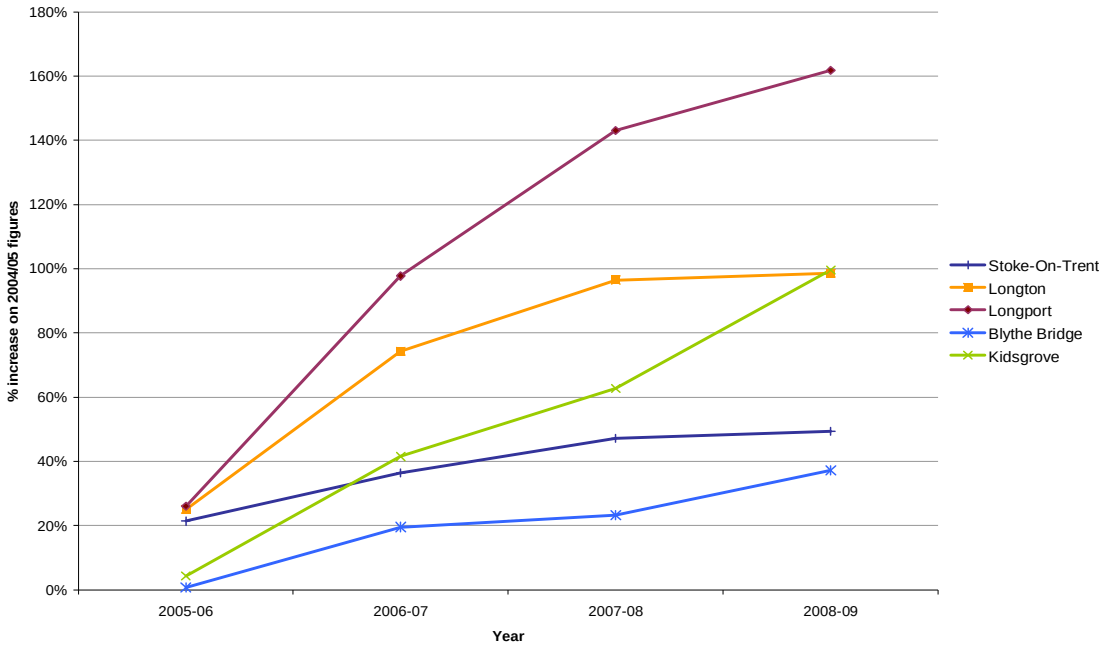
Rail Travel Issues

The timetable changes introduced in December 2008 made significant changes to the pattern of trains in the study area and particularly improved both the frequency and destinations served by Stoke-on-Trent Station. There are now 2 fast/semi fast trains per hour from Stoke to London,

Manchester and Birmingham, 2 per hour to Crewe and 1 per hour to Derby. There are some issues associated with delayed trains from the major cities but this is as much part of the train origins (the Birmingham trains are going from Bournemouth) as any local issue for coverage in this LTP.

Local Stations

Local stations within the area have seen exceptional growth over the past 5 years, the graph below provides the percentage increases since 2004-05[39].



The station with the largest percentage increase in passengers is Longport with a huge 160% increase since 2004, this increase has started from a low base (5,742 entries and exits in 2004/05) and appears to be largely due to the efforts of the City Council and Community Rail Partnership in introducing: new signs at the station to remind local people that it is operational, improved shelters on the platforms, customer information points and customer information screens showing train arrival times. There have also been large increases elsewhere on this line, for example:

- Longton – 99% increase over the 4 years from 2004/05, from 16,960 entries and exits to 33,678
- Kidsgrove (outside of the boundary of this LTP) – 100% increase over the 4 years from 2004/05, from 30,850 entries and exits to 61,558
- Blythe Bridge (outside of the boundary of this LTP) – 34% increase over the 4 years from 2004/05, from 31,136 entries and exits to 42,732

[39] Figures taken from officially published figures available from the Office of Rail Regulation

Much of this increase is attributed to the work being undertaken by the North Staffordshire Community Rail Partnership which aims to develop and promote the Crewe - Stoke-on-Trent - Derby rail service for the benefit of passengers and the local area. The community partnership consists of dedicated staff from the various local councils (including Stoke-on-Trent), train operating companies, and volunteers from within the community.

In 2008, the partnership won two first prizes in the National Community Rail Awards, which recognise achievement in community rail development. The awards were for Most Improved Community Station (for Longport and Longton) and the Community Rail Partnership Officer Outstanding Achievement award.

(Left) New shelter, planters and info board at Longport, (right) new info, Customer Information Services (normally electronic), shelter and CCTV at Longton.

This approach to delivering improvements has been extremely successful and the partnership has been nominated for, and won numerous awards (as shown in Chapter 2).

Stoke-on-Trent Station

Stoke-on-Trent Station handled 1.727m passengers in 2008/09, increased from 1,156m in 2004/05. this equates to a 49% growth in the period, much higher than the national growth at 22%. Despite this growth there is no firm evidence of overcrowding on any of the services or on any of the station platforms. However, there is anecdotal evidence of standing on some southbound peak services leaving Stoke-on-Trent station, particularly on Cross Country Voyagers which only have 4 cars compared with the 5 car Super Voyagers.

With the exception of the services between Crewe and Derby (operated by East Midlands Trains), all rolling stock in use is modern and of recent construction. The rolling stock operated by East Midlands Trains, however, is older Class 153 stock and is not of the quality which the other services provide.

The upgrade of the WCML in 2005/06 and more recent changes to the track layout in Stoke-on-Trent Station have improved line speeds but there are remaining problems south of the City at Stone and Norton Bridge where the track alignments mean that train speeds are significantly reduced. The latter issue is recognised by Network Rail and the current RUS (2007) for the WCML includes a potential proposal to realign tracks at Colwich junction and Norton Bridge to overcome the line speed issues.

Stoke-on-Trent Station has some issues with access to Platform 2 from the main entrance and waiting facilities are relatively poor, apart from those for first class passengers. Access to Stoke-on-Trent Station for passengers is not ideal, although the recent opening of a large car park with drop-off facilities adjacent to Platform 2 with direct access from the A500/Stoke Road junction has improved the situation.

Buses, taxis and cars have little space at the main entrance off Winton Square, where there is limited parking and two small lay-bys. Station Road through Winton Square is also used as a connecting road between Leek Road and Stoke Road and for access to part of Staffordshire University and at peak times can become congested around the front entrance of the station.

The main pedestrian routes to and from the station are generally good with crossings provided to gain access to the North Staffordshire Hotel and also to Staffordshire University. However the quality of the paving is poor and the whole area needs a facelift.

There are proposals to improve Winton Square as part of the University Boulevard project but full designs are not yet available for this scheme and it is currently unclear what the design principles for this area are likely to be. Clearly the proposals will need to take into account the main objectives and guidance contained within this strategy document as the project goes forward. A key concern is that there are likely to be pressures on the pedestrian environment following the completion of the new Sixth Form College on Leek Road and the expected movement of large numbers of students walking between the station area and the College.

New Rail Developments – Local Rail

In Chapter X the arrival of a new business seeking to provide rail services was discussed Moorlands and City Railways Ltd have ambitious plans to re-open the line from Stoke to Cauldon Lowe. They have already achieved the hand-over of the line from Network Rail and have now got heritage trains running upon an 8 mile section of the route between Leekbrook junction and Cauldon Lowe. The company is self financing and is keen to get the line re-opened to Stoke where freight could transfer onto the national rail network. The company also holds a longer term aspiration to run passenger trains between Stoke and Leek and pull a service through to Alton Towers. These plans represent an exciting future development in rail within North Staffordshire, the City Council have had several discussions with the directors of MCR regarding their plans. The LTP would support some of the

aims of the company as the development of new services should reduce traffic volumes, particularly if freight can be transferred.

National Rail Developments – West Coast Route Utilisation Strategy

The recently released Route Utilisation Strategy contains some proposals that will affect the services from Stoke-on-Trent Station. In order to generate improved journey times on the route the following changes to services are proposed:

- Removal of the existing London Midland operated service between Crewe and London Euston to call via Wilmslow. This would affect the following local stations: Alsager, Kidsgrove, Stoke-on-Trent and Stone.
- Removal of one of the long distance services between Bournemouth and Manchester, this would remove a fast service from Stoke-on-Trent between Birmingham/Manchester and Stafford.

The following options are to be 'examined' in response to these changes:

- Extension of a Manchester Piccadilly – Stoke-on-Trent service to Stone, Stafford and Birmingham
- Recommendation to extend the Derby-Crewe (via Stoke-on-Trent) service to Manchester Airport.

New National Rail Developments – High Speed 2

JOHN TO PROVIDE SOME INFO HERE…

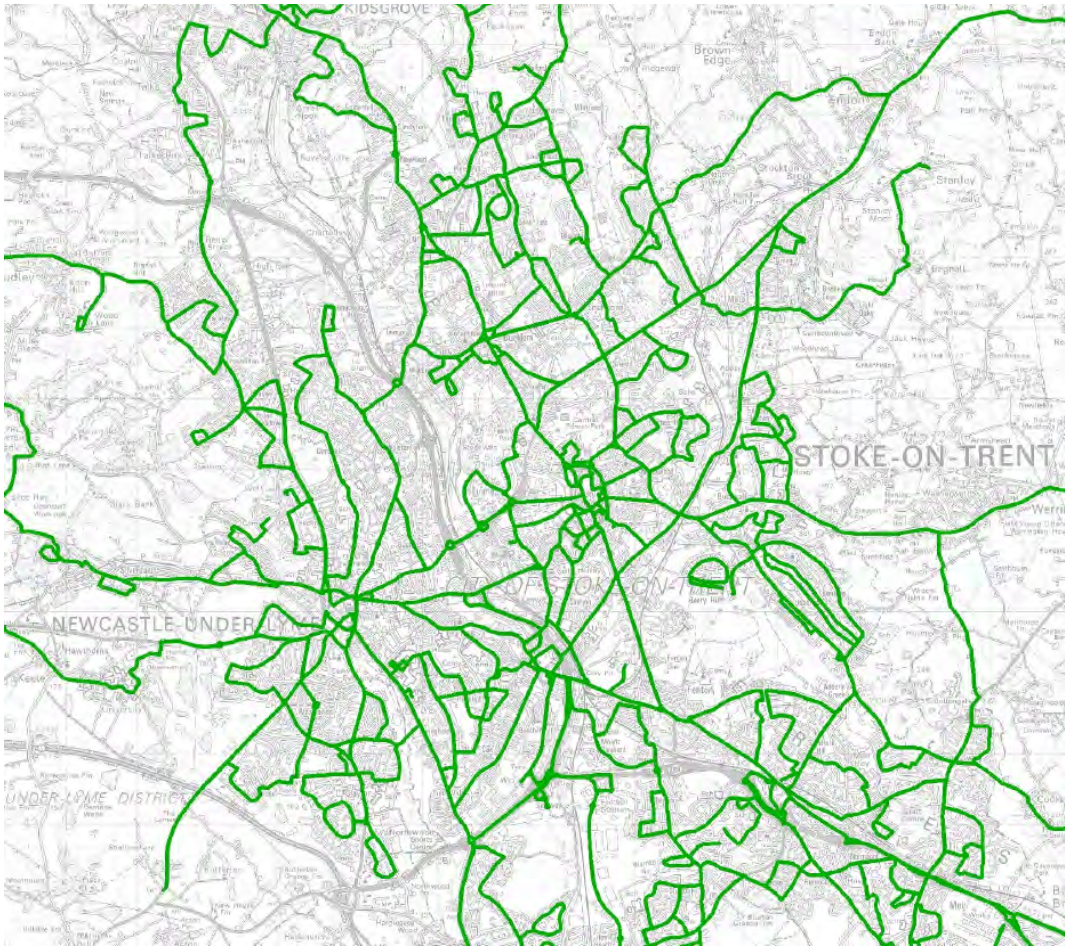
Bus Travel Issues

The Local Transport Plan Bus Strategy sets out many of the issues facing the conurbation in terms of the bus service provision, which is considered to be the key to improving personal accessibility to jobs and services and reducing congestion for the benefit of the local economy.

The main issue for the bus network is that the travel to work pattern in the City and wider urban area is quite dispersed and, as the core bus network is based on services to and from the City Centre and Newcastle-under-Lyme Town Centre, a large number of people have no direct home to work bus service. Whilst encouragement is given to new employers to locate in the existing centres, many of the more recent large developments have been positioned in peripheral areas, creating new employment centres.

It is clear from the current bus network in the urban area, as shown in ***Figure 47***, that there is a concentration of routes from the City Centre, Newcastle Town Centre and Longton Interchange and significant levels of penetration into housing estates, but there is little evidence of the bus network being sufficiently well planned to provide an attractive alternative to the car for most journeys (this is amplified by the comparison journey times shown previously in ***Table 15***) and it certainly has the appearance of an unconcentrated network with lots of bus services penetrating lots of discrete small residential locations.

Figure 46 Bus Network Coverage



One significant issue (given the skills levels in Stoke-on-Trent) is that the distribution of post-16 education is generally outside the traditional centres, as are the main hospital sites. New residential areas are being built in existing centres and on brownfield sites and while the former are very accessible for public transport and will enhance the viability of the centres, the latter are often edge-of town sites, and require the diversion or extension of existing services, or new services.

When funding is required to provide a new development with a bus service, financial contributions from developers are sought. However, the current economic climate in Stoke-on-Trent means it is often difficult to attract suitable contributions, and many developments cannot be served adequately.

The current climate also impacts on public transport operators who are generally unwilling to take the financial risk of providing a service to a new market.

Poor physical access to services is also a major barrier to using buses. The main issues with access are the pedestrian routes to and from the point of entry for the service i.e. the bus stop or boarding point and the entry onto the vehicle. Both of these issues are beginning to be addressed through partnership approaches. Stoke-on-Trent continues to upgrade facilities on a route by route basis according to the importance of the route and its potential catchment.

Punctuality and reliability remain an issue for the bus services in Stoke-on-Trent, primarily caused by the interaction of services with traffic on major routes. There are limited lengths of bus priority in the urban area which have been shown elsewhere to improve journey times and hence punctuality and reliability. Surveys of passengers, or potential passengers, suggest that this issue is at the top of the list of priorities .

There are three main reasons for poor reliability and punctuality:

- Operational problems caused by a shortage of drivers, vehicle unreliability, unrealistic timetables, drivers failing to adhere to timetable (late start, early running)
- Traffic conditions caused by unpredictable congestion and lack of bus segregation or priority
- Illegal use of bus lanes and bus stops by private motorists.

Driver shortage is an issue in most urban areas and Stoke-on-Trent is not immune. Operators could attract more drivers through increased pay and conditions, but this may mean withdrawal of some commercial services. Operators also have difficulty in attempting to reconcile the need for easy to understand, clock-face timetables with the need to account for variable running times at different times of the day or week. The issue is complicated even further by the requirements of punctuality imposed by Traffic Commissioners, whilst the intentions behind this are good, the market outcome can be restrictive as timetables are constructed with sufficient ‘slack’ to ensure that targets are met.

The City has a number of congestion hot-spots (highlighted previously), predictably at some key junctions. The degree of congestion is unpredictable, often affected by external factors such as accidents or repairs on the nearby motorway and trunk road network. In addition, the constrained nature of the local road network makes it very difficult to provide significant amounts of bus priority. Where bus lanes are provided, parking in them by private motorists is a particular problem, as is parking at bus stops. This delays buses, particularly as narrow roads often make it difficult or dangerous to pass the parked vehicle, and boarding and alighting take longer. Recent work undertaken along the potential ‘Street Car’ route has indicated that delays are not just confined to major junctions, in some cases operators are more concerned about increasing problems on the ‘links’ between junctions, once again this is an issue of management and conflicting route uses. The provision of parking, refuges, crossing points and the narrow streets in some locations all add to bus delay and unreliability.

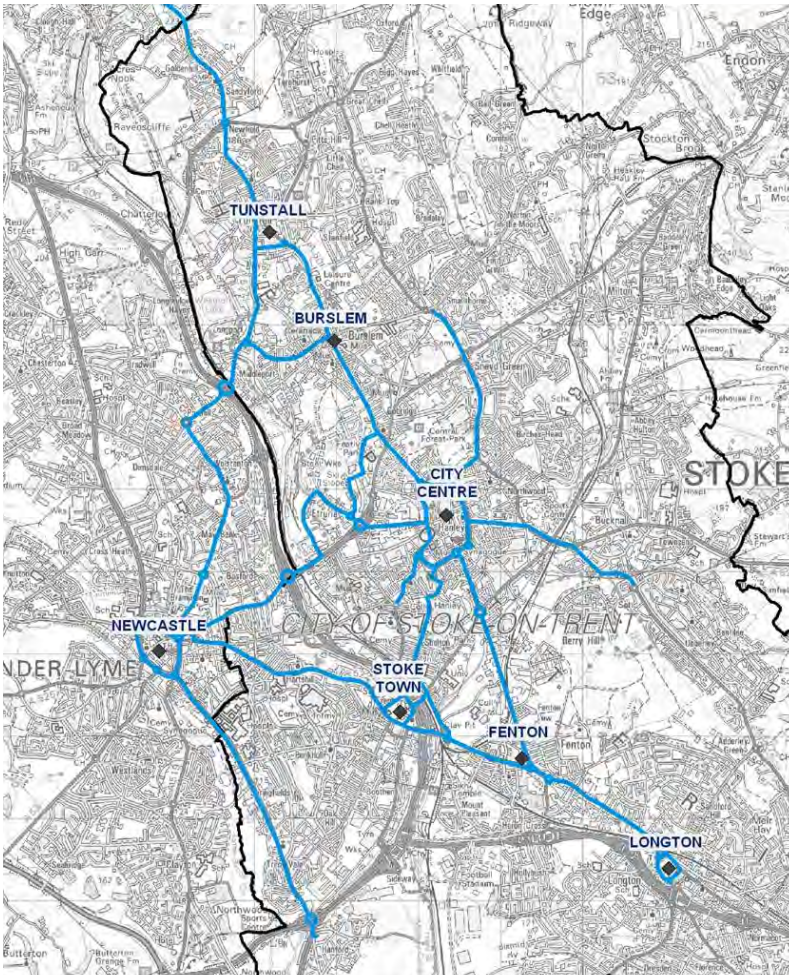
Finally, the condition of the major bus interchange points is an issue, particularly the quality of the City Centre Bus Station which leaves much to be desired.

Proposals to replace the bus station as part of the East West Precinct redevelopment were granted planning permission in 2009 and the expectation is that a new, state-of-the-art, bus station will be constructed by 2012. This is a critical part of the future public transport offer and is a welcome step forward, however, the LTP implementation plan will need to anticipate providing resource to help the design 'bed-in' in the first year of operation. In addition the transportation team will expect to play a full role in the development of interior details such as the placement of customer information position of pedestrian accesses etc.

A high quality transport interchange at the hub of the network is vital as a gateway to the City Centre (currently 35% of all visitors arrive by bus) and as an important interchange to the rest of City and surrounding areas.

In recent months work has started with all the operators to better define the true 'core' network. ***Figure 48*** below shows the current core network as defined by operators in the city.

Figure 47 Core Bus Network



Cycling and Walking Issues

There is evidence that both walking and cycling are under-utilised as modes of travel within Stoke-on-Trent, while census figures show greater use than comparison areas, analysis of travel patterns indicates that around 54% of commuters are travelling less than 5km to access work. This represents a great opportunity over the coming years to encourage cycling in particular. This approach would ensure that the use of the excellent facilities for cycling (nearly 80???km of traffic free route) in the area are maximised and would tackle some of the growing health issues present not just in Stoke-on-Trent but nationally. With regards to cycling, NSITS suggests that the following issues were of most importance to potential users:

- poor driver behaviour
- poor road surface condition
- obstruction from illegal parking
- lack of cycle parking facilities
- cycle routes are badly lit and unsafe

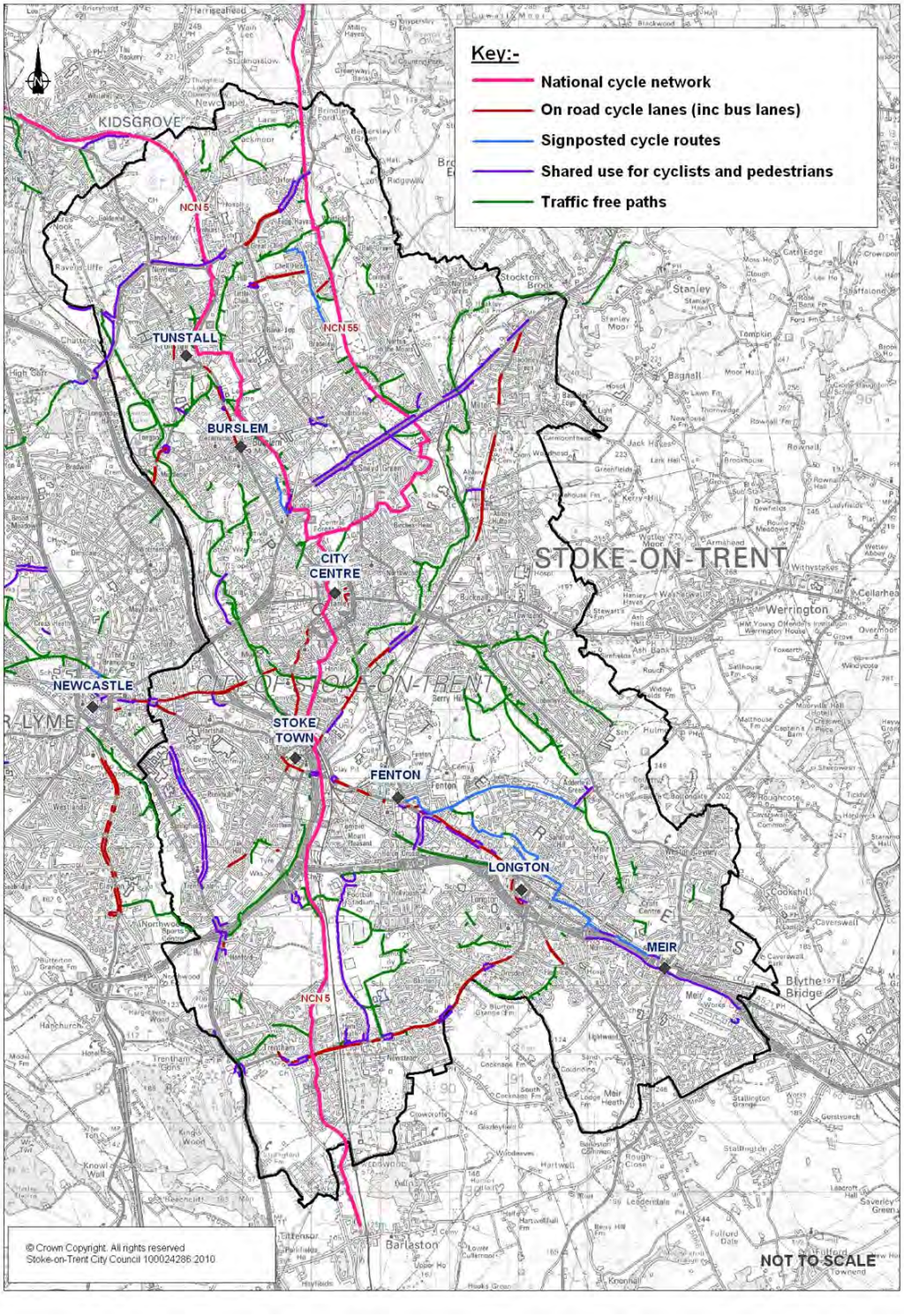
- disjointed routes, where they exist
- poor environment discourages cycling
- weather / topography discourages

In 2008 the City was successful in a bid to Cycling England for funding through the Cycle Town initiative and is in the middle of a 3 year programme to improve and upgrade much of the cycling infrastructure in the City and promote cycling. The implementation of this programme has demonstrated the impact of tackling some of these issues on the numbers of people cycling. An additional point in relation to cycling is the relatively low levels of cycle ownership in the city (16% for adults, significantly lower than in other Cycle Cities[40]), this is likely to be a function of the relatively low incomes in large areas of the city and the general view that a bicycle is luxury rather than an essential. This reflects wider attitudes towards cycling which for many people is associated with leisure rather than the daily commute. Nonetheless the cost of purchasing a bike may be considered a significant barrier to uptake of cycling in low income groups.

Figure 49 shows the current designated cycle network in the conurbation and highlights the National Cycle Network routes through the area. The routes on Figure 5.30 are those marked out for cyclists (either off highway or cycle lanes on the highway) but there are also many quiet roads which are not shown on the diagram but which are used to make linkages.

[40] Evaluation of Investment in Cycling Baseline Household Survey Findings, DfT, Feb 2010

Figure 48 The Cycle Network



In terms of walking, though Stoke-on-Trent has a greater percentage of trips by this mode than comparator areas, there is still some progress to be made in this area. As with cycling, the travel patterns illustrate that a significant percentage of commuters could change to walking with 23% of

trips to work at less than 2km. The issues raised in the stakeholder consultation in NSITS with regard to walking were:

- traffic speeds and illegal parking make walking unattractive
- there is a fear of crime, partly associated with the poor quality of street lighting
- the A50 and A500 cause severance
- footways are in a poor condition
- poor environment discourages walking
- inadequate crossing times at traffic lights
- there is a lack of safe, attractive pedestrian routes

It is likely that these issues remain, although the street lighting in the conurbation has been significantly improved in the past 6 years through a PFI programme. Nevertheless, it is highly likely that a similar list of issues would result if this exercise were to be repeated now.

The City Council has published Rights of Way Improvement Plan in the past 3 years. This includes an assessment of the condition of the RoW network (public footpaths and bridleways away from carriageways). The issues raised by respondents to surveys asking for views on the RoW network included:

- lack of signposting and waymarking
- poor or muddy surfaces
- general tidiness and overgrown condition
- problems with gates, stiles and obstructions
- fear of crime
- lack of information about the network
- no toilets in easy reach
- hard to locate
- no disabled parking near start of routes
- too many barriers and obstacles

Clearly the wider environment is a consideration for those who don't walk or cycle at the moment, actions taken within this LTP period to improve the general appearance of locations and general air quality improvement will also help to encourage more use of these modes.

Conclusions

This Chapter has analysed the existing travel patterns and transport networks in North Staffordshire and has outlined the principal issues from the analyses undertaken. These have examined:

- Connectivity

- Accessibility
- Congestion
- Car Parking
- Rail Network
- Bus Network
- Walking and Cycling

Connectivity

External connectivity via the strategic road and rail network is considered to be generally very good. A few issues do remain which will continue to inform discussions with central Government departments and other agencies such as Network Rail and the Highways Agency:

- M6 junction 15
- A500
- Slow speeds on the West Coast at Stone and Norton Bridge
- Slow speeds on the Derby line and the age of the rolling stock

Internal connectivity is the biggest forward issue facing the City. Average speeds on the principle routes away from the A500 are very low even in the inter-peak (21mph), largely due to the existing road standard but also (and perhaps more importantly) due to the mix of uses on these routes. There are clearly issues on the main routes within and through the city: the A50, A53, A52, A527 and A5272.

Accessibility

Accessibility in the City is facilitated to a large extent by the A500 and parts of the A50. Access away from these main routes is viewed at being of a poor standard and likely to be barrier to regeneration. This relates mostly to the requirement to get large vehicles to sites using existing routes and goes some way to explain the movement of industry to locations just off the A500. Accessibility by private car is viewed as being generally good (albeit some roads are tight due to existing layouts and parking).

Accessibility for those using public transport has also been examined in the past and is also viewed as being good – certainly the network is dense and penetrates most main housing areas. However, accessibility by bus when compared to car is extremely poor. This is reflected in journey times which are more than double those by private vehicle. In addition the structure of the network results in few direct services forcing an interchange within the City Centre or at other bus stations, this is likely to be an issue for first time users, those looking for employment/training and those considering switching from car to bus. The slow

speeds reduce attractiveness and limit search areas while the interchange introduces additional uncertainty and wait time for the potential user.

Congestion

Congestion is a problem in every town, city and urban area in the UK and Stoke-on-Trent is not currently exceptional in terms of its congestion (though it may be considered exceptional in terms of the ability of the wider network to absorb the overspill from this problem going into the future). There are a number of current hotspots on the network which may require further consideration:

- M6 Junction 15 /A500 junction at Hanchurch
- A519/A5182 at Hanchurch
- A50/A500 junction at Sideway
- A53 Etruria Road junction with the A500
- A52/A5272 junction at Lime Kiln
- A50/A52 junction at Joiners Square
- A50/A53 junction at Cobridge

These locations are likely to worsen over time particularly if the core strategy aspirations become a reality, the problems are also likely to go from being a junction capacity issue to being a link capacity problem, the current predictions in relation to this are that the following locations will be an issue by 2026 if the core strategy targets are fulfilled:

- The A500(T) and A50(T) trunk road network
- A53 Etruria Road/Cobridge Road
- A50 Waterloo Road/Lichfield Street/Victoria Road/Victoria Place Link corridor
- A5272 Dividy Road/Hanley Road
- B5051 Moorland Road/Ford Green Road
- B5039 Anchor Road

Clearly there will need to be a forward strategy for reducing congestion in these locations, however it should be stated from the outset that physical works to upgrade these locations is likely to be the work of decades rather years. Recent studies have also indicated that congestion through the City is as much about traffic management as infrastructure capacity. This LTP period will therefore look at phase design and implementation of improvements at some of the worst junctions and a corridor approach will be used to consider forward options, this approach should ensure that traffic problems are not simply moved around the network. Management of traffic using technology will be critical and the current UTC will be used more effectively.

Parking

There is a large over supply of parking within the city centre which in the short term is likely to be tackled by:

- **Improved pricing**
- **Better maintained with improved facilities in key locations**
- **More widely publicised**

To make best use of these assets in the medium to longer term some more sophisticated charging will be pursued which will benefit local residents. However there will also need to be greater control of on street parking both within the city centre and on key radial routes to reduce congestion and reliability problems and promote the safety of pedestrians and other road users.

Rail

Local rail initiatives have delivered exceptional results over the previous LTP period. This is an area where this LTP is likely to support ongoing processes and investment rather than promote any major alterations. This is a mark of the success of the Community Rail Partnership scheme.

The future role of this organisation will be to extend schemes to consider the wider access approaches to stations and continue to work within local communities to raise awareness of the services and reduce incidences of trespass and vandalism through initiatives with local schemes. The success of this partnership is a credit to the people involved.

Bus

The Bus network within Stoke-on-Trent is comprehensive but speeds for travellers are slow and there is a real need to improve the quality of the overall offer within the city. There have been some significant successes (shown in Chapter 2) in this area but if real mode shift is to be achieved far more attention is required in this LTP period. Bus travel will be required as a major part of the successful growth of the City in a sustainable manner and will be vital to future prosperity.

Cycling and Walking

Whilst many of the other issues discussed in this Chapter relate to problems or constraints, walking and cycling presents the greatest opportunity in this LTP period. Significant investment in the cycle network through the Cycling England Cycle Town funding has raised the level of provision within the city to exceptional standards for the UK.

This infrastructure matched against the travel patterns typically demonstrated in the census and NSTSIV data indicates that cycling and walking could have a tremendous impact on the other issues identified on the transport network but also on the much wider health and social well being problems faced by the City. The focus throughout the LTP period will be around promotion of the cities 'hidden gem' with physical works limited to improving signposting and linking cycle routes together. The local planning process will also be used to ensure that new developments link in with the network and provide high quality and maintainable cycle routes and parking within sites.

Chapter 8 – Maintaining the Transport Network

Chapter 8 – Maintaining the Transport Network

Introduction

In this chapter we discuss the maintenance of highway assets. It is important to recognise the scale and importance of maintenance of the network to this LTP period as in the early years it is likely that the absence of funding for renewal will lead to a greater dependence on maintenance. The scale of the highways asset and the maintenance challenge it represents can be partially understood through consideration of the following statistics:

- The highway network alone (not including footways, cycleways and bridleways) has a length equivalent to the distance between Lands End and John O' Groats
- The total surface area of the highway, footway, cycleway and bridleway network is estimated at XXXX m^2.
- This figure with the inclusion of all other public open space maintained by the City Council represents an area which is one-third of the total surface area of the City.
- These networks and the associated equipment represent the City's largest asset; worth an estimated £1.2 Billion[41].

Highways Assets

It is important to recognise that the highways asset is not simply represented by square metres of tarmac but consists of a huge number of linked assets, as shown in ***Table 18*** below:

Table 18 Highway Asset Groups

Asset Group	Asset Elements
Carriageways	Carriageways, highway drainage, road markings and street cleaning
Footways, Cycleways and Hard Verges	Footways, cycleways (dedicated and shared use), hard paved verges, footway gullies and street cleaning
Highway Green Spaces	Grass verges, trees, hedges, flower and shrub beds, and planters located within the highway

[41] A complete estimate of the Cities Transport assets will be provided in the Transport Asset Management Plan which will be released in Aril 2011. The TAMP will complement the LTP and provide details of the proposed levels of service for each of the assets.

Lighting	Columns, lamps, cabling, feeder pillars, illuminated signs, subway lights, illuminated bollards
Traffic Signals	Signalised junctions, pedestrian crossings, school crossing lights, SCOOT and UTC systems
Signs, Barriers and Street Furniture	Advance direction signs, direction signs, warning signs, information signs, sign posts, street name plates, non-illuminated bollards, seats, council owned bus shelters, highway fences, pedestrian barriers, safety barriers, and other street furniture
Bridges & Other Highway Structures	Bridges, subways, culverts, retaining walls, high mast lighting columns, tunnels, stairs, river walls & revetments. Some of which are heritage assets.

Each of the individual assets listed above has a different lifespan, maintenance regime and resource (specialist and non-specialist) to look after it. This makes the delivery of efficient maintenance extremely complex. There is also the need to consider 'reactive maintenance'; for example the extensive work required to fill potholes and re-surface following the 09/10 winter. This reactive demand for resource and funding cannot be planned and as a result there is always tension between the budgets for 'planned' maintenance; which erodes backlog and improves the asset and 'reactive' or 'unplanned' maintenance which becomes a priority due to unforeseen circumstances or as a result of customer complaints. The City also contains a large number of heritage assets which need to be correctly maintained in order to preserve some of the key moments of the history of the UK and Stoke-on-Trent.

In this chapter we present each of the above asset groups in turn and consider how the efficient maintenance of these groups forms a critical part of LTP strategy going forward. In some asset areas such as bridges a fairly defined programme can be stated. In other asset areas the priorities and approach are not yet finalised.

The LTP is not expected to define specific maintenance investment, rather provide guiding principles for the Transport Asset Management Plan such as maintenance priorities which fit with the strategy, such as gateway site maintenance and Core Network Maintenance.

Carriageways

The above table defined assets in relation to carriageways as: carriageways, highway drainage, road markings and street cleaning.

In terms of the size of this asset group ***Table 19*** below provides approximate figures.

Table 19 Carriageway Asset Statistics

Asset	**No/Length (m)**	**% change since 2006**
Principle Roads	87.1 km (54m)	2%
'B' Roads	20.8 km (13m)	14%
'C' Roads	33.1 km (21m)	0
Unclassified Roads	714.3 km (444m)	3%

In the LTP2 period monies were focussed on the primary road network in order to improve the condition of these routes as the City was significantly below average in terms of primary road network condition. While progress has been made against these indicators a recent survey[42] indicated that there is still dissatisfaction with highway and footway condition.

Whilst the main highways are kept to a relatively good standard there remain concerns over surface condition of both these routes and local streets and footways. The situation has been exacerbated by two very cold winters with widespread ice and snow. These conditions prey on locations where the surface is cracked or damaged rapidly increasing deterioration.

The maintenance allocation for 2011/12 is just over £2 million. This amount when considered against the approximate surface area of the transport asset amounts to XXp per square meter of asset. This value does not include other transport assets for example, signs, raised bus stops, street furniture and signals.

Clearly this level of funding when considered against the scale of the transport asset means that difficult choices need to be made when prioritising maintenance investment. The TAMP explores this in more detail however factors which would affect the priority of investment will include: safety of the existing condition, the importance of the asset, predicted life-san of the asset and so on.

[42] The NHT Survey conducted annually across all the highway authorities in the country

In terms of the LTPs influence over asset maintenance core network locations would be a priority to include footways and associated cycle routes, main gateways for visitors such as the railway station and priority locations for commerce such as the City Centre.

In terms of associated carriageway drainage, this is an area of increasing concern for the maintenance group given the potential flood risk issues in some locations within the city (the city is one of the top 50 flood risk areas in the country). This is an area of maintenance that has traditionally operated on a ‘time’ rather than ‘needs’ based assessment. At one time it was possible to check and de-silt every gully in the City over the course of a year. Nobody knows at which point this became unfeasible, but recently it became clear that this regime was not actually achievable and that de-silting should become ‘needs’ based maintenance. This is primarily because there are areas of the city which are more vulnerable to flooding; this risk would be increased by silt and blockages in the drainage system. These areas would therefore benefit from a more rigorous regime that in less flood prone locations. The re-organisation of how this service is operated is not likely to result in any reduction in workload, instead flood prone areas may be de-silted more regularly so for example some areas may be visited four times a year where less flood prone locations may be visited once every 18 months.

Flooding causes significant disruption and the frequency of periods of heavy rainfall over short timescales are expected to increase as a result of wider climate change. The LTP therefore fully supports the need to develop maintenance regimes that better reflect the potential future issues and tackle areas which are likely to be most susceptible.

Road markings are a critical element of transport delivery efficiency and safety, though the seasoned traveller probably pays little attention to role they play in day to travel. It is worthwhile imagining what your journey home would be like if there were no road markings anywhere. Stop lines may be overrun, lane discipline would fall and the risk of accidents would increase dramatically. However, while safety remains the overriding force behind the provision of road markings in this LTP period they are also likely to be of increasing importance in relation to better traffic management to make best use of the existing network.

There are a myriad of tiny examples of where road markings make a difference to road efficiency, but most classic examples relate to parking enforcement. Parking is a critical issue within the city as it is both an issue of convenience (people want to park directly outside their home or shops) but also can have a highly detrimental effect on traffic flow and journey time reliability if not managed. All cities and towns utilise double yellow lines and no waiting restrictions to discourage and ban parking in areas which are inappropriate or unsafe (for example close to school entrances). However there

are cases around the city where the road markings have eroded and/or are incorrectly positioned making it impossible to enforce parking rules intended to help and protect local people. Unfortunately such occurrences in combination with the difficulties of providing enforcement everywhere can lead to a culture of inconsiderate/unsafe parking ("everybody else is doing it"). It then requires greater enforcement to break this culture and change behaviour, this cannot be achieved where signs/lines etc are not maintained.

Street cleansing is not a specific issue for the LTP but it does deserve a mention. The City council expends a good deal of time and resource in the removal of 'fly-tipped' rubbish. In the past year alone there were over 7,900 complaints about this subject. Some areas of the city have experienced a sharp increase in fly tipping complaints and a hypothesis currently being considered is that in some cases this has come about as a result of traffic calming measures. Some people believe that the traffic calming which has been introduced has made it much more difficult to collect refuse and as a result collections are not being undertaken often enough/reliably. It is suggested that this has led to increased complaints about rubbish. This hypothesis has not been confirmed but highlights that any street proposals should consider access for service vehicles.
The cleanliness of streets is also a big part of 'place' and has implications for improving the quality of life of local people and breaking the negative image of the city to outsiders. The place outside the front door also has potential implications on our ability to influence travel choices, after all no matter how great the buses are, if the walk to the stop is littered with rubbish, broken glass and full of holes then people will be discouraged from changing modes.

Footways, Cycleways, Greenways and Hard Verges

The footways, cycleways alleyways and bridleways within the city account for nearly 2000 km (1242m) of route. The footways in particular, are used by everybody, from the regular car driver to public transport users and walkers/cyclists alike. It is very easy to forget just how important footways are in a world obsessed with congestion, climate change and safety.

Unfortunately falling maintenance funding and priorities that pull very much towards principle routes have meant the humble footpaths in residential areas have been neglected. This has lead to increasing concerns regarding the quality of surfaces with nearly 1000 complaints over the course of last year. As with street cleanliness the quality of the footway can link to whether people can be encouraged to take the opportunity to make more short distance trips on foot or switch to public transport. In addition the elderly can find uneven surfaces problematic and may be discouraged from taking short trips to the shops on foot over fears of trips and falls.

In terms of the greenway/cycleway network within the city the surface condition is generally good though there are issues of cleanliness on the greenway. There is also growing concern regarding the number of barriers being put onto these routes many of which limit access for those with disabilities.

Highway Green Spaces

As described in ***table 18*** this consists of grassed verges, trees, hedges, flower and shrub beds, grassed areas in central reservations and roundabouts.

A regular source of complaints during the summer months is the need to trim back hedges/shrubs, last year there were nearly 2000 complaints related to this kind of maintenance. Once again, this 'softer' style intervention has a lot do with appearance and it is difficult to gauge how much it contributes to peoples choices to walk cycle etc.

Lighting

Stoke-on-Trent has had a Private Finance Initiative (PFI) related to lighting provision since 2003. The PFI has been largely successful in terms of renewing and improving the cities lighting stock and uses more modern approaches to communicate with the public, for example; the lighting PFI has its own website where people can view the works going on through the city and report any lighting issues using a map based system. It is expected that this PFI with Scottish and Southern Energy will continue to maintain the lights until 2028.

Traffic Signals

The City has introduced a large number of signals to the asset base within the city over the past 10 years. Since 2003 these signals have been linked to a central 'Traffic Management System' at the Civic Centre. Traffic Management Systems consist of CCTV and remote monitoring (facilitated by sensors in the road) which is then used within the Centre to adjust signal timings to reflect traffic conditions. Whilst systems can be set to automatically adjust very often, for optimal performance, these centres are manned by trained traffic engineers.

Table 20 Overview of Traffic Signal Asset (NEED TOTAL NO OF SIGANL HEADS ETC

Asset	**No**
Signalised Junctions – Highway junctions which may have combined pedestrian phases.	58

Pelican Crossings – Traffic signalled crossing which is activated by pressing a button – the green man is then displayed on the opposite signal for pedestrians	116
Puffin Crossings - Puffin crossings are operated by a demand button (just like pelicans) but instead of seeing the red or green man displayed on the opposite side of the road, the display appears on the demand box next to you on the pavement.	62
Toucan Crossings - Toucan crossings are normally 4 metres wide, a “green bicycle" is displayed next to the "green man" when cyclists and pedestrians are permitted to cross. In addition, it is different from a pelican crossing because, before the lights for vehicles go back to green, a steady red and amber are displayed instead of the flashing amber seen on pelican crossings.	29
VMS Signs	39

Good traffic management through use of optimal signal plans can have a positive impact on traffic conditions and, if properly managed can reduce the need for new infrastructure. In the first LTP period 2000/01-05/06 significant sums were spent creating a sophisticated management centre that would be more in keeping with the complexities of traffic control in the City. Over the years, the commitment to the centre has waned, partly as a result staffing losses and declining revenue funding. Today the centre is largely unstaffed with very limited scope for any day to day management, instead most of the signals in the city run on pre-set plans and the remaining staff work to improve these on a case by case basis.

This situation is of concern when considering the main theme for this LTP period which is likely to be centred on better management of existing assets with much smaller renewal or major scheme funding. Equipment related to the management of signals continues to be maintained (incurring costs) on the ground but without any meaningful realisation of the potential benefits. During the LTP3 period it is hoped that a more meaningful commitment to managing the road network can be made through more appropriate levels of staffing for the Management Centre.

In addition to junction signals there has also been a steady increase in the deployment of controlled crossings throughout the city (there are now 207 in total). These crossings have become more popular over recent years largely because of the perceived benefits of controlled crossing points for vulnerable pedestrians. However controlled crossing points do have a number of disbenefits; for

example the length of time pedestrians may have to wait, the period which vehicles are forced to stop, the positioning may not be as desired due to engineering issues, cost of introduction and forward maintenance.

There is a very real need to start to review the introduction of controlled crossings in some locations and begin returning to consideration of other methods of allowing pedestrian movements such as using zebra crossings and central refuges. Examples given elsewhere in this document have highlighted the proliferation of signals and signalled crossings along some sections of route and it may be that going forward some under-utilised crossing points are removed or are altered to create a better balance between the pedestrian need and the requirement to move traffic efficiently.

In addition we would also like to introduce more toucan crossings which have cameras which monitor movement on the crossing and only switch to amber then green once the crossing is clear. These crossings are more suitable for elderly pedestrians who often worry that they cannot cross within the limited time on fixed timing crossings.

Signs, Barriers and Street Furniture

This asset group contains a vast array of items which represent a huge asset liability across the city. There is increasing concern amongst transport planners (and within Central Government) that the countries streets have witnessed something of an explosion in street furniture, signs, bollards, barriers, guardrails and benches over the past 20 years, ultimately leading to streets which appear cluttered and messy.

The increases in signage on some routes is said to have increased driver confusion in some cities whilst various groups representing the disabled have highlighted that the increases in street furniture and in footway signs and posts have made it much more difficult for those with disabilities to navigate town and city centres. Most recently the Minister for Transport has suggested that Local Highway Authorities should exercise more restraint in the application of signing guidance to reduce street clutter. Whilst this may be achievable in some locations it is worthwhile remembering that may signs are required in order to make certain traffic restrictions enforceable – for example bus lanes.

The City council will certainly pursue less cluttered town centre environments going forward and future master planning exercises will be expected to produce schemes which do not increase clutter in pedestrian thoroughfares. Transport scheme designers will also consider

whether existing street furniture should be retained or whether removal is an option when looking at new traffic or highway schemes.

A current topic of much debate regarding street clutter is the necessity of guard railing in many urban locations. London is currently going through a process of de-cluttering some of its smaller high streets in order to promote great ease of movement for pedestrians. The debate regarding whether this has compromised safety is still raging, but both sides agree that pedestrian guard railing has become somewhat over-used. In considering this, it may be possible for the City Councils safety and highway teams to review the placement of some guard railing located within the city to reduce the maintenance burden, create pedestrian freedom and improve the appearance of the city.

In addition to the aesthetic and safety considerations around street furniture it is also worthwhile considering the affordability of these items given the maintenance budgets typically allocated. Poorly maintained or damaged street furniture can present an appearance of a degraded public environment where monies do not exist to continual monitor and review.

Bridges and Other Structures

The effective inspection and maintenance of bridges and other structures is a critical responsibility of the City Council as a Highway Authority. The City Council is directly responsible for the maintenance of 115 highway bridges, principal culverts, subways and footbridges under Section 41 of the Highways Act 1980, together with 20 PROW footbridges.

The estimated value of this stock lies at £100m for bridges and £10m for retaining walls, these structures are of essential importance to the smooth running of the transport network forming key connections between housing and commercial areas. The number of structures is also a partial function of the development of the transport network; for example the development of railway lines and canals in addition to natural features associated with rivers and topography.

In February 2000 the County Surveyors Society (now known as the 'Association of Directors of Environment, Economy, Planning and Transport') provided guidance on the levels spending required to maintain bridge stock. In this document they outlined that annual structural maintenance funding should be provided at a level of around 1% of the total value of the stock (plus 0.9% for retaining wall stock) in order that the assets did not deteriorate. Funding for bridge maintenance within the City currently lies at £340,000 per annum or 0.003% of the value of the asset. Whilst it is highly unlikely that funding to the levels recommended by the report are achievable (at around £1

million per annum) a balance needs to be struck so that the assets held by the city do not deteriorate to such a degree that they become a large future liability.

This section is therefore concerned with providing a complete picture of the condition of the current bridge asset group; the following paragraphs provide details of all the bridges which require either maintenance or strengthening works within the LTP strategy period.

The assessment also includes bridges not owned by the City as it is also responsible for ensuring that private owners of highway structures carry out their duties and responsibilities to maintain their structures for the safety of highway users. For railway and canal bridges these duties are laid down in the Transport Act 1968.

Structure Overview and Existing Policy

Table 21 shows numbers of highway structures relative to the road hierarchy. This demonstrates that there are more structures on minor roads than on principal roads.

Table 21 Structures by Road Type

	A	B	C & D	TOTAL	PROW
Bridge Owner:					
City Council	45	7	63	115	20
Network Rail	3	1	3	7	4
Network Rail bridges leased to MCR*	3	0	1	4	2
British Waterways	0	0	6	6	8
Other private owners	0	0	3	3	6
Total highway structures	**51**	**8**	**76**	**135**	**40**
City Council minor structures:					
Small culverts	9	0	24	33	
Retaining walls	36	14	29	79	
Total minor structures	**45**	**14**	**53**	**112**	
Total highway structures	**96**	**22**	**129**	**247**	

The City Council's view is that the bridge stock should be maintained to a level to carry all vehicles permitted to use it under the Construction & Use Regulations 1986. The City Council has substantially completed its programme of assessment and strengthening of bridges to ensure, as far as possible, that the bridge stock on all routes is upgraded. Where strengthening has not been possible, mainly where the footway sections of bridges have been found to be substandard, interim measures have been introduced.

It is also the Council's view that its bridge stock should be "safe for use" and "fit for purpose". The reduced levels of funding for structural maintenance in the last three years have led to an increase in the backlog of such work, which will be addressed through a regular programme of maintenance. Bridge Condition Indicators have now been calculated for the years 2006/07 to 2008/09, and they are being prepared for 2009/10. The results of this exercise demonstrate a small reduction in the overall condition of the total bridge stock during this period, with significant reductions in condition for a few individual bridges.

The maintenance approach to bridges is formed around several key objectives:

- Support the road hierarchy, by ensuring that bridges on routes required to carry the highest volumes of traffic and HGV's are of appropriate strength. Where environmentally desirable and cost-effective remove interim measures by strengthening.
- Support the needs identified through consultation processes with local business, freight and bus operators and with the residential and travelling public.
- Fully maintain and preserve the economic value of bridges and ensure their full and safe use by all vehicular traffic permitted under the Construction and Use Regulations, by carrying out structural maintenance works in accordance with lifecycle planning principles.
- Ensure co-operative working with private owners of bridges and neighbouring authorities in programming works to minimise disruption and disturbance to the public.
- Avoid diversionary routes through environmentally sensitive areas by strengthening bridges on lower classification routes.
- Preserve and improve the environmental impact created by the appearance of bridges.
- Fully maintain and improve bridges for safe use by pedestrians, cyclists and public transport, to support the council's policy with respect to encouraging sustainable transport.

The policies outlined above in relation to bridge structures fit well with policies elsewhere in the LTP strategy and as a result will be retained going forward.

Current Status of Structures and Forward Works

The City Council has substantially completed its programme of assessment and strengthening of bridges to ensure, as far as possible, that the bridge stock on all routes is upgraded. Where strengthening has not been possible, mainly where the footway sections of bridges only have been found to be understrength, interim measures have been introduced.

The bridge strengthening programme included in LTP1 and LTP2 resulted in the reconstruction, strengthening or implementation of interim measures for almost all bridges identified as weak. The aim in LTP3 is to complete any outstanding strengthening works identified to highway bridges, and to enable interim measures to be removed through strengthening where economically and structurally feasible and environmentally desirable. Interim measure strengthening will be carried out in conjunction with programmed highway improvements where appropriate. Last year the allocation for bridge assessment and strengthening totalled £200,000. This was spent on a scheme to replace a collapsing culvert under the A5009 Baddeley Green Lane, together with the completion of the design for a scheme to strengthen weak service bays on College Road Canal Bridge and preliminary design work for a scheme to strengthen the weak central bay of the bridge deck of Etruria Road Fowlea Brook Bridge. In addition, a scheme to strengthen weak service bays under the A34 Stone Road Longton Brook Bridge was completed from a Capital De-Trunking Grant.

The following pages provide details of the bridge asset group status at the time of writing this LTP. There are two main divisions within this analysis: bridges which have been identified as requiring strengthening/structural review and bridges that require structural maintenance work. The tables outline the condition and works required to the total City owned bridge stock and details of privately owned bridges upon which city routes are carried. The tables in this chapter therefore provide an overview of all the assets which require future works within the LTP strategy period. For details of works which will be completed over the next 3 years and beyond the reader is directed to the implementation plan. The overview of the total bridge asset indicates that there is likely to be a rising backlog of worsening bridges if funding continues to be carried forward at the rates experienced in the past 5 years.

This deterioration will be monitored by central government as part of their scrutiny of asset management plans – it may be that Authorities which allow asset values to fall will be penalised. Tables 22 and 25 also provide details of the value of the bridge asset, this value is based on a replacement cost calculated in accordance with guidance produced by the London Bridges Engineering Group in 2008. These values are likely to be updated over the next 12 months following guidance issued on asset valuation as part of the ‘Highways Asset Management Plan’.

Bridges that Require Strengthening or Structural Review

Of the total bridge stock, 70 bridges owned by the City Council and 18 privately owned bridges required assessment. The assessments of all of the City Council structures are now complete. Appropriate interim measures, in accordance with BD 79/06[43], have been applied to some bridges which failed their initial assessment, particularly with respect to service bay/ footway failures. In one case lane restrictions have been introduced. The five-year implementation programme includes for the strengthening of two of these bridges. For bridges not included in the five-year programme the interim measures will remain in place and monitoring will be carried out until the bridges are strengthened. ***Table 22*** gives details of those bridges which failed their assessment and which have not been strengthened to date. Each bridge has an estimate cost associated with works included and the total cost of works to both City and Privately owned bridges is estimated at £7m.

[43] Design Standard for Bridges

Table 22 City Owned Bridges still to be strengthened plus structural review programme for bridges narrowly passing assessment or subject to changed condition or loading.

Bridge	Assessment Result	Actions	Condition	HGV Flows	Cost of Strengthening £k	Asset Value £k
City Owned Bridges:						
A5008 Bucknall Road Canal	0TG footways	Protected 1995	Good	High	**500**	**1,450**
A53 Etruria Road Fowlea Brook	7.5TG centre slab	Protected 1998	Good	High	**50**	**1,250**
College Road Canal Bridge	3TG footways	Protected 1998	Fair	Medium	**450**	**1,100**
Botteslow Street Canal Bridge	7.5TG beam A4	Protected 1999	Poor	Medium	**250**	**1,100**
Brook St Fowlea Brook Culvert	7.5TG top slab	None	Good	Low	**150**	**600**
Eastwood Road Canal Bridge	7.5TG main beams	Single lane 1999	Fair/Poor	Low	**250**	**1,000**
Ridgway Road Canal Bridge	3TG footways	Protected 1998	Fair	Low	**450**	**850**
Smithpool Road Rail Bridge	3TG footways	Protected 1999	Good	Low	**500**	**1,700**
Total Cost of City Bridges:					**2,600 £2.6m**	**9,050 £9.05m**

Table 23 **Privately Owned Bridges** still to be strengthened plus structural review programme for bridges narrowly passing assessment or subject to changed condition or loading. (note: valuations of these structures has not been undertaken)

Bridge	Assessment Result	Actions	Condition	HGV Flows	Cost £k
Privately Owned Bridges:					
A53 Leek New Road Rail Bridge	Just 40TG as propped	Propped 1969	Poor	High	**600**
A5271 Porthill Road Rail Bridge	<3TG footways	Protected 2000	Good	High	**350**
C619 Birches Head Road Canal	7.5TG brick arch	7.5TG WRO	Fair/Poor	Low	**400**
C613 Millrise Road Canal Bridge	38TG deck beams	None	Fair	Medium	**500**
A53 Etruria Road Rail Bridge	7.5TG footways	Protected 2001	Good	High	**750**
B5045 Shelton New Road Rail Bridge	7.5TG footways	Protected 2002	Good	Medium/High	**750**
C664 Weston Coyney Road Rail	7.5TG footways	Protected 2001	Good	Medium	**350**
Redhills Road Canal Bridge	3TG brick arch	3TG WRO	Fair	Low	**300**
Recreation Road Rail Bridge	7.5TG deck beams	7.5TG WRO	Fair	Low	**400**
Total Cost of Private Bridges:					**4,400 £4.4m**

Bridges where interim measures have been introduced to protect substandard service bays or weak bridges with weight or lane restrictions are monitored in accordance with the requirements of BD79/06. A regime of structural reviews will be introduced in accordance with BD101 when this is published. This regime will be applied to bridges subject to monitoring and to other bridges where the assessed capacity was marginally above the level which would result in the bridge being classed

as substandard. Private owners will be involved in discussions and decision-making where appropriate.

Table 24 Structural Reviews by Road Type, City and Privately Owned Bridges

Structural reviews in five-year programme:	A Roads	B Roads	C & D Roads	Totals	
City Bridges to be re-assessed	3	0	10	**13**	
Private Bridges to be re-assessed	1	0	5	**6**	
	4	0	15	**19**	

Bridges that Require Structural Maintenance

The need for bridge structural maintenance is identified through regular condition inspections of bridges and other highway structures, together with reports of defects and damage arising from road traffic accidents, vandalism, flooding or other causes.

The City Council will prioritise bridge structural maintenance in accordance with the overall objectives of the bridge strategy. Additionally, consideration will be given to the nature and severity of defects, and the risks to public safety involved in delaying repairs. Where the programme for strengthening bridges is unaffordable, LTP bridge allocations will be directed to increasing the level of spending on bridge structural maintenance.

In addition to general structural maintenance, certain specific items of work have been identified as requiring urgent attention. These including: -

- Maintenance painting of steel bridges and parapets to prevent corrosion and ensure durability. As well as ensuring structural reliability, this will avoid rusty neglected structures from detracting from the surrounding built and natural environments;
- Repairing defective concrete in bridge decks and other elements of structures;
- Upgrading of bridge parapets to current standards;
- Replacement of defective bridge waterproofing to prevent deterioration of both concrete and steel bridges;
- Replacement of carriageway expansion joints to maintain a smooth and safe surface for all traffic and to prevent deterioration caused by ingress of surface water;
- Repairs to retaining walls of all types, highway embankments and cutting slopes; and,

- Upgrading of footbridges on public rights of way.

Table 25 gives details of those City Council-owned bridges which have currently been identified requiring structural maintenance works.

Table 25 Bridges identified requiring structural maintenance works.

Bridge	**Major Defect Type**	**Parapet Defects**	**Condition**	**Traffic Flows**	**Structural Maint' £k**	**Asset Value £k**
City Owned Bridges:						
A5008 Bucknall Road Rail Bridge	Concrete defects	Parapet upgrade	$BSCI_{Crit}$ 58	High	**230**	**2,300**
C616 Norton Lane Wall/Slope	Instability	N/A	Poor	Medium	**170**	**200**
A52 Bucknall Road River Trent Bridge	Joint failure	Parapet upgrade	$BSCI_{Crit}$ 55	High	**70**	**950**
A53 Etruria Road Flyover	Maintenance painting	N/A	Fair	High	**150**	**5,100**
B5047 Town Road Bridge over A50 Potteries Way	Joint failure	N/A	Poor	High	**100**	**2,200**
B5051 Ford Green Road Brook Bridge	Parapets	Parapet upgrade	Fair	Medium	**50**	**700**
C657 New Inn Lane Brook Bridge	Parapets	Parapet upgrade	Fair	Medium	**50**	**900**
Cromer Road Canal Bridge	Parapets	Parapet upgrade	Fair	Low	**50**	**1,350**
Ravensdale Rail Bridge	Concrete defects	N/A	Fair/Poor	Low	**350**	**1,050**
B5045 Shelton New Road T&M Canal Bridge	Waterproofing failure	N/A	$BSCI_{Crit}$ 58	High	**150**	**650**
Westonfields Drive/Thirlmere Grove Footbridges	Brickwork defects	N/A	Fair	Low	**50**	**500**
Bridge (cont)	**Major Defect Type**	**Parapet Defects**	**Condition**	**Traffic Flows**	**Structural Maint'**	**Asset Value £k**

					£k	
A5035 Longton Road Canal Bridge	Waterproofing failure	N/A	Fair	High	**250**	**2,550**
Glebe Court Canal Bridge	Waterproofing failure	N/A	Fair	Low	**50**	**600**
Whieldon Road Canal Bridge	Wing wall rotation	N/A	Fair	Medium	**80**	**3,400**
Bainbridge Road Brook Bridge	Wing wall rotation	N/A	Fair	Low	**100**	**350**
Private Bridges to be acquired by City Council:						
Church Road Disused Mineral Line Bridge	Low headroom impact damage	Non-standard	Poor	Medium	**200**	**N/A**
A5035 Trentham Road Disused Mineral Bridge	Low headroom impact damage	Non-standard	Poor	High	**300**	**N/A**
Total Cost of Works:					**2,400 £2.4m**	**22,800 £22.8m**

The above tables illustrate the scale of the maintenance and strengthening challenge facing the City over the 15 year strategy horizon. In each implementation year decisions will be made about which bridges are to be prioritised.

Summary and Conclusions

This chapter has considered that role of maintenance as part of the forward strategy for LTP3. Most Councils in the UK are expecting the next 5 years of their LTP to be focussed around making best use of the existing network in the absence of any additional funding to renew or improve existing networks or services. This places an additional emphasis on maintenance funding and delivery as the main route to improving network conditions. In terms of this LTP period the fundamental issues are:

- **Utilising the existing Traffic Management System to greater effect**
- **Focussing some maintenance monies on the core network – but otherwise expanding maintenance regime to improve neighbourhood streets**

- **Planned maintenance to be carried out based on needs assessments rather than fixed cycle regimes**
- **Consider de-cluttering to improve the appearance of local streets, reduce potential hazards for those with disabilities and reduce maintenance burden**
- **Reform thinking relating to the installation of pedestrian crossings to ensure that the crossing is suitable and is not over specified for the particular needs of residents and road users.**
- **Improve cleaning and litter regimes in neighbourhood locations and on sections of greenway commonly used by schoolchildren and commuters**
- **Consider increasing forward spending on Bridge Structures to improve progress on maintenance and strengthening backlog.**

Chapter 9 - Proposed Transport Investment

Chapter 9 - Proposed Transport Investment

In this LTP we sought to provide a comprehensive assessment of the City of Stoke-on-Trent in relation to wider challenges and goals, transport issues (how these fit within these goals) and the existing transport network and associated impact on the City.

This final chapter seeks to translate this information into action over the LTP strategy period. In doing this we should not be prescriptive, recognising that much can change over a 15 year period, but rather set out a framework under which investment can be targeted and managed to produce desired outcomes.

Chapter X discussed the wider goals and policies which transport investment should consider. This Chapter will link these policies to proposed outcomes and then to potential transport improvements which work towards both packages and outcomes.

How will we do it?

In this section the proposed methods of delivering the LTP are discussed, including the identification of areas where we will need to work with partners outside of transport to deliver improvements. For each policy we have identified a number of key actions which will demonstrate how we will do it. These methods also link to the types of schemes we will introduce which are discussed in the section 'What will we do?', while the section following on from this discusses 'Why will we do it?'. The first key goal relates to economy:

Economy; improving the local economy through increasing productivity for existing businesses and encouraging new investment by making the area more attractive;

How will we do it – Economy, Policy 1 - Supporting the Core Strategy

- Providing clear guidance to developers in relation to improving accessibility and reducing private car impacts through travel planning;
- Investing some LTP monies to improve access to potential developments where this represents good use of LTP funds;
- Through the delivery of transport improvements which reduce congestion in priority locations and provide transport choice for those businesses and residents in the city;

- Through focussing on the areas of development that are prioritised within the strategy, namely the inner urban core and major towns;

How will we do it – Economy, Policy 2 - Supporting Existing Businesses

- Through introducing schemes which will stabilise or reduce congestion on priority routes;
- Through reducing network unreliability by managing demand and working with partners to reduce disruption of both major events and accidents;
- Through improving average journey speeds on core network routes, particularly for buses to improve employee accessibility to enable businesses to get staff from a wider area;
- Through offering advice to businesses in relation to local travel. This may include information on the benefits of sustainable travel and how to develop a simple travel plan.

How will we do it – Economy, Policy 3 – Encouraging Educational Achievement*

- Through continually monitoring and improving accessibility to higher education; where possible we will with local transport operators act to improve accessibility and/or reduce costs of transport for those seeking higher education;
- We will also work with the Colleges and Universities to identify any particular transport barriers and remove them;
- We will also work with colleges and universities to encourage students to consider using other modes, for example, cycling to access education.

*For policies related to schools please look under the health policies, this policy seeks to tackle the low levels of post-16 or higher level qualifications in the City.

How will we do it – Economy, Policy 4 Increasing the labour pool and widening the job search area.

- Through the delivery of transport improvements which reduce congestion in priority locations and provide transport choice for those businesses and residents in the city;
- Through focussing on the areas of development that are prioritised within the strategy, namely the inner urban core and major towns;
- Through introducing schemes which will stabilise or reduce congestion on priority routes;
- Through reducing network unreliability by managing demand and working with partners to reduce disruption of both major events and accidents;
- Through improving average journey speeds on core network routes, particularly for buses to improve employee accessibility to enable businesses to get staff from a wider area;

- Through working with local jobcentres and recruitment agencies to improve the travel information available to those seeking work and to better understand local transport barriers;
- Through reducing the time associated with interchanges in the City, this will be heavily reliant on co-operation from bus companies.
- Through monitoring accessibility to key employment locations and acting to improve accessibility of these locations to key housing areas, particularly by sustainable modes such as bus and cycling;
- In doing this we will also give greater consideration to areas of high unemployment and deprivation;
- Through working with transport operators to improve journey speeds within the conurbation and supply services to areas with poor access;
- Working with developers and local planners to consider wider accessibility to sites in the early phases of discussion and identify cost effective approaches to improving site accessibility;
- To work with train operators and Network Rail to enhance access to wider employment opportunities.

How will we do it – Economy, Policy 5 - Improving Gateways

- Through delivering transport schemes which consider the surrounding environment and enhance it in a cost effective manner e.g. through de-cluttering and/or tree planting;
- Through working with maintenance groups to improve the maintenance regimes in those areas whilst also designing schemes which are practical to care for;
- Through improvements to the legibility of the city at key locations such as the train station and canal network (see also supporting visitor economy);

How will we do it – Economy, Policy 6 – Supporting the Visitor Economy

- Transport staff will work more closely with the tourism team to provide tailored travel information via the tourism websites;
- We will also work to improve signing from the canal network to key locations;
- We will work with the local train operators to improve transport information for travellers to the city at the train stations;
- We will work to develop information and potentially service improvements which link together the heritage sites within the City focussing on ‘the Potteries’ unique selling point.

The above text outlines how we will work towards the achievement of the economy goal against each of the policies. The next key goal relates to environment:

- **Environment; improving the local environment through reducing the impact of traffic (air and noise) and moving towards more sustainable transport technology and modes, coupled with improving the appearance of local areas; and**

How will we do it – Environment, Policy 1 – Improving Air Quality

- Working closely with the monitoring team we will identify locations where transport alterations can feasibly reduce air pollution from vehicles.
- This policy will also be influenced by our commitments to reduce congestion through encouraging the use of more sustainable modes.
- We will also seek to improve 'traffic free flow' and provide more innovative ways of controlling traffic volumes.
- Where road safety schemes are implemented we will also seek to lower speeds through changes to horizontal alignments instead of vertical (speed humps).
- Where possible we will try to design schemes that set road traffic back from office or residential properties recognising that air pollutants fall away quickly over distance.
- We will develop a forward strategy for the inclusion of electric vehicle technology on key sites with local planners

How will we do it – Environment, Policy 2 – Reduce reliance on oil based transport

- We will work with planners and developers to 'future proof' new sites for the mass take up of electric power vehicles;
- We will encourage use of sustainable modes (through approaches outlined in other policies);
- We will work with transport operators and within the council to improve the efficiency of transport fleets; and
- We will develop a forward strategy for the inclusion of electric vehicle technology on key sites with local planners.

How will we do it – Environment, Policy 3 – Reduce noise impacts of transport

- Discuss with monitoring agents locations which have growing noise problems and consider remedial action where cost effective;
- Consider noise level in the choice of materials used for highways;

- Consider planting a screening in locations where we undertake transport infrastructure investment and implement improvements where it is cost effective to do so;
- Work with planners and developers to reduce the noise impact of new developments within and outside the site;
- Locate any new routes to minimise the impact of noise to local residents; and
- We will develop a forward strategy for the inclusion of electric vehicle technology on key sites with local planners.

How will we do it – Environment, Policy 4 – Place making

This has strong ties to other policies related to city centre and Gateways but is more closely associated with improving the towns and high streets which are used by local residents. These smaller locations very often experience problems of conflicting use, namely the movement of people/vehicles through and the need for people walk to shops/services and enjoy the place. We will adopt the following approaches to place making:

- Through the delivery of LTP schemes which provide better access to local centres for all modes and which undertake sensible measures to improve place function whilst also considering: parking, refuse collection, loading/unloading, emergency access and ease of maintenance;
- Through providing LTP investment which will help to refresh local streets; and
- Through ensuring that all physical LTP works consider 'place' functions in design, following a hierarchy that considers pedestrian needs first, cyclists and public transport second and car drivers third, recognising that there are likely to be compromises between users in some locations.

How will we do it – Environment, Policy 5 – Reduce Carbon Emissions

- Through encouraging investment in cleaner more efficient vehicles;
- Through planning for the mass adoption of electric vehicles;
- Through continuing to encourage the use of sustainable modes with investment in: cycling, walking and bus travel; and
- Using a combination of approaches which may include: physical works, travel planning and use of technology these will be targeted on the core network and aligned against congestion hotspots.

The above text outlines how we will work towards the achievement of the environment goal against each of the policies. The next key goal relates to health:

- **Health; caring for local health through improving access to transport, transport safety and encouraging walking and cycling.**

How will we do it – Health, Policy 1 – Continue to reduce the risk of death or serious injury on the transport network.

- Through continuing to work closely with our partners at Staffordshire County, Staffordshire Police and road safety groups to deliver co-ordinated approaches to road safety;
- Through the consideration of road safety in all physical LTP works;
- Through our work with schools delivering bikeability training and wider travel planning advice; including maps to show safe routes;
- Through the enforcement of parking restrictions designed to improve safety;
- Through continuous monitoring of recorded injuries.

How will we do it – Health, Policy 2 – Tackle high numbers of people in ill health

- Highly linked to other policies for example, improving place, encouraging use of sustainable modes, particularly walking and cycling and improving accessibility;
- This task however, has an additional element which is close working with the local health authority and consortium of general practitioners to get more detailed information on areas of low health/physical activity and target these locations alongside health workers.

How will we do it – Health, Policy 3 – Encourage Use of Sustainable Modes

Combinations of the approaches discussed against other policies but particularly:

- Working with transport operators to speed up journey times and decrease unreliability;
- Greater promotion of existing assets which support sustainable travel for example, the cycling network;
- Increasing travel planning activity at large employers or high density employment locations in addition to continuing to work with schools to promote the benefits of sustainable travel on health and well being of both the individual and the city;
- We will also try to involve local communities in the day to day running of our key assets, for example, through encouraging local groups to report any problems with bus stops in their area and using cycling groups to monitor the condition of the local greenways;
- In keeping with our work on reducing CO_2 emissions we will also encourage transport operators to improve existing fleets, providing passengers with better quality travel; and

- In keeping with national policies around smart-ticketing we will encourage transport operators to introduce Smart-ticketing going forward, accepting that adoption of such technology is a decision for these businesses.

How will we do it – Health, Policy 4 – Reducing Obesity

- Strong links to the above policies, we will work with health authorities to target locations which have problems of obesity whilst also highlighting the dangers of obesity in our travel planning work;
- We will work to provide information on journey times by walking, cycling, bus and rail to encourage choice and highlight the journey times by the modes;
- In keeping with other policies we will also work to improve the relative speed of bus journeys through the city and also tackle unreliability;
- Promote the development of local community facilities with local planners to increase access to key services on foot or by bike.

How will we do it – Health, Policy 5 – Local Facilities

Through working closely with planners to provide thorough guidance to developers on accessibility mapping and how to improve access using simple approaches for example the position of walking routes and the location of accesses within community facilities. Going forward each proposed development should consider accessibility by all modes to key services such as:

- Local GP;
- Local shops;
- Schools;
- Council services.

Designs should seek to promote access by sustainable modes as much as possible through placement of walking/cycle routes and permeability through sites.

How will we do it – Health, Policy 6 – Improve access to healthcare (University Hospital).

The emphasis for the short to medium term will be supporting the changes to healthcare provision as part of the University Hospital rebuild. Consultation identified a widespread agreement that

accessing the hospital was difficult for those without a car. In addition, the scale of the site in one location may cause wider issues related to congestion and parking.

- Working closely with the hospital to improve information and encourage use of sustainable modes by employees – particularly through travel planning;
- Work with transport operators to improve access to the hospital site focussing on areas within the city which have a journey time of over 30 minutes;
- Providing dedicated travel information for those who need to travel to the hospital;
- Work with the hospital administration to identify opportunities to improve site access by all modes.

Why will we do it? What outcomes do we want to achieve

The LTP3 period seeks to promote a more defined set of outcomes and objectives for the city going forward. These outcomes need to work towards solving or reducing the existing problems of the City which centre around economy, environment and health. Table X to X provide details of the outcomes we want to achieve and how we will monitor performance through following the transport policies outlined above. The ‘what we will do’ follows on from this.

Challenge	Policies	Interventions	Outcomes	Performance Monitoring
Economy; improving the local economy through increasing productivity for existing businesses and encouraging new investment by making the area more attractive.	Policy 1 - Supporting Core Strategy policies to rejuvenate the area including improvements to housing and development of land for employment Policy 2 – Supporting existing businesses in maintaining and improving productivity Policy 3 - Encouraging Educational Attainment Policy 4 - Increasing the labour pool and widening the job search area Policy 5 - Attracting Inward Investment through improving the appearance of the City Centre and gateways. Policy 6 - Supporting the development of the visitor economy	See Table X	More reliable journey times for all modes Better journey times particularly for bus users Less network disruption during major events Successful delivery of Core Strategy proposals in line with planner expectations Attracting private sector investment in the inner urban core e.g. New business starts, business investment in property. Increasing tourist activity	Improvement in Average journey speeds on Core Network Improvement in journey speeds for buses on Core Network Improving satisfaction levels with the following NHT indicators: • Overall satisfaction with pavements and footpaths • Satisfaction with traffic management • Satisfaction with traffic levels and congestion • Satisfaction with condition of highways • Satisfaction with local bus services In keeping with wider monitoring the transport team will also monitor progress on : • Housing completions and starts against local targets • New commercial development • Sites in sustainable locations e.g. Core Network, City Centre/Town Centres

Challenge	Policies	Interventions	Outcomes	Performance Monitoring
Environment: improving the local environment through reducing the impact of traffic (air and noise) and moving towards more sustainable transport technology and modes, coupled with improving the appearance of local areas.	Policy 1 - Reduce Air Pollution Policy 2 - Reduce reliance on oil based transport; increase transport efficiency. Policy 3 - Reduce noise impacts of transport Policy 4 - Improve internal environment through 'place' schemes which manage traffic and enhance pedestrian environments Policy 5 - Reduce Carbon Emissions	See Table X	Reduced queues and unreliability in network at AQMA locations (on core network) Decreasing/stable carbon emissions from transport Increasing bus use Increases in pedestrian activity in city/town centres which will increase local business activity Better quality of life for local people—potentially reflected in increasing property prices and investment activity.	Improving air quality figures Increasing pedestrian footfall in city/ town centres Increasing numbers of peak hour cyclists on key routes Increasing bus patronage From NHT: • Satisfaction with Cycle routes and facilities • Satisfaction with bus services • Satisfaction with traffic levels and congestion Increasing business activity—from local economic monitoring

Challenge	Policies	Interventions	Outcomes	Performance Monitoring
Health; caring for local health through improving access to transport, transport safety and encouraging walking and cycling	Policy 1 – Continue to reduce the risk of death or serious injuries associated with transport Policy 2 - Tackle high numbers of people in ill health/ incapacity claimants (now known as Employment and Support Allowance (ESA)) Policy 3 – Encourage use of sustainable modes Policy 4 – Reducing obesity in the local population Policy 5 – Promote the development of local Community Facilities Policy 6 – Improve access to healthcare (University Hospital)	See Table X	Safer Roads for all users More of the population in better health and able to work Reduced obesity among both adults and children—leading to reduced health costs e.g. NHS costs, and business costs due to sick leave. Better planned developments which are more sustainable—causing increase in property values—hence increase in rates Reduce the impact of hospital rationalisation on surrounding streets Better quality of life for all residents	Stable or reducing accident figures Improvements in the health of the population particularly against health indicators related to obesity. Increase in the numbers of walkers and cyclists within the main City and Towns Increase the number of children walking and cycling to local school Increases in property values (available from Planning Department Economic Assessments) Reduce the number of people travelling as a main driver to the hospital site, increase in mode share for buses walking and cycling for workers and visitors

What will we do?

Tables X to X below provide details of the approaches to the policies we have defined. The proposed investment is by no means exhaustive or definitive and the types of schemes are likely to change over time to reflect wider changes in national policy and local problems. Nonetheless a group of proposals against each of the policies is made for each transport theme; these proposals consist of both management measures and potential infrastructure approaches. This broad outline will be supplemented on a three year basis by a more defined programme of works in the Implementation Plan.

The key themes under which we discuss 'what we will do' are:

- Public Transport
- Highways and Streets
- Influencing travel behaviour
- Management/Maintenance
- Walking and Cycling
- Safety
- Planning Integration

The ideas and potential schemes outlined in this final chapter are by no means exhaustive or definitive, they represent the collective thoughts of a number of internal stakeholders, public transport users and town centre managers.

Some concepts are expected to be piloted early in the LTP period, for example:

Corridor treatments: schemes to improve traffic flow on key corridors through reducing right turn movements, more rigorous parking enforcement, better bus stop placement and crossing point rationalisation

Neighbourhood Improvement: combinations of personal travel planning initiatives with works to improve local streets through maintenance/renewal of footways, greening and implementing bus stop community schemes, installation of power connections for potential use of mobile CCTV masts.

More details of these schemes and other initiatives to be taken forward in the first 5 years of the LTP can be found in the implementation plan.

What we will do - Economy							
Objective / Measure	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management / Maintenance	Walking / cycling	Safety	Planning Integration
Supporting Core Strategy policies to rejuvenate the area including improvements to housing and development of land for employment	Newer buses Improved legible bus services, greater presence of public transport on highway network. Network Reviews to reduce numbers of similar services. Concentration of buses close to major employment and housing	Produce analysis of development trigger points using new NSTMIV model assess pain/gain ratios Consider incorporation of electric charging points in central car parks and in new housing developments	Travel planning initiatives worked into early planning discussions Consider setting up travel plan delivery organisation using dev cont.	Improve the appearance of the area through maintenance of streets and highways both on and off the main highway. Focus improvements on inner urban core.	Accessibility analysis to be incorporated into development requirements during planning stage - ensure proposed routes are maintained to a good standard. Ensure any new routes are linked into the existing network	Ensure access arrangements are safe and that adequate provision is made for integration of new accesses into main streets and highway network	Consider future electric vehicle charging points in developer applications Work with planning to ensure concentration of development along bus routes. Ensure that developments are provided with adequate access - develop forward strategy for site access
Supporting existing businesses in maintaining and improving productivity	Improve bus speeds through the conurbation by selected bus priority Reduce boarding times through off bus ticketing or exact fare only. Smarter routes - combinations of improved parking facilities off main highways greater enforcement (particularly in peak hours)	Consider drainage etc in the development of schemes to reduce impacts of poor weather Reduce congestion/ improve reliability through better parking enforcement arrangements	Continue to work with businesses, schools, hospitals, universities to encourage mode shift for peak hour journeys	Continuous feedback on appropriate enforcement conditions, maintenance of signs and lines and checking. Consider drainage in the development of schemes to reduce impacts of extreme weather events. Focus regime on core network and inner urban core	Continue to work with businesses, schools, hospitals, universities to encourage mode shift for peak hour journeys Improve pedestrian and cycle accesses to main sites of employment.	Education, Training, Promotion of safety, including eco-driving, child pedestrian, cyclist, motorcycle training. Publicity schemes education in schools Enforcement measures, local safety schemes, safer routes to schools Reduce incidence of vehicle accident disruption to the highway network	Ensure new sites contribute to highway and public transport improvements in order that impacts are mitigated.

What we will do - Economy							
Objective / Measure	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management / Maintenance	Walking / cycling	Safety	Planning Integration
				neighbourhoods and streets			
Supporting the development of the visitor economy	Improve information at gateways Legible bus network, airport-rail link development, improve information for Passenger Transport at these locations Develop simple guide to bus services which considers local attractions place these in printable format on tourist info sites and Stoke website and rail station	Work with partners to improve signing along the canal at railway stations and within town centres	Ensure visit stoke website contains printable and up to date rail and bus timetables and maps	Improving appearance of the city and surrounding streets through maintenance of streets particularly footways.	Cycling Promotion: leisurely cycles, tourist focus cycle maps, cycle signing, use of heritage assets – for example heritage museums /factory shops and bottle kiln bike rides	CCTV at stops/interchanges to improve visitor safety CCTV at key tourist points - ensure adequate routes and lighting in tourist locations. Maintain car parking facilities that are most likely to be used by visitors to a high standard.	

What we will do - Economy							
Objective / Measure	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management / Maintenance	Walking / cycling	Safety	Planning Integration
Attracting Inward Investment through improving the appearance of the City Centre and gateways.	Improve main gateways: rail station and bus and coach station. Improve City Centre public realm, bus routes and hubs, University Boulevard Raise Passenger Transport profile at Station and entrance points - development of informal park and ride facilities on improved bus routes	Highways to be improved to reflect/manage demand Streets and key gateways to be the focus of intensive improvement		Increase maintenance regime in inner urban core	maintenance and improvement of walking and cycling routes	CCTV at stops/interchanges CCTV at key City Centre points - ensure adequate routes and lighting in City Centre locations. Maintain car parking facilities that are most likely to be used by visitors to a high standard.	
Increasing the labour pool and widening the job search area (improving accessibility of employment)	Faster public transport, consider introduction of semi-fast routes and develop local and regional rail. Improve local stations, plus bus and other partnership initiatives with Train Operating Companies, improve bus/rail interchange, BRT	Introduction of bus priority measures where affordable and deliverable - locations to be agreed with operators and passenger transport team	Work with job centres to improve awareness of potential bus routes and journey times to access locations provide timetable and bus maps in job centres, offer wheels to work/bike recycling	Consider improved maintenance regime/community partnerships to look after bus stops and cycle parking in employment/housing locations.	Bike recycling, Bike ability training	Identify most popular stops and encourage greater community participation in stop design/maintenance follow similar approaches as the Community Rail Partnership	Ensure all future developments consider accessibility to main employment sites. Transport planning teams to produce guidance for developers
Encouraging Educational Attainment	University Boulevard, school bus provision, student	Ensure that designs for educational institutions are put	Ensure travel plans produced for schools are of a high standard	Work with BSF programme to ensure street environment	Bike recycling schemes, continue bike ability training	Ensure that locations of bus stops and pick up points are in positions with good	

What we will do - Economy							
Objective / Measure	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management / Maintenance	Walking / cycling	Safety	Planning Integration
	smart offer, diploma smart initiative Ensure close working with BSF programme to renew appropriate bus locations and divert services Maintain school bus provision	forward with an emphasis on safety for pedestrians and cyclists, car drivers should be accommodated away from main entrances, while bus stops should be visible from main entrances/exits Ensure that parking lines and signs around schools are enforceable particularly for mobile camera technology, check renewal works carried out by contractors	working with planning partners. Monitor schools performance and provide additional support to new schools and academies	around schools is maintained to a good standard		sight lines. Consider speed reduction and Speed Indicator Devices (SIDs) in locations around colleges schools and universities. Consider CCTV monitoring and community safety schemes in some locations	

What will we do - Environment							
Objective / Measure	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management / Maintenance	Walking / cycling	Safety	Planning Integration
Improve internal environment through 'place' schemes which manage traffic and enhance pedestrian environments	Work with operators to invest in cleaner vehicles	Consider public realm in all schemes paying particular attention to footways consider improvements such as tree planting, street de-cluttering, repaving		Increase maintenance regime in inner urban core and liaise with highways improvement to ensure the use of sustainable/hardwearing materials		Speed reduction, community speed watch, traffic calming, local safety schemes, speed indicator signs.	
Reduce air pollution	Work with operators to invest in cleaner vehicles. Affordable public transport; ticketing initiatives, access to public transport info Quality Bus Partnership agreement for bus operators to renew fleets/limit age of buses.	Parking strategies and pricing Reduce congestion and/or generate greater distance between highways source and sensitive receptors i.e. houses or streets with high pedestrian flows.	Safe roads to schools, travel planning for businesses to encourage commuter mode shift Eco-driving training and promotion. Consider more efficient/hybrid vehicles when purchasing new fleets (potential for partnership approach to hybrid vehicles working with universities etc	Maintenance of signs and lines to ensure use of bus lanes and poor parking can be enforced - consider alterations to ensure mobile units can be used.	Safe routes to schools, travel planning Increase walking and cycling through ensuring better environment for these modes and intensive walking and cycling promotion activities, learning from cycle stoke successes	Encourage use of sustainable modes (cycling/waling/public transport). Share a lift schemes.	

What will we do - Environment							
Objective / Measure	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management / Maintenance	Walking / cycling	Safety	Planning Integration
Reduce carbon emissions	Work with operators to invest in cleaner vehicles. Affordable public transport; ticketing initiatives, access to public transport info	Parking strategies and pricing Electric charging points at edge of city locations Parking enforcement to reduce congestion caused by inappropriate parking	Safe roads to schools, travel planning for businesses Promotion of ticketing initiatives Eco-driving training and promotion. Consider more efficient/hybrid vehicles when purchasing new fleets (potential for partnership approach to hybrid vehicles working with universities etc)		Safe routes to schools, travel planning	Encourage use of sustainable modes (cycling/waling/public transport). Share a lift schemes.	Ensure new developments incorporate robust travel plans Charging points need to be considered in new housing developments - ideally charging to happen overnight.
Reduce reliance on oil based transport; increase transport efficiency	Work with operators to invest in cleaner vehicles. Affordable public transport; ticketing initiatives, access to public transport info Smarter routes - combinations of improved parking facilities off main highways greater enforcement (particularly in peak hours)	Parking strategies and pricing Enforcement of banned parking/use of bus lanes by private vehicles	Safe roads to schools, travel planning for businesses Eco-driving training and promotion. Consider more efficient/hybrid vehicles when purchasing new fleets (potential for partnership approach to hybrid vehicles working with universities etc	Maintenance of signs lines and pedestrian and bus lanes cyclist and pedestrian environment	Safe routes to schools, travel planning	Encourage use of sustainable modes (cycling/waling/public transport). Share a lift schemes. Reduce incidence of vehicle accident disruption to the highway network	

What will we do - Environment							
Objective / Measure	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management / Maintenance	Walking / cycling	Safety	Planning Integration
Reduce noise impacts of transport	Encourage fleet replacement to quieter buses, encourage operators to switch off engines when waiting near houses or in high streets	Parking strategies and pricing Consider replacing surface treatments on carriageways with quieter materials		Consider replacing surface treatments on carriageways with quieter materials			

What we will do - Health							
Objective / Measure	Public Transport	Highways / Streets	Influencing Travel Behaviour	Management / Maintenance	Walking / cycling	Safety	Planning Integration
Continue to reduce the risk of death or serious injuries associated with transport	Work with designers of new bus station and public transport operators to encourage good pedestrian safety at bus interchanges	Partnership working with Staffs Police/Fire service and Safer Roads Partnership	Driver/cyclist training incorporated into travel planning initiatives	Ensure highways and footways are in good condition.	Ensure highways and footways are in good condition.	Education, Training, Promotion of safety (could this be linked with eco-driving?), child pedestrian, cyclist, motorcycle training. Publicity schemes education in schools Enforcement measures, local safety schemes , safer routes to schools	
Tackle high numbers of people in ill health/incapacity claimants (now known as Employment and Support Allowance(ESA))	Ensure bus fleet is low floor Continue to train drivers in disability awareness	Dropped kerbs and consideration of rest locations in public realm schemes	Work with NHS to generate health benefits evidence for use in promoting walking as beneficial exercise even fort those in poor health Walking and cycling promotion, family rides, walking promoted via FSC, car free days cycle training, travel planning bike recycling	Encourage people outside through improved maintenance of local streets	Ensure highways and footways are in good condition	CCTV at major interchanges Driver training	
Encourage use of sustainable modes	Safe routes to schools, travel planning for businesses,	See other improvements - emphasis on pedestrian access	Safe routes to schools, travel planning for businesses	Emphasis on improving maintenance of streets and	Walking/Cycling road shows Publish cycling accessibility plots	CCTV at stops/interchanges Consider inserting	

What we will do - Health							
Objective / Measure	Public Transport	Highways / Streets	Influencing Travel Behaviour	Management / Maintenance	Walking / cycling	Safety	Planning Integration
	improve public transport info, develop branded network	to bus stops/interchange, walking routes and cycling lanes – in particular providing missing links		walk/cycle routes in inner urban core. Ensure greenways are clean/free of glass	and provide posters for inside workplaces	power points for mobile CCTV masts at locations on greenway or at neighbourhood stops	
Reducing obesity in the local population	Increase bus mode share - consider a promotion of 'get off a stop early' to promote benefits of incorporating additional exercise.	Create better walking and cycling environment - incorporate greening and pedestrian desire lines into schemes	Intensive walking and cycling promotion activities, learning from cycle stoke successes. School and business travel planning - identify those undertaking short distance trips and encourage switch to walk. Loan bikes scheme and cycle recycling facility to increase availability of bikes. Work with NHS to promote walking/cycling health benefits to general population and for business travel planning	Improve maintenance regime for streets in the inner urban core	Intensive walking and cycling promotion activities, learning from cycle stoke successes. Schemes to improve walking and cycling environment.	Safe routes to schools expand to safe routes to workplaces	Ensure development delivers high quality pedestrian environment
Promote development of community facilities	Accessibility mapping part of development analysis - particular	Accessibility mapping part of development analysis - particular	Consider setting up Travel Planning centres on large employment sites			Ensure that community facilities are provided with safe walking routes -	Ensure that adequate funding is allocated to travel planning initiatives - consider proposals to offer travel planning via the City Council

What we will do - Health							
Objective / Measure	Public Transport	Highways / Streets	Influencing Travel Behaviour	Management / Maintenance	Walking / cycling	Safety	Planning Integration
	emphasis on the development of coherent links between new facilities and existing streets and public transport	emphasis on the development of coherent links between new facilities and existing streets				good sight lines.	
Improve access to healthcare facilities	Partnership working with PCT/LA/NHS to promote improvements to public transport	Ensure that parking restrictions are enforced - monitor impacts of new hospital on surrounding streets Consider renewal of surrounding streets and main pedestrian routes	Concentrated work with the hospital sites to encourage use of PT and walking cycling from day one. Consider setting up trails with members of staff who agree to switch modes - health check ups at regular intervals and some case studies	Increase maintenance regime on surrounding streets - check any improvement works implemented	Concentrated work with the hospital sites to encourage use of PT and walking cycling from day one. Consider setting up trails with members of staff who agree to switch modes - health check ups at regular intervals and some case studies		Rigorously observe planning conditions - with particular regard to links to healthcare

Summary and Conclusions

This LTP has looked in detail at the problems and challenges within the city, transport behaviours and transports potential contribution to problems. In this chapter we have considered:

- **How** will we work towards improving transport for all users in line with our policies;
- **Why** we need to do this and what outcomes we expect, including how we will monitor our performance; and
- **What** types of investment or approach we will deliver against a number of transport themes.

This LTP is accompanied by an implementation plan which outlines what we will deliver in the period 2011/12 to 2014/5, with some indicative timescales for longer term schemes. The majority of the investment and approaches outlined within this document and the implementation plan involve:

Making best use – using the existing transport assets within the city to their fullest potential and maintaining them appropriately;
Providing travel choices for everyone – making the adoption of more sustainable travel behaviours easier for people by improving the viability of other modes, particularly public transport; and
Providing information on healthy, safe and sustainable travel – getting information to people about travel choices, transport services and the benefits of making the right travel choice.

These approaches are in line with national government expectations, and we will place emphasis locally on getting the transport network to work more efficiently which will directly impact upon economy through improving local business productivity:

- Through reduced transport costs (estimated to represent around 5% of business costs, except in logistics companies)
- Through widening the labour market by increasing transport choice and improving local bus speeds
- Through promoting sustainable travel which can reduce levels of staff sickness, turnover and reduce business costs through reductions in the need for parking and pool vehicles.

The other key area of national government intervention relates to carbon emissions, whilst this is a growing problem nationally, it is worthwhile remembering that the City of Stoke already has lower carbon emissions related to transport than its neighbouring authorities. Nonetheless we will seek to reduce carbon emissions through:

- Encouraging the use of sustainable modes; making use of the existing high quality cycling network, improving the bus journey speeds in the city and promoting the health benefits associated with choosing sustainable travel;
- Planning for the mass take-up of electric vehicles, including working with transport providers and within the council to renew transport fleets; and
- Improving transport network efficiency to reduce carbon emissions associated with congestion or traffic calming.

Appendices

Appendix A – LTP2 Objectives and Measures

Objective	Measures	Indicators
Supporting Regeneration		
R1 Open up areas for development R2 Create an environment for investment R3 Achieve more balanced and sustainable patterns of development R4 Improved conditions for the efficient movement of goods	• Active partnership working with Renew (Housing Market Renewal), North Staffordshire Regeneration Zone, and English Partnerships to ensure integration of transport and regeneration objectives. • Providing a transport and highway input to Area Action Plans and AMI master plans. • Maintaining a free flowing and reliable transport network for the efficient movement of goods and people. • Using spatial planning to focus new development within centrally located brownfield sites to minimise travel and increase transport choice. • Co-ordination with development process, local development framework and community strategies • Procuring new public transport links to remoter employment sites through the use of planning agreements. • Greening for Growth project to upgrade cycling and pedestrian routes to employment sites and town centres. • Improving accessibility of neighbourhood areas to essential services by non –car means. • Promoting smarter travel to local organisations to help reduce traffic levels and save on business costs including mileage.	M10 Access to a major shopping centre M12 Change in area wide mileage M17 Vehicle delays L2 Bus travel to City Centre Other indicators: Percentage of new residential development built on previously developed land Percentage of new employment land developed within the urban area Number of jobs created through inward investment Percentage of the population in super output areas (SOA's) ranking within the worst 20% of SOA's in the country Percentage change in VAT registered businesses

Objective	Measures	Indicators
Improved accessibility for all		
A1 Improve access to the transport network A2 Improve access to jobs and local facilities A3 Increase the affordability of sustainable transport A4 Improve access to travel information	• Developing partnerships with services providers to facilitate the provision of key services in accessible locations especially hospitals, town centres and employment areas. • Using accessibility mapping and planning agreements to secure improved access to new development sites by all modes. • Co-ordination with development process, local development framework and community strategies • Improve overall provision of bus services • Improve quality of, access to, and affordability of buses, trains and taxis • Improve access to travel information • On and off highway cycling routes • Safer routes to school • Make walking safer • Access in disadvantaged areas • Implementation of Rights of Way Improvement Plans (ROWIP)	M10 Access to a major shopping centre M11 Access to hospital M13 Cycling trips L1 Access to bus stops L2 Bus modal share L4 Easy to use footpaths L5 Pedestrian crossings Public Transport info satisfaction Accessible kerbs Low floor buses Long distance access Bus stops with up to date information

Objective	Measures	Indicators
Tackling traffic congestion		
C1 Provide high quality alternatives to the car C2 A more effectively managed transport network C3 Encourage travel awareness and behavioural change C4 Manage travel demand and car parking C5 Provide new infrastructure to meet local travel needs	• Expansion of UTMC based traffic control system and introduce the SPRITE system to improve traveller information. • Develop Quality Bus Partnership to deliver quality, fast and reliable bus services. • Investigate and provide new public transport infrastructure including a bus transit network with bus priority lanes, park and ride sites and improved passenger interchanges. • Exercising the duties of the Traffic Manager to oversee traffic control, incident response and road works coordination. • Developing a comprehensive car parking strategy to provide policy and guidance to planning control, regulation and enforcement. • Investigation of urban core congestion charging regime in the long term through a TIF application to support regeneration proposals. • Application of bus lane enforcement and other moving offences. • Integration of transport objectives within land use policies within Local Development Framework, Area Action Plans and regeneration masterplans. • Promote smarter travel through Travel Plans for workplaces and schools and marketing TravelWise initiatives. • Working with Highways Agency to improve operation of trunk roads.	M7 Bus patronage M8 Bus satisfaction M12 Area wide traffic mileage M14 Travel to school M15 Bus punctuality M16 Peak traffic flow M17 Vehicle delays L3 Workplace travel plans L6 Traffic levels L7 Temporary traffic controls School travel plans

Objective	Measures	Indicators
Improved Air quality		
AQ1 Develop our knowledge of air quality AQ2 Implement direct action to improve air quality AQ3 Provide information and education on air quality	• Ongoing air quality monitoring • Control of air quality through information, regulation and enforcement. • More effective land use planning to reduce the need to travel and also to avoid air quality "blight". • Active traffic management to mitigate pollution "hot spots" • Continued management and control of network to smooth traffic flows and prevent congestion. • Using regulatory powers • Promoting and providing for cleaner travel, i.e. walking, cycling, public transport and greener vehicles. • Promoting smarter travel choices through education and awareness campaigns • Application of demand management measures to help reduce unnecessary car travel.	M18 Air quality

Objective	Measures	Indicators
Improved travel safety		
S1 Reduce all categories of road casualties. S2 Tackle the root causes of accidents tackled rather than their symptoms. S3 Improved personal and community safety.	• Supporting the Community Safety Partnership (Road Safety Priority Task Group) • Casualty Reduction Partnership with Staffordshire County Council to manage safety cameras. • Sustaining local projects commenced by Neighbourhood Road Safety Initiative. • Applying area wide physical speed management measures • Applying road safety audits to all new highway schemes. • Implementing more Safer Routes to School projects • Promoting road safety education and awareness • Providing road safety training and driver improvement programmes. • Addressing personal safety of all travellers, especially non-car users. • Continued expansion of CCTV network in town centres and key locations. • Introducing management of occupation road risk policies • Partnership working with police and emergency services to improve safety in community.	M4 KSI casualties M5 Child KSI casualties M6 Total slight casualties

Objective	Measures	Indicators
Looking after the transport network		
HM1 Achieve a well maintained and continually improved highway network. HM2 Maintain all adopted network transport assets	• Applying preventative and structural maintenance at the right time to keep the highway network and bridge structures maintained and preserved. • Use of UK PMS to manage network condition and plan maintenance programmes. • Application of Traffic Network Management duties to ensure better coordination of road works and minimise disruptions. • Delivery of the Transport Asset Management Plan to manage transportation assets. • Introduction of new contractual and procurement arrangements. • Ensuring value for money by integrating maintenance programmes with transport schemes. • Ensure coordination with other corporate programmes including housing, education, and regeneration.	M1 Principal road condition M2 Non-principal road condition M3 Unclassified road condition M9 Footway condition

Objective	Measures	Indicators
Enhancing people's quality of life		
QL1 Enhance quality of environment QL2 Improve community health QL3 Reduce impact of traffic on communities	• Reducing overall traffic growth through the actions of the congestion strategy. • Encouraging smarter and more sustainable travel (accessibility and congestion strategy) • Reducing through traffic in sensitive areas by applying traffic management measures. • Ongoing monitoring of traffic noise to identify problem areas and developing strategies to tackle them. • Partnership working with health agencies on healthier travel. • Encouraging healthier travel through marketing and travel awareness work.	M5 Child KSI casualties M8 Public satisfaction with local bus services M11 Access to hospital M13 Cycling trips M18 Air quality Also measured by the following indicators as part of the SEA process: BV 219a: Total number of Conservation Areas Standard mortality ratio for coronary disease Carbon dioxide emissions

Appendix B – Accessibility Mapping

Stoke-on-Trent accessibility plots are available to download as a separate file