

## 10. Congestion Strategy

### 10.1 Introduction and overview

As individuals become more affluent and businesses grow, demand for travel increases. Increases in traffic, finite road space and factors such as temporary restrictions on the highway network during road works can all contribute to increased levels of congestion. Increased investment in infrastructure by utilities and the highway authority, and the consequent roadworks disruption, while affecting traffic flows adversely, are also a sign of strong economic performance.

Although congestion may be an indicator of a healthy level of economic activity, high levels of congestion may, conversely, have a detrimental effect on economic performance and adversely affect the quality of life of residents, pedestrians, cyclists and drivers.

In Warwickshire, congestion is limited to certain key routes in urban areas and to some key junctions on the strategic rural highway network. Relative to larger urban areas, the Warwickshire problem is limited in geographical and time terms – and is substantially absent during school holidays.

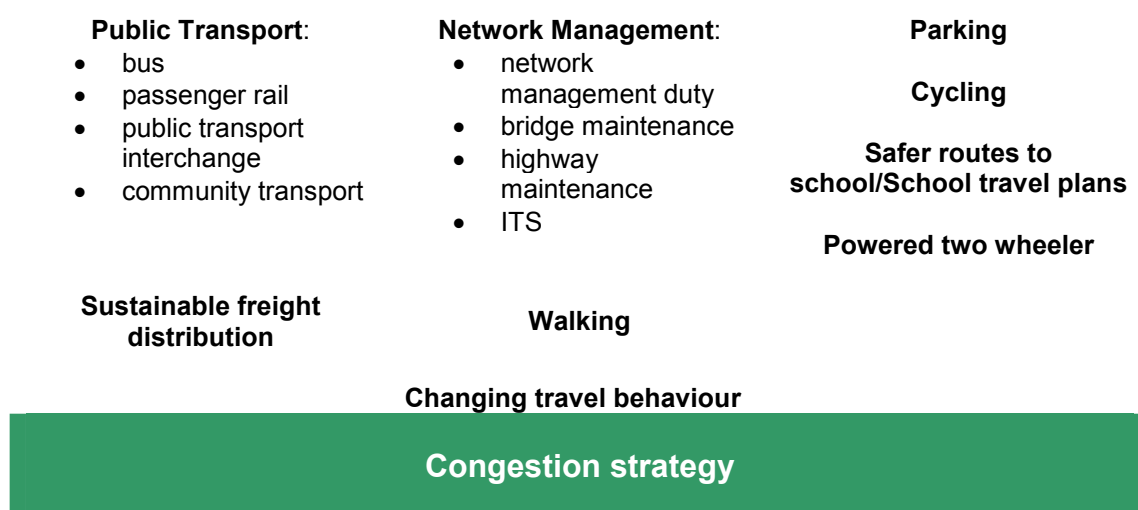
In spite of the relative significance of the phenomenon, there is a perceived congestion problem among Warwickshire residents, as evidenced by a 2004 survey for the first review of the LTP, in which 84% thought that congestion was a major or significant issue.

### 10.2 The Policy Context

Supporting economic competitiveness and growth by delivering reliable and efficient transport networks is one of the Government’s five National Transport Goals and forms one of the objectives of this LTP.

The mode and delivery strategies contained in this plan, detail the contributions to reducing congestion made by LTP strategies and policies.

Table CS1: The congestion strategy and links to the wider network



The 2006 LTP set two targets for containing congestion on the local highway network:

- for Warwick/Leamington Spa and Stratford-upon-Avon, no more than a 10% deterioration in average peak hour traffic speeds

- for Nuneaton, Bedworth, Rugby and Kenilworth, no more than 5%

over the five year period 2006 – 2011.

Left unchecked, congestion may compromise the achievement of overall LTP objectives 2 and 3.

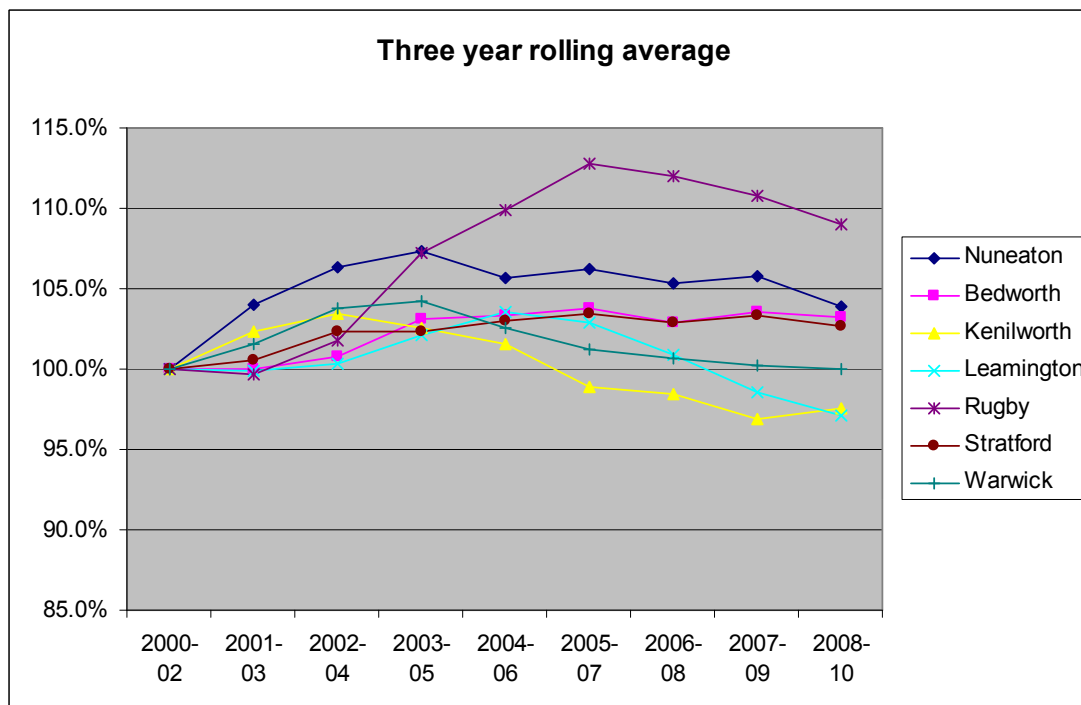
### 10.3 Overview of the Current Situation

Traffic flows in each of the major urban areas in Warwickshire are monitored every year to establish traffic growth (or reduction). The table below demonstrates a mixed picture in terms of traffic growth across the County.

Table CS2: Traffic Growth 2000-2009 based on 24 hour flows recorded at cordon sites around Warwickshire's main towns

Town	% change
Bedworth	2.7%
Kenilworth	-0.7%
Leamington Spa	-3.3%
Nuneaton	9.0%
Rugby	3.3%
Stratford-upon-Avon	4.6%
Warwick	-1.9%

Figure CS3: Traffic Growth 2000-2010 based on 24 hour flows recorded at cordon sites around Warwickshire's main towns.



Average morning peak hour traffic growth on the local urban highway network in Warwickshire was -3.7% between 1999 and 2008.

Negative growth rates may seem to go against the conventional belief that traffic always grows. However, growth is clearly closely related to economic activity and some parts of the county

have been adversely affected by recent developments. There is also some evidence of “peak spreading”, where people travel to or from work outside the peak periods.

Table CS4: Average journey speeds (mph) on key routes 8.00-9.00am

Town	1999	2002	2008	Change 1999-2008 (negative figure indicates faster average journey time)
Kenilworth	18.75	16.86	19.16	-2.2%
Warwick	10.94*	11.49	9.32	14.8%*
Leamington	16.3*	13.7	14.7	9.8%
Nuneaton	16.7	14.79	15.92	4.7%
Bedworth	19.15	18.89	17.93	6.4%
Rugby	18.35	18.23**	16.61	9.5%**
Stratford	16.34	15.16	14.84	9.2%
Note: due to the snapshot nature of the data, the speeds for 1999 and 2002 are derived as the middle of three years averaged data for the periods 1998-2000 and 2001-2003 respectively. For 2008, where 2009 data is available, the average is calculated over the three years 2007-09, otherwise the period 2007-08 is used.				

\*There has been long-term construction work at Junction 15 of the M40, involving the closure of the B4463 north of the A46, which may affect average vehicle speeds in Warwick. Likewise, the closure of the Peugeot factory at Ryton will affect flows as far away as Leamington (from where much of the labour force was drawn) particularly on the A445.

\*\*Rugby journey times will have been affected by the construction work associated with Rugby Western Relief Road, in particular the northern area will have been affected by the closure of Parkfield Road.

The Department for Transport has recently made data available which allows journey reliability to be calculated for congested routes within Warwickshire. The data uses Satellite Navigation data to measure journey times and vehicle speeds. This data has been used to calculate average journey times along congested routes in the morning peak (from 0800 to 0900). Having established baseline data, ongoing monitoring will be used to monitor relative levels of improvement or deterioration in average journey times over the plan period.

This comprehensive dataset will enable a more evidence-led approach to be adopted when identifying appropriate interventions for addressing congestion and journey reliability issues.

The Warwickshire economy is closely tied to economic activity in Coventry, whose economic pull attracts some 30,000 commuters from Warwickshire each working day (Source: Warwickshire Observatory).

As the world economy has slipped into recession, this has been reflected in traffic growth. The DfT records these national figures.

Between the first quarters of 2008 and 2009:

- Car traffic decreased by 3 per cent.
- Light van traffic decreased by 2 per cent.
- Heavy goods vehicle traffic decreased by 12 per cent.

- Traffic on motorways decreased by 5 per cent.
- Traffic on rural 'A' roads decreased by 4 per cent.
- Traffic on urban 'A' roads decreased by 2 per cent.
- Traffic on minor rural roads decreased by 3 per cent.
- Traffic on minor urban roads decreased by 3 per cent.

Source: Road Traffic and Congestion in Great Britain: Quarter 1 2009

Warwickshire has a growing population, averaging 6.1% over the ten year period 1999-2008. However there are large variations across the county, with North Warwickshire growing by just 0.6% and Warwick District by 10.3% over that period (Source: Warwickshire Observatory).

The Warwickshire economy is also growing. Between 1995 and 2005 the annual average growth rate (in terms of gross value added) was 5.1%, the second highest in the region.

Both of these factors are likely to lead to increasing levels of traffic and congestion, although it is unlikely to be uniform across the county.

## 10.4 The Strategy

### 10.4.1 Developing options to deal with the issues

The possible approaches identified for addressing congestion are:

1. do nothing – leaving drivers to find alternative times for travel (peak spreading) or different routes
2. create major new road capacity
3. make small scale improvements at congestion hotspots (e.g. junction improvements)
4. improve traffic management using Intelligent Transport Systems and CCTV to make more efficient use of existing road space
5. improve management of roadworks, events and incidents on the highway network to minimise the extent or duration of congestion caused
6. improve enforcement against certain traffic offences through decriminalisation and reduce delays caused by e.g. illegal movements such as banned turns
7. reduce the demand for travel through planning policies and improvements in technology e.g. video conferencing, working from home using networked PCs
8. encourage the use of more efficient means of transport than the private car eg through improved public transport, walking and cycling facilities, green travel plans, park and ride initiatives and parking policy. Initiatives aimed at encouraging multiple-occupancy of cars through dedicated vehicle lanes could also be examined
9. fiscal measure (e.g. congestion charging) to discourage traffic from congested areas

All of the above approaches may be appropriate in certain circumstances and none are ruled out in the long term. However, major new road construction is unlikely to feature as a policy option in the Plan period and road pricing is unlikely to be considered.

The objective of this strategy is to promote measures aimed at limiting the effects of congestion and improving journey reliability. The strategy recognises that some limited increases in highway capacity will be necessary, but the primary aim of the strategy is to mitigate the growth in congestion through measures aimed at discouraging the growth of peak period traffic in urban areas and encouraging the use of more sustainable modes of transport.

Policy objectives aimed at encouraging the use of public transport, walking and cycling may require reallocation of road space (e.g. cycle or bus lanes) or time (eg the introduction of a pelican crossing or a pedestrian phase at a traffic signal junction). This may improve safety for pedestrians and remove a potential impediment to walking, but it also may increase congestion through a reduction in traffic capacity. This potential conflict between policies will need to be carefully managed.

## 10.5 Policies

### **Policy CS1: Congestion Improvements and other highway users**

Improvements to reduce congestion will not normally be implemented if they are detrimental to the safety and/or convenience of pedestrians, cyclists and public transport users.

There is always scope for removing congestion by better management of the road network. The county council has powers (under the New Roads and Street Works Act and the Traffic Management Act) to influence the working practices of utilities so their works are carried out with less disruption. Significant improvements have been made in co-ordinating and managing proposed roadworks over recent years. In particular there has been strict regulation of roadworks during the peak periods. The County Council will continue to aim to minimise the time that temporary works are present on the highway by such methods as increased working hours and weekend working.

The county council will also aim to minimise the disruption and congestion caused by its own works on the highway.

### **Policy CS2: Use of the Traffic Management Act**

The County Council will use its powers under NRASWA and the Traffic Management Act to robustly but fairly achieve reduced congestion arising from temporary works, events and offences affecting the free movement of traffic on the Highway. The Council will also seek to minimise the disruption and impact on congestion caused by its own works on the highway.

Securing a reduction in traffic growth in urban areas would contribute to a number of policy objectives and targets, as well as limiting the growth of congestion. This is to be preferred to an increase in road capacity which, experience suggests, encourages traffic growth.

### **Policy CS3: Helping to reduce road traffic growth**

The County Council will seek to implement measures to contain the growth in congestion where average journey speeds are reduced or at risk of decreasing by more than the threshold set in the congestion target. Where a choice of measures are available, those aimed at reducing traffic growth or encouraging travel by modes other than car will be prioritised over measures that increase the capacity of the highway network.

New development is a significant cause of traffic growth and increased congestion. It will be a requirement that new development will provide funding for improvements aimed at minimising

the impact of new trips generated. Models have been produced and will be amended to include changes in travel patterns. Proposed developments will be assessed and, where necessary, modelled to establish the likely effect on the wider network.

#### **Policy CS4: Impact on the wider highway network**

Changes in traffic management will be modelled prior to implementation to assess the impact of any change on the wider network.

## **10.6 Action Plan**

During this plan period it is anticipated that the measures listed below will contribute to reducing congestion in Warwickshire. Of these, only measures f, g, h, i and j are aimed specifically at congestion; the remainder are aimed primarily at achieving other objectives which are likely to have a secondary effect in reducing congestion. These measures will be prioritised for the Nuneaton, Bedworth, Warwick, Leamington Spa and Stratford-upon-Avon areas for the following reasons:

- existing slower vehicle speeds
- higher forecast traffic growth

Particular priority will be given to identify opportunities to reduce the numbers of school pupils transported to school by car due to the contribution of the school run on congestion.

Measures to reduce congestion during this LTP period:

- a. encourage modal shift from car to walking and cycling for short journeys in urban areas
- b. promote changes in travel habits and modes of travel through workplace travel plans
- c. provide Park and Ride facilities (bus and rail) for Stratford-upon-Avon, Warwick and Leamington Spa
- d. encourage public transport use, particularly in relation to the North/South corridor (Leamington Spa and Warwick to Nuneaton)
- e. continue the programme of Safer Routes to School, together with school travel plans to encourage modal shift from car to other forms of transport for pupils being driven to school
- f. introduce Intelligent Transport Systems and CCTV where appropriate to improve the efficient use of the existing highway network
- g. investigate ways of increasing the capacity of the highway network through capacity improvements at local congestion hotspots, giving priority to junction improvements on important public transport routes
- h. complete construction of Rugby Western Relief Road to reduce congestion in Rugby town centre and on some radial routes

In addition:

- i. the improvement by the Highways Agency at M40 Junction 15 (Longbridge) is contributing to reducing congestion at this key node on the strategic highway network in Warwickshire

- j. the improvement at the A45/A46 interchange at Tollbar End is also expected to bring major benefits in terms of congestion reduction
- k. construction of Stratford Western Relief Road in conjunction with new housing would reduce the volume of traffic in the town centre and forms a key element of the Stratford Transport Strategy. .

## 10.7 Monitoring

During 2009, the DfT provided a Congestion Guidance document on how to calculate National Indicator 167. Warwickshire County Council have opted to measure congestion using variant 2. This calculates vehicle journey time per mile during the morning peak on major inbound routes in the larger urban centres.

The new method of measuring journey times and vehicle speeds uses Satellite Navigation data, which is provided by the DfT for analysis. Using the new data alongside the ITN road centreline data, routes for monitoring are selected by calculating average vehicle speeds in the morning peak (from 0800 – 0900) and these are used as a proxy for congestion, as prescribed in the procedures for calculating NI167.

Eighty four relatively congested routes in Warwickshire have been identified and selected for future monitoring. These are in Nuneaton, Rugby, Warwick and Leamington Spa and Stratford-upon-Avon. The routes selected for long term monitoring are shown in figures CS1-CS5 below.

Figure CS1: Nuneaton routes

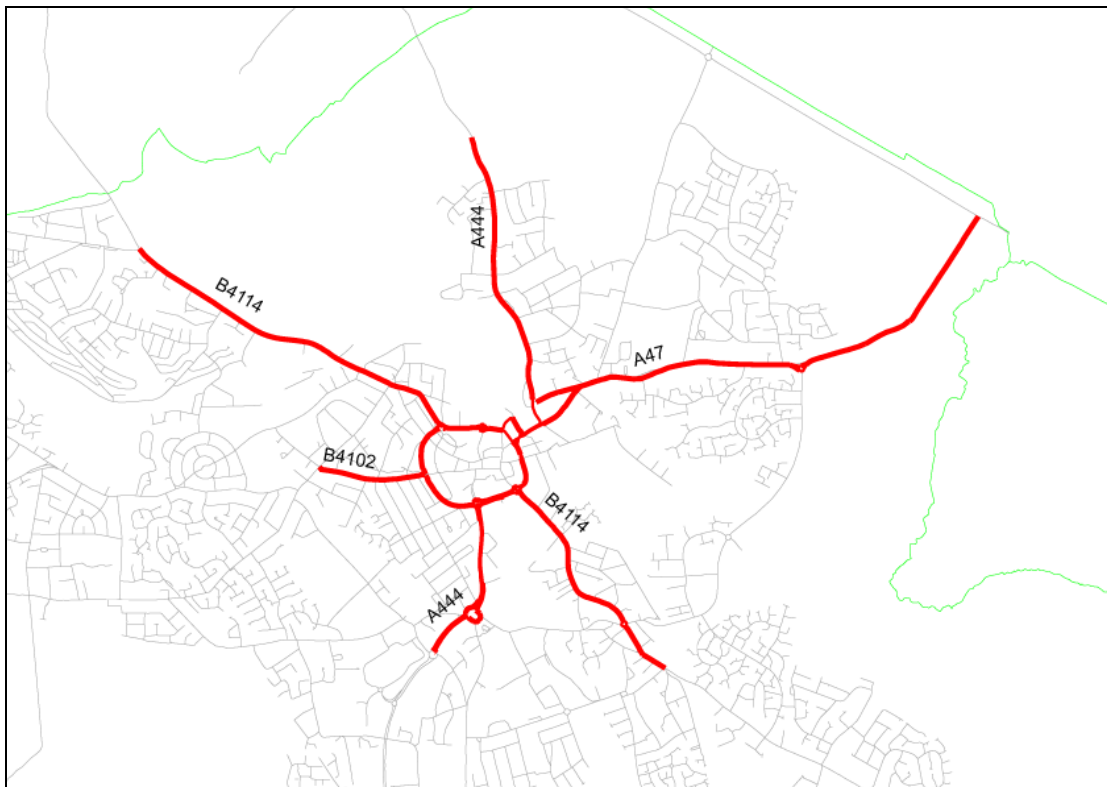


Figure CS2: Rugby Routes

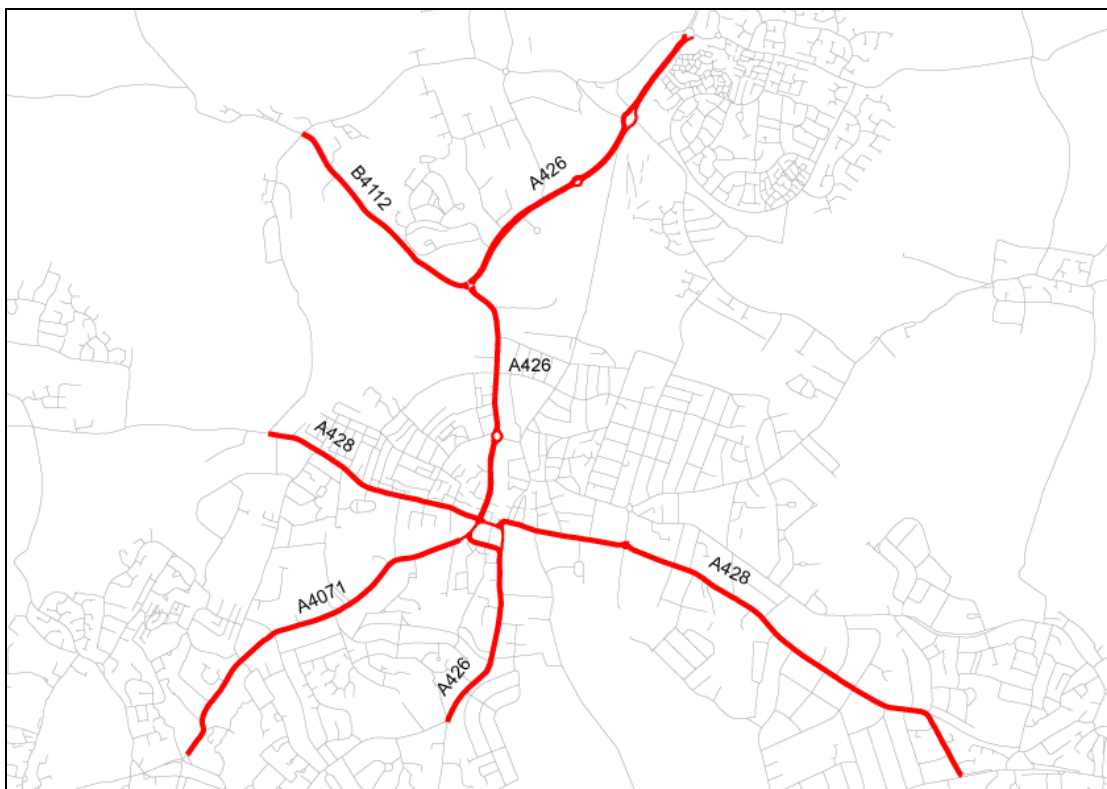


Figure CS3: Warwick and Leamington Spa routes

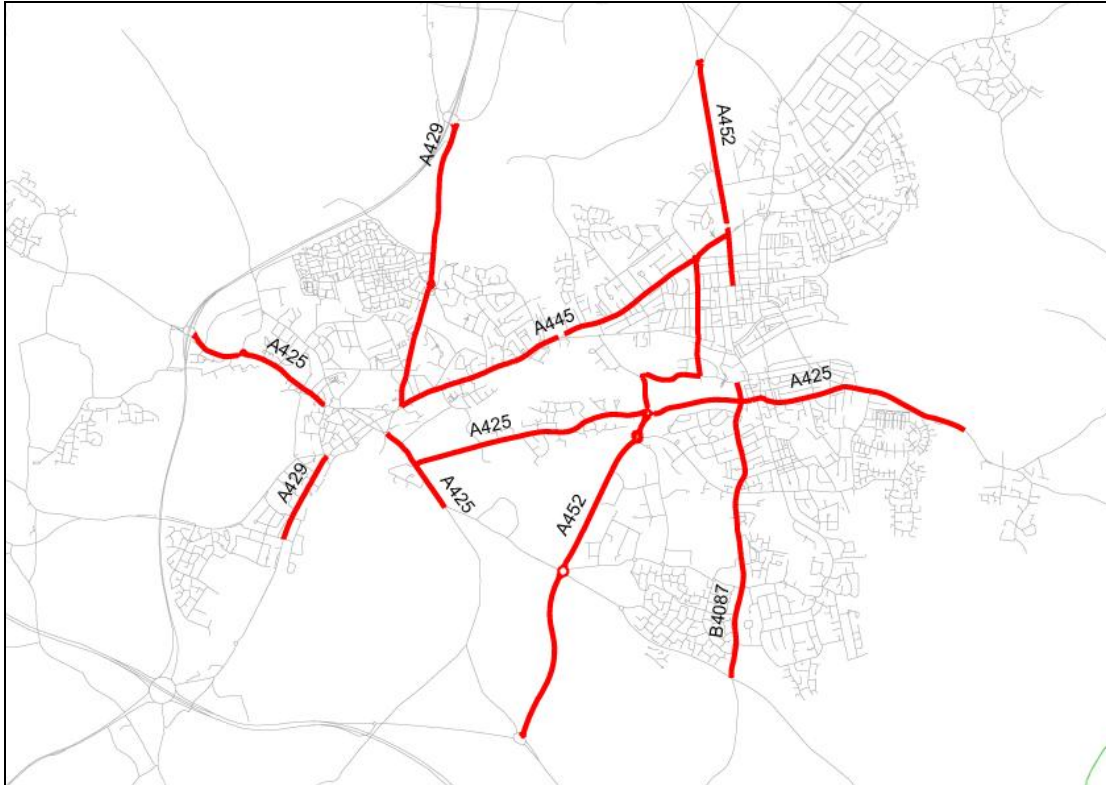
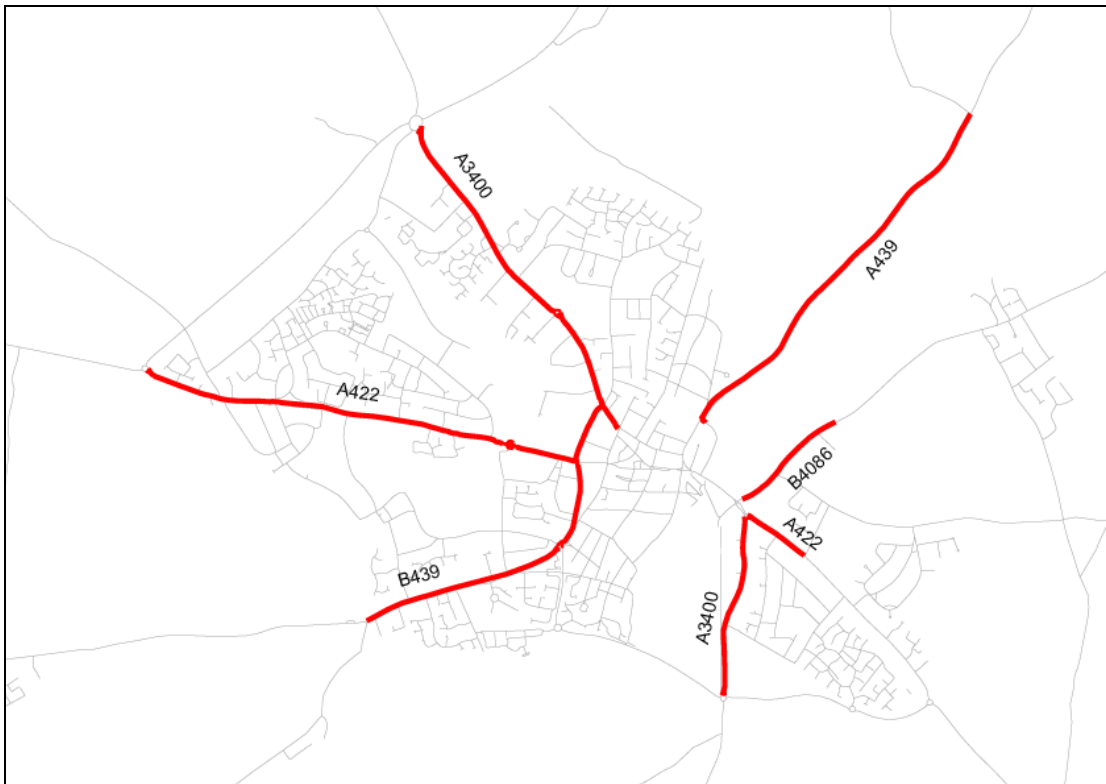


Figure CS4: Stratford-upon-Avon routes



Journey times are calculated for each route and weighted by traffic flow. An average has been taken for the road network existing in the first quarter and the fourth quarter of 2007 and an average time per mile calculated. This data is now used as a baseline to calculate relative levels of improvement or deterioration in average journey times.

The DfT aims to provide more satellite data to enable this monitoring to be continued over the life of this Plan.

## 10.7.1 Targets

### National Indicator NI 167

On the 84 routes selected for Warwickshire, the average journey time per mile in the morning peak (8.00 - 9.00), for the average of the first and fourth quarter networks of 2007, was 3min 55 seconds. This will be monitored and we will look at setting a target when a baseline trend has been established.

### Local Indicators

In 2006 - 2011 the Warwickshire LTP set the following targets seek to help manage congestion on the main urban highway networks which can cause deterioration in average journey speeds between 2006 and 2011 in the key urban areas as follows:

Warwick/Leamington Spa and Stratford-upon-Avon	- 10%
Nuneaton, Bedworth, Rugby and Kenilworth	- 5%

For the initial plan period (2011 – 2014) it is considered realistic that these targets be maintained.

There is no existing data on the scale of congestion caused by road works, moving traffic offences or other events affecting the highway network. Therefore it is not possible to set outcome targets for reducing congestion resulting from road works and other incidents. However, the Traffic Manager will develop output targets for incorporation in the Network Management Duty Strategy.