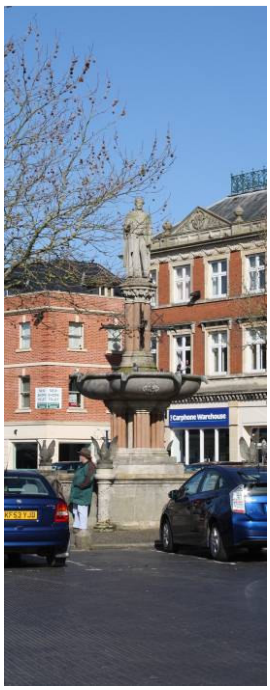

Devizes Transport Strategy

Draft Strategy

September 2012
Wiltshire Council

Wiltshire Council
Where everybody matters

Mott MacDonald

Devizes Transport Strategy

Draft Strategy

September 2012

Wiltshire Council

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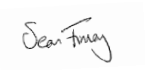
Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	Sep 12	D Friel N Richardson	S Finney	N Richardson	Draft Strategy Report for Area Board following consultation responses
B	Sep 12				Draft Strategy Report for Area Board following consultation responses and subsequent amendments
C	Sep 12	D Friel N Richardson		N Richardson	Minor text amendments included

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Content

Foreword by Wiltshire Council

Wiltshire Council has commissioned an independent review of the current situation in Devizes to provide the basis for developing a transport strategy that can be used as evidence to support the Core Strategy of the Local Development Framework. This report sets out the process involved and the recommendations. The study has been informed by the participation of local stakeholders throughout so that knowledge of the area and a wide spread of views have been taken into consideration.

Wiltshire Council has a responsibility to plan for the future housing and employment needs of the county. Part of that responsibility is expressed in the emerging Wiltshire Core Strategy which includes proposals for the future development of Devizes, including a new employment site at Horton Road and 1,730 new homes in the town over the period 2006 to 2026. However, as the Council are fully aware of existing periods of traffic congestion in Devizes and concerns about reducing levels of air quality, it was important to test the impact of these proposals on the existing highway network.

In early 2012 the Council published the results of testing the impact of the proposed growth in Devizes using the Devizes S-Paramics Traffic Model which had been developed specifically to model existing road use and to predict future traffic conditions in the town. The analysis demonstrated that the growth outlined in the emerging Wiltshire Core Strategy will result in an increase in vehicle trips and forecasted an increase in journey times and delays, with reductions to average vehicle speeds over the network. Specifically, the model predicts that the average journey time for eastbound traffic travelling through the town on the A361[1] will increase by approximately 10 minutes between 8.00am and 9.00am, compared to current journey times (measured in July 2011) if the core strategy proposals go ahead. Similarly, westbound traffic would experience an increase in journey time of around 9 minutes in the evening peak hour.

In order to mitigate this forecast impact on the road network, a transport strategy for Devizes town has been developed. The strategy considers the many different options available to help reduce overall traffic volumes and improve traffic circulation, including promoting greater use of non-car based transport, improvements to road junctions. The strategy has been developed by transport consultants Mott MacDonald whose team have been guided and advised by a steering group which comprised officers from Wiltshire Council, representatives of the Devizes Area Board and representatives of the Devizes Community Area Partnership. Other key stakeholders have been invited to comment on the proposed objectives for the strategy in the early stages of its development.

Once the Devizes Transport Strategy has been agreed the next step will be to identify how the various elements within it will be implemented. This will involve the Council working in partnership with local town and parish councils, community groups such as Devizes Community Area Partnership, major employers in the town and developers amongst others. The implementation plan will also need to look at sources of funding which will include the Council's Community Infrastructure Levy and potentially other town centre regeneration initiatives. The Devizes Transport Strategy, alongside the outputs from the Devizes S-Paramics Traffic Model, will also be used to support the proposals in the emerging Wiltshire Core Strategy when it is examined later in 2012.

[1] Journey time measured from the junction between the A361 and Devizes Road (towards Poulshot) in the west to the final roundabout on the A361 by Hopton Industrial Estate to the north.

Executive Summary

This report sets out the derivation of the Devizes Transport Strategy from setting objectives, the creation of a 'vision', the consideration of measures in different combinations to form strategies for testing and the associated transport modelling activities. The Preferred Strategy has emerged from this process with the aim of addressing air quality problems, supporting local economic activity and enabling healthier lifestyles.

A number of objectives for the Devizes Transport Strategy have been derived from the established policy framework. Whilst these objectives are transport-related, they are also relevant to the wider aim of supporting economic growth. The possible measures have been considered against the following objectives:

- Reduce transport related emissions and address **climate change** and **local air quality problems**;
- Create **better environments for people**, rather than vehicles, in the town centre and residential areas;
- Reduce the **traffic congestion** and delays that are experienced within the town and reduce the use of unsuitable routes (e.g. Church Walk, Avon Terrace) and rural rat-runs (e.g. Consciences Lane, Whistley Road, through Bishops Canning/Coate);
- Promote and improve **sustainable transport**;
- Enable appropriate **high quality new development**;
- **Integrate development sites** with established communities to increase travel choice, based on comprehensive networks and linked facilities;
- Create the conditions to support **local employment** opportunities which can be **accessed by sustainable modes** to support local activity;
- **Improve accessibility** throughout the town to encourage walking and cycling;
- Promote **healthier lifestyles** for all residents, particularly those of school age;
- Support **road safety** initiatives, particularly for vulnerable road users;
- Protect and enhance the **natural environment**; and
- Safeguard the **historic environment**.

Measures have been considered that will contribute to achieving the above objectives. Whilst the impact of each individual measure is expected to be limited, in combination a package of measures will be effective in developing a more sustainable transport culture with an emphasis on walking, cycling, more efficient car use and greater use of public transport use, improving air quality and relieving traffic pressures.

Different combinations of measures were combined to consider how the transport problems identified will be addressed. Two main approaches were considered against the objectives set and the potential benefits in terms of reducing traffic. From analysis of these approaches, a Preferred Strategy has emerged containing the measures that best address the objectives and vision.

Given the high proportion of local journeys that are made by car in the Devizes area, considerable effort is needed to increase the role of sustainable transport options to a level where the number of car trips in and around Devizes reduces. Nevertheless, it is recognised that key junctions are already overcapacity and that junction improvements are needed to reduce the impact of traffic congestion.

The Preferred Strategy comprises the following measures:

- **Walking**
  - Introduction of controlled at-grade crossings on key pedestrian corridors;
  - Strategy to develop safe walking routes between residential areas and the town centre, supported by signing and appropriate lighting and vegetation and parking control;
  - Ensure that all future development proposals incorporate a 'permeable' walking network with surrounding areas; and
  - Restricting the use of Maryport Street by traffic.

- **Cycling**
  - Implement a comprehensive, convenient and safe cycle network including parking at employment and retail sites and educational and leisure facilities;
  - Cycle campaign (to include Bike It investment); and
  - Develop and promote safe routes from villages to Devizes.

- **Public transport**
  - Undertake a feasibility study of potential rail connection options on the Westbury to Pewsey railway;
  - Promote inter-urban bus service connections (in particular those to Swindon/Salisbury/Trowbridge/Bath) and develop marketing campaign;
  - Explore options for demand responsive transport and/or community transport/taxi-buses; and

  - Promote better integration e.g. bus/rail ticketing and interchange arrangements.

- **Travel plans**
  - Introduce residential travel plans for all new development proposals;
  - Support the development of workplace travel plans at all major employment sites;
  - Continue to implement school travel plans and develop a ‘safer routes to school’ strategy for each education facility; and
  - Individual journey planning using community resources.

- **Traffic and air quality**
  - Implement measures to manage movement and to slow traffic in residential areas;
  - Traffic management and capacity measures on key town centre corridors;
  - Capacity enhancements of key junctions; and
  - Improved town 'gateways', wayfinding (including routes to car parks) and junction arrangements.

- **Demand management and parking**
  - Develop a road hierarchy and limit movements in 'sensitive' town centre and residential locations; and
  - Review local on- and off-street parking arrangements and enforcement and develop traffic management measures to reduce the traffic impact of car parking space-seekers.

Traffic modelling of the impacts of the proposed measures has demonstrated that it is possible to restrict congestion in 2026 to no more than that currently experienced.

All of the measures in the Preferred Strategy are considered to be deliverable, in that they meet a number of requirements:

- Acceptability to stakeholders and politicians – all proposals should be supported by the majority of stakeholders and potentially be able to be subject to the necessary processes e.g. approvals from the highway authority;

- Feasibility in engineering terms – it must be possible to construct infrastructure schemes to be within highway boundaries and taking into account topography, ground conditions, impacts on structures, assessing costs and benefits against the objectives, etc;

- Generating sufficient widespread support - non-infrastructure initiatives should involve community and stakeholder support.

Inevitably, funding is also an essential part of deliverability. Appropriate funding must be in place, or have some certainty that it will be forthcoming, before schemes can be progressed. The majority of funding for the Devizes Transport Strategy will come from contributions from developers towards infrastructure and sustainable transport measures to mitigate against any adverse impacts of the developments. Whilst a significant sum has already been accrued, which will be added to with future developments, developer contributions alone will not cover the full costs of the measures in the Preferred Strategy and sources such as the Local Transport Plan and similar will be necessary also.

Therefore, further prioritisation of measures is required to identify those that will be progressed with currently available funding.

1. Introduction

Mott MacDonald has been commissioned by Wiltshire Council to support the development of a transport strategy for Devizes. This forms part of the process of providing evidence for the emerging Core Strategy which shapes the location and form of development sites. Transport is a fundamental issue, both in supporting existing activity within the town and also enabling sustainable development to take place.

This paper sets out the process of determining a Preferred Strategy, based on the following sequential approach:

- Consideration of the context and the collation of evidence;
- Review of relevant national and local policy guidance;
- Determination of objectives for the strategy;
- Identification of individual improvement measures;
- Assessment of potential measures against the strategy objectives;
- Determination of strategy options for testing; and
- The development of a preferred strategy to focus on addressing the agreed objectives.

Throughout the process, a working group comprising representatives from the Devizes Community Area Partnership, the Area Board and Council officers has been consulted.

1.1 Devizes Characteristics

Some of the key characteristics of Devizes that influence current transport patterns and which will shape future strategy options are listed below. The information has been sourced from the evidence base used to develop the Devizes Community Plan and the Pre-Submission Wiltshire Core Strategy Document.

1.1.1 Travel Patterns

- People working in Devizes travel to work by the following modes[2]:
  - Car driver 63%
  - Car passenger 8%
  - Walk 14%
  - Work at home 7%
  - Cycle 4%
  - Bus 2%
  - Motorcycle 1%

- 22% of Devizes workers are employed within the public sector;
- 43% travel at least 10 miles to work in Devizes;
- 28% of all traffic on local roads is 'through traffic' (i.e. does not have an origin/destination in the town)[3];

[2] Source: 2001 Census Travel to Work data; more recent estimates are unavailable.

[3] Traffic surveys from June 2010 used for the PARAMICS model

- This through traffic is fairly evenly distributed among the five main radial routes into Devizes (A342E, A360, A361W, A342W, A361N); and
- The proportion of children that are driven to school is relatively low at 14-38% for infants/junior schools and 9% for Devizes School (the exception being St Josephs with 62% driven to school). Some schools such as Bishop Cannings School attract pupils from Devizes which adds to peak time traffic problems.

1.1.2 Lifestyle

- 58% of the population of the Devizes Community Area is of working age, the lowest proportion in the county[4];
- By 2026 it is expected that the local population will have grown by 18.6% (from the 2010 base year)[5] and the total increase for Devizes could be as much as 31.9%[6];
- Approximately 6% of employment is supported by tourism;
- The Devizes area benefits from a 62% employment self-containment rate (live and work in the local area) but 41% of these residents drive to work;
- Many households have no regular access to a car which constrains their travel options considerably; and
- 31.5% of school children in Devizes aged 4 and 5 were found to be obese or overweight: this is the highest percentage of any Community Area and much higher than the Wiltshire average of 21.8%.

1.1.3 Transport Services

- The town is located at the convergence of the A361, A342 and A360 roads;
- There are a number of inter-urban bus routes that connect with other settlements including Swindon, Salisbury and Trowbridge;
- There are limited bus services within the town itself;
- The town has approximately 880 public off-street parking spaces (all of which are pay and display apart from 77 spaces in the Market Place which are free for 30 minutes);
- In addition, there are approximately 260 on-street parking spaces in the town centre managed by Wiltshire Council and, whilst the use of these parking spaces is time limited, charges do not apply; and
- Devizes does not have a rail station and the nearest rail connections are available at Trowbridge, Pewsey, Chippenham or Westbury.

1.1.4 Future Development Scenarios

- In the Core Strategy, the Devizes area is expected to accommodate up to 2,150 new homes between 2006 and 2026, of which 1,730 are proposed within the town. Taking into account completions and sites with planning permission in 2012, a further 405 permissions will be required to meet this target; and
- An additional 9.9 hectares of employment land will be provided in the town by 2026.

[4] England and South West - Office for National Statistics (ONS) 2010 mid-year population estimates.

[5] Joint Strategic Assessment for Devizes Community Area 2011.

[6] Wiltshire Council (July 2011) *Wiltshire population 2011*.

The implementation of the Core Strategy development allocations further afield has the potential to generate a significant number of additional trips. Within the town, around 200 dwellings have permissions still to be completed which will also generate additional trips. Therefore, a well planned Transport Strategy is required to mitigate the impacts of growth which, together with the phasing of development and its integration within the existing town, will help to ensure that trips made by car are minimised.

1.2 Devizes Transport Challenges

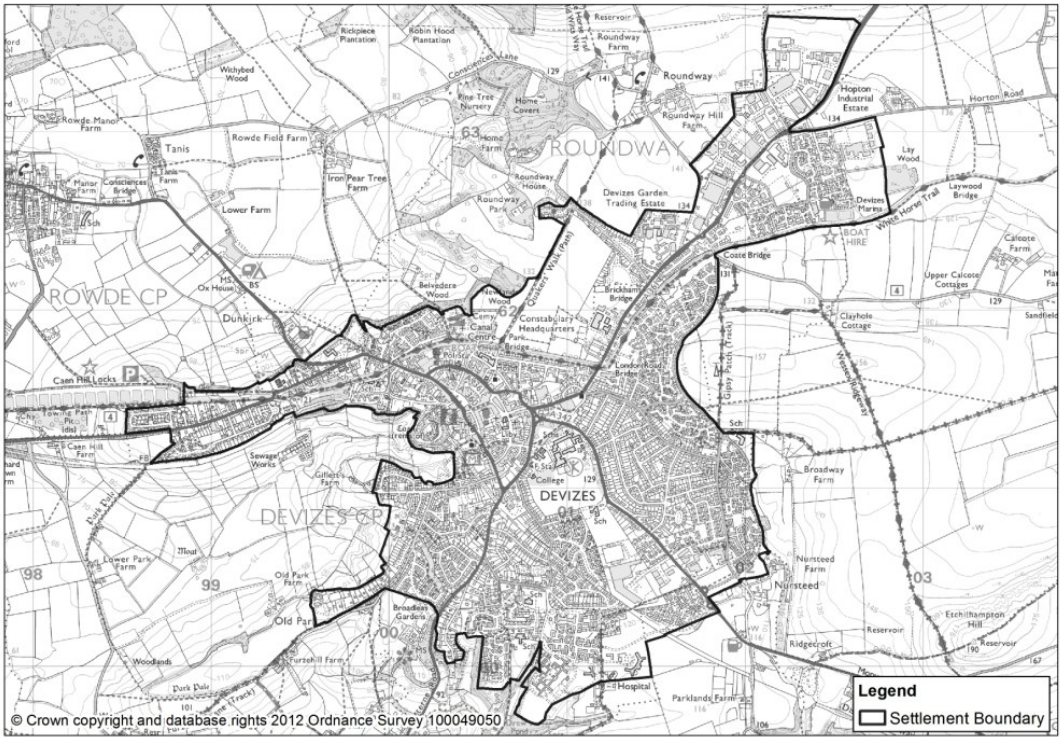
Devizes already experiences of a number of transport challenges which, without effective mitigation measures in place, will worsen due to new development trips and general traffic growth in the future.

The critical challenges are summarised below:

- The town centre traffic routes suffer from peak period traffic congestion resulting in delays and air quality problems;
- Strategic public transport connections are limited and there is no easy or quick link with the national rail network;
- Local town bus services can be infrequent and do not connect with surrounding villages;
- Pedestrian facilities are generally good, although within the town centre some footway widths are constrained and can be affected by on-street parking activity;
- Cycle routes are incomplete and do not provide comprehensive linkages across the town;
- It is believed that there is a high degree of circulation of cars in the town centre, with drivers searching for an on-street parking space;
- Parking by commuters occurs in residential areas outside the controlled zone; and
- Devizes town centre is a historic environment and is an attractive place to work and visit. However, some parts of the town centre have suffered from poor pedestrian connectivity and a public realm which could be improved.

This transport strategy has been developed to address these challenges and provide a transport network that meets the aspirations of the developing Wiltshire Core Strategy for the built-up area of Devizes, as defined in Figure 1.1: 1. The proposed mitigation measures and strategy development are reviewed in later sections of this report.

Figure 1.1: Area Covered by the Devizes Transport Strategy



Source: Wiltshire Council

2. Policy Framework

2.1 National Policy

2.1.1 UK Climate Change

Climate Change is considered to be a central issue for the developing Wiltshire Core Strategy. Three of the 'key drivers' in the Core Strategy Topic Paper 10 Transport relate to the need to reduce carbon emissions, these being:

- To reduce the dependency on the private car;
- Minimise long distance commuting by private and public transport; and
- Embrace new technology solutions, although recognise that this can only be part of the overall strategy.

The 2008 Climate Change Act set legally binding carbon targets and aims to cut the country's carbon emission by 34% by 2020 and 80% by 2050. The UK Government's Carbon Plan, published in March 2011, identifies that road transport produces 20% of all UK greenhouse gas emissions. The Plan states that the greatest priority is the development of appropriate vehicle technologies, and that this will have the largest impact in reducing overall emissions. Additionally, the need to 'change behaviours' is promoted, and the development of transport schemes at the local level is needed to influence travel choice. Such measures would need to be delivered through the Local Transport Plan and other supporting local transport strategies.

Wiltshire Council is a signatory to the Nottingham Declaration which commits the Council to tackling the causes and effects of climate change and to encourage all sectors to do the same.

2.1.2 Environment Act 1995

The Environment Act 1995 requires all local authorities in the UK to review and assess air quality in their area. If any standards are being exceeded or are unlikely to be met by the required date, then that area should be designated an Air Quality Management Area (AQMA) and the local authority must draw up and implement an action plan aimed at reducing levels of the pollutant. Local authorities are required to make copies of their reviews and assessments of local air quality available to the public, as well as any orders designating an AQMA, and to consult locally on the action plan. In Wiltshire, traffic is the main contributor to exceedences of nitrogen dioxide objectives.

2.1.3 European Directive 2008/50

The European Union has developed an extensive body of legislation which establishes health based standards and objectives for a number of pollutants in air. Most of the existing European legislation on air quality was merged into this single directive. The existing air quality objectives were retained, which specify limit values for the different types of pollutant and when they must be achieved by. The possibility for time extensions of three years (PM10) or up to five years (NO2, benzene) for complying with limit values was included, based on conditions and the assessment by the European Commission.

2.1.4 Transport White Paper

The Department for Transport's White Paper *Creating growth, cutting carbon* has a key aim to address carbon emissions from transport and 'to reduce emissions at the local level, using the tools that are available to us now, principally by encouraging people to make more sustainable travel choices for shorter journeys' (para.1.4). It also introduces the concept of localism for transport decisions and the 'big society'.

The Localism Act received Royal Assent in late 2011 and a key element of the Act is to enable the transfer of some local authority responsibilities to parish councils and other voluntary organisations. This includes the development of neighbourhood plans which allows local communities to dictate how development will be delivered within their own local area.

2.1.5 National Planning Policy Framework

The *National Planning Policy Framework* was published in March 2012 and, in terms of development and transport, the policy confirms that:

> 'Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.'

The policy states that the location of the development and the land use mix are important to encourage the use of sustainable modes and states:

> 'Planning policies should aim for a balance of land uses within their area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities.'

2.2 Local Policy

2.2.1 Local Transport Plan

Guidance on Local Transport Plans[7] sets out five 'national transport goals' to be taken into account when developing the third round plan for Wiltshire:

- Support economic growth;
- Reduce carbon emissions;
- Promote equality of opportunity;
- Contribute to better safety, security and health; and
- Improve quality of life and a healthy natural environment.

The Wiltshire Local Transport Plan sets out a number of strategic transport objectives that are consistent with the national guidance, with some of particular relevance to Devizes:

- SO1: To support and help improve the vitality, viability and resilience of Wiltshire's economy and market towns;
- SO2: To provide, support and/or promote a choice of sustainable transport alternatives including walking, cycling, buses and rail;
- SO5: To improve sustainable access to a full range of opportunities particularly for those people without access to a car;
- SO7: To enhance Wiltshire's public realm and street scene;
- SO11: To reduce the level of air pollutant and climate change emissions from transport;
- SO12: To support planned growth in Wiltshire and ensure that new developments adequately provide for their sustainable transport requirements and mitigate their transport impacts;
- SO13: To reduce the need to travel, particularly by car; and
- SO14: To promote travel modes that are beneficial to health.

2.2.2 Joint Strategic Assessment for Devizes

The Joint Strategic Assessment[8] identifies transport as an important topic and focuses on four key issues:

- Changes to car parking charges (consistency with other areas and avoiding detrimental impacts of increased parking charges on the economy);
- Worsening air quality (associated with traffic congestion);
- Road and pavement repairs; and
- Lack of a coherent cycle network (evidenced by lack of routes and secure cycle parking).

2.2.3 Devizes Community Area Plan (2012 – 2016)

The Devizes Community Area Plan (2012 –2026)[9] was adopted in early 2012 and has been produced by a local, independent and non-political body (Devizes Community Area Partnership) which brings together

[7] Department for Transport (July 2009) Guidance on Local Transport Plans

[8] Wiltshire Public Services Board/Wiltshire Council (2011) Joint Strategic Assessment for Devizes Community Area 2011

representatives from across the entire community. Some of the main transport issues identified in the Plan include:

- High levels of traffic congestion within Devizes town centre, resulting in 'rat-running' through certain areas;
- The associated air quality problems which are experienced at a number of locations within the town centre;
- The need to reduce car use through the promotion of sustainable modes (walking and cycling) and the implementation of travel plans at major employment sites;
- The need to improve local bus services and provide additional bus information;
- Future development needs to be thoroughly assessed and be located where the impact of additional traffic movements can be managed; and
- The lack of a rail connection is noted and the feasibility of an additional rail stop on the Westbury to Pewsey rail line should be investigated.

A key message in the Plan is that:

> 'The development of this strategy has been driven by a number of factors. Probably the most significant is the acceptance that little, if anything, can be done to expand the local highway network in the foreseeable future. Nevertheless, there is an urgent need to reduce the current levels of high roadside air pollution and lessen our carbon footprint.'

2.3 Wiltshire Core Strategy

2.3.1 Wiltshire Core Strategy Pre-Submission Document

The Wiltshire Core Strategy Pre-submission Document was open for consultation between February and April 2012. A significant evidence base and a number of topic papers supported the main strategy document.

Core Policy 12 – Spatial Strategy: Devizes Community Area confirms that:

> 'Over the plan period (2006 to 2026), at least 2,150 new homes will be provided of which 1,730 should occur at Devizes. 420 homes will be provided in the rest of the community area. There will be no strategic housing sites allocated in Devizes. Land for residential development in the Devizes Community Area may consist of a range of sites in accordance with Core Policy 2. If required, non-strategic sites within the community area will be identified through either a neighbourhood plan or a site allocation Development Plan Document (DPD).'

There are a series of overarching key principles which guide the development of the Strategy document, as follows:

[9] Devizes Community Area Partnership (March 2012) Devizes Community Area Plan

- Providing for the most sustainable pattern of development that minimises the need to travel and maximises the potential to use sustainable transport.

- Creating the right environment to deliver economic growth, delivering the jobs Wiltshire's population needs locally, and taking a flexible and responsive approach to employment land delivery.

- Managing development to ensure that jobs and the right infrastructure are delivered at the right time to ensure that out commuting, in particular to areas outside of Wiltshire, is not increased and development does not have a detrimental impact on infrastructure.

- Working towards lowering Wiltshire's carbon footprint through the appropriate location of development, and through renewable energy and sustainable construction.

- Protecting and planning for the enhancement of the natural, historic and built environments, wherever possible, including maintaining, enhancing and expanding Wiltshire's network of green infrastructure to support the health and wellbeing of communities.

- Providing high quality, well designed development, and ensuring full local community involvement in planning for significant new proposals.

- Providing the framework to deliver appropriate community-led planning policy documents, including neighbourhood plans.

The above principles are translated into the following strategic objectives:

- Strategic Objective 1: Delivering a thriving economy;
- Strategic Objective 2: Addressing climate change;
- Strategic Objective 3: Providing everyone with access to a decent, affordable home;
- Strategic Objective 4: Helping to build resilient communities;
- Strategic Objective 5: Protecting and enhancing the natural, historic and built environment; and
- Strategic Objective 6: Ensuring that adequate infrastructure is in place to support our communities.

2.3.2 Transport and Development

The Wiltshire Core Strategy Consultation Document was consulted on during the summer of 2011. A brief summary of the consultation responses relating to transport and development in the Devizes area are provided below:

- A significant number of respondents highlighted the existing air quality issues, and stated that this issue should be reviewed before future development proposals are approved. The Council has recognised that air quality issues may 'constrain further growth in the short term';

- The respondents also raised concerns about the quantity of new development proposed and the impact on an already congested road network and the subsequent travel delays;

- A smaller number of respondents suggested that a northern relief road would be needed to reduce town centre traffic levels;

- Several respondents identified the detrimental impact that increased traffic would have on the 'market town' character;
- Several respondents suggested that traffic congestion would have a negative impact on business and would discourage visitors from coming to the town;
- The problem of rat-running on Consciences Lane was identified by two respondents;
- There was a suggestion that the type and size of vehicles permitted to travel through Devizes should be restricted; and
- The lack of rail facilities was noted, and the safeguarding of a rail station site on the Westbury-Pewsey railway was suggested by a number of respondents.

2.3.3 Climate Change

The 2008 Climate Change Act set legally binding carbon targets and aims to cut the country's carbon emission by 34% by 2020 and 80% by 2050. Accordingly, climate change is considered to be a central issue for the developing Wiltshire Core Strategy. Three of the 'key drivers' in the Core Strategy Topic Paper 10 Transport relate to the need to reduce carbon emissions:

- To reduce the dependency on the private car;
- Minimise long distance commuting by private and public transport; and
- Embrace new technology solutions, although recognise that this can only be part of the overall strategy.

In line with reducing carbon emissions, national policy is founded on encouraging people to make more sustainable travel choices, with land use planning aiming to minimise journey lengths through the provision of a range of local facilities.

2.3.4 Air Quality

The main aim of the Air Quality Strategy for Wiltshire is as follows:

> 'Wiltshire Council working collaboratively will seek to maintain the good air quality in the county and strive to deliver improvements in areas where air quality fails national objectives in order to protect public health and the environment'

Core Policy 55 on Air Quality states:

> 'Development proposals which by virtue of their scale, nature or location are likely to exacerbate existing areas of poor air quality, will need to demonstrate that measures can be taken to effectively mitigate emission levels in order to protect public health, environmental quality and amenity.'

In terms of new development and transport proposals:

- 6.107 Air quality in Wiltshire is predominantly good with the majority of the county having clean unpolluted air. There are however a small number of locations where the combination of traffic, road layout and geography has resulted in exceedences of the annual average for nitrogen dioxide (NO2) and fine particulates (PM10);

- 6.108 It is recognized that improving air quality in these specific locations is difficult due to the increased use and reliance on private motor vehicles. This strategy seeks to contribute to addressing this issue through a multifaceted approach which includes locating new development where there is a viable range of transport choices, seeking to boost the self containment of settlements to reduce commuter flows and through seeking to utilize the benefits from managed development and growth to take the opportunities to help address the areas where particular problems occur. This latter solution will be delivered through developer contributions;

- 6.109 In order to help developers and communities overcome this issue the council has produced a comprehensive Air Quality Strategy, which is a high level guiding document to inform policy and direction across a range of council services with the aim to improve air quality. The Air Quality Strategy is a key document which identifies the importance of good air quality to the people of Wiltshire. It provides a focus and mechanism to promote communication and cooperation between the council, external organisations and the community to address localised areas of poor air quality in the area. It includes a 17 point plan which focuses on strategic actions to help deliver improved air quality; and

- 6.110 Core Policy 55 below requires that all development which either because of the size, nature or location will have the potential to exacerbate known areas of poor air quality, is required to overcome this barrier to development by demonstrating the measures they will take to help mitigate these impacts. In line with the Air Quality Strategy, additional guidance incorporating a developer's toolkit, will be produced which will give positive advice to prospective developers on how to address the issue of air quality effectively so their investment can go ahead.

2.3.5 Core Strategy Topic Paper 10: Transport

A number of topic papers have been produced for the consultation on the Wiltshire Core Strategy including one on transport. This refers to the national and local policy context including the LTP and Community Area Plan and relates these to the Core Strategy. It is suggested that the following challenges should be addressed by the Core Strategy:

- Sustainable transport (reducing the need to travel and supporting sustainable modes);
- Transport and development (locating sites where sustainable transport can be achieved);
- Development impacts on the transport network (including mitigating measures and resisting access to sites from the Primary Route Network where possible);
- Transport strategies (facilitating sustainable development growth through integrated transport packages);
- Demand management (reducing reliance on car use);
- Movement of goods (improving efficiency of road, rail and water networks); and
- Strategic Road Network (improvements in support of the core strategy objectives and policies).

T2 Transport and Development identifies the following:

New development should be located and designed to reduce the need to travel and to encourage the use of sustainable transport alternatives. As part of a required transport assessment, the following must be demonstrated:

- That consideration has been given to the needs of all transport users (where relevant) according to the following hierarchy:
  - Visually impaired and other disabled people;
  - Pedestrians;
  - Cyclists;
  - Public transport;
  - Goods vehicles;
  - Powered two-wheelers;
  - Private cars;

- That the proposal is capable of being served by safe access to the highway network; and
- That fit for purpose and safe loading/unloading facilities can be provided where these are required as part of the normal functioning of the development.

Where appropriate, contributions will be sought towards sustainable transport improvements and travel plans will be required to encourage the use of sustainable transport alternatives and more sustainable freight movements. Other funding sources will also be deployed as available.

The Infrastructure Development Plan for Devizes also notes the need to roll-out delivery of broadband to enable home working and internet access to goods and services, thereby reducing peak vehicle trips. It also supports the town bus service, walking and cycling initiatives and traffic management measures.

3. Strategy Objectives

3.1 Critical Policy Objectives

The key strands can be drawn out from the national and local policy frameworks described earlier. Many of the transport issues to be considered have wide implications, particularly for the local economy, land uses and environment. Some of these may be incompatible or difficult to reconcile, so choices need to be made in the knowledge of the expected impacts based on a number of different criteria.

To achieve a positive outcome, this strategy needs to contribute towards the wider objectives that are promoted by the Wiltshire Core Strategy and the Devizes Community Area Plan in particular whilst taking into account the wider policy framework. The issues identified within the following sections are considered to be critical in the development of a successful Devizes Transport Strategy.

3.1.1 Supporting Economic Growth

The economic vitality of the town is undermined by traffic congestion and the dominance of vehicles which is unappealing for retail, tourism and commercial activity. Efforts to promote more walking will help local retailing and improved accessibility to jobs by sustainable modes will help support growth. The transport strategy has close links with aspirations for economic growth, helping to make Devizes an attractive centre for investment in jobs and premises, as well as for visitors and local shoppers.

3.1.2 Reducing Air Quality Problems

Devizes suffers from an identified air quality problem. There is an existing Air Quality Management Area around Shane's Castle and there are proposals to extend this to cover other parts of the town centre. The air quality problems have developed because of peak period traffic demand and resultant congestion which occurs in parts of the town centre. It is recognised that the potential to restrict traffic movements through the town centre is limited. The extent to which modern engine technologies will reduce emissions can only become evident over time, therefore it is essential that the volume of traffic is reduced by promoting a shift from car use, particularly for local journeys.

3.1.3 Promotion of Sustainable Transport

In association with physical improvements, the promotion of more sustainable travel modes is required to ensure that unnecessary car trips by local residents can be avoided. A comprehensive and legible network of walking and cycling routes will have considerable benefits in reducing traffic, improving air quality and encouraging a culture of community interaction. Devizes benefits from having an historic and attractive town centre and improvements to pedestrian facilities and the public realm will help to ensure that the town remains attractive to visitors.

3.1.4 Health and Wellbeing

Pollution related to vehicle emissions has detrimental effects on health, exacerbating many medical conditions and contributing to poor air quality throughout the area. Reducing car use will also have positive impacts in creating a healthier community, with higher levels of fitness through walking and cycling activity and addressing problems such as obesity, now common among both children and adults. Inactivity and sedentary lifestyles have a significant impact on the health and wellbeing of everyone, particularly children and elderly people.

3.1.5 Development and Town Centre Opportunities

Future development will need to be carefully located and have good connections with the town centre, employment opportunities and education facilities to minimise the impacts of additional car journeys. A culture of sustainable transport would be enhanced with changes in the town centre to improve the quality of the public realm, so that communities are better linked and vehicular traffic no longer dominates. A review of streetscenes (reducing street furniture, improving surfacing, etc) would better reflect the historic fabric of the town centre.

3.2 Agreed Objectives

Objectives for the transport strategy have been developed to be in line with the wider aim of supporting economic growth. The following objectives have been reviewed by stakeholders and agreed as the basis for determining the scope of potential strategies:

- Reduce transport related emissions and address **climate change** and **local air quality problems**;
- Create **better environments for people**, rather than vehicles, in the town centre and residential areas;
- Reduce the **traffic congestion** and delays that are experienced within the town and reduce the use of unsuitable routes (e.g. Church Walk, Avon Terrace) and rural rat-runs (e.g. Consciences Lane, Whistley Road, through Bishops Canning/Coate);
- Promote and improve **sustainable transport**;
- Enable appropriate **high quality new development**;
- **Integrate development sites** with established communities to increase travel choice, based on comprehensive networks and linked facilities;
- Create the conditions to support **local employment** opportunities which can be **accessed by sustainable modes** to support local activity;
- **Improve accessibility** throughout the town to encourage walking and cycling;
- Promote **healthier lifestyles** for all residents, particularly those of school age;

- Support **road safety** initiatives, particularly for vulnerable road users;
- Protect and enhance the **natural environment**; and
- Safeguard the **historic environment**.

3.3 Creating a Vision

With agreed objectives in place, it is helpful to draw the main strands together into a vision to provide direction to the strategy throughout the process. For Devizes, the following vision is proposed:

> '**The vision for the Devizes Transport Strategy is to generate a sustainable community where transport plays a vital role whilst its negative impacts are minimised'.**
>
> 'Devizes is a successful and attractive market town. However, due to the pressures of three major traffic routes passing through the town, there are significant transport challenges. The existing traffic volumes and congestion cause delays and localised air quality problems which reduce the quality of life for residents and also the attractiveness of the town to employers and visitors. The transport strategy will seek to address existing problems and will define a sustainable way of managing the impacts of future growth.
>
> The health and wellbeing of local residents are of primary concern, and a core element of the strategy will focus on changing established travel habits. The significant challenge of managing car trips within Devizes has to be faced, and this means that difficult decisions have to be made. The promotion of sustainable travel is vitally important, with better walking and cycling routes providing the best alternative to using a car for many short, local trips. This will be supported by a public transport network that provides good access to all parts of the town and to other important local destinations.
>
> The strategy will make the town a safer and healthier place for all, whilst protecting the historic and natural environment which is so important for the future of Devizes.'

3.4 Achieving Change in Devizes

3.4.1 Traffic Modelling

There is little point in pursuing measures that do not have sufficient impact to reduce vehicle emissions and therefore improve air quality to the necessary standards. To investigate this, some hypothetical figures have been tested to understand the extent to which change would be needed. To identify the potential mode shift that would be required to influence traffic flow levels within Devizes, estimates have been made based on information from the PARAMICS traffic model and typical mode shares from the TRICS database. (The TRICS database is an industry standard source of data containing trip surveys undertaken at a wide range of development types across the UK, and has been interrogated to identify typical mode shares that would be experienced in similar locations.)

Using traffic demand for the whole of Devizes from the PARAMICS model (car trips) and mode share data from TRICS, Table 3.1 provides an indicative view of the extent to which effective measures need to be implemented in order to reduce the number of car trips by 5% and accordingly reduce traffic congestion and improve air quality.

Table 3.1: Indicative Mode Share With and Without Measures in Place to Achieve a 5% Reduction in Traffic

Mode	Base Trips	Mode Share %	Assumed Change	Revised Trips	Revised Mode Share %
AM PEAK PERIOD (0700 to 1000)					
Bus	290	2.3%	5.0%	304	2.5%
Walk	3,224	26.1%	20.0%	3,869	31.4%
Cycle	153	1.2%	10.0%	168	1.4%
Car driver	7,877	63.9%	-5.5%	7,202	58.4%
Car passenger	788	6.4%	0.0%	788	6.4%
Total	**12,331**	**100.0%**		**12,331**	**100.0%**

Source: TRICS Database / PARAMICS traffic model

A 5% reduction in traffic is shown to be possible by the combined effect of increasing walking by 20%, cycling by 10% and bus use by 5% (based on the AM Peak period).

Similarly, Table 3.2 shows the likely changes required to achieve a 10% reduction in traffic, illustrating that very significant increases in walking and cycling would be required, together with 10% increases in bus and car sharing.

The emphasis here is on reducing car trips, the main thrust of the objectives for the strategy. The existing proportion of cycling trips is lower than would be expected for a town the size of Devizes. It is likely that despite topography that is conducive to cycling and a range of journeys that could be undertaken by cycling, the uptake is low due to the actual or perceived dangers of traffic. The proportion of bus trips is also low, possibly due to a wide range of destinations for regular journeys which are reached most easily by car. Accordingly, the assumed changes as a proportion are substantial to compensate for the lower trip numbers. The full range of initiatives covered by smarter choices is not included here but additional benefits will be obtained from home working, teleworking, individualized marketing of travel options and travel plans. The base figures are based on the traffic figures from the model, excluding through trips i.e. those with both an origin and destination outside Devizes.

Table 3.2: Indicative Mode Share With and Without Measures in Place to Achieve a 10% Reduction in Traffic

Mode	Base Trips	Mode Share %	Assumed Change	Revised Trips	Revised Mode Share %
AM PEAK PERIOD (0700 to 1000)					
Bus	290	2.3%	100.0%	579	4.7%
Walk	3,224	26.1%	17.0%	3,772	30.6%
Cycle	153	1.2%	250.0%	534	4.3%
Car driver	7,877	63.9%	-10.2%	6,618	53.7%
Car passenger	788	6.4%	5.0%	827	6.7%
Total	**12,331**	**100.0%**		**12,331**	**100.0%**

Source: TRICS Database / PARAMICS traffic model

Although the figures provided in the above tables are purely illustrative, the relative proportions are typical of those in Devizes, with car use dominating trip movements in the peak periods.

The evidence presented above confirms that to transform Devizes into a far more sustainable community, with much less reliance on car travel, would require changes in travel behaviour on a scale that would be a significant challenge at this time. Even with a significant increase in the level of walking trips, for example, the associated reduction in traffic volumes on the key routes in Devizes will be modest.

3.4.2 Accessibility and Employment

Traffic congestion undermines the economy and reductions in the number of vehicles will help local businesses as well as the environment. The measures considered address accessibility in and to the town. Improved walking, cycling and public transport create opportunities for people to access local jobs and educational facilities and enable them to shop locally. For inter-urban journeys, improved public transport services help people working in other locations and widen their opportunities for work and training, whilst improved town services will benefit those living and working in Devizes.

3.4.3 Impacts in Combination

It is important to recognize that both 'hard' and 'soft' measures work best in combination and that there is no single measure that will solve the problems identified – this requires a multi-faceted approach. Much also depends on the time of day; for example, a greater reduction in car use would have a strong effect on peak time traffic but could be expected to be harder to implement given the restrictions around working and school times that create the peak demand in the first place. There is also the potential difficulty that, if traffic is free-flowing much of the time, there is little incentive to change from car use and quite possibly the opposite effect, using road capacity that has become available and undermining efforts to secure a lasting mode shift without demand management measures. The extent to which measures are effective is also constrained by funding availability, particularly where there is a requirement for revenue funding, for example to support travel planning initiatives or public transport services.

3.4.4 Smarter Choices/Sustainable Travel Towns Evidence

In Devizes, the scope for major engineering measures is limited by the road layout and heritage characteristics of the town. However, 'smarter choices' initiatives can help contribute positively to wider strategy objectives, often providing a credible way forward when infrastructure improvements are not feasible or fundable. The term smarter choices refers to travel plans for workplaces and educational establishments, measures to reduce travel demand such as internet access, walking, cycling and more use of public transport services and also better use of cars, such as car sharing. Therefore, it is useful to review research into how effective smarter choices can be.

UK research has shown that a reduction in peak traffic flow of 21% could be achieved in urban areas and 14% in other areas with intensive smarter choice measures; at off-peak times, the reductions could be 13% and 7% respectively. Three demonstration projects were funded to test how shifts from car use could be achieved, known as the Sustainable Travel Towns. The three locations were:

- Peterborough, a large free-standing urban centre in Cambridgeshire with an extensive hinterland of small communities;
- Darlington, an urban area in north east England with a declining industrial base; and
- Worcester, one of a number of towns within commuting distance of a major urban area but also fulfilling a role as a centre for smaller communities.

Data has been made available for Peterborough and Worcester for the 2004 to 2008 period. This showed that car driver trips reduced by 9% and 7% respectively. In Peterborough, car driver trips reduced by 5% in the AM peak and 6% during the PM peak. Larger reductions occurred off-peak with an 11% reduction between 0900 and 1500. However, the main impacts were on leisure journeys with a more limited impact in peak times. While Peterborough demonstrated that change is achievable, it reflects the city's position as a largely self-contained community – some 82% of economically active residents working within the city – with limited out-commuting.

Whilst Devizes has a relatively high containment of employment within the town, many residents commute to other centres including Trowbridge, Swindon, Bath and others beyond. There is a mismatch between the type of housing being built in Devizes and the types of local jobs available, such that the occupants of larger houses need to commute further to jobs with sufficient remuneration. All three of the demonstration projects covered urban areas that are significantly larger than Devizes with more critical mass to take advantage of the various initiatives. However, given that Devizes does demonstrate a reasonable level of containment compared with other market towns in Wiltshire, there are opportunities to achieve some shift from car use to sustainable modes.

Further UK Government research suggested that wider smarter choice applications could reduce car trips by 7% compared with the 11% assumed in the 2004 report. Significantly, it was indicated that reductions would be confined to urban areas with a negligible effect on rural traffic flows. However, this has generated considerable debate and it has been suggested that there are a number of options for rural areas such as car sharing, home working and shopping deliveries. A further initiative suggested that after two years, cycle use could be increased by 50% and bus use by 12.9%, both notably different to the control areas. However, there is less evidence that the project has reduced traffic flows and there is no specific data for weekday peak periods for which the potential impacts could be greatest.

More recently, an alternative to the Department for Transport's appraisal methodology for smarter choices has been presented[10] against a background of increasing understanding about the impacts of such measures. In the context of Devizes, although there would be significant challenges in reducing the demand for travel and shifting people from car use to more sustainable means of transport, the overall benefits would be significant as people start to experience a less polluted, more liveable environment and improved accessibility.

[10] Buchan K, Cairns S, Cope A, Goodwin P, Sloman L/Campaign for Better Transport (2012) *WebTAG Unit 3.10.6 – an alternative draft.*

4. Working towards a Preferred Strategy

4.1 Developing the Preferred Strategy

The critical outcome of the project is to identify a 'preferred transport strategy' which would be adopted in support of the Core Strategy proposals for Devizes. A wide selection of possible measures has been reviewed and through this evaluation process, the number of measures has been reduced so that each of the remaining measures is potentially deliverable and accords with objectives of this strategy and the wider objectives contained within the Wiltshire Core Strategy.

Following the initial evaluation process, the possible measures which could be included in the Preferred Strategy are described below.

4.1.1 Walking Measures

Walking measures are intended to promote walking as a convenient and safe means of reaching local destinations, particularly schools, workplaces and retailing in the town centre. Walking is often the quickest means of access as it is usually direct and avoids the need to find a parking space. It also promotes healthier lifestyles. Personal safety is important and can be ensured through good sightlines and appropriate levels of lighting. Conflict with vehicle movements can be overcome through improved road crossings and clarity about how road space is allocated.

- **W1 – Introduction of controlled at-grade crossings on key pedestrian corridors**
  Traffic signal crossings give people confidence in crossing busy roads and can overcome specific problems on walking routes, contributing towards an increase in the number of walking trips. However, signals can affect traffic flows although this can be overcome to some extent with the use of Puffin crossings that detect when users have crossed.

- **W2 – Strategy to develop safe walking routes between residential areas and the town centre, supported by signing and appropriate lighting and vegetation and parking control**
  Walking has considerable potential in combating obesity and encouraging healthier lifestyles. The uptake of walking is influenced by a range of factors including the quality of routes in terms of personal safety, road crossings and surfacing. Route signing can be important for visitors and appropriate lighting can be important in enabling the use of paths in the evenings and early mornings. Obstructions on footways include badly parked vehicles which can be addressed through parking enforcement while overhanging vegetation, a particular problem for people with visual or mobility impairments, should involve negotiation and, where appropriate, enforcement action. Winter snow and ice needs to be cleared from paths and footways as well as carriageways. Creating attractive walking routes supports accessibility, safety, environmental and air quality objectives.

- **W3 – Ensure that all future development proposals incorporate a 'permeable' walking network with surrounding areas**
  Travel habits form quickly when people move into new development sites. Creating a walking network that can be used as the first choice needs a legible and effective network to link with other parts of the town. This supports healthier living and accessibility, air quality and safety objectives.

- **W4 – Extension of town centre pedestrianisation (or shared surface arrangement)**
  Pedestrianisation schemes elsewhere have demonstrated benefits for users – with a better and safer environment – and for business communities with improved footfall and more retail spend than a car-dominated centre. More walking not only contributes to an improved local economy but to a better environment with lower vehicle emissions and hence better air quality, supporting the historic environment of Devizes and creating a safer centre, particularly for people with mobility impairments. Displacing some parking will be necessary to create a better environment for people.

- **W5 – Restricting traffic on Maryport Street**
  Banning or restricting through traffic on Maryport Street would create an improved pedestrian environment. This measure would be combined with reversing the direction of traffic on Monday Market Street and changes in Sidmouth Street to allow traffic exiting from the car park to head south on Sheep Street. Access for deliveries would need to be maintained at certain times, as well as access for disabled motorists to retail outlets.

- **W6 – Enhancement of town centre public realm and pedestrian facilities, in particular the Market Place and High Street/Long Street**
  The historic context of the town is strongly evident but the dominance of car use can undermine the local environment in being unsightly, generating pollution problems and disadvantaging those people not using cars. Public realm improvements would support safety and healthier lifestyles. Removing or displacing some on-street parking would help people access shops and services by sustainable modes.

4.1.2 Cycling Measures

Cycling has considerable potential. The number of cycle trips could be doubled to a level that would be expected in a town the size of Devizes. Road space is limited which precludes standard approaches to designating space such as cycle lanes but where routes exist, some improvements will be introduced to make other road users more aware of cyclists. Off-road cycle routes are preferred, particularly for those that will be used by school children. Another way of encouraging cycling is to make traffic conditions more amenable i.e. slower vehicle speeds and reducing potential conflicts through improved visibility. Cycling education is also helpful in reintroducing people and encouraging new cyclists.

- **C1 – Implement comprehensive cycling network including secure cycle parking at major sites and educational facilities**
  Secure cycle parking will be created within the town centre, at major employment sites and at all education facilities to encourage more cycling. A comprehensive network will include off-road routes, as well as parts of the whole road network with calmer and safer vehicle movements. The network will be signed and lit appropriately. A well used network would contribute to better air quality, congestion relief and sustainable transport objectives.

  Components of an improved network include designating routes for cyclists at Brickham Bridge and Quaker's Walk. Other route improvements include the A361 between Dunkirk Hill and New Park Street, Snuff Street/Couch Lane, Brickley Road, The Green and crossing the A342 Nursteed Road. These routes would be complemented by on-road facilities through suitable, less busy roads. Appendix A shows the proposed cycle network incorporating the existing and proposed routes.

- **C2 – Cycle campaign (to include Bike It investment)**
  Providing better infrastructure will be supported by awareness and promotion campaigns. These can target specific groups such as children, returning and new cyclists with a range of measures such as

cycle buddies, safety information and equipment, route planning, secure parking, etc. For shorter journeys which would otherwise be made by car, cycling can contribute to a number of objectives including accessibility to local jobs and services. The Bike It investment would include a School Cycling Officer to work with local teachers and children to encourage children and their families to take up cycling and to ensure that they are properly trained to do so,

- **C3 – Create and promote routes from villages**
  Devizes is the hub for a rural hinterland. Promoting cycling to and from nearby villages would reduce traffic congestion and improve air quality while supporting healthier lifestyles and improving access to the countryside. Infrastructure measures may be required for some routes but secure cycle parking at key destinations is also important.

4.1.3 Public Transport

Public transport in Devizes largely focuses on the bus network. Improved information and more reliable services support an improved image for buses but other factors such as journey time, cost and parking availability determine whether or not people use the services available. Measures such as more services will incur considerable ongoing cost and in the absence of a subsidy are unlikely to be commercially viable; however, increased service frequency is generally the main reason why people transfer from car to bus. The poor levels of use of the town service suggest that some investigation is needed into how it could attract more users, possibly with more services and/or an adjusted timetable.

Connections to an existing rail station would help people travelling by train, provided that the connection is reliable, integrated and regular enough to be convenient. Improved services to link with rail at Swindon and Chippenham would be desirable, not least because parking at those stations is becoming more difficult. The potential for a new station could be explored although, of course, this would be some distance from Devizes town centre. A difficulty is that the Great Western franchise process is expected to include the withdrawal of direct trains to London from Westbury and Pewsey thus requiring a change at Newbury instead.

- **PT1 – Undertake a feasibility study of potential rail connection options on the Westbury to Pewsey railway**
  Devizes is disadvantaged by no longer being on the railway network. Rail can be used for commuting and other longer journeys if there is an attractive link between a rail station and the town. A study would develop ideas for such a connection and the potential costs and benefits. A new station at Lydeway between Westbury and Pewsey would be considered in addition to improved connections between Devizes and existing rail stations.

- **PT2 – Promote existing bus service connections (in particular those to Swindon/Salisbury/ Trowbridge/Bath) and develop marketing campaign**
  Devizes has inter-urban bus services in place which have the potential to contribute more fully in providing an alternative to car use for some journeys. This would help to reduce traffic congestion and improve air quality while adding to the economic buoyancy of the town and accessibility to employment. An audit of bus stops in the town will indicate where improvements could be made to shelters and service information, a package of measures being a means of encouraging bus use. An ongoing marketing campaign will help awareness of travel options and provide easily accessible information that is essential to support bus patronage. This will include timetables and maps for all services.

- **PT3 – Introduction of higher frequency bus services**
  More services to other towns would encourage their use, particularly if complementary measures are in place such as limited car parking at certain destinations or fare offers for regular travellers. This would help reduce traffic levels but appropriate revenue funding will need to be secured if services are to be viable. The town bus services would benefit from higher frequency services, reducing the number of short distance car trips.

- **PT4 – Explore options for demand responsive transport and/or community transport/taxibuses**
  Demand responsive transport (buses operating to partially-fixed routes but with flexibility to serve other places dependant on demand) was pioneered in Wiltshire and has demonstrated that flexible services can help meet the needs of some communities. Demand responsive transport operates with partially-fixed routes with deviations being operated according to demand by notification to the operator before the journey commences. This 'unconventional' transport in the form of demand responsive buses or some form of taxi-bus will be explored further. In doing so, accessibility objectives are addressed while promoting alternatives to car use. Community transport can also be used in a more integrated way, providing services to various communities in and around Devizes. The wider role of taxi-buses will be explored, perhaps involving co-ordinated parcel deliveries to some communities.

- **PT5 – Promote better integration e.g. bus/rail ticketing and interchange arrangements**
  Better integrated services will allow 'joined-up' journeys to be made e.g. linking buses to a rail station or providing coherent links between different bus and coach services. This will involve co-ordinated timetables, information and ticketing and would help reduce the use of cars for some journeys.

4.1.4 Travel Plan Measures

Travel planning helps to identify alternatives to car use in various contexts: workplaces, schools/colleges and residential areas. Different travel plans support changes in travel behaviour by exploring the options available and identifying measures that can enable people to become less car dependent. Possible measures include incentives from the employer such as contributions towards the cost of bus travel rather than free parking, training schemes to enable people to learn to ride a cycle or give them confidence if they are returning to cycling, showing where safe, direct walking routes exist and similar.

- **TP1 – Introduce residential travel plans for all new development proposals**
  Travel plans for communities will be designed to provide information about travel options and practical support for people to shift from car dependency to other means of travel. This would involve car clubs with different types of vehicle available to club members on a pay-as-you-go basis. Travel plans can be associated with new development sites through planning consents and can help reduce car trips and support air quality, congestion and healthy living objectives.

- **TP2 – Support the development of workplace travel plans at all major employment sites**
  Travel plans for workplaces help employees to travel to premises more sustainably, relieving parking pressures at business premises, as well as reducing peak period traffic levels and air pollution by helping a shift to walking, cycling and public transport use. All significant employers including Wiltshire Police and the NHS will be urged to produce travel plans and help to do so should be available for smaller employers and groups of businesses. Travel plans can also promote car sharing and can address the provision of private non-residential parking as part of the planning process in accordance with the Core Strategy.

- **TP3 – Continue to implement school travel plans and develop a 'safer routes to schools' strategy for each education facility**
  The travel habits of children can influence their activities and health in later life. Schools can set a good example of sustainable travel behaviour by developing and delivering travel plans that address the problems of car traffic and support healthier living. Schools are expected to ensure that their travel plans are up to date and assistance for them to do this could be through the Community Area Partnership.

- **TP4 – Individual journey planning using community resources**
  Enabling people to widen their choice of travel can be achieved by individual journey planning aiming to reduce car dependency and thereby increase accessibility, reduce traffic and air quality and generate a culture of healthier living. This will build on community initiatives to identify travel options and provide support for people willing to shift to sustainable modes.

4.1.5 Traffic and Air Quality Measures

Traffic and air quality measures are concerned with managing vehicle movements and therefore the emissions that result. Ideally those will be delivered in tandem with measures that reduce the demand for car use and take into account the needs of all road users.

- **T1 – Implement measures to manage movement and to slow traffic in residential areas**
  Slower traffic supports road safety and sustainable transport objectives by making roads better for all road users. In residential areas, measures such as 20 mph limits will be considered to reduce vehicle speeds and the extent of the 30 mph limits will be reviewed.

- **T2 – Traffic management and capacity measures on key town centre corridors**
  Queuing traffic creates air quality problems; improving flows and reducing the number of vehicles will help address the problems associated with traffic congestion. Possibilities include management measures to restrict some types of vehicles at certain times such as a low emission zone, peak hour loading restrictions or other measures. Improving traffic flow would help improve the reliability of deliveries and support business activity. London Road is the most congested corridor at present, so capacity improvements at the Windsor Drive and Hopton Road roundabouts are an essential part of this measure. (Measures T2 and T3 are linked but are separated here as not all elements are considered in the different strategy options considered).

- **T3 – Capacity enhancement of key junctions**
  Away from London Road other key junctions include Shanes Castle, the 'Southbroom Gyratory' and A361/A360/A342 mini-roundabout junction (Roses). Adjustments to junctions will reduce delays but also offer opportunities to create safer walking and cycling and to enhance the urban realm. Some limited capacity enhancements are achievable that would improve their efficiency i.e. improving sightlines, gap acceptance, making them less challenging for cyclists and incorporating crossing arrangements for pedestrians.

- **T4 – Improved town 'gateways', wayfinding and junction arrangements**
  Creating a different emphasis on traffic in the town would be supported by gateway features, better route legibility for all users (motorists, including signing to car parks, pedestrians, cyclists) and measures to slow traffic while maintaining vehicle flows.

The individual measures listed are intended to work in various combinations to address the objectives agreed, so the measures have been grouped together under three different strategy options which are discussed in Section 4.2.

4.1.6 Demand Management and Parking Measures

The role of demand management and parking measures can be significant if deployed to reduce congestion as part of an integrated approach. Adequate enforcement is a requisite to make parking effective, is a problem that needs to be addressed. Maintaining the existing parking supply is important but this will require relocation of some spaces and possibly re-designating some spaces e.g. for car club use or reallocating long stay and short stay spaces. Consistency with county-wide parking policies will be required for any local changes to parking arrangements.

- **DM1 – Review local on- and off-street parking arrangements and enforcement and develop traffic management measures to reduce the impact of car parking space-seekers**
  Parking availability means that people's use of cars is encouraged. In doing so, traffic is made worse and vehicle pollution occurs. Managing the supply of on-street parking more carefully will reduce the number of vehicles circulating to find a space and would support other measures to create a better environment in the town centre, thereby improving air quality, safety and the historic environment.

- **DM2 – Develop a road hierarchy and limit movements in 'sensitive' town centre and residential locations**
  Protecting the historic environment, improving access to employment by sustainable means, reducing traffic and improving air quality are all linked. Restricting some vehicle access improves conditions for other road users and supports the wider use of walking and cycling.

- **DM3 – Introduce electric charging facilities for 'new technology' vehicles, with priority parking areas**
  Electric cars reduce emissions at the point of use and can therefore help the local environment.

4.1.7 Modelling of Key Junctions

Delays are currently experienced at junctions in the town at peak times which will worsen with the predicted traffic growth. Options to alter layouts at the key junctions to improve traffic flows and reduce queuing have been developed and tested using the PARAMICS model which gives a good indication of likely outcomes.

Junction improvements are considered possible and would yield significant benefits at the following junctions (shown on Figure :

- A361 Shane's Castle – a signalised junction could be provided, with the possibility of local widening within the highway boundary to provide a right-turn lane for westbound traffic to Dunkirk Hill (the right turn movement from Dunkirk Hill to the westbound A361 would be banned);

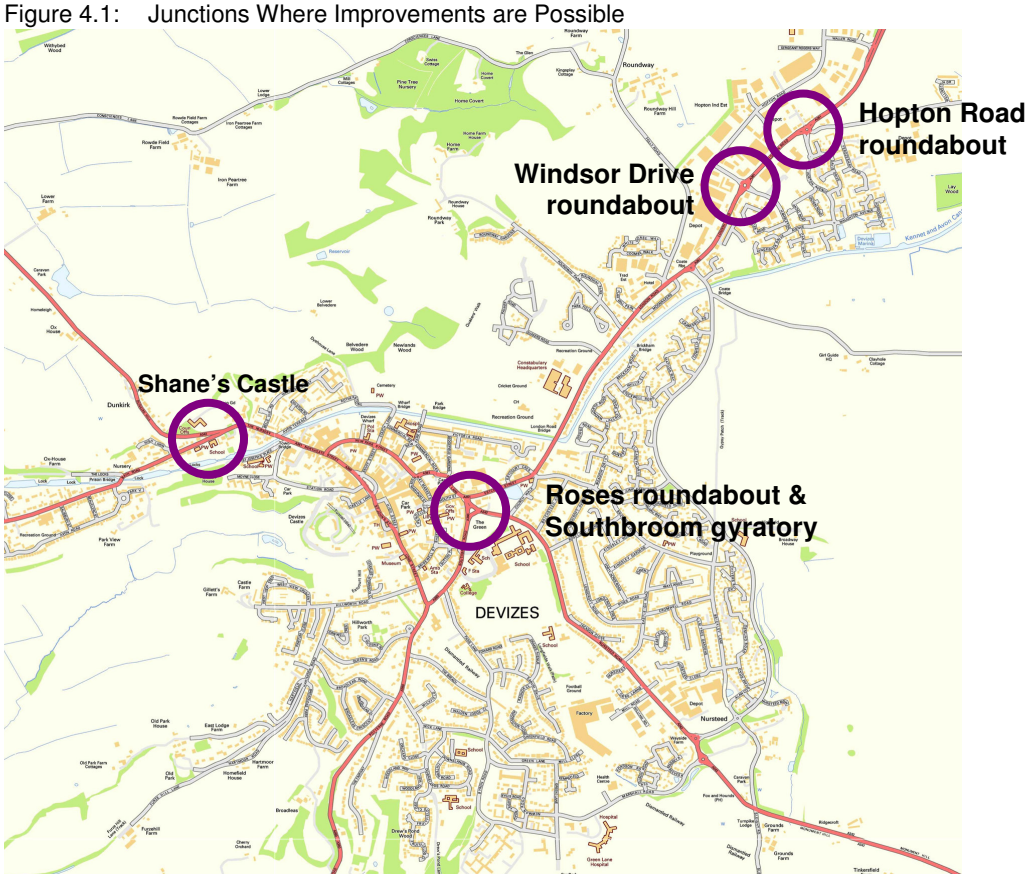
- A361/A360/A342 mini-roundabout (Roses) and Southbroom gyratory – a separate lane could be provided for eastbound A361 traffic passing through the mini-roundabout, together with minor improvements at the gyratory to maximise capacity;

- A361 London Road / Windsor Drive Roundabout – the roundabout wcuild be improved but the preferred option here is to convert to a signalised junction as this allows most control over balancing flows on London Road and Windsor Drive;

- A361 London Road / Hopton Road Roundabout – localised widening on London Road would allow two southbound lanes to pass through the junction, relieving the congestion for traffic heading into the town in the evening peak.

Whilst not a capacity scheme, re-arranging the layout where Sidmouth Street, Monday Market Street and Sheep Street meet in the town centre would allow traffic exiting the Central Car Park to head southbound on Sheep Street. As such, any traffic travelling south on the A360 or east on the A342 would avoid having to use the congested New Park Street and then the Roses junction and hence this proposal would relieve traffic queuing with a relatively minor rearrangement of the current layout. This scheme could be combined with the pedestrianisation or banning of through traffic on Maryport Street, by reversing the direction of Monday Market Street. This would bring significant benefits for pedestrians and commercial activity.

Figure 4.1: Junctions Where Improvements are Possible



Source: Contains Ordnance Survey data © Crown copyright and database right 2012

It is recognised that the A361 Brewery Corner mini-roundabout also contributes to congestion. However, despite looking at a number of options including signals, it has not been possible to develop a scheme that would increase the capacity here. The existing layout was itself a recent improvement that widened the approach lanes and maximised capacity within the constraints of the surrounding built environment.

4.1.8 New Road Construction

The possibility of a new relief road link to the north of the town has been put forward which raises a number of key issues which need to be considered at this stage:

- It would be, by far, the most costly measure and as such would need to demonstrate a strong justification. The scheme would need to be sufficiently robust to attract adequate funding. An initial quantity surveyor's estimate is that the scheme would cost around £16.5 million excluding land, fees, etc;
- Should developer funding be the main funding source, then an appropriate quantum of development needs to be provided – assuming a contribution equivalent to £3,000 per dwelling, 400 dwellings as envisaged in the Core Strategy would raise around £1.2 million, well short of the likely cost of construction;
- A new link would define a new development boundary (as evident by Windsor Drive on the eastern side of the town) and could encourage expansion of the town to the north. Additional development on a scale to fund such a new road could require 5,000 new homes or more to be built;
- The topography of the proposed alignment is very difficult with major earthworks being required to overcome natural level differences (in particular the wooded ridge that starts north of the cemetery and runs west to Browfort);
- There would be major environmental and landscape impacts due to new construction, with loss of woodland and an impact on the setting of the Area of Outstanding Natural Beauty to the north of Devizes;
- A route is likely to require property acquisition at one or more locations along its length;
- The effectiveness of a new road in relieving traffic in the town centre is dependent on the arrangements at the locations where it would join the existing road network. Creating a new junction to the east of Shane's Castle would be necessary with a connection at the eastern end to London Road; and
- It is unlikely that a new route would be attractive to through traffic, other than that travelling between the A361W and A361N, so the potential to restrict through traffic from using the town centre is limited.

On this basis, a relief road has not been included for further consideration.

Similar difficulties lie with other road construction options, notably engineering feasibility and high cost but the more fundamental issue is that of how additional road capacity would address sustainable transport objectives. There is a strong possibility that new links would not 'solve' traffic congestion but would reassign traffic movements initially but have a longer term impact of inducing traffic, exacerbating congestion over time as new car journey opportunities are created and car dependency is deepened. This effect is now widely recognized but contrasts strongly with the policies of previous decades[11].

[11] A leading contributor to the debate on induced traffic is Phil Goodwin, for example Goodwin,P. (1996) Empirical evidence on induced traffic, *Transportation*, Volume 23, 35-54.

4.2 Determining Different Approaches for Testing

The potential measures discussed above can be consolidated into different approaches for testing purposes – from which a Preferred Strategy can be derived that is not necessarily one of the initial approaches. Table 4.1 indicates the contents of two possible approaches. These are intended to illustrate the range of possible interventions from traffic management – a 'traditional' approach aimed at improving the efficient movement of vehicles termed the **Managing Traffic** approach – to a more sustainable approach with a much stronger emphasis on non-car movement and consideration of people in preference to vehicles, termed the **Smarter Choices** approach.

Smarter choices measures can be highly effective in changing travel behaviour, particularly if they are introduced in combination with other measures, such as changes to cycling facilities or improved bus services. Smarter choices generally means travel plans for workplaces, schools, residential areas or similar, walking, cycling and related measures that support behavioural change and can be independent of or complementary to infrastructure measures, depending on the context.

These indicative approaches have been defined based on the level of intervention to reduce car use, ranging from a low to moderate level to a more radical approach. Because of traffic congestion concerns, many of the solutions are directed towards finding means of travel other than by car; and this requires a range of measures, both infrastructure and behavioural. Also because the mode share of car trips is high – 78% of people in Devizes regularly drive to work for example – the impact of some measures on the number of car trips is likely to be small. However, in combination, a number of measures will have an impact that would address peak time delays but would not have a fundamental influence over car use.

Table 4.1: Possible Transport Measures and Approaches

Ref	Measure	Managing Traffic Approach	Smarter choices Approach
	Walking		
W1	Introduction of controlled at-grade crossings on key pedestrian corridors		✓
W2	Strategy to develop safe walking routes between residential areas and the town centre, supported by signing and appropriate lighting and vegetation and parking control	✓	✓
W3	Ensure that all future development proposals incorporate a 'permeable' walking network with surrounding areas	✓	✓
W4	Extension of town centre pedestrianisation to include High Street (or shared surface arrangement) and reorganize local road priorities		✓
W5	Restricting traffic in Maryport Street and redirecting traffic from the Central Car Park into Sheep Street to relieve congestion		✓
W6	Enhancement of town centre public realm and pedestrian facilities, in particular the Market Place and High St / Long St (which could include displacement of some on-street parking spaces)		✓
	Cycling		
C1	Implement comprehensive cycle network including parking at major sites and educational facilities		✓
C2	Cycle campaign (to include Bike It investment)		✓
C3	Promote routes from villages		✓
PT1	Undertake a feasibility study of potential rail connection options on the Westbury to Pewsey railway		✓
PT2	Promote existing bus service connections (in particular those to Swindon/Salisbury/Trowbridge/Bath) and develop marketing campaign		✓
PT3	Introduction of higher frequency bus services		✓
PT4	Explore options for demand responsive transport and/or community transport/taxibuses		✓
PT5	Promote better integration e.g. bus/rail ticketing and interchange arrangements		✓
	Travel Planning		
TP1	Introduce residential travel plans for all new development proposals		✓
TP2	Support the development of workplace travel plans at all major employment sites		✓
TP3	Continue to implement school travel plans and develop a ‘safer routes to school’ strategy for each education facility		✓
TP4	Individual journey planning using community resources		✓
	Traffic and Air Quality		
T1	Implement measures to manage movement and to slow traffic in residential areas	✓	✓
T2	Traffic management and capacity measures on key town centre corridors	✓	
T3	Capacity enhancements of key junctions	✓	
T4	Improved town 'gateways', wayfinding (including routes to car parks) and junction arrangements	✓	✓
	Demand Management and Parking		
DM1	Review local on- and off-street parking arrangements and enforcement and develop traffic management measures to reduce the impact of car parking space-seekers	✓	✓
DM2	Develop a road hierarchy and limit movements in 'sensitive' town centre and residential locations	✓	✓
DM3	Introduce electric charging facilities for 'new technology' vehicles, with priority parking areas		✓

4.2.1 Costs of Different Approaches

Indicative costs are presented for each of the measures and therefore each of the strategies. Costs are divided into capital costs i.e. costs associated with construction (materials, labour, fees, etc.) and revenue costs per annum i.e. ongoing costs incurred by initiatives such as travel planning or subsidy for public transport services.

It is also important to consider change over time: some initiatives are effective following their introduction but can be difficult to sustain in the longer term. This is particularly the case for smarter choices initiatives which rely to some extent on particular groups of people although individuals may leave the area or move in. A lasting impact requires continual effort although external inputs to the process should diminish over time. Indicative cost estimates are shown in Appendix B.

The figures are illustrative and can be adjusted based on the extent to which measures are delivered. For example, a notional £0.5 million for extended town centre pedestrianisation will be considerably reduced if a basic approach is adopted, the larger sum being for repaving, new lighting, etc. In this example, it is the removal of traffic that would have the greatest impact while the associated changes would meet other objectives of improving the public realm in the context of the historic setting. The potential lifetime costs associated with each of the approaches is presented in Table 4.2, assuming that revenue funding per annum would continue for the life of the Core Strategy from 2013 to 2026; revenue costs for bus services are expected to decline over time as patronage increases.

Table 4.2: Potential Approach Lifetime Costs

Approach	Capital Costs	Revenue Costs	Total Costs
Managing Traffic Approach	£1,805,000	£97,500	**£1,902,500**
Smarter Choices Approach	£2,985,000	£1,820,000	**£5,025,000**

4.2.2 Benefits of Different Approaches

While it is not possible at this stage to undertake detailed appraisals of each of the possible measures, it is helpful to consider the likely benefits of each in relation to the strategy's objectives and vision (sections 3.2 and 3.3. respectively). The main thrust of the objectives is that reduced car dependency is critical as it influences many of the other aspects of the strategy such as traffic congestion, air quality and health. The benefits should also be considered in the context of Government policy which requires key areas including economic benefits, reduced carbon and healthier lifestyles.

4.3 Funding Sources

Funding sources have not been detailed but developer contributions accrued to date will be important as well as those from future developments. Future developer contributions could be through a Community Infrastructure Levy (CIL) that the Council is considering adopting. The CIL is a new charge that local authorities in England and Wales can choose to impose on development in their area. The money generated through the Levy will contribute to the funding of infrastructure to support growth.

The CIL is designed to contribute towards bridging the 'funding gap' between the total cost of new infrastructure required to support development and the amount of funding available from other sources. Wiltshire Council's Infrastructure Delivery Plan (IDP) identifies a range of physical, community and 'green' infrastructure projects that will be required to support the level of development as set out in the Wiltshire Core Strategy. Informed by the IDP, a 'Regulation 123' list will identify and prioritise which infrastructure projects will be eligible to receive money from the CIL. The CIL regulations also propose to allow the council to allocate a share of the Levy raised in a neighbourhood to deliver infrastructure that neighbourhoods want – although this 'meaningful proportion' is yet to be set by the government.

Wiltshire Council is consulting on the Preliminary Draft Charging Schedule between 1 October and 12 November 2012.

In addition, funding is available from the Local Transport Plan allocation – the prospects for Devizes will be enhanced if an agreed strategy is evident when prioritization at a county level takes place. In addition, various funding streams become available over time which cannot be predicted from the outset. A recent example is the Local Sustainable Transport Fund (LSTF) which has awarded over £500 million nationally but was announced by the current Government with a relatively short period for submissions to be made. Similar resources can be expected to become available in the future. Additional sources include funding from Sustrans (the sustainable transport charity, for cycling measures), lottery sources and the Swindon and Wiltshire Local Enterprise Partnership. In some cases, some initial funding is appropriate to generate change and generate a virtuous circle of use and investment, for example in cycling measures that encourage cycling and lead to further works.

Available funding will be limited in the Core Strategy period and it may not be possible to fund all the measures. Therefore, whilst aspirational measures can be retained in a strategy document, measures judged to have the highest priority must be identified and agreed for funding through the Implementation Plan for the strategy. This prioritization should be set in the context of the strategy's vision and objectives.

4.4 Traffic Modelling of the Approaches

Due to the complex nature of the road layout in Devizes and inter-action of traffic using adjacent junctions, a PARAMICS micro-simulation traffic model was commissioned by the Council to allow changes in traffic demand and road layout to be assessed.

A Base Model was developed to reflect traffic conditions in 2011 and validated against surveyed traffic volumes, journey times and queue lengths. From this, a 2026 Reference Case model was produced to take into account the predicted increase in trips due to the Core Strategy housing and employment allocations, as well as due to general traffic growth for through trips.

The results from the 2026 Reference Case show that the existing levels of congestion will worsen, giving a significant increase in delays to traffic travelling to/from or passing through Devizes. The likely impact on this congestion as a result of the two different approaches was modelled:

- Smarter Choices – a 5% reduction in the trips that have both an origin and destination within Devizes ('internal' trips) was applied to reflect increased walking, cycling and bus use; and

- Managing Traffic – with capacity improvements at key junctions where they are possible and no reduction in trips.

All of the junctions where the majority of congestion occurs are located on the A361. As such, analysing the journey time for traffic passing through Devizes on the A361 gives a good measure of how congestion is affected.

Appendix C shows the journey times for westbound and eastbound trips on the A361 during the AM and PM peak hours (08:00-09:00 and 17:00-18:00 respectively).

The traffic model shows that road network is effectively already at capacity for eastbound traffic in the AM peak hour and for westbound traffic in the PM peak hour. With the increased traffic volume in 2026, journey times are predicted to increase from around 16-18 minutes to 25 minutes in the Reference Case.

A strategy based solely on promoting sustainable transport through Smarter Choices is shown to reduce traffic volumes and congestion to some extent but there would still be a significant increase compared to the 2011 Base. The Managing Traffic approach is shown to give a much greater reduction in journey times. However, this approach still shows an increase in the westbound journey times compared to those observed in 2011.

Detailed modelling also highlighted that there would be some traffic benefits associated with the possible scheme to restrict traffic on Maryport Street (measure W5 in the Smarter Choices approach). Changes to the layout at the western end of Sidmouth Street would allow traffic exiting the Central Car Park to head southbound on Sheep Street, avoiding the need for some traffic to travel on the congested Commercial Road and Gains Lane.

In terms of the road network in Devizes as a whole, the average speed reflects a similar pattern to the above journey times, with reduced congestion meaning that the average speed with the Managing Traffic approach is close to the 2011 level (Appendix D).

With increased trip volumes in the future, the total distance travelled on the network increases by around 5% compared with the 2026 Reference Case. Whilst the Smarter Choices approach reduces this increase, junction improvements with Managing Traffic do not have a positive impact.

4.5 Deliverability

The Preferred Strategy will include a range of measures that are designed to work in combination to address the problems identified and deliver the expected outcomes. However, all of the measures need to be deliverable to be effective. This covers a number of requirements:

- **Acceptability** to stakeholders and politicians – all proposals should be supported by the majority of stakeholders and potentially be able to be subject to the necessary processes e.g. approvals from the highway authority;

- Infrastructure schemes must be **feasible** in engineering terms – it should be clear how schemes can be constructed, taking into account highway boundaries, topography, ground conditions, impacts on structures, etc;

- Non-infrastructure initiatives should generate sufficient **widespread support** to be effective – clear evidence of community and stakeholder involvement will be necessary; and

- Appropriate **funding** must be in place or have some certainty that it will be forthcoming – this includes capital funding, possibly through developer funding for which commitment is needed and/or ongoing revenue support for initiatives such as travel planning and public transport revenue support.

If a particular measure cannot be delivered as planned, then it will not be included as a core element in the preferred strategy. Nevertheless, such an element can remain as a potential strategy measure that is aspired to, with funding availability reviewed at regular intervals by the Council and stakeholders.

4.6 Monitoring and Review

The Local Transport Plan has in the past included a comprehensive monitoring programme. The requirement for this was dropped for the third round submissions and extensive monitoring of transport schemes is unlikely to take place given the lack of resources available. To demonstrate the impacts of measures, it is helpful to have base data against which change can be measured.

For schemes where baseline data exists, similar datasets will be collected after the scheme has been introduced. This will help understand the impacts empirically and can inform the development of similar schemes elsewhere.

If the Community Infrastructure Levy is introduced to Wiltshire, it would feature a strong monitoring process to track funds gathered for the projects delivered. A tight regime would also be in place for Section 106 developer contributions.

Whilst monitoring of modal change is unlikely to occur, it is critical that the transport strategy is considered to be a 'live' project and that the implementation of schemes is reviewed over time. This review will enable the success of the measures to be evaluated and, as required, the direction of the strategy can be challenged to ensure that the most appropriate measures are being implemented. The approach to the monitoring and review process will need to be agreed with Wiltshire Council and the key stakeholders involved.

5. Determining the Strategy

5.1 Identification of the Preferred Strategy

The Preferred Strategy will reflect the aspirations of the stakeholders whilst being deliverable and effective. In doing so a balance will need to be struck between what is achievable i.e. with the necessary funding in place, being feasible in practical terms and having widespread support. The combination of measures selected needs to be supported with evidence wherever possible to quantify the expected impacts and benefits.

The Smarter Choices approach was shown to give reduced traffic congestion but not a level that was considered sufficient to address the objectives. The traffic modelling demonstrated that the junction improvements identified in the Managing Traffic approach would be required to further reduce traffic congestion. Therefore, the Preferred Strategy is based on a combination of the Smarter Choices approach with the addition of the junction improvements from the Managing Traffic approach.

The measures proposed for the Preferred Strategy are shown in Table 5.1. In order to ensure that the Preferred Strategy was affordable, the schemes to extend pedestrianisation into High Street (measure W4) and to enhance the public realm in Market Square, High Street and Long Street (measure W6) were sacrificed. The costs associated with the lifetime of the Preferred Strategy are:

- Capital costs £2.985 million;
- Revenue costs £1,820 million;
- Total costs £4.805 million.

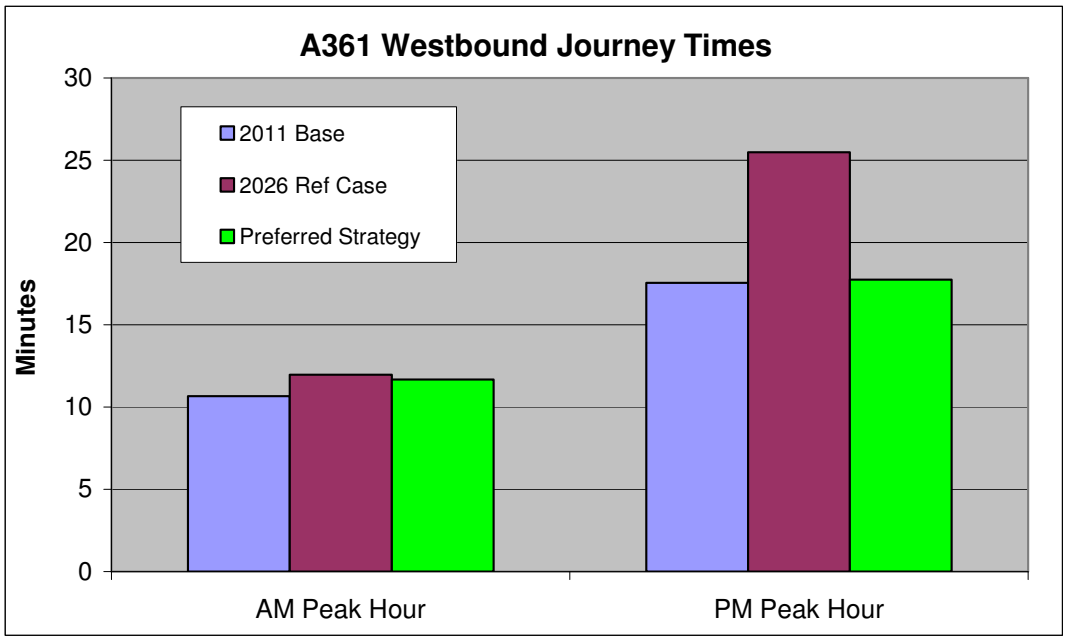
This assumes that schemes are completed in their entirety although some will be implemented with lower costs than indicated. However, the delivery programme can be scaled in line with the resources available, either less or more. A programmed approach is needed through a detailed implementation plan to identify the lead time for schemes on a prioritized basis, maintaining the vision and objectives for the strategy as the framework for that implementation plan. This places a strong emphasis on sustainable transport measures to deliver results that reduce car dependency and generate the associated benefits fro the economy, environment and health.

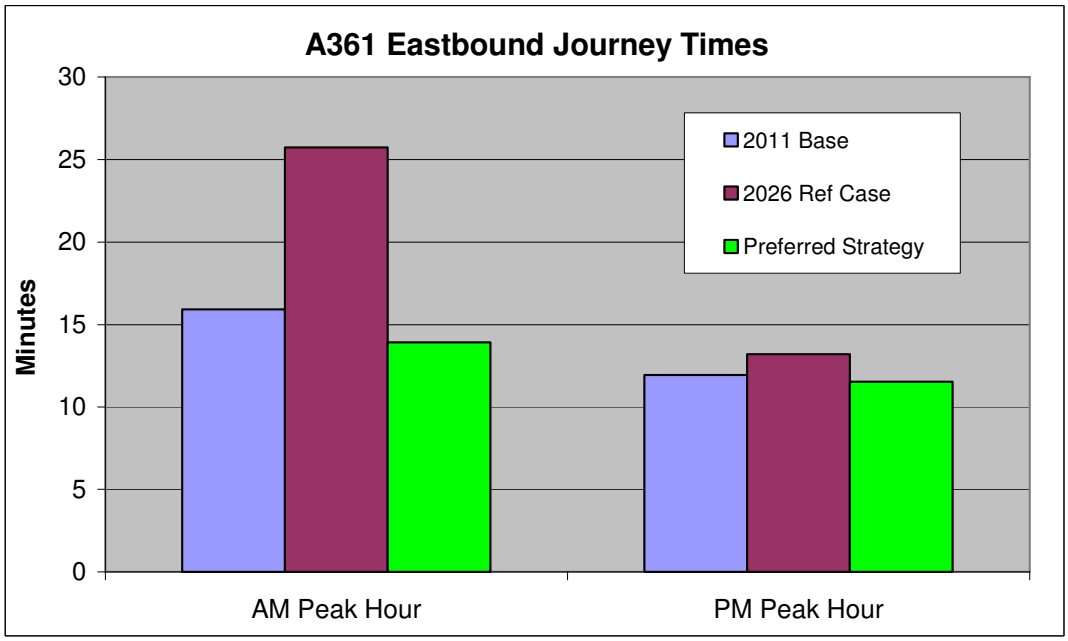
Table 5.1: Preferred Strategy Components and Estimated Costs

Ref.	Measure	Estimated Capital Cost	Est. Annual Revenue Cost
	Walking		
W1	Introduction of controlled at-grade crossings on key pedestrian corridors	£350,000	--
W2	Strategy to develop safe walking routes between residential areas and the town centre, supported by signing and appropriate lighting and vegetation and parking control	£200,000	--
W3	Ensure that all future development proposals incorporate a 'permeable' walking network with surrounding areas	--	--
W5	Restricting traffic in Maryport Street and reversing the flow out of the car park into Sheep Street	£100,000	--
	Cycling		
C1	Implement comprehensive cycle network including parking at major sites and educational facilities	£630,000	--
C2	Cycle campaign (to include Bike It investment)	--	£20,000
C3	Promote routes from villages	£100,000	£5,000
	Public Transport		
PT1	Undertake a feasibility study of potential rail connection options on the Westbury to Pewsey railway	--	£15,000
PT2	Promote existing bus service connections (in particular those to Swindon/Salisbury/Trowbridge/Bath) and develop marketing campaign	--	£5,000
PT3	Introduction of higher frequency bus services	--	£130,000
PT4	Explore options for demand responsive transport and/or community transport/taxibuses	--	£15,000
PT5	Promote better integration e.g. bus/rail ticketing and interchange arrangements	--	£10,000
	Travel Planning		
TP1	Introduce residential travel plans for all new development proposals	--	£10,000
TP2	Support the development of workplace travel plans at all major employment sites	--	£20,000
TP3	Continue to implement school travel plans and develop a ‘safer routes to school’ strategy for each education facility	--	£15,000
TP4	Individual journey planning using community resources	--	£20,000
	Traffic and Air Quality		
T1	Implement measures to manage movement and to slow traffic in residential areas	£250,000	--
T2	Traffic management and capacity measures on key town centre corridors	£1,000,000	--
T3	Capacity enhancements of key junctions	£300,000	--
T4	Improved town 'gateways', wayfinding (including routes to car parks) and junction arrangements	£55,000	--
	Demand Management and Parking		
DM1	Review local on- and off-street parking arrangements and enforcement and develop traffic management measures to reduce the impact of car parking space-seekers	--	£10,000
DM2	Develop a road hierarchy and limit movements in 'sensitive' town centre and residential locations	--	£5,000
	Total	**£2,985,000**	**£280,000**

Modelling of the Preferred Strategy shows that it should reduce traffic congestion to a level no worse than the current conditions, as shown in Figure 5.1 and Figure 5.2 below. The large increases in journey time with the Reference Case are removed and for total distance travelled, although there is an increase from the Base Case, there is a significant reduction from the Reference Case.

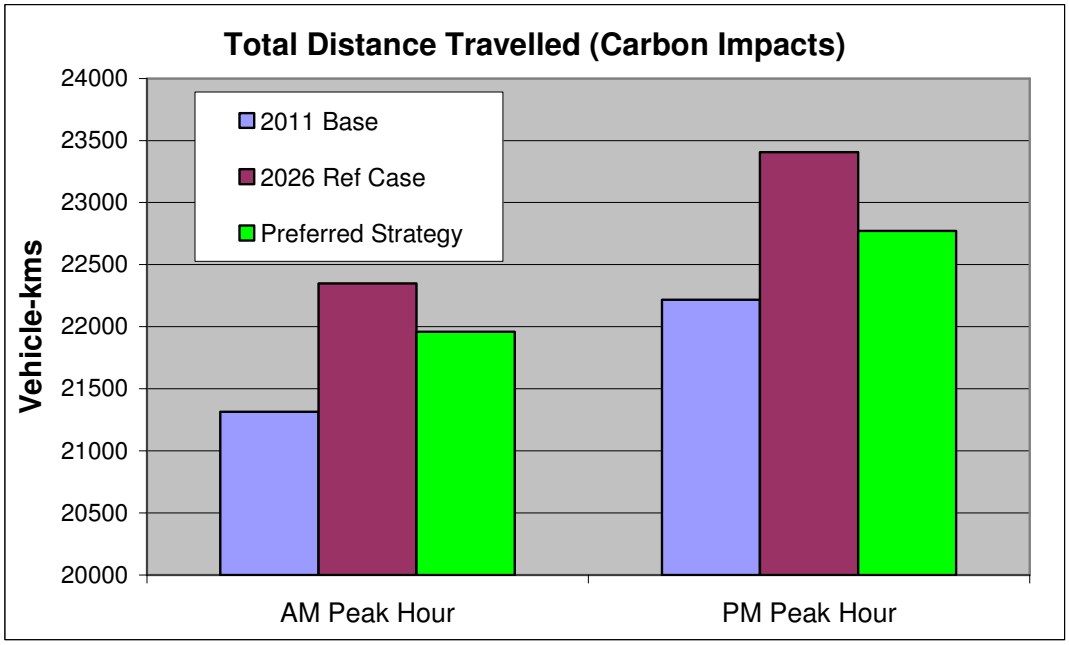
Figure 5.1: Predicted Journey Times Through Devizes with Preferred Strategy

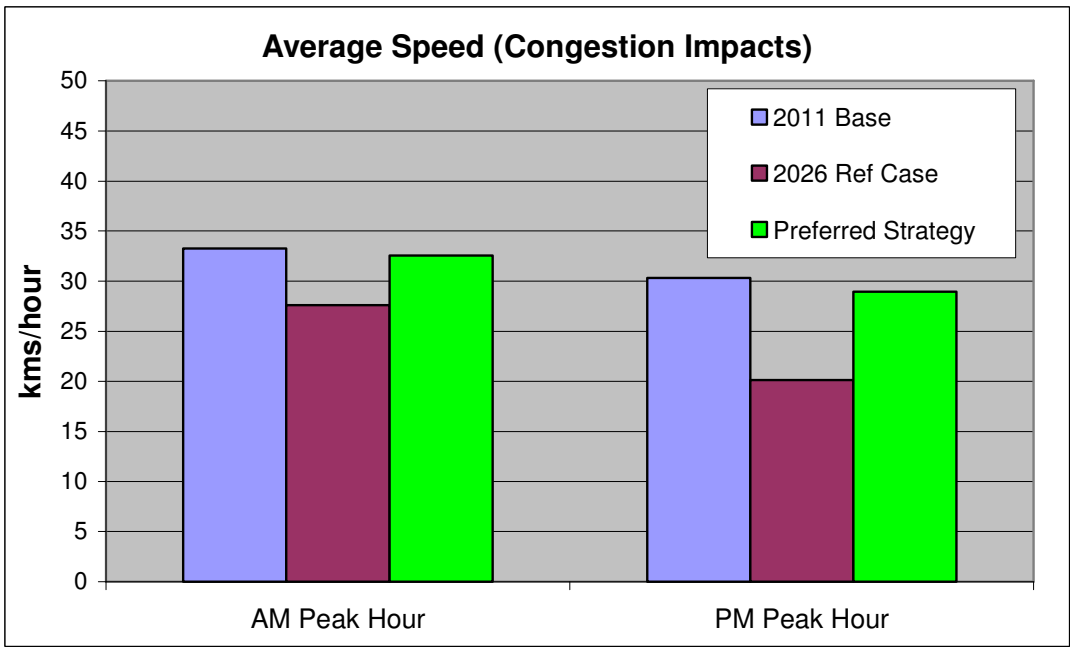




Source: Paramics model

Figure 5.2: Model Network-wide Statistics with Preferred Strategy





Source: Paramics model

5.2 Air Quality Modelling

Results from the traffic model allow vehicle emissions to be estimated on all links within the network, based on the speed and type of each vehicle as it travels through the network (location and speed measured every 30 seconds in the model). The estimated exhaust or 'tailpipe' emissions on the links next to 6 sites in the town centre where air quality is a known problem are shown in **Table 5.2** below for the 2011 Base Case. Estimates are based on the traffic movements between the AM and PM peak periods of 07:00-10:00 and 16:00-19:00 and provided for:

- Nitrous oxides (NO_x)
- Particulates (PM10)
- Carbon dioxide (Carbon)

A total is also provided for all links on the A361 and A360 in the town centre where air quality is a concern, stretching from Shane's Castle to the Roses roundabout on the A361 and south to the Southgate roundabout on the A360.

As vehicle technology improves engines are becoming more efficient and are producing fewer emissions. This trend is predicted to continue in future years according to the National Atmospheric Emissions Inventory.[12] With the assumption that this is correct, in line with guidance from the Department for Transport, the estimated tailpipe emissions in 2026 are shown in **Table 5.2** with the Preferred Strategy in place.

Table 5.2: Estimates of Vehicle Emissions

2011 Base Case

	2011 AM+PM			2011
	NOx (kg)	PM10 (kg)	Carbon (kg)	***NO_2 Measured***
1 - Shanes Castle	0.356	0.009	39.1	46
2 - Melbourne Place	0.521	0.014	57.7	41
3 - Wadworths	0.766	0.021	86.1	48
4 - Chantry Court	0.334	0.005	24.1	37
5 - St James Terrace	0.169	0.005	21.5	43
6 - Southgate Rdbt	0.120	0.003	15.6	41
Total A361/A360	15.650	0.425	1843.7	

2026 with Preferred Strategy and Engine Techology Improvements

	2026 AM+PM			2026/2011	2026
	NOx (kg)	PM10 (kg)	Carbon (kg)	NOx	***NO_2 Estimated***
1 - Shanes Castle	0.285	0.006	47.6	80%	37
2 - Melbourne Place	0.411	0.009	65.5	79%	32
3 - Wadworths	0.592	0.013	96.9	77%	37
4 - Chantry Court	0.192	0.004	29.8	57%	21
5 - St James Terrace	0.125	0.003	21.9	74%	32
6 - Southgate Rdbt	0.089	0.002	15.7	74%	30
Total A361/A360	11.516	0.264	1936.1	74%	

[12] Default fleet distribution values for each year from 1996 to 2025 have been developed by the National Atmospheric Emissions Inventory (Ref. http://www.naei.org.uk/other/uk_fleet_composition_projections_v2.xls). This includes values for the split by fuel type, vehicle load, vehicle/engine size & location and by EU emission standard.

Measurements of nitrogen dioxide (NO_2) have been undertaken by the Council at the 6 sites shown but these are in terms of 'annual mean' emissions (with a concentration of 40µg/m^3 being the threshold that should not be exceeded). Therefore, it is not possible to directly compare the estimated tailpipe emissions with the Council's measurements. However, levels of NO_2 have been estimated based on the predicted change in total tailpipe NOx on the links adjacent to each site. As shown above, NOx is predicted to decrease to 74-80% of the existing level at the sites by 2026, and it is estimated that the threshold of 40µg/m^3 will not be exceeded at any of the sites.

In terms of carbon, the modelling shows that even with the Preferred Strategy in place, carbon emissions are expected to increase by 5% from the existing level. However, it should be noted that this would still represent an improvement over the Reference Case with no improvements or measures in place.

6. Conclusion

The Transport Strategy for Devizes has been determined through a process of dialogue and analysis, taking into account the policy context at several levels and a set of objectives agreed with key stakeholders. The vision – generating a sustainable community in which transport plays a vital role – has helped determine the shape of the strategy.

Given the constraints evident in Devizes and the requirement to reduce vehicle emissions in order to meet air quality management needs, the strategy has been designed to reduce the number of vehicle movements, thereby relieving traffic pressures and avoiding the incidence of vehicle queuing which causes the air quality problems. The process has identified an emphasis on sustainable transport in providing alternatives to car use, particularly for local journeys which can be made by cycle or on foot and with the application of travel plans that help to rethink how people travel. However, sustainable transport initiatives are not in themselves sufficient to reduce traffic congestion down to what is considered an acceptable level.

Therefore, the Preferred Strategy put forward is one that includes measures to make the most of the existing road network through modest junction improvements, whilst promoting sustainable transport and, in particular, walking and cycling within the town. The Transport Strategy proposed is deliverable and affordable and presents the opportunity for improvements in Devizes to address the objectives set.

Appendix A Proposed Cycle Network

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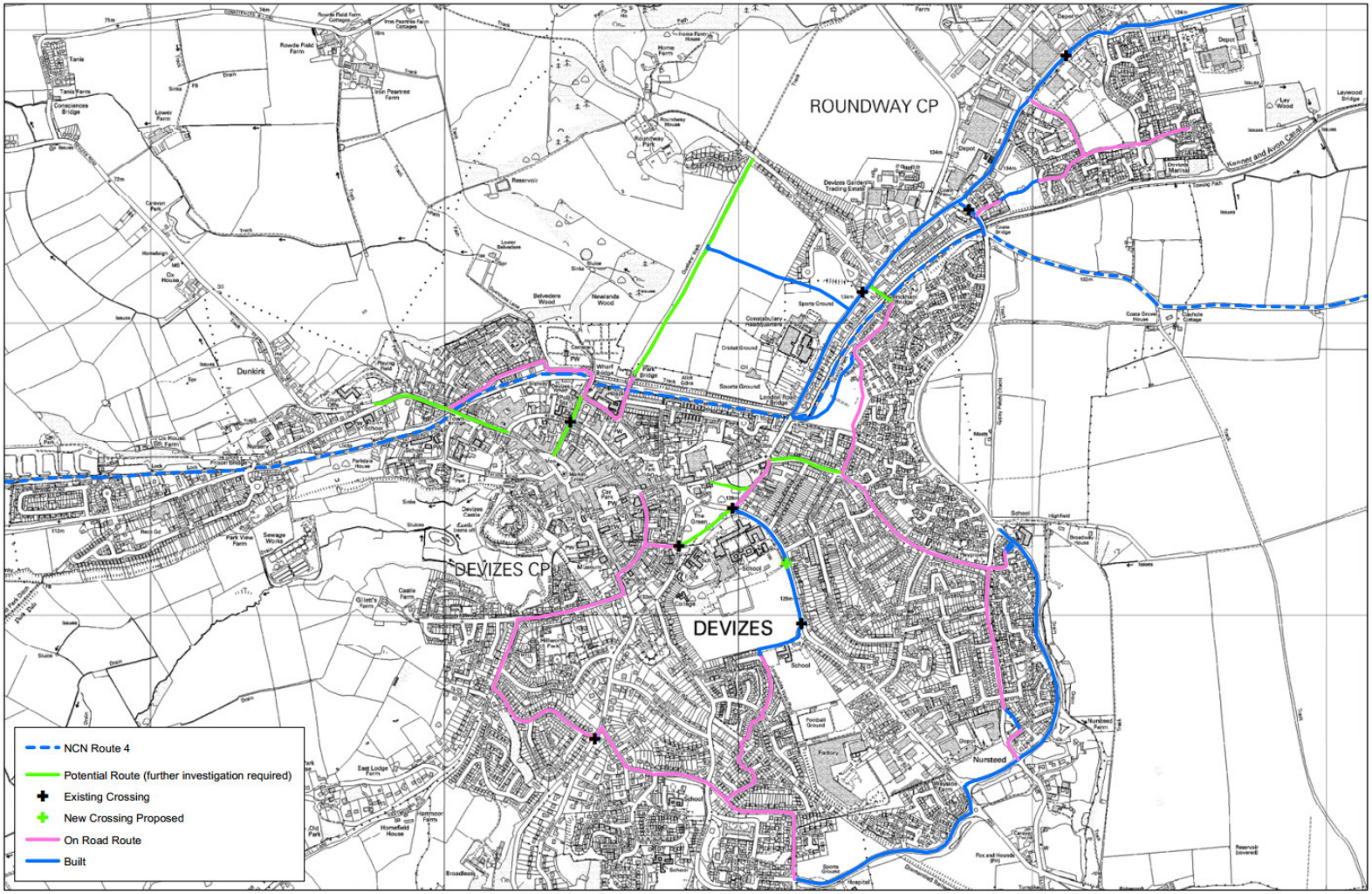
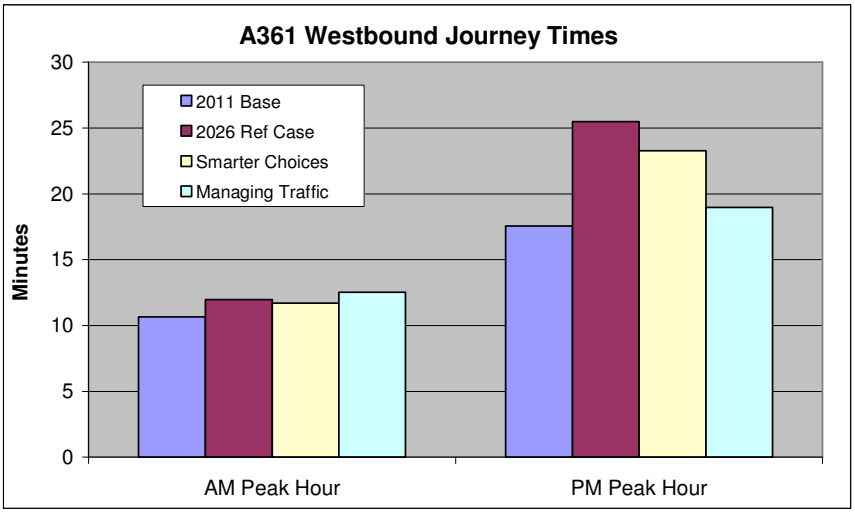

ROUNDWAY CP
DEVIZES CP
DEVIZES
Dunkirk
Nursteed
NCN Route 4
Potential Route (further investigation required)
Existing Crossing
New Crossing Proposed
On Road Route
Built
Devizes Town Cycle Network Draft February 2012 : Map 3
Wiltshire Council
Where everybody matters
Meters
0 112.5 225 450 675 900

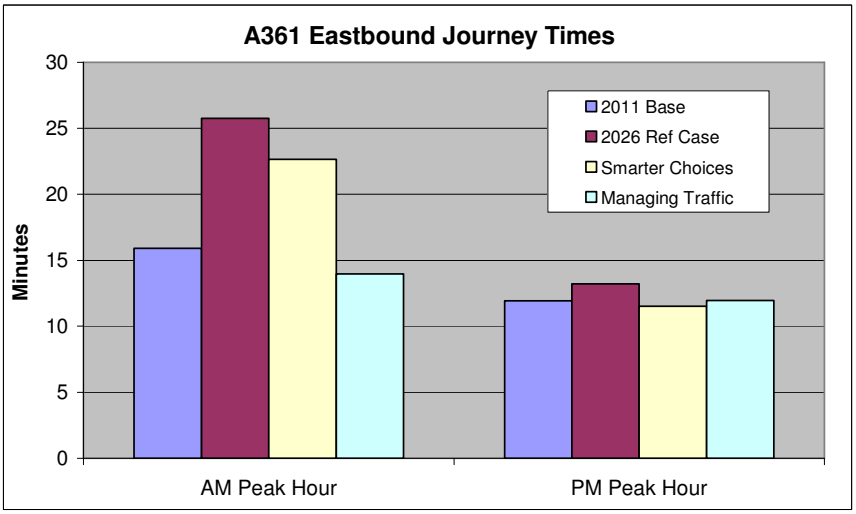
Source: WCC

Appendix B Indicative Costs of Approaches

Ref	Measure	Approach **Managing Traffic**	Approach **Sustainable Travel**		Managing Traffic Approach **Capital**	Managing Traffic Approach **Revenue p.a.**	Smarter Choices Approach **Capital**	Smarter Choices Approach **Revenue p.a.**
Walking								
W1	Introduction of controlled at-grade crossings on key pedestrian corridors		Y		£0	£0	£350,000	£0
W2	Strategy to develop safe walking routes between residential areas and the town centre, supported by signing and appropriate lighting and vegetation and parking control	Y	Y		£200,000	£0	£200,000	£0
W3	Ensure that all future development proposals incorporate a 'permeable' walking network with surrounding areas	Y	Y		£0	£0	£0	£0
W4	Extension of town centre pedestrianisation to include High Street (or shared surface arrangement) and reorganize local road priorities		Y		£0	£0	£500,000	£0
W5	Restricting traffic in Maryport Street and reversing the flow out of the car park into Sheep Street		Y		£0	£0	£100,000	£0
W6	Enhancement of town centre public realm and pedestrian facilities, in particular the Market Square and High Street/Long Street		Y		£0	£0	£1,000,000	£0
Cycling								
C1	Implement comprehensive cycle network including parking at major sites and educational facilities		Y		£0	£0	£630,000	£0
C2	Cycle campaign (to include Bike It investment)		Y		£0	£0	£0	£20,000
C3	Create and promote routes from villages		Y		£0	£0	£100,000	£5,000
Public Transport								
PT1	Undertake a feasibility assessment of potential rail connection options on the Westbury to Pewsey railway		Y		£0	£0	£0	£15,000
PT2	Promote existing bus service connections (in particular those to Swindon/Salisbury/Trowbridge/Bath) and develop marketing campaign		Y		£0	£0	£0	£5,000
PT3	Introduction of higher frequency bus services		Y		£0	£0	£0	£130,000
PT4	Explore options for demand responsive transport and/or community transport/taxibuses		Y		£0	£0	£0	£15,000
PT5	Promote better integration e.g. bus/rail ticketing and interchange arrangements		Y		£0	£0	£0	£10,000
Travel Planning								
TP1	Introduce residential travel plans for all new development proposals		Y		£0	£0	£0	£10,000
TP2	Support the development of workplace travel plans at all major employment sites		Y		£0	£0	£0	£20,000
TP3	Continue to implement school travel plans and develop a 'safer routes to school' strategy for each education facility		Y		£0	£0	£0	£15,000
TP4	Individual journey planning using community resources		Y		£0	£0	£0	£20,000
Traffic and Air Quality								
T1	Implement measures to manage movement and to slow traffic in residential areas	Y	Y		£250,000	£0	£250,000	£0
T2	Traffic management and capacity measures on key town centre corridors	Y			£1,000,000	£0	£0	£0
T3	Capacity enhancements of key junctions	Y			£300,000	£0	£0	£0
T4	Improved town 'gateways', wayfinding and junction arrangements	Y	Y		£55,000	£0	£55,000	£0
Demand Management and Parking								
DM1	Review local on- and off-street parking arrangements and enforcement and develop traffic management measures	Y	Y		£0	£10,000	£0	£10,000
DM2	Develop a road hierarchy and limit movements in 'sensitive' town centre and residential locations	Y	Y		£0	£5,000	£0	£5,000
DM3	Introduce electric charging facilities for 'new technology' vehicles, with priority parking areas		Y		£0	£0	£20,000	£0
					£1,805,000	**£15,000**	**£3,205,000**	**£280,000**

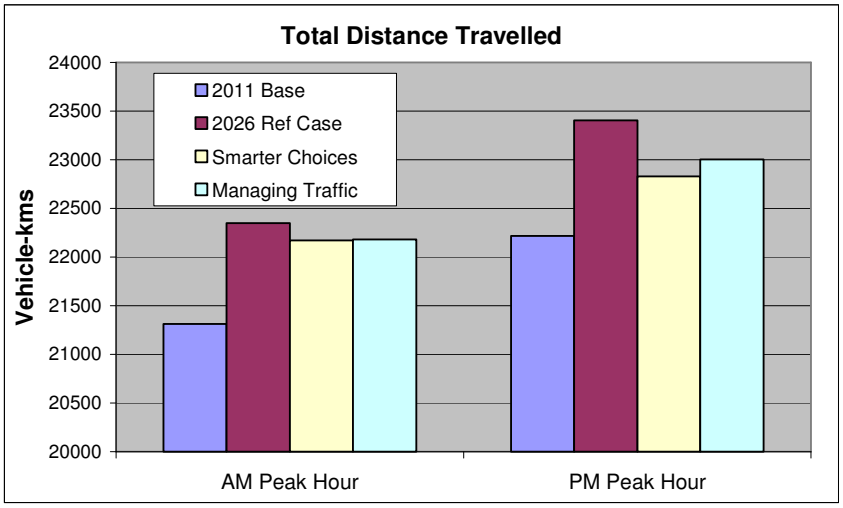
Appendix C Predicted Journey Times Through Devizes

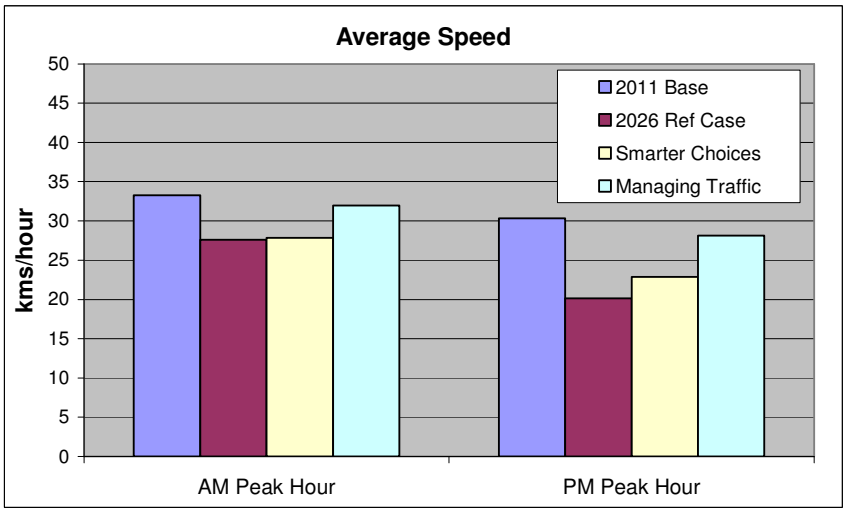




Source: Paramics model.

Appendix D Model Network-Wide Statistics





Source: Paramics model.