Stroud Sustainable Transport Strategy

Stroud District Council

Project number: 60598598

15 November 2019

DRAFT

Project number: 60598598

Quality information

Prepared by	Checked by	Verified by	Approved by
[redacted]			
[redacted] Senior Consultant	[redacted] Associate Director	[redacted] Associate Director	[redacted] Associate Director

Revision History

Revision	Revision date	Details	Authorized	Name	Position
01	16/10/19	Internal review			
02	18/10/19	Draft to Client	CC	[redacted]	AD
03	15/11/19	For Reg 18 publication	CC	[redacted]	AD

Distribution List

# Hard Copies	PDF Required	Association / Company Name
0	Y	SDC, to pass on to GCC/HE as required.
0	Y	Public issue

Prepared for:

Stroud District Council

Prepared by:

[redacted]
Associate Director
E: [redacted]@aecom.com

AECOM Limited
3rd Floor, Portwall Place
Portwall Lane
Bristol BS1 6NA
United Kingdom

Table of Contents

Figures

1. Introduction

Introduction

This Sustainable Transport Strategy (STS) has been developed to form part of the evidence base for Stroud District Council's Local Plan Review. The Draft Stroud District Local Plan identifies the housing, employment, retail and community development that is required to meet local needs up until 2040. It sets out the strategy for distributing development within the District, and policies for protecting and conserving the natural and built environment. This STS will play a key role in setting out plans for achieving the connectivity and mobility needed to support growth, in as sustainable a manner as possible.

What is a Sustainable Transport Strategy?

A Sustainable Transport Strategy provides an important opportunity to tackle issues such as congestion, accessibility, air quality, public health and safety whilst supporting the District in delivering mobility for inclusive growth. It is underpinned by extensive research into local and national policy context, cutting edge research and guidance, and the District's transport network and demographics. This has been summarised into a series of challenges and opportunities, which set the framework for the development of a bespoke STS for Stroud District.

The STS is informed by a vision (see box), reflecting the overarching goal which the STS aims to achieve, supported by a series of objectives to guide the development of interventions and packages to deliver the vision.

Stroud Sustainable Transport Strategy Vision:

Enable mobility for all, prioritising sustainable and low carbon modes of transport, allowing healthy and prosperous communities and economy to thrive, whilst continuing to be an environmentally responsible district

The STS has been developed by Stroud District Council (SDC) and stakeholder engagement has been fundamental to its creation. A wide range of views have been gathered, from those responsible for setting policy and with stewardship of the transport network, to local representatives, transport interest groups, transport operators, and those bringing forward development and growth through the Local Plan. Options and interventions gathered through this process have been appraised against the objectives, grouped into themes, and refined to packages which form the STS.

The STS has a number of functions.

- It sets SDC's position on a range of transport related issues and guides the formulation of updated Local Plan Policy.
- It provides direction on the provision of transport measures which will be required to support new development.
- It sets priorities and focus for transport investment in the District.
- It sets the framework for delivery.

Why do we need a Sustainable Transport Strategy?

In December 2018, SDC declared a Climate Emergency and made a commitment to carbon neutrality by 2030. Reducing the environmental impact of transport is critical to achieving this aim, and SDC has a strong ambition for this STS to be a transformative force which drives forward its sustainability agenda. We are in the midst of both a Housing Crisis and a Climate Emergency, and in order to address both issues we need to place accessible, sustainable transport at the heart of planning for growth and recognise it as fundamental to policy-shaping and decision-making.

In a national context, the Government recognises that air pollution is the top environmental risk to human health in the UK and that transport is a significant contributor (The Clean Air Strategy (DEFRA, 2019)). Furthermore, transport is now the largest carbon emitting sector of the UK economy, accounting for an increasing proportion of UK greenhouse gas emissions. The Government's Clean Growth Strategy (2017) seeks to

promote opportunities to reduce the demand for travel in addition to accelerating a behavioural shift to low-carbon transport.

The health benefits of active travel are clear: a former chief medical officer noted *"The potential benefits of physical activity to health are huge. If a medication existed which had a similar effect, it would be regarded as a 'wonder drug' or 'miracle cure'."* (Public Health England 2016, Working Together to Promote Active Travel). Significant health benefits have been reported by the Department for Health (2011, Start Active, Stay Active) as being strongly-linked to physical activity:

- Overall death rate: approximately 30% risk reduction for the most active compared with the least active.
- Cardiovascular health: 20% to 35% lower risk of cardiovascular disease, coronary heart disease and stroke.
- Metabolic health: 30% to 40% lower risk of type 2 diabetes in at least moderately active people compared with those who are sedentary.

Delivering on Local Plan Objectives

SDC's Vision to 2040 in the Draft Local Plan (Nov 2019) includes, "Our rural District is living, modern and innovative. We have responded to climate change, becoming carbon neutral by 2030 and continuing to adapt our lifestyles to live within our environmental limits, including travelling in sustainable ways." This vision sets the tone for the development of the Local Plan, including the STS.

SDC's Draft Local Plan (November 2019) includes six principal objectives to provide a tangible way of taking forward the overall vision for the District. These are:

Strategic Objective SO1: Accessible communities
Maintaining and improving accessibility to services and amenities, with:

- Affordable and quality housing for local needs
- Healthcare for all residents
- Active social, leisure and recreation opportunities
- Youth and adult learning opportunities

Strategic Objective SO1a: Healthy, inclusive and safe communities
Developing communities that enable healthy lifestyles, promote social interaction, support the elderly, the young and the vulnerable, ensure public safety and reduce the fear of crime

Strategic Objective SO2: Local economy and jobs
Providing for a strong, diverse, vibrant local economy that supports existing businesses and encourages new enterprise - enabling balanced economic growth, coupled with enhancing skills and job opportunities across the District

Strategic Objective SO3: Town centres and rural hinterlands
Improving the safety, vitality and viability of our town centres, which link to and support the needs of their rural hinterlands

Strategic Objective SO4: Transport and travel
Promoting healthier alternatives to the use of the private car and seeking to reduce CO_2 emissions by using new technologies, active travel and/or smarter choices, working towards a more integrated transport system to improve access to local goods and services

Strategic Objective SO5: Climate Change and environmental limits
Promoting a development strategy that reduces our District's carbon footprint, adapts to climate change and respects our environmental limits by:

- Securing zero carbon development through building design
- Maximising the re-use of buildings and recycling of building materials
- Minimising the amount of waste produced and seeking to recover energy
- Promoting the use of appropriately located brownfield land
- Supporting a pattern of development that facilitates the use of sustainable modes of transport
- Minimising and mitigating against future flood risks, recycling water resources and protecting and enhancing the quality of our District's surface and groundwater resources

Strategic Objective SO6: Our District's distinctive qualities
Conserving and enhancing Stroud District's distinctive qualities, based on landscape, heritage, townscape and biodiversity.

STS Contribution to Strategic Objectives

The STS contributes to achieving each of the Strategic Objectives and therefore is fundamental to the successful delivery of the Local Plan. It will assist communities in maintaining accessibility to services and amenities, and support healthy lifestyles in line with SO1 and SO1a. It will provide for access to jobs and town centres to deliver on SO2 and SO3. In supporting sustainable transport and sustainable growth, it is integral to achieving SO4 and SO5. In providing tools to reduce car dominance, it can play a role in achieving SO6 through lessening the impact of motor vehicles on our landscape, heritage, townscape and biodiversity. A strong and ambitious STS is vital to the success of the Local Plan.

Strategy structure

The STS is set out in the following sections:

- Section 2 highlights the challenges and opportunities for the STS to address;
- Section 3 sets out the vision and objectives;
- Section 4 describes the development of the Strategy;
- Section 5 outlines the Strategy itself; and
- Section 6 applies the STS principles and packages to the Strategic Sites.

The Strategy has resulted from a significant amount of evidential work, which is presented in the Appendices.

2. Challenges & Opportunities

Looking to 2040, transport and movement in the Stroud District will have to respond to many challenges and capitalise on many opportunities. An evidence base has been collated, detailed in Appendix A, to provide an understanding of the key issues across the area.

Much of the area falls within the Cotswolds AONB

Stroud is an attractive place to live, with the Cotswolds Area of Outstanding Natural Beauty (AONB) right on its doorstep. The sparsity of roads, and the hilly topography of the area presents a greater range of challenges when trying to improve the transport network. It is important that we work with, not against the environment, and promote green corridors that maximise the natural beauty of the area. Damage or loss to, natural habitats must be minimised.

50% of the district's population live in the main towns

Car travel is still the most dominant form of transport for local trips and although there are good local services within the towns, walking should be encouraged as the first mode of travel.

86% people own at least one car

This highlights the heavy car reliance and dominance of the car in the area. Stroud District ranks in the top 25 local authorities in the country for owning 3 or more cars.

12,800 new homes and between 2,300 and 6,300 new jobs by 2040

Growth will lead to demand for more movement, more trips on the transport network and contribute to congestion. More people will need to walk, cycle or travel by public transport and significant upgrades to the sustainable transport networks will be needed to unlock growth areas without potentially substantial environmental impacts. The rural nature of the Stroud District will make it more challenging for new development to not rely on the private car, and careful consideration must be taken to enable sustainable travel to key destinations within the District.

Spatial Growth Strategy

The scale of growth required will rely on a range of spatial solutions. The emerging growth strategy of the Local Plan will concentrate housing growth on the main towns of Cam and Dursley, Stonehouse and Stroud and through extensions to Gloucester. Housing and employment growth will also be centre at two new settlements at Sharpness and Wisloe within the Severn Vale where there is the potential to create new sustainable communities along garden village principles. Further strategic employment growth will also be concentrated at accessible locations within the A38/M5 corridor.

Access to jobs

Two thirds of the population are of working age, and the District has low levels of unemployment. Opportunities to access to jobs and training by sustainable means will be a priority.

50% of people leave the district to go to work

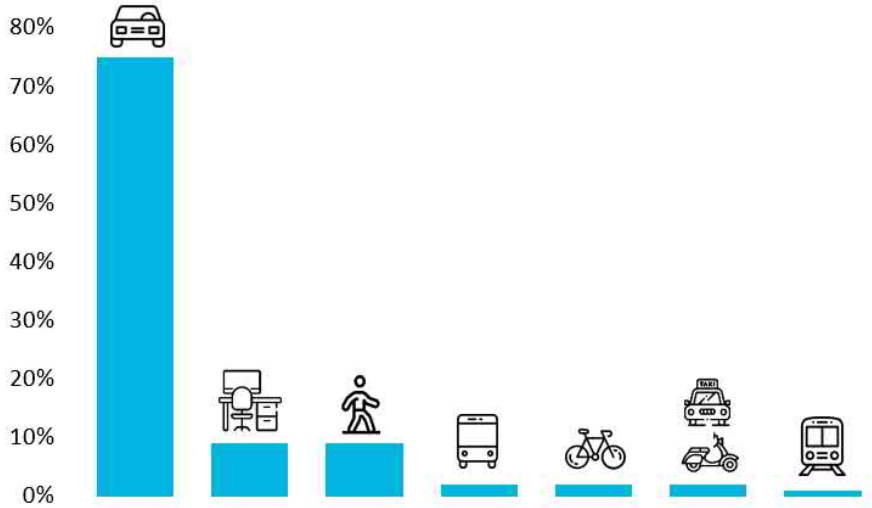
Access to skills and markets in the local area needs to be improved to reduce out-commuting to competing areas. 20% of commuters travel to Bristol and the surrounding areas. Enabling access to opportunities within the District by sustainable transport is desirable, however there must also be recognition that there is high demand for longer distance travel which needs high quality public transport options to meet this demand.

Ageing Population

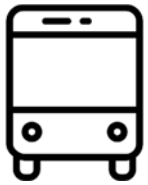
Like many places in the UK, the population is ageing, and the transport network needs to adapt to reflect the changes in ages groups, providing sustainable alternatives to the car.

Majority of people travel to work by car.

75% of commuters in the Stroud District travel to work by car. The average distance travelled to work is 17km, sometimes to areas outside of the district, meaning that demand for motorised transport is high. However, 27% of people travel less than 5km to work, of which two thirds of these people travel by car. These shorter commutes could be encouraged to take active and sustainable mode of transport as their first choice.



Sparse, subsidised bus network



Journey time reliability on our roads and on public transport is essential. Currently, the bus services are unreliable and infrequent, making it difficult to make a whole journey by sustainable travel and unattractive in comparison with private car use. There is a lack of services that run into the evening and service information is not always readily available to everyone. A lack of rural bus services connecting to the main towns can lead to social exclusion for those who do not have access to a car.

22% growth in rail users since 2010/11

The number of people using trains is growing in the District. This is both an opportunity and a challenge to keep up with demand. Higher frequency services will become increasingly important to meet growing demand, and access to rail stations by sustainable modes will need to be improved.

Disconnected cycle network

Stroud District has good access to the canal network, providing a pleasant greenway for active travel journeys. The route surface varies in quality and parts of the routes are not well connected to each other. The remaining cycle network is not coherent and does not align well with natural desire lines to enable people to get to key destinations. The area provides challenging topography, and it is recognised that not everyone is able to walk and cycle, and therefore a reliable and accessible public transport service is required.

Inclusive society

Stroud District is generally prosperous, and the least deprived in Gloucestershire. However, there is large variance within the District, illustrated by Stroud town centre. This area has the lowest car ownership in the District and the relatively compact nature of the town and sustainable travel options allow people to move within the town centre without the need for a car. However, difficulties arise when people try to travel further afield to access employment and education, or wider service and retail opportunities. Roads within Stroud town centre are focused around the car, creating an unfavourable experience for non-car users. Making streets and places more attractive and work for people will provide economic benefits to the town centre.

3. Vision and objectives

Through analysis of the evidence base, understanding of the challenges and opportunities, and discussions with stakeholders, we present a vision that reflects Stroud District Council's commitment to sustainability and seeks to redress the balance between people and vehicles, to:

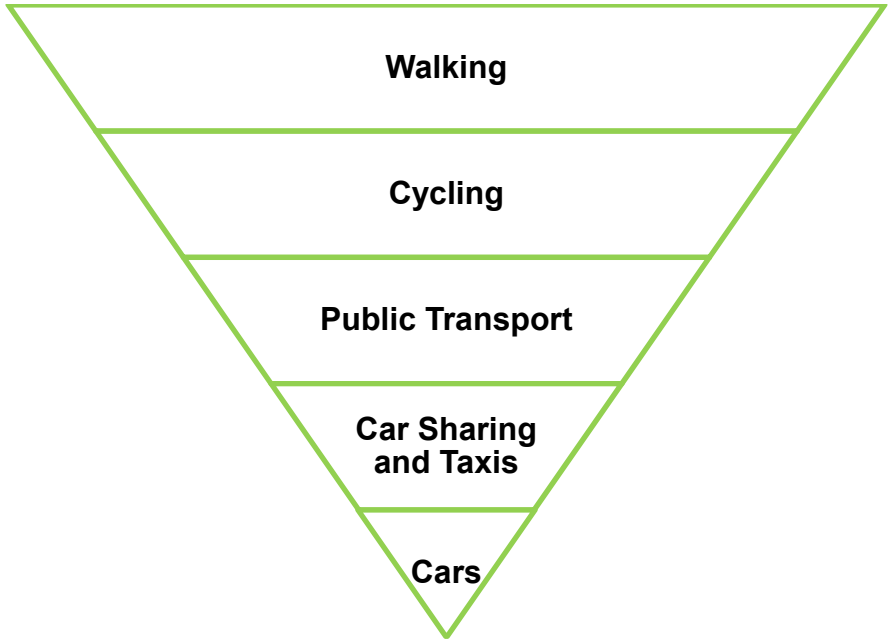
Enable mobility for all, prioritising sustainable and low carbon modes of transport, allowing healthy and prosperous communities and economy to thrive, whilst continuing to be an environmentally responsible District

The **objectives** of the Sustainable Transport Strategy expand on the vision and respond to the challenges the District faces. The objectives are to:

Prioritising transport modes

Adopting a Transport Hierarchy will help emphasise the priorities of this vision, demonstrating SDC's commitment to promoting sustainable travel. The hierarchy puts pedestrians, cyclists and public transport users' needs above those of vehicles, including in terms of safety and quality of provision. It ensures preference in design and investment is given to those travelling by sustainable and active means to create better places that serve all users in a balanced way. The hierarchy recognises the benefits that shared mobility can provide in terms of increasing car occupancy levels, reducing overall number of car trips, and providing alternatives to car ownership.

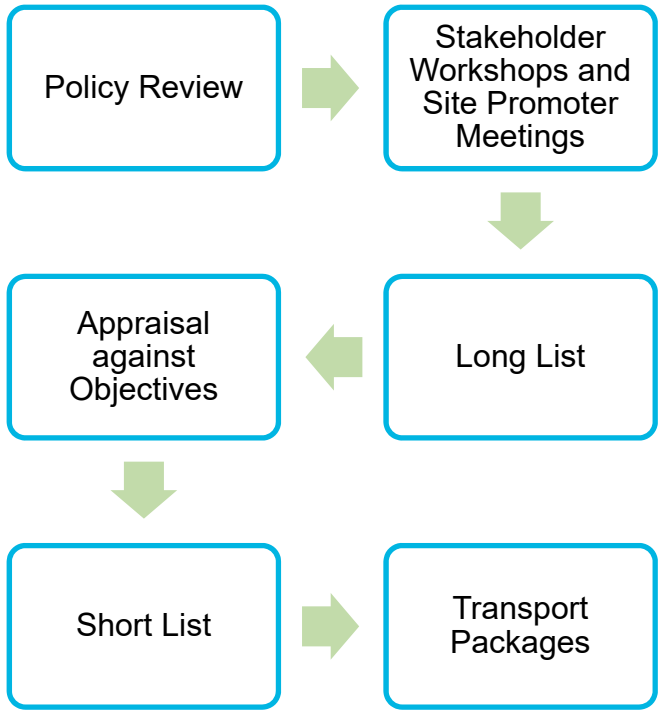
The STS recognises the role of Electric Vehicle (EV) uptake in reducing emissions from cars at the point of use. Despite this, an EV is still a car and as such, places at the bottom of the hierarchy, where opportunities to increase vehicle occupancy or transfer journeys to public transport or active travel modes remains preferable to a car with a single occupant with associated impacts in terms of congestion.



4. Strategy Development

Summary of Strategy Development Process

Initiatives for the Sustainable Transport Strategy have been identified and considered through a review of local, regional and national policies, plus engagement with key local stakeholders and promoters of strategic development sites. This has enabled the collation of a long list of options and potential interventions which can be appraised against the objectives of the STS. Appraisal has allowed a short list to be developed, with measures grouped into themes. The resulting measures have then been critically reviewed and refined into the transport packages which make up the Sustainable Transport Strategy. The process is summarised below:



Policy Review

A review of existing and emerging planning and transport policy and guidance was undertaken to identify relevant measures for inclusion in the long list of interventions, and for potential inclusion in updated Local Plan Policy. This included a range of research, guidance and policy which has been published since the original Local Plan was adopted in 2015. Details of documents reviewed are included in Appendix A.

Stakeholder Engagement

We have engaged with three categories of stakeholders as part of the strategy development:

- Transport-related stakeholders, through a stakeholder workshop;
- Strategic site promotion teams, through site-specific meetings and information exchange; and
- Statutory consultees, i.e. Gloucestershire County Council and Highways England, through steering meetings and content review.

The **stakeholder workshop** was held with participants from local authorities, transport operators and transport interest groups. Stakeholders were given the opportunity to highlight and discuss some of the key transport-related issues across the District, and also to identify potential options for resolving these whilst seeking to deliver greater growth and sustainable mobility.

This exercise emphasised the limited travel options in the District, evidenced by the dominance of private cars as the main travel mode. It also highlighted the appetite to improve the quality and frequency of bus services and increase the availability and quality of walking and cycling infrastructure.

Engagement with the **strategic site promotion teams** was undertaken through site-specific meetings to understand the transport work undertaken to date on each site, discuss key issues and opportunities and review emerging transport strategies where available. Opportunities to reduce the need to travel, achieve modal shift, and promote sustainable travel for each strategic site were discussed, contributing to the long list of measures. A summary of the key measures specific to each site is shown in Chapter 6.

Regular engagement has been undertaken with Gloucestershire County Council and Highways England to inform the direction of the STS and ensure that it meets the needs of the transport-related **Statutory Consultees**.

The ideas generated through this process have led to the development of a long list of potential initiatives which cover a broad range of topics across all modes of transport, encompassing:

- User Behaviour;
- Connectivity;
- Infrastructure and Resilience;
- Active Travel;
- Public Transport;
- Technology; and
- Policy.

The long list is provided in full in Appendix C.

Prioritising strategy initiatives

To reduce the size of the long list into a more targeted and prioritised list of possible interventions, an initial sift by two independent assessors was undertaken. Initiatives were considered and scored against how well they meet the objectives of the STS.

A seven-point scale was used, ranging from -3 to +3, providing a measurable assessment and an overall score for each intervention. As there are seven objectives, the maximum available score is 21.

Appraisal scoring

Appraisal Score						
-3	-2	-1	0	1	2	3
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Strongly Agree	Moderately Agree	Slightly Agree

The overall scores from both assessors were averaged to give a final assessment score. These were then ranked in descending order to highlight the best scoring interventions, shown in Appendix C. In general, interventions relating to active travel and public transport scored the highest, with road user charging and parking charging schemes scoring poorly.

Further refinement to develop packages involved removing the lower-scoring interventions (those that scored 6 or below).

The interventions were grouped based on similarities, either by geography, by mode, or whether their delivery could be achieved through Policy. This refined and grouped list of interventions can be seen in Appendix D. This formed the basis of the development of packages that reflect the vision, represent the objectives and adhered to the Sustainable Transport Hierarchy.

5. Sustainable Transport Strategy

The Sustainable Transport Strategy comprises packages of initiatives that have been developed to meet the movement challenges and the objectives of the Vision. They will enable and support the growth and development of the District and refocus investment towards active, sustainable mobility.

For new developments to thrive, it is essential that forward-planning of mobility takes place, creating a viable sustainable and active transport network that links to key destinations and services without the reliance on car-based travel. Interventions that would benefit such developments, both housing and employment, have been included into the packages. How STS initiatives should be applied to each site is set out in Chapter 6.

We envisage a re-balancing of our transport network in favour of sustainable transport. People's travel decisions are about the relative attractiveness of different options, and for too long we have under-invested in sustainable transport. As a society we have planned and provided for car-based travel, enabling the car to dominate.

It is important to be explicit that, in delivering some of the measures and initiatives set out in this section, there may be instances where road space or capacity will be reallocated to sustainable modes from private cars. There will be other instances where investment decisions will be made in favour of sustainable modes whereas previously funds would be used to provide increased vehicle capacity. Notwithstanding this, road safety is paramount, and any scheme will need to be reviewed to ensure that road safety is not prejudiced. This will include ensuring that schemes which reduce traffic capacity will not in themselves impact on slip road queuing on the Strategic Road Network.

Local Plan Making

The Local Plan is the means by which SDC can embed sustainability into spatial decision making. It forms the basis for determining the acceptability of development proposals and exerts influence on the types of proposals that are brought forward. In that respect, it provides officers of the local planning and transport authorities with the basis to require development proposals to deliver sustainable transport in accordance with Stroud's ambitious sustainability agenda. The STS work has identified a number of interventions which can be carried through into planning policy. Appendix E presents the proposed revisions to Local Plan Policy advocated by the STS. The principles of these revisions are summarised as follows:

Policy Interventions

- Give weight to the STS in requiring developers to take account of its proposals.
- Decision making on transport mitigation to prioritise sustainable transport enhancements above provision of additional highways capacity.
- Strengthen requirements to deliver sustainable transport opportunities at an early stage in the development build out and ensure that developers see that such investment is fundamental to the development of a site.
- Strengthen requirements to embed sustainability through design, including:
  - Maximise opportunities to reduce the need to travel
  - Locate developments to capitalise on existing public transport and walking/cycling networks
  - Develop Masterplans to prioritise sustainable modes in line with the Sustainable Transport Hierarchy.
  - Deliver opportunities for shared mobility.
- Strengthen highways safety, particularly linked to the Sustainable Transport Hierarchy, in Development Management policy.
- Introduce electric vehicle parking requirements into policy.

- Remove car parking standards from Local Plan Policy and set the principles for parking levels to be determined based on site-specific requirements with a presumption in favour of using restrained parking provision as a measure to discourage unnecessary car usage. Place the onus on the developer to justify any parking provision.
- Establish a policy basis to invest in the development of District Wide specific strategies. Including:
  - Active Travel (Walking and cycling) Strategy for Stroud District, including maintenance, signage, safety and suggested infrastructure improvements;
  - Shared Mobility Strategy with a goal of enabling a transition to a shared mobility transport system, supporting a shift to reduced individual vehicle ownership and shared access to a cleaner, lower carbon, vehicle fleet and other sustainable transport options;
  - Interchange Strategy, to investigate the potential for Interchange Hubs to provide seamless multi-modal connectivity, facilitated by technology;
  - Parking Strategy with the objective of using parking as a policy lever to discourage car trips where viable sustainable targets exist; and
  - Public Transport Corridor Strategy to will identify and prioritise express bus corridors to deliver direct and attractive, limited stop services to key destinations, including rail stations.

Mobility Behaviours

Small changes in people's travel behaviours can have a big impact on an individual's health and well-being, and can also have a positive impact on the environment they live in.

Places with fewer cars and higher numbers of people moving on foot and by bicycle, have been shown to have economic, social and environmental benefits. Improving places for pedestrians can boost footfall and trading by up to 40%.[1]

Integrating public transport and providing subsidies and grants to businesses makes travelling by sustainable transport easy and efficient. Transforming places to benefit users at the top of the hierarchy helps make sustainable travel people's first mode choice.

These interventions focus on providing people with the tools, including knowledge of the opportunities available to them, to make sustainable choices in line with the sustainable transport hierarchy. They will contribute to reducing the need to travel and making sustainable transport modes the easiest and natural transport choice.

Interventions

- Culturally embedding Travel Planning into new developments, e.g. combining sustainable travel events into wider welcome parties.
- Personalised Travel Planning for key corridors and for residents in new developments.
- 'Drop the pace' campaigns to reduce conflicts between pedestrians and cyclists in shared space environments.
- Daily walking clubs. Walks in small and large communities (and cycle clubs for different age groups).
- Measures to improve passenger experiences on public transport, such as improvements to waiting environments including real time information and Wi-Fi, quality of vehicles, ticketing, timetabling and interchange.

[1] Lawlor, E. (2013.) The Pedestrian Pound: The Business Case for Better Streets & Places. United Kingdom: Living Streets & Just Economics Report.

- Promotion of car share with benefits dedicated to car share users, to integrate with the development of a wider Shared Mobility Strategy.
- Electric Vehicle (EV) fleet for public and private organisations.
- Encouraging the development of Last Mile delivery schemes (at suitable locations).
- Ongoing support for Thinktravel branding, including positivity campaigning to promote public transport, active travel and road user awareness.
- Real Time travel information for all modes on social media/ app.
- High speed broadband, encouraging home/community working.
- Consulting with communities, improving opportunities for partnership working towards developing sustainable transport measures which are targeted towards the needs of the local area.
- Business engagement with Gloucestershire County Council to promote and encourage sustainable travel.

Active Travel

Incorporating active travel into everyday routines is the best way to get people moving and keeping communities healthy. Walking and cycling has been shown to reduce the risk of illness and improve mental health. By changing the hierarchy of movement to favour active travel; people, rather than cars, will be put back at the heart of the transport system.

The rural and hilly nature of the District will always present a challenge. Despite this, making the local environment more appealing for active travel users enhances the travel experience and will encourage and support new people to walk and cycle for a greater number of journeys. Well-designed infrastructure will benefit all ages and abilities, allowing people to move freely without restriction.

Interventions

- Improvement of existing active travel infrastructure in the District through the development of a District Walking and Cycling Strategy, including active travel audits. This should include consideration of the opportunities which can be realised by new technologies and services, such as e-bikes, which can significantly reduce barrier effects of distance and topography.
- Provision of active travel infrastructure to follow the hierarchy where possible and appropriate to the context:
  - Segregated route away from road network;
  - Segregated route adjacent to the road network;
  - Shared cycle/pedestrian path adjacent to the road network; and
  - On-street provision as a last resort.
- Targeted measures to join up the walking and cycling network and address local barriers to longer distance movement. to include measures such as:
  - Extension of Cam and Dursley Greenway;
  - Improvements to Gloucester & Sharpness Canal towpath, including access;
  - Cycle access improvements at Multi-Use Track - B4008 between Little Haresfield and Stonehouse;
  - Cycle access improvements for Stroud town centre; and
  - Pedestrian improvements to Market Street, Nailsworth.
- Strategic development sites to link into, and enhance, the cycling network.
- Attractive, safe and direct active travel routes to local facilities and town centres.

- Increased pedestrianisation and use of modal filters[2] in towns. To include opportunities to introduce pedestrian-only restrictions at off-peak times.
- Hire Bike Scheme, including hire of pedal and e-bikes, for residents, schools/colleges and businesses. To include e-bike charging and secure cycle parking facilities.
- Secure cycle parking at key destinations.
- Improved access to free cycle training for all ages and abilities.

Bus

Bus travel is important in a rural district to help people travel distances that are too far by walking or cycling. This is particularly important as the average distance a Stroud resident travels to work is 17km. Buses are a lifeline for people with mobility issues and those without access to a car. These interventions aim to fill in the gaps in the bus network, as well as connections to new places that will be developed through the Local Plan.

It is important that the people in future developments are not limited by their choice of sustainable travel modes and can connect to the key centres in the District with ease. Upgrading the infrastructure, both physical and digital, will improve the user experience and reduce some of the existing barriers to public transport.

The UK Government has released "A better deal for bus users" (September 2019)[3]. This sets out its approach to investing in the national bus network to drive up patronage and make travelling by bus an even more attractive option. The interventions set out below, whilst developed independently, are in line with the Government's approach.

Interventions

- Investment into strategic bus corridors, in line with the corridor strategy, with linkages to strategic development sites. This will be in line with the UK Government's "superbus" network principles.
- New bus services connecting rural areas and shuttle buses for commuters, to include demand responsive community transport services.
- Extension of bus routes to link into new development sites
- Ongoing bus stop improvement programme to include shelters, Real Time Information (RTI), 4G connectivity, seating and mobility access, raising the quality of bus stop infrastructure to a consistent high standard across the District. Where there is demand, e.g. where a bus stop serves a dispersed community, this should include cycle parking.
- Using Technology to improve the quality of the bus services, such as RTI and smartcards/integrated ticketing.
- Promotion of opportunities available to passengers to reduce the cost of bus travel, such as season tickets and other available discounts.
- Cycle racks for buses.

Rail

Stroud District has the potential to be better connected within the District, and with the wider network including Gloucester and Bristol. This will require partnership working with Network Rail and the Train Operating Companies (TOCs).

Safeguarding land for infrastructure, including stations, and reopening existing lines could strengthen rail travel in the future.

Simple improvements to access at all the stations opens up the possibility for rail users to travel the 'first and last mile' of their journeys by sustainable transport. This in turn can unlock the opportunity for longer distance trips to be undertaken by rail rather than car, where access to the station itself is a barrier to rail travel.

[2] Modal filters are features used to limit access by certain modes of transport. They are commonly used to filter out private cars or other vehicles to make routes attractive to sustainable transport users, or make an overall journey shorter by sustainable transport compared to private cars.

[3] https://www.gov.uk/government/publications/a-better-deal-for-bus-users/a-better-deal-for-bus-users

Interventions

- Improvements to pedestrian, cyclist and bus access and facilities at Stroud station, investigating the potential for an integrated transport hub
- Improvements to pedestrian, cyclist and bus access and facilities at Cam and Dursley Railway Station
- Improvements to pedestrian, cyclist and bus access and facilities at Stonehouse Railway Station
- Rail service frequency improvement, particularly on the Bristol-Birmingham line.
- Railway Station Travel Plans
- Rail Junction and Capacity improvements (dynamic loops) to rail lines
- A new railway station(s) south of Gloucester, north of Bristol. The exact location will need to be determined through feasibility analysis, and could include a station south of Stonehouse on the Bristol-Birmingham Line, which would greatly improve access to Bristol from the Stonehouse/Stroud area.
- Utilisation of existing rail line at Sharpness for passenger travel
- Opening of rail halts as central hubs in new developments, where applicable

Movement Corridor Packages

The topography and settlement pattern of Stroud District results in high levels of travel demand being funnelled along key movement corridors. Additional to the measures set out in the preceding sections, it is important to focus limited resources where the greatest benefits can be achieved.

Three main movement corridors have been identified in the District where integrated packages of initiatives can be delivered, which can showcase multimodal use with a focus on sustainable travel modes. Measures which improve sustainable access to corridors from nearby areas will also be supported, as well as enhancing the corridor itself. These corridor packages enable movement by all modes, in all directions and, with interchanges, provide connections to other destinations. A map showing the corridors can be found at the end of this section.

Delivered together, interventions as part of a corridor package have the potential to make a real difference to enable more journeys by sustainable modes. The corridor packages will need to integrate with other strategies being recommended, such as the Interchange Strategy. The STS sets the principles for encouraging movement and targeting investment in each of the corridors.

The corridors deliver sustainable transport opportunities linking up the District as a whole, and key destinations further afield. The A38 forms a north south spine and serves population centres along its length and is anticipated to attract trips from strategic development sites such as at Sharpness and Wisloe. The A419/B4008 and A4135 carry local trips within these corridors, as well as linking with the A38 and outside the District to the A417. In addition to these three corridors, trips between Stroud and Bristol are also considered, as this is an important connection which is not currently well served by sustainable transport. The function of the A46 is also discussed.

A38

The A38 is an important corridor for connecting the Stroud district to Gloucester to the north and South Gloucestershire and Bristol to the south. It runs broadly parallel to the M5 along much of its length through Stroud District. Using the corridor as a multi-modal corridor will provide additional benefit to the economy and new developments off the A38.

There are relatively few settlements along the route of the A38 itself, with towns and villages such as Berkeley, Cam and Stonehouse accessed via secondary routes such as the B4066 to Berkeley and Sharpness. This lends itself to providing express movements for public transport, with relatively few stops focused on points where people from nearby settlements access the A38. Investment should therefore be focused on direct services at high frequency which can compete with private car usage in terms of journey times and flexibility. The approach to this corridor should ensure that surrounding settlements, such as Whitminster, Eastington and Berkeley, can access these express services by sustainable modes if possible and ensure that they do not compromise the express nature of the service.

The distances between destinations and reasonably high speeds of motor vehicles means that the A38 is unlikely to be an attractive option to less experienced cyclists. There is a network of routes which are more attractive to many cyclists, notably NCN41, which perform a similar, albeit less direct, function to the A38 in accommodating north-south cycle movement through the District. The STS therefore recommends that the approach to active travel in the A38 corridor focuses on access to alternative more attractive routes, access to public transport services, ensuring that the A38 does not form a barrier to cross movement, and addressing localised road safety issues.

Interventions

Interventions in line with this approach to the corridor could include:

- Use of modal filters onto the A38 benefit sustainable travel modes.
- Rapid bus/coach services to key destinations such as Bristol
- Improved frequencies of bus services, improvements in bus stop infrastructure, and where appropriate, bus priority
- Northern Metrobus extension
- B4066 corridor improvements, Berkeley
- Safety improvements for pedestrians and cyclists at Cross Keys Roundabout

- Water taxi between Sharpness and Gloucester

A419/ B4008

The A419 / B4008 corridor is an essential corridor connecting Stonehouse to Stroud and to other towns and villages in the District and also to the strategic transport network. The topography in the local area can be challenging to those with mobility issues and therefore many shorter distance trips are made by motorised transport.

The access provided to the M5 has previously seen the focus of this corridor to be dominated by car-based travel. A high level of development is coming forward in the Stonehouse and Stroud area and is likely to use the A419 for travel. This presents both a need for sustainable transport enhancements along this corridor, and an opportunity for investment into measures to deliver this.

In the vicinity of Stonehouse, a reasonable level of housing and employment can be accessed from the A419. However, this is often offset a short distance from the road, with little active frontage on the road itself. The Great Oldbury development is due to provide a spine road alternative to the A419. This road will provide a focus for public transport services in the Stonehouse area as it will be better accessible to a wider residential catchment and less constrained by congestion on the A419. However, the A419 will still form a bus movement function, particularly for services travelling between Stroud and the A38. A joined-up approach to bus movement will need to balance the relative functions of the A419 and the Great Oldbury spine road to ensure that as many people in the Stroud and Stonehouse area as possible have access to public transport services which are attractive in comparison to car usage. This should include a good coverage of services as well as direct services, efficient access for buses to and from the A419 corridor itself, potentially including targeted bus priority and modal filters, and investment in the overall number and frequency of bus services, harnessing the potential demand generated by development in the area.

National Cycle Route 45 accommodates cycle movements alongside the A419 for much of its length. Investment will need to focus on making this route as attractive as possible, improving cycle access to the route itself, and targeted cycle improvements to the local road network.

Interventions

Interventions in line with this approach to the corridor could include:

- Cycle Access improvements between Eastington and Chalford
- Cycle Access improvements to National Cycle Route 45, Stroud
- Cycle Access improvements for Cainscross roundabout, Stroud
- Improved provision for pedestrians and cyclists on the A419 Ebley Road corridor
- Improved frequencies of bus services on A419/B4008 between Stroud, Stonehouse and Gloucester, including improvements in bus stop infrastructure, and where appropriate, bus priority
- A419 corridor – Chipman's Platt Roundabout upgrade

A4135

The focus on this corridor is between the A38 and Cam and Dursley, where a larger proportion of the population will benefit from the interventions. The intention is for this route to form a sustainable 'Spine' through Wisloe - Cam - Dursley. The A4135 runs through the heart of these settlements and there are a high number of short distance trips being made from/to local origins and destinations in addition to longer distance strategic movements. To the east of Cam and Dursley, the A4135 connects with the A46 and onwards towards Tetbury. The topography in the local area can be challenging to those with mobility issues and therefore many shorter distance trips are made by motorised transport.

Thus, there needs to be a dual focus to the approach to this corridor to accommodate both short and long-distance trips. Movement along the corridor will need to connect efficiently with longer distance public transport providing a more strategic movement function at Cam and Dursley Station and the A38, potentially at Wisloe. Smooth interchange between modes will be critical in these locations to make multi-modal trips attractive in comparison with car usage.

Along the corridor itself, there needs to be a micro-focus on safe movement of pedestrians and cyclists, addressing local barriers, as a high level of trips have the potential to be made by active modes. Dense coverage of bus

stops with short walking distances to the stops and high frequency services will be important to making public transport attractive for local trips. Measures to address localised congestion and to provide bus priority along this route would assist in combating the journey time disbenefits of regular stops, as would smart ticketing to reduce the length of time buses spend at stops themselves.

Interventions

Interventions in line with this approach to the corridor could include:

- Completion of Cam – Dursley – Uley Greenway
- Removing pedestrian and cycle pinch points along the full length of the corridor, such as:
  - Dedicated pedestrian and cycle provision at railway pinch-point
  - Improved pedestrian and cyclist access over A4135/Box Road junction
- Increase in bus service frequency and bus stop infrastructure, with improved connections to Cam and Dursley railway station.
- Bus priority measures along the corridor where possible and where they can provide tangible benefits.
- Multi-modal interchange facilities at the A38 and Cam and Dursley Station.

Stroud/Stonehouse – Bristol

Improving sustainable transport opportunities between Stroud/Stonehouse and Bristol is a key priority for the LHA, and the STS seeks to identify how this will be achieved. At present, there are no direct and attractive public transport options between these locations. There are a number of interventions in the STS which will contribute to addressing this, either in isolation or combination.

Interventions

Interventions to improve public transport connectivity between these locations are likely to come forward in the following order.

- Improved public transport services between Stroud, Stonehouse and Cam and Dursley Station. This will improve access to direct rail services stopping at Yate, Bristol Parkway and Bristol Temple Meads. This forms part of the bus improvement packages.
- Express bus services between Stroud and Bristol, potentially with an interchange point in the vicinity of the M5 Junction 13. This will provide attractive bus service linkages between the two destinations via a combination of the bus corridor packages and interchange strategy which form part of this STS.
- New Rail Station south of Stonehouse on the Bristol to Birmingham line. This represents an aspiration to provide a new station on this line south of Gloucester and north of Bristol; this is one of a number of locations being considered and further work is being undertaken on the optimal location for such a station.

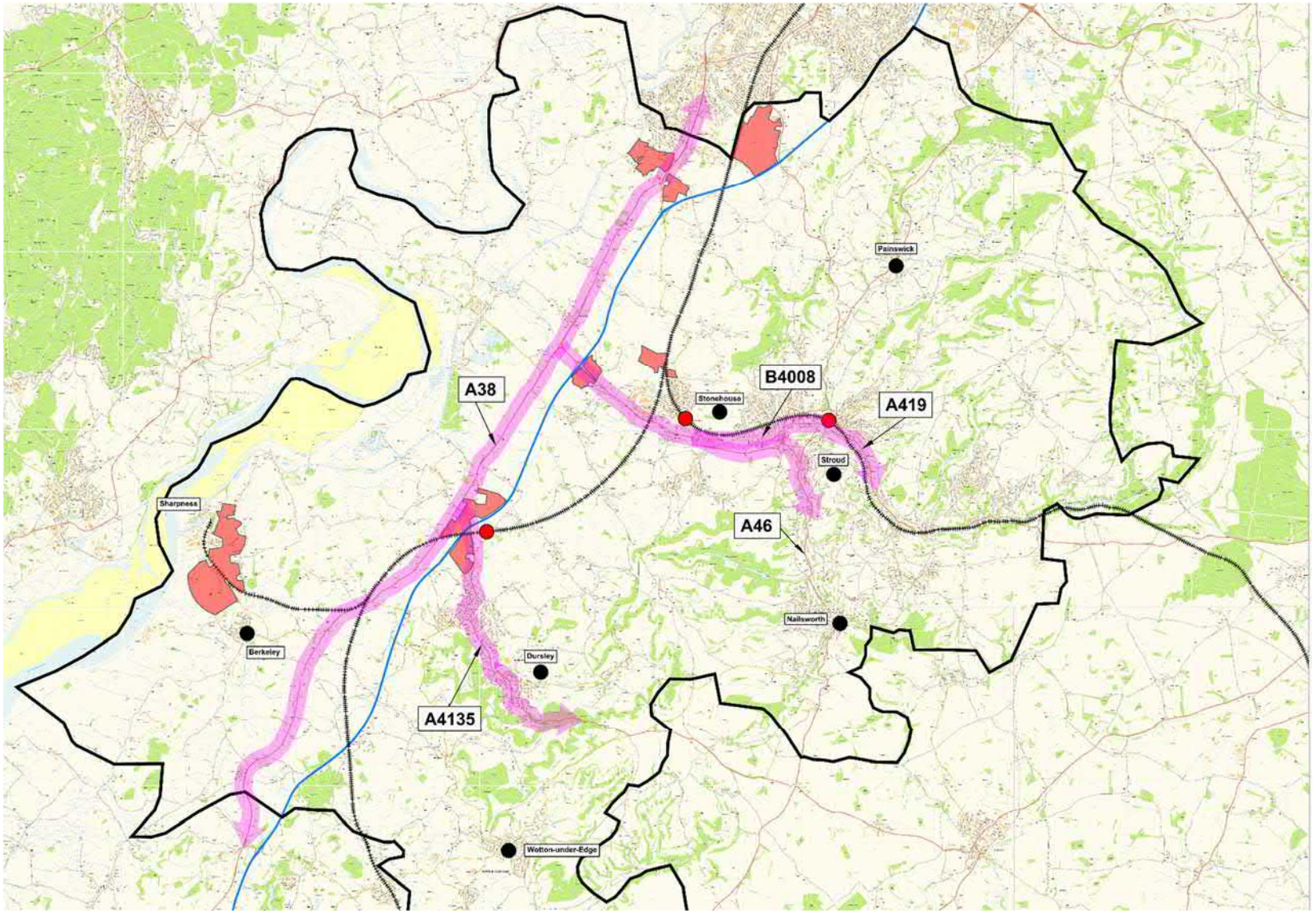
A46

The A46 is a key strategic north-south movement corridor within the Stroud District. It links Stroud and the Stroud Valleys to the north, with Nailsworth, the A4135 (linking Cam and Dursley with Tetbury), and ultimately the M4 to the south. As with the A38, it on occasions it provides an alternative resilience route to the M5/M4 in the event of significant incidents on the SRN.

There is off-road, segregated cycle provision running parallel to the A46 between Stroud and Nailsworth, and also public transport services linking these settlements. To the south of Nailsworth, sustainable transport opportunities are limited.

The nature of the road, topography and relative sparseness of population along the route, as well as lack of “place” destinations south of Nailsworth means that travel along this road is dominated by vehicular traffic moving at up to the national speed limit. Attractive alternative routes exist for walking and cycling, and the A46 is offers limited realistic opportunities for walking and cycling trips along its length. For these reasons, the A46 has not been selected as a sustainable transport corridor for investment in the STS.

Figure 1 Movement Corridors



6. Approach to Strategic Sites

Introduction

This Section sets out a summary of issues, opportunities and key measures for improving the sustainability of each of the proposed strategic sites. It is necessarily high level for a Local Plan, with further detail on the requirements for each site to be established through Transport Assessment work by site promoters. This is not an exhaustive list, and further measures may be required as the Sustainable Transport Strategy and Local Plan evolve, or through more detailed assessment work as part of planning applications for each site.

Land at Whaddon - 2,500 Dwellings (Gloucester Fringe)

Site Overview

The proposed strategic site consists primarily of 2,500 residential dwellings and is located approximately 5km south of Gloucester, east of Quedgeley and adjacent to Whaddon. This site falls within the 'Gloucester Fringe' cluster and is bordered to the north by Grange Road, to the east by the A4173, to the south by the M5 and to the west by the Swindon-Gloucester 'Golden Valley' railway line.

Key Opportunities

- Strategically positioned on Gloucester's urban fringe, offering convenience for people working in Gloucester. The vast majority of the site is located within a 25-minute cycle of Gloucester city centre and approximately 2.5km from the Kingsway and Waterwells employment area to the west.
- The site is located adjacent to bus stops on Stroud Road which are served by a high speed, direct service between Stroud and Gloucester.

Key Issues

- Existing level of walking accessibility to local facilities is limited, with a range of land uses beyond acceptable walking distance, although many of these land uses are within cycling distance.
- Relative proximity to the Strategic Road Network risks the car becoming the dominant mode of transport.

Transport Sustainability Measures Required

- Provision of a range of on-site facilities, including primary school, secondary school, local centre and other sustainable uses, to provide sustainable access for residents of the site and maximise trip internalisation.
- Modal filter for access onto Naas Lane, allowing sustainable transport modes only, including non-motorised users, creating a clear advantage for sustainable modes for travel to areas such as Waterwells Business park to the west. This filter also reduces the ease of access to the M5 by private car.
- Enhanced pedestrian links to connect with the wider network, including appropriate infrastructure and crossing facilities.
- Masterplan to align with the sustainable mobility hierarchy, so that the needs of pedestrians and cyclists are prioritised over the needs of private vehicle drivers.
- Masterplan to be permeable to bus services, including providing a link through the site between Naas Lane and Grange Road. Bus Strategy to be produced with improved frequency of service which balances directness of service to key destinations and walkability to bus stops.
- Provision of a multi-modal transport hub adjacent to the A4173, to allow for interchange for sustainable modes including bus, bicycle, walking and car sharing.
- Electric vehicle charging points to be provided in accordance with local standards.
- A network of internal walking and cycle routes that are shorter in distance than the highway network to provide greater convenience than the private car, in accordance with Manual for Streets.

- Behavioural change measures such as high-speed internet connections, car clubs, bicycle hire, and lift share facilities will be operational on site to minimise single-occupancy vehicle use.
- Safeguarded land for a future rail halt if deemed to be appropriate through feasibility studies.

South of Hardwicke – 1,200 Dwellings (Gloucester Fringe)

Site Overview

This site is for 1,200 residential dwellings and is located in Hardwicke, north of Quedgeley West Business Park and approximately 7km southwest of Gloucester. It is bordered to the north by Green Lane, to the east by the A38, to the south by Pound Lane and Stank Lane and to the west by the Gloucester and Sharpness canal. The site forms part of the 'Gloucester Fringe' cluster.

Key Opportunities

- The site lies in close proximity to National Cycle Route (NCR) 41.
- Located close to large areas of employment, such as Quedgeley West Business Park.
- A network of footpaths cross the site connecting Pound Lane, Church Lane, Green Lane and Sticky Lane with the B4008 Bristol Road and the A38.

Key Issues

- Close proximity to M5 Junction 12 could generate a pattern of car-borne commuting.

Sustainability Measures Required

- Inclusion of a local centre with associated ancillary uses to contribute to a greater proportion of internalised trips.
- Masterplan to be designed to prioritise sustainable travel and provide sustainable transport links to local facilities and Quedgeley West Business Park, including enhancements to off-site walking and cycling routes.
- Electric vehicle charging in accordance with local parking standards.
- Public transport permeability through the provision of a new local bus route through the site, or extension of an existing service.
- Contributions to sustainable transport measures on the A38 corridor, including improvements to strategic bus services.
- A network of internal walking and cycle routes that are shorter in distance than the highway network to provide greater convenience than the private car, in accordance with Manual for Streets.
- Behavioural change measures to encourage sustainable travel by way of new and improved infrastructure and implementation of a Travel Plan.

Eco Park M5 Junction 13 – 10ha (Stonehouse cluster)

Site Overview

This site has proposals for 10 hectares of employment space, located adjacent to M5 Junction 13, approximately 3km northwest of Stonehouse. The north-western boundary of the site is the M5 motorway, whilst the A419 bisects the site in a northwest-southeast alignment. Grove Lane forms the north-eastern boundary of the site, whilst an unnamed track borders the site to the southeast. This site falls within the 'Stonehouse' cluster.

Key Opportunities

- National Cycle Route 45 is directly accessible from the northern border of the site, which provides cycle access into Stonehouse and Stroud town centres.

Key Issues

- The site is in close proximity to Junction 13 of the M5 motorway and also the A419 which intersects the site. This high level of accessibility to the Strategic Road Network will make the development attractive to car borne commuting.

- Limited levels of housing within active travel distances of the proposed site.
- Potential severance issue related to the intersection of the site by the A419.
- Lack of connectivity between Stonehouse and Bristol via rail.

Sustainability Measures Required

- Masterplan proposals to integrate all sections of the site through safe and secure pedestrian connections.
- Robust car parking provision and management to provide a level of constraint to unnecessary car usage.
- Contributions and support to sustainable transport measures on the A38 and A419 sustainable transport corridors.
- Safe pedestrian and cycle connectivity needs to be provided between the site and NCR 45. This will need to be coupled with improvements to NCR 45 between the site and Stroud.
- Dedicated shuttle bus service between site and Cam and Dursley and Stonehouse rail stations.
- Improvements to bus services to connect the site with Stonehouse, Stroud, Gloucester and other destinations as deemed necessary through transport assessment work.
- Site to be designed to accommodate permeability by bus services including interchange facilities.
- Robust Travel Plan to include car park management measures.

Stonehouse North West (Standish within Stonehouse cluster) – 650 Dwellings

Site Overview

The site proposals are for 650 residential dwellings, located approximately 2km north of Stonehouse. The Great Oldbury strategic site is located directly to the south, meaning that the proposed site will represent a northwards extension of housing at the time at which it is brought forwards. The proposed site is located directly to the west of the Bristol-Birmingham railway line and is largely surrounded by agricultural land and rural roads to the north and west. The site falls within the 'Stonehouse' cluster.

Key Opportunities

- Proximity to employment at Stroudwater Business Park, which is easily accessible from the site.
- Provision of a primary school within the site and proximity to the local centre and other supporting facilities to be provided by the Great Oldbury strategic site.
- The site is well positioned to benefit from capacity improvements resulting from the A419 Corridor Improvements Plan.
- An existing network of footpaths intersect the site.

Key Issues

- Lack of connectivity between Stonehouse and Bristol via rail.

Sustainability Measures Required

- Masterplan to ensure connectivity through the site by sustainable modes to maintain Public Rights of Way.
- Masterplan to connect into the Great Oldbury strategic allocation and provide walking and cycling routes to local facilities, including local centre, bus routes, employment and education.
- Contributions and support to sustainable transport measures on the A38 and A419 sustainable transport corridors.
- Contributions to enhanced bus service frequencies to key destinations including Stroud, Stonehouse, Gloucester, and Cam and Dursley Station. This should include service diversions into the site itself.
- Enhancements to off-site pedestrian and cycle routes to key destinations including Maidenhill School, Stonehouse Town Centre, Stonehouse Railway Station and cycle routes to Stroud.
- Provision of electric vehicle charging points in accordance with local parking standards.

New settlement at Wisloe, Slimbridge – 1,500 Dwellings & 5ha (Berkeley cluster)

Site Overview

The site proposals are for 1,500 residential dwellings and 5 hectares of employment space, located approximately 2km northwest of Cam and 5km northwest of Dursley in the 'Berkeley' cluster. The A38 borders the north west of the site, with the M5 forming the south eastern border. The railway line borders the south of the site. The A4135 intersects the site and provides access to Cam and Dursley.

Key Opportunities

- Opportunity to comprehensively provide a new settlement around Garden City principles, including a mix of land uses and prioritising sustainable modes.
- Proximity to Cam and Dursley railway station.
- The site is well located to take advantage of the existing bus network and services on the A38 and A4135 as there are reasonable links to Gloucester, Stroud, Cam, Dursley, Stonehouse and Bristol.

Key Issues

- The M5 borders the site in a northeast-southwest alignment, which, coupled with the railway line, presents severance issues between the site, Cam & Dursley Station and Cam.
- Lack of existing walking accessibility to nearby town centre / secondary educational facilities in Cam and Dursley.
- Lack of car parking at Cam & Dursley Station, as well as an overall need to improve station facilities and capacity.

Sustainability Measures Required

- Provision of a primary school, local centre and employment space to increase the proportion of internalised trips.
- Masterplan layout that prioritises pedestrian and cycle movements and provides a walkable/cyclable neighbourhood.
- Contributions and support to sustainable transport measures on the A38 and A4135 sustainable transport corridors.
- Contributions and support to link the site to the wider pedestrian and cycle network, including to Cam and Dursley Greenway to the south and to NCR 41 to the north.
- Improvements required to pedestrian and cycle accessibility between the site and facilities in Draycott and Lower Cam, as well as to Cam & Dursley Railway Station to the south of the site, increasing the attractiveness of rail as a potential mode of transport.
- Connect with and enhance the nearby bus network through increasing service frequency as well as seeking to diverting some services through the site in order to provide a viable alternative to the private car. This should include both longer distance services along the A38, and connections with Cam and Dursley.

Cam North West – 700 Dwellings (Cam & Dursley cluster)

Site Overview

The site proposals are for 700 residential dwellings located in the 'Cam & Dursley' cluster. The site is located adjacent to Draycott, approximately 4km northwest of Dursley and immediately southwest of Cam & Dursley railway station. The site is bordered to the north by the railway line, to the east by the A4135, to the south and southwest by Everside Lane and to the west by the M5.

Key Opportunities

- There are opportunities to integrate the development into the existing settlement and provide access to local facilities including education, leisure, health, retail and employment on foot, by bicycle or by bus.
- The site is well placed to benefit from enhancements to bus services along the A4135 corridor and enhanced rail services at Cam & Dursley railway station.
- Proximity to Cam and Dursley railway station.

- Inclusion of a primary school within the development proposals would contribute to increasing the proportion of internalised trips.
- The site is adjacent to Draycott Business Park and Draycott Mills, a large employment area on the east side of the A4135.
- There is an existing network of public footpaths that intersect the site.
- National Cycle Route 43 routes along Moorend Lane and St John's Road to the north of the A38 through the village of Slimbridge approximately 1.5km north of the site.

Key Issues

- Lack of car parking at Cam & Dursley Station, as well as an overall need to improve station facilities and capacity.

Sustainability Measures Required

- Masterplan design to give pedestrians/cyclists highest priority within the proposed development through a comprehensive network of local and strategic footpaths/cycleways that connect to existing facilities on the surrounding highway network.
- Active Travel Links into Draycott Business Park and Draycott Mills
- Contributions and support to sustainable transport measures on the A38 and A4135 sustainable transport corridors.
- Pedestrian and cycle crossing on the A4135 for safer access to/ from Cam and Dursley station and Cam local centre.
- Active Travel connections to the Cam and Dursley Greenway
- Existing footpaths to be retained and/or diverted as necessary.
- Emerging road layout to accommodate a potential bus loop through the site.
- Improvements to bus services, particularly those on the A4135 linking to wider destinations including Gloucester and Stroud.

New settlement at Sharpness – 2,400 Dwellings & 10ha (Berkeley cluster)

Site Overview

The site proposals are for 2,400 residential dwellings by 2040 (5,000 by 2050) with 10 hectares of employment to create a new garden village between Berkeley and Sharpness. The B4066 intersects the site in a northwest-southeast alignment, alongside the Sharpness Docks railway branchline, which no longer serves Berkeley. Station Road borders the site to the east in a north-south alignment.

Key Opportunities

- Opportunity to comprehensively provide a new settlement around Garden City principles, including a mix of land uses and prioritising sustainable modes.
- Scale of development has the potential to deliver major sustainable transport opportunities.
- Sharpness railway branchline is currently not used for passenger traffic, but it could be brought back into use with a new station(s), signalling changes and operational arrangements.
- National Cycle Route 41 is directly accessible from the eastern border of the site and routes through Berkeley to the south.
- A number of Public Rights of Way are present in and around the site.

Key Issues

- Sharpness has an issue of relative remoteness, particularly in public transport terms, although this could assist with internal self-containment. The nearest railway station is at Cam & Dursley, approximately 12km from the site. There is a lack of regular public bus services.
- Capacity issues relating to Junction 14 of the M5.
- There is a lack of some strategic facilities/services in Berkeley.

Sustainability Measures Required

- A comprehensive provision of facilities on site will lead to a greater amount of trip internalisation, which will increase the sustainability of the site through a reduced number of external trips to/from the site. This will need to include primary and secondary education, employment, shops, leisure and community facilities.
- Masterplan principles to prioritise sustainable transport movements over vehicle movements and provides a series of walkable/cyclable neighbourhoods linked by direct and high-quality cycle and walking routes.
- Direct and attractive public transport services will be needed to key destinations, including Bristol and Gloucester. This will need to link the site with employment nodes. Services will be needed from very early in the development phasing to ensure that sustainable travel patterns can be established for new residents. Services will need to be more attractive than the use of private car for comparable trips.
- The applicant has advised that the re-opening of the Sharpness railway branchline for passenger services is feasible and can deliver an attractive train service to Gloucester. In advance of this, or if this is not feasible, express bus/coach services to Bristol and Gloucester will be needed to fulfil this demand.
- Measures to reduce car ownership, as well as car usage, including Mobility-as-a-Service (MaaS) systems to provide occasional access to vehicles rather than car ownership being the default option. This should be integrated with other modes of travel to provide sustainable alternatives to car trips, including bike hire and public transport.
- Electric vehicle charging points to be provided in accordance with local standards.
- Pedestrian and cycle linkages to connect the site with existing residential and employment areas, and the canal network.
- Opportunities for behavioural change via sustainable measures to reduce car use, such as public transport vouchers/incentives.

Appendix A Benchmarking Document

AECOM Imagine it. Delivered.

Stroud Sustainable Transport Strategy

Benchmarking Report

Stroud District Council

Project number: 60598598

15 November 2019

DRAFT

Quality information

Prepared by	Checked by	Verified by	Approved by
[redacted]	[redacted]	[redacted]	[redacted]

Revision History

Revision	Revision date	Details	Authorised	Name	Position
01	15/11/19	Final	RA	[redacted]	AD

Distribution List

# Hard Copies	PDF Required	Association / Company Name
0	Y	SDC, as an appendix to the Sustainable Transport Strategy

Prepared for:

Stroud District Council

Prepared by:

AECOM UK Limited
3rd Floor, Portwall Place
Portwall Lane
Bristol BS1 6NA
United Kingdom

Table of Contents

Figures

Tables

1. Introduction

AECOM have been commissioned by Stroud District Council (SDC) to develop a Sustainable Transport Strategy (STS) to form part of the evidence base for their Local Plan Review. The Local Plan identifies the housing, employment, retail and community development that is required to meet local needs up until 2031. It sets out the strategy for distributing development within the District, and policies for protecting and conserving the natural and built environment. SDC's declaration of a Climate Emergency in 2018 further supports their strong ambition for an STS to be a transformative force which reduces the environmental impact of transport and drives forward its sustainability agenda.

The STS will play a key role in setting out plans for achieving the connectivity and mobility needed to support growth, in as sustainable a manner possible.

This benchmarking report aims to present contextual evidence from a desktop review of the Stroud District. The report explores national and local policy, understanding the significance they have on the STS, but also how the STS will contribute and support adopted Local Policies.

A summary of the demographics and existing travel behaviours has been undertaken using the latest data available. A thorough review of existing transport conditions has highlighted merits of the existing transport network, but also has emphasized some issues and potential improvements. Combined, this detailed assessment of existing conditions will inform the study in its vision, objectives and inversions and lead towards the delivery of a robust STS.

2. Policy Context

A number of relevant local and national policies have been considered during the development of the Sustainable Transport Strategy (STS), described in more detail below.

2.1 National Policy and Guidance

Future of Mobility (2019)

As one of the 2017 Industrial Strategy's 'Grand Challenges', the 'Future of Mobility' has been the subject of two prominent strategic reports from the Government Office for Science (GOfS) and the DfT;

- Future of Mobility: A time of unprecedented change in the transport system (GOfS)
- Future of Mobility: Urban Strategy (DfT)

The two strategic reports focus upon the expectation that transport technology is expected to change at a rate that is faster than any period since the Victorian era, and aim to guide the development of a *"genuinely integrated 21st Century transport system underpinned by digital connectivity and data"* (GOfS, p.iii) up to 2040. The understanding of travel behaviours and how they interact to societal change is emphasised as key to understanding future demand and the role of transport within the context of societal and environmental challenges, in addition to the traditional focus upon economic growth.

The DfT's strategy for the future of urban mobility (for freight, passengers and services) is manifested in the following nine key principles:

1) New modes of transport and new mobility services must be safe and secure by design.
2) The benefits of innovation in mobility must be available to all parts of the UK and all segments of society.
3) Walking, cycling and active travel must remain the best options for short urban journeys.
4) Mass transit must remain fundamental to an efficient transport system.
5) New mobility services must lead the transition to zero emissions.
6) Mobility innovation must help to reduce congestion through more efficient use of limited road space, for example through sharing rides, increasing occupancy or consolidating freight.
7) The marketplace for mobility must be open to stimulate innovation and give the best deal to consumers.
8) New mobility services must be designed to operate as part of an integrated transport system combining public, private and multiple modes for transport users.
9) Data from new mobility services must be shared where appropriate to improve choice and the operation of the transport system.

One of the key short-term priorities listed in the 'Future of Mobility: Urban Strategy' is the proposed regulatory review to help facilitate the testing and implementation of alternative transport modes. The results of this review pave the potential for legislation allowing the wider uptake of 'disruptor' Mobility as a Service (MaaS)[1] or 'micromobility'[2] providers such as Uber or E-scooters.

Despite the evident focus for future mobility to be assisted by new technologies, more 'traditional' transport solutions such as active mode promotion, mass-transit and integration of different modes are still outlined to play a central role[3]. In practice the STS will therefore need to help facilitate a safe and equitable mobility network which utilises technology to increase non-private vehicular journeys where possible, and reduce the impact of essential private vehicular journeys.

[1] DfT definition: Mobility as a Service involves *"the integration of various modes of transport along with information and payment functions into a single mobility service. Recent services that allow customers to purchase monthly subscription packages giving them access to public transport and private taxi and bike hire schemes are an example"*
[2] DfT definition: Micromobility is *"the use of small mobility devices, designed to carry one or two people, or 'last mile' deliveries. E-scooters and e-bikes are examples"*
[3] Emphasised by policies 3, 4 and 8

Clean Air Strategy (2019)

The Department for Environment, Food & Rural Affair's (DEFRA) 2019 'Clean Air Strategy' sets out the requirement for action to address air pollution, cited as the top environmental risk to human health in the UK. Chapter 5 is dedicated to addressing transport's contributory role and supports recent central government strategies and guidance in the form of the 2018 'The Road to Zero' and the 2017 Clean Air Zone framework[4]. Concentrations in the Stroud District do not currently exceed nationally set levels, however as the Clean Air Strategy acknowledges that there is a need to minimise exposure to harmful concentrations of pollution, the STS will still need to help promote clean air.

The National Planning Policy Framework (2019)

Introduced in 2012, and most recently updated in February 2019, the National Planning Policy Framework (NPPF) defines the UK government's planning policies and how these should be applied. It is the starting point for Local Planning Authorities when considering future plans and making development decisions, and is supported by the web-based Planning Practice Guidance (PPG).

At the heart of the NPPF is a presumption in favour of 'sustainable development'[5] which should run through all plan making. In the context of planning for transport this means actively managing patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable. The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel.

The meeting of the NPPF at a local level, through the implementation of Local Plan documents, is discussed in greater detail in the 'Local Plans' section.

National Infrastructure Assessment (2018)

The National Infrastructure Commission (NIC) is an independent body, set up by the government, with the purpose of providing impartial advice on the UK's long-term infrastructure challenges and needs. The NIC's 'National Infrastructure Assessment' reviews available evidence from across infrastructure sectors and sets out the long-term strategy for the UK's economic infrastructure from 2020 to 2050. Although the report is not a statutory government policy, the government has committed to respond to its recommendations and adopt any agreed recommendations as government policy. The National Infrastructure Assessment therefore provides a reasonably foreseeable view into the government's forthcoming National Infrastructure Strategy.

The report made the following core recommendations:

- Nationwide full fibre broadband by 2033
- Half of the UK's power provided by renewables by 2030
- Three quarters of plastic packaging recycled by 2030
- £43 billion of stable long-term transport funding for regional cities
- Preparing for 100 per cent electric vehicle sales by 2030
- Ensuring resilience to extreme drought through additional supply and demand reduction
- National standard of flood resilience for all communities by 2050

When viewed in greater detail, a number of direct transport recommendations could have a significant impact on the STS if adopted in the National Infrastructure Strategy. For example, the report recommends that the government should require local authorities to *"allocate 5 per cent of their parking spaces (including on-street) by 2020 and 20 per cent by 2025… to electric vehicle charge points"* (p.60). In response to the potential for electric or Connected and Autonomous Vehicles (CAV) to increase the number of vehicles on the road[6], the report recommends that every city need to act now to ensure that *"space in cities is used effectively, with room allocated for fast, frequent public transport systems, well-connected and affordable housing, and pleasant public spaces"* which will *"require a new approach to governance, strategy and funding"* (p.70).

[4] Which outlined the principles for setting up Clean Air Zones (including provision of road user charging) in England
[5] The NPPF summarises sustainable development as meeting the needs of the present without compromising the ability of future generations to meet their own needs, in line with Resolution 42/187 of the United Nations General Assembly
[6] As discussed in greater detail in the Road to Zero policy review

UK Industrial Strategy (2017)

The Department for Business, Energy and Industrial Strategy's (BEIS) 'Industrial Strategy: Building a Britain fit for the future' White Paper is outlined to herald *"a new approach to how government and business can work together to shape a stronger, fairer economy"* (p.4). The aim of the White Paper is to enhance the United Kingdom's future international competitiveness and achieve a position of leadership in 'industries of the future' through the following five foundations:

1) **Ideas:** the world's most innovative economy
2) **People:** good jobs and greater earning power for all
3) **Infrastructure:** a major upgrade to the UK's infrastructure
4) **Business environment:** the best place to start and grow a business
5) **Places:** prosperous communities across the UK

To assist with the achievement of the strategy's overall aim, four 'Grand Challenges' have been set, encompassing 'Artificial Intelligence and the Data Economy', 'Clean Growth', 'Future of Mobility', and 'Ageing Society'.

Department for Transport Departmental Plan (2018)

The Department for Transport's single departmental plan sets out the Department's objectives to 2020 and the plans for achieving them. The plan emphasises the importance of transport's role in delivering cross-cutting governmental priorities including the Industrial Strategy, environment and clean growth, housing and race disparity. The following six core objectives are outlined:

1. Support the creation of a stronger, cleaner, more productive economy
2. Help to connect people and places, balancing investment across the country
3. Make journeys easier, modern and reliable
4. Make sure transport is safe, secure and sustainable
5. Prepare the transport system for technological progress, and a prosperous future outside the EU
6. Promote a culture of efficiency and productivity in everything we do

Whilst the implementation period for the departmental plan currently covers the early period of the STS and could be subject to parliamentary changes, the requirement for future mobility to holistically create a safe, secure, efficient and reliable transport system that works for the people who depend on it, whilst supporting a strong, productive economy and the jobs and homes people need, is clear.

Inclusive Transport Strategy (2018)

The DfT's 'Inclusive Transport Strategy' outlines the government's ambitions for an inclusive transport system:

> *"Our vision is for disabled people to have the same access to transport as everyone else. They will travel confidently, easily and without extra cost. By 2030 we envisage equal access for disabled people using the transport system, with assistance if physical infrastructure remains a barrier"*

Whilst many of the requirements referred to in the strategy were previously covered by legislation in the form of the *Equality Act 2010*, the strategy aims to supplement the legislation by presenting objectives that work towards addressing current implementation shortfalls. In addition, the strategy contributes to the 2017 Industrial Strategy's Ageing Population 'Grand Challenge' and several other White Papers and cross-departmental strategies[7], and therefore provides an important consideration when considering the mobility of all segments of society within the Stroud District.

Transport Investment Strategy (2017)

The Transport Investment Strategy sets out the DfT's priorities and approach for future transport investment decisions and explains how transport investment can deliver a stronger, fairer Britain. It describes what the government is aiming to achieve through:

- Investment in transport infrastructure
- Priorities and propositions that will guide future investment decisions

[7] Including the 2017 'Improving lives: the future of work, health and disability and the 2018 'A connected society: A Strategy for tackling loneliness – laying the foundations for change'

- Institutional frameworks within which those decisions will be taken
- Actions being taken at achieving the ambitions.

The policy document includes a commitment to consult on a new 'major road network' which will complement the Strategic Road Network which is managed by Highways England. It also outlines plans for a new 'rebalancing' measure, which will judge how investment programmes contribute to a more balanced economy. Since the implementation of the strategy in 2017, Major Road Network (MRN) proposals have undergone a consultation period, with responses informing the development of investment guidance for schemes along the designated network.

The emerging MRN guidance emphasises the requirement for Sub-National Transport Bodies (STBs), or regional groups of local highway authorities where STBs do not already exist, to plan and prioritise investments. Prioritised schemes stand to benefit from a £3.5 billion fund during the period 2020-2025. This is discussed under Section 2.2 on Regional Context in terms of how the STBs relate to Stroud District.

Road to Zero (2018)

The Department for Transport's 'The Road to Zero' strategy supplements the 2017 Industrial Strategy and is built around a core mission of putting the UK at the forefront of the design and manufacturing of zero emission vehicles and for all new cars and vans to be effectively zero emissions by 2040. In addition, the ambition of almost every car and van being zero emission by 2050 is also outlined.

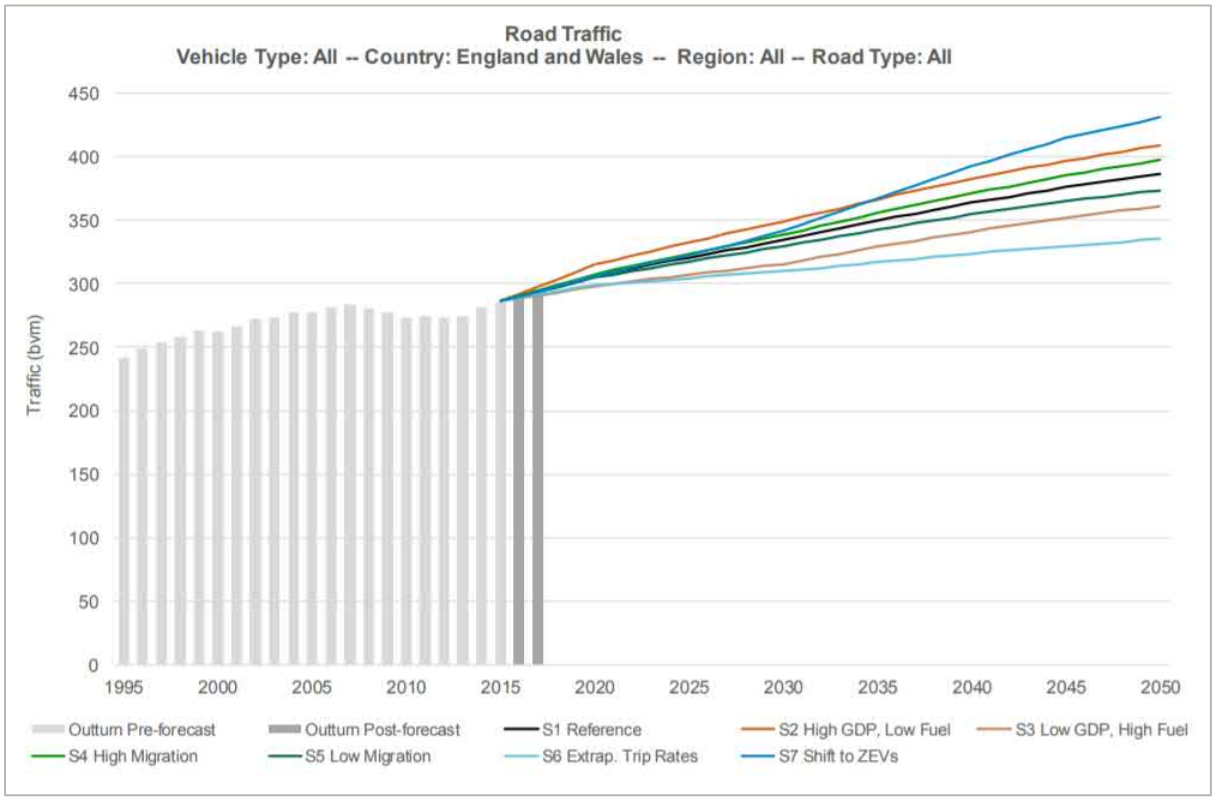
A key driver behind 'The Road to Zero' is transport's position as the largest sector for UK greenhouse gas emissions[8], with transport's contribution to emission reduction targets mandated by the Climate Change Act 2008[9] falling significantly behind other sectors including Energy production. Three main actions are outlined as necessary to achieve the strategy's ambitions:

1) **Adequate vehicle supply:** as only 38 cars are currently eligible for the plug-in car grant, as opposed to hundreds of conventional vehicle options
2) **A strong consumer base and the right market conditions:** only 38% of consumers considering a new car purchase were found to consider an electric car, with only 2% of new car sales currently ultra-low emission vehicles
3) **A fit for purpose infrastructure network:** requirement for easily accessible, affordable, efficient and reliable charging infrastructure

Whilst the first two ambitions listed above are generally outside of the sphere of influence of the local authorities within the Stroud District, the STS will intrinsically be required to help achieve a fit for purpose infrastructure network at a local level. It is important to note that the 2018 Road Traffic Forecasts predict potentially significant demand increases in the event of widespread Zero Emissions Vehicle (ZEV) uptake, which could represent demand levels 51% higher than 2015 by 2050[10]. Scenario 7 of Figure 1 demonstrates the additional road demands predicted in the event of high ZEV uptake.

[8] Producing 27% of all emissions, of which road transport accounts for 90%
[9] A reduction of greenhouse gas emissions by at least 80% of 1990 levels by 2050
[10] As opposed to 17% in the 'extrapolated trip rates' scenario (Scenario 6)

Figure 1. Vehicle Mile Forecasts for England & Wales. Source: DfT (2018) Road Traffic Forecasts (Figure 25)



With the government's recent announcement that the UK will eradicate its net contribution to climate change by 2050[11], there is the potential for Road to Zero measures to be either fast-tracked or supported by greater funding and may expedite the predicted road demand increases, but may be supported by increased funding.

Cycling and Walking Investment Strategy (2017)

The Cycling and Walking Investment Strategy outlines the DfT's strategy through to 2040 for making cycling and walking the natural choice for shorter journeys, or as part of a longer journey. The strategy aims to change perceptions of active travel (cycling in particular) as a niche activity, rather than normal activities for all, and subsequently achieve substantial economic, social and environmental benefits. By 2025, the strategy aims to:

- Double cycling, where cycling activity is measured as the estimated total number of cycle stages made each year, from 0.8 billion stages in 2013 to 1.6 billion stages;
- Increase walking activity, where walking activity is measured as the total number of walking stages per person per year, to 300 stages per person per year;
- Increase the percentage of children aged 5 to 10 that usually walk to school from 49% in 2014 to 55%; and
- Reduce the rate of cyclists killed or seriously injured on England's roads, measured as the number of fatalities and serious injuries per distance cycled.

The strategy also outlines approximately £1 billion worth of funding sources for the settlement period up to 2020-21, with the intention of reducing the potentially negative impacts resulting from the previously stop-start funding of cycle and walking projects. Supporting guidance and tools, in the form of Local Cycling and Walking Infrastructure Plan (LCWIP) guidance and the Propensity to Cycle Tool[12] were also presented alongside the strategy to assist potential active travel scheme identification and development. Gloucestershire County Council has developed an LCWIP for the Central Severn Vale (Gloucester and Cheltenham) area with the intention to conduct future investigation of lateral links to the strategic cycle link and to increase walking corridors to extend the current route proposals into more

[11] https://www.gov.uk/government/news/pm-theresa-may-we-will-end-uk-contribution-to-climate-change-by-2050
[12] https://www.pct.bike/

of a network across the Central Severn Vale. The Stroud District is not proposed to be part of the next phase of the LCWIP.

Rail Strategy (2017)

The DfT's vision for rail is to invest up to £34.7bn in the five years from 2019 to 2024 as part of a £47.9bn overhaul of the network in England and Wales, including a significant increase in asset renewals to improve reliability and reduce disruption. The delivery of rail infrastructure falls under the remit of Network Rail and therefore the implementation impacts are covered in the Network Rail section later.

The following objectives are outlined:

1. A more reliable railway – identifying improvements on lines (which are currently extensively used, are aging and are putting reliability at risk), to make sure passengers, freight customers and communities get the most out of the existing network;
2. An expanded network – investment in capacity to rebalance the economy and create more homes by forging new links between places, spurring development and economic growth;
3. A better deal for passengers – ensuring the right controls and incentives are on each part of the network to improve the customer experience on an increasingly busy railway;
4. A modern workforce – improving skills, diversity, training and development in the rail workforce, and staff sharing in the success of the railway; and
5. A productive and innovative sector – understating that a productive, innovative rail industry is essential to delivering ambitions for the railway and for the UK economy overall.

Following the release of the vision document, the DfT announced in 2018 that it was undertaking a rail review in Britain to look at the structure of the whole rail industry, including increasing integration between track and train, regional partnerships and improving value for money for passengers and taxpayers. Led by the independent chair, Kenneth Williams, the review's findings and recommendations are due to be published in a White Paper in Autumn 2019, with reforms implemented from 2020[13].

2.2 Regional Context

Highways England

Highways England takes responsibility for the Strategic Road Network (SRN) through its **Road Investment Strategy 2015/16 –2019/20 (RIS)**. Highways England's remit is to ensure strategic roads are more dependable, durable and safe. Its guiding principles to deliver these aims are to ensure the SRN is:

- Free flowing – where routine delays are infrequent, and journeys are reliable;
- Safe and serviceable –where no-one should be harmed when travelling or working;
- Accessible and integrated –so people are free to choose their mode of transport and can move safely across and alongside our roads;

Furthermore, Highways England's role is to support economic growth with a modern and reliable road network that reduces delays, creates jobs, helps business and opens up new areas for development, and to ensure its activities result in a long term and sustainable benefit to the environment.

The RIS sets the strategic vision for Highways England and shows how it will achieve that vision through this five-year plan which is accompanied by a confirmed funding envelope. No schemes were progressed within the Stroud District during RIS Period 1 (up to 2020). The RIS Period 2 schemes (covering the period from 2020 to 2025) are currently being appraised, with more details expected to be released later in 2019. However, the Government's objectives[14] for the period are broadly similar those adopted previously and outlined above.

One of Highways England's Route Strategies, created in support of the RIS2 process is relevant to Stroud District; Birmingham to Exeter[15], setting out the challenges and capacity issues at nearly all the

[13] https://www.gov.uk/government/collections/the-williams-rail-review
[14] DfT (2018) Draft Road Investment Strategy 2: Government Objectives
[15] Highways England (2017) Birmingham to Exeter Route Strategy

junctions on the M5 between Birmingham and Exeter. However, no schemes within the Stroud District were identified, with the strategy focusing on issues in Somerset and the Midlands.

Network Rail

Strategic Business and Wessex Strategic Route Plans (2018)

Network Rail's Strategic Business Plan outlines the plans for Control Period 6 (CP6), running from 2019 to 2024. The document emphasises Network Rail's four key responsibilities of running a safe, reliable, efficient and growing railway.

The **Western Route Strategic Route Plan** encompasses the Stroud District and was presented concurrently to provide greater detail of route enhancements and objectives during and beyond CP6 (up to 2029).

Much of the Western Route Strategic Plan focuses upon interventions that improve connections from Bristol, Cardiff and Penzance to London by 2024 by increasing journey times and frequency of services. There are no major improvements within the District, however within CP6, an hourly service between London and Cheltenham Spa will be delivered as well as investment into Bristol Temple Meads Station.

Long Term Planning Process (LTPP) Strategy

The LTPP considers the role that rail can play in delivering the following strategic goals:

- Enabling economic growth;
- Reducing carbon and the transport sector's impact on the environment;
- Improving the quality of life for the communities and individuals; and
- Improving affordability to funders and value for money.

The LTPP looks at the long-term capability of the rail network up to 30 years in the future to promote efficient use of capacity. It considers the views of stakeholders to identify solutions to drive and support economic growth and provides relevant authorities and passenger/freight train operating companies a basis on which to plan the future of their rail services.

The LTPP is made up of three individual elements; market studies, route studies and cross-boundary analysis. Three of the four market studies which are relevant to this study: the **Long Distance Market Study**, the **Regional Urban Market Study** and the **Freight Market Study**.

Long Distance Market Study (2013)

Released in October 2013, this Market Study forecast future rail demand based on stakeholder views on rail services and how they could support the delivery of the strategic goals. This market is defined by travel usually greater than 50 miles or by 30 miles between large cities and towns and includes both leisure and business journeys. The strategic goals for long distance rail, within the high-level headings provided earlier are:

<u>Enabling economic growth</u>

- By providing sufficient capacity for people travelling to take part in economically productive activities;
- By improving business to business connectivity; and
- By improving connectivity to/from the retail, tourism and leisure sectors of the economy.

<u>Reducing carbon and the transport sector's impact on the environment</u>

- By directly reducing the environmental impact of rail; and
- By reducing the use of less carbon efficient modes of transport.

<u>Improving the quality of life for communities and individuals</u>

- By connecting communities;
- By providing access to social infrastructure such as educational establishments and major leisure venues; and
- By reducing road congestion.

<u>Improving affordability and value for money</u>

- By meeting other outputs in a value for money and affordable way; and
- By directly reducing whole industry subsidy.

Regional Urban Market Study (2013)
This market study focussed on travel in an area less than 50 miles from a regional centre for either commuting or leisure purposes. The strategic goals for this market study within the overall headings are slightly different from the other market studies:

Enabling economic growth
- By providing sufficient capacity for employers to access the labour pool;
- By improving access to workers for businesses; and
- By improving connectivity to/from the retail, leisure and tourism sectors of the economy.

Reducing carbon and the transport sector's impact on the environment
- By reducing the use of less carbon efficient modes of transport; and
- By directly reducing the environmental impact of rail.

Improving the quality of life for communities and individuals
- By improving access to employment and training opportunities;
- By providing sufficient capacity for workers to access employment;
- By connecting communities;
- By providing access to social infrastructure such as educational establishments and major leisure venues; and
- By reducing road congestion.

Improving affordability and value for money for Government and other funders
- By meeting other outputs in an affordable and value for money way;
- By directly reducing whole industry subsidy; and
- By improving the value for money for passengers and taxpayers.

Freight Market Study (2013)
This market study looks at the overall freight market in Great Britain and demand forecasts for freight over a 10, 20- and 30-year planning horizon. Overall, rail freight is expected to continue to grow. Total freight traffic, in terms of tonne kilometres moved, is forecast to increase at an average of 2.9 per cent per annum through to the year 2043, implying that the size of the market more than doubles over this period. The overarching strategic goal for this market study is to enable economic growth:

- By enabling rail freight volumes to stabilise or increase, following recent declines; and
- By funding improvements identified by the industry to continue rail freight expansion in England and Wales.

Sub-National Transport Body Creation

Following the initial announcement as part of the Transport Investment Strategy (2017), the DfT produced additional details of the proposed Major Road Network (MRN) in a December 2017 consultation document. The consultation document outlined the Government's proposals for the network and sought views on its core principles, the definition of the network, investment planning, and eligibility and investment assessment. The MRN is outlined around five central objectives:

1. Reduce congestion
2. Support economic growth and rebalancing
3. Support housing delivery
4. Support all road users
5. Support the Strategic Road Network

The consultation outlined that, in addition to £6.2 billion of sustained funding between 2015 and 2021, local road networks would also benefit from access to an additional £9 billion funding and other incentive driven, competitive schemes.

The development of Sub-National Transport Bodies (STB), where they did not already exist, is outlined as one of the key elements of the Transport Investment Strategy. The STBs are expected to develop a Regional Evidence Base and enable regions to speak with one voice on strategic transport planning, particularly in relation to the MRN, to boost economic growth and development. Gloucestershire County Council is part of the recently formed 'Western Gateway' STB, consisting of several neighbouring local authorities covering the area outlined in Figure 2.

Located in the north of the Western Gateway STB, the study area is bordered by the Economic Heartland and Midlands Connect STBs and needs to consider the objective and scheme proposals presented within these areas.

Figure 2. Western Gateway Sub-National Transport Body Area. Source: Western Gateway (2019) Sub-national Transport Body Outline Case Report (p. 1)

The Western Gateway STB is targeting an additional 300,000 homes and over 190,000 new jobs by 2036, of which Gloucestershire aims to deliver 60,000 new homes and 35,000 new jobs. The growth is focused around unlocking employment and housing land within the M5 Growth Zone. This includes delivery of a new Cyber Business Park near Cheltenham and extensions to Gloucester's Southern Fringe.

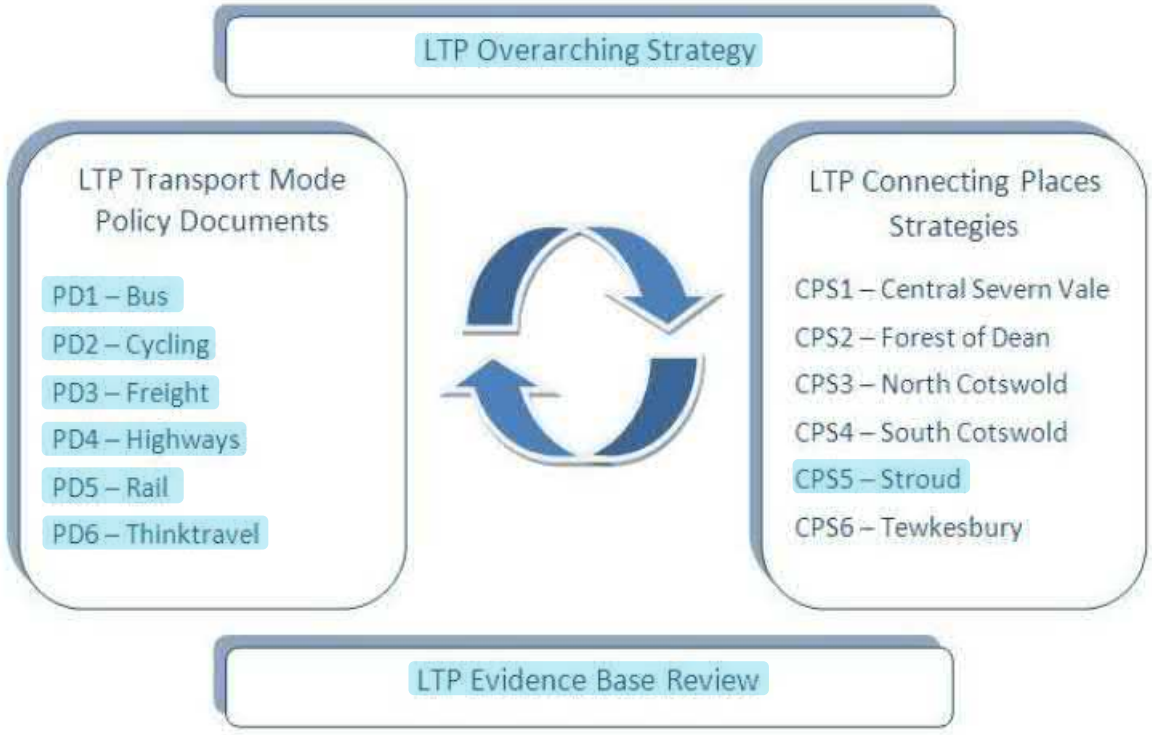
2.3 Local Policy

Gloucestershire Local Transport Plan (2015-2031)

Gloucestershire's Local Transport Plan (LTP3), adopted in June 2016, sets the long-term strategy for Gloucestershire up to 2031. It aims to influence how and when people choose to travel so that individual travel decisions do not cumulatively impact on the desirability of Gloucestershire as a place to live, work and invest.

The LTP is divided into 13 documents; one overarching; six transport mode policy documents and six area-based Connecting Places Strategies. The documents highlighted in Figure 3 below are of relevance to this study and are summarised in more detail below.

Figure 3. Relevant LTP Policy documents



PD1 - Bus

The first of the six Policy Documents aims to improve travel choice by working with bus operators to provide economic and social benefits directly to bus users, and indirectly through freeing up road space for the benefit of all road users. It sets out that the key challenges are ensuring that bus services provide coverage of both urban and rural areas in the county, and provide connectivity with key services and employment and educational opportunities, whilst being affordable and financially sustainable.

The policies that are relevant to this STS are as follows:

PD 1.1 - Gloucestershire's Bus Network: GCC will work with partners and communities to provide realistic opportunities for travel choice by bus for residents, employers, and visitors and promote them as an alternative to the car to encourage increased levels of use.

PD 1.2 – Community Transport including voluntary car schemes- GCC will support those with limited Travel Choice. GCC will work with and support local communities to develop innovative responses to local transport need.

PD 1.3 – Park and Ride - GCC will work with its partners to provide realistic opportunities for travel choice for residents, employers, and visitors through the delivery of local Park and Ride and commercially viable strategic Park and Ride facilities.

PD 1.4 – Improving the quality of the bus network - GCC will encourage investment in the bus network to increase patronage improve safety and promote bus travel as a viable alternative to the car.

PD 1.6 – Coach Travel - GCC will work with all coach operators to provide a reliable and efficient coach network that supports tourist day trips and connects communities, employment and services in Gloucestershire with key locations outside the county.

PD 1.7 – Integration with new developments - GCC will work with Local Planning Authorities and developers (through the use of planning obligations and site master planning) to ensure connectivity between new developments and existing bus infrastructure and to ensure that realistic opportunities for

travel choice are provided and consistently and comprehensively promoted to residents, employers and visitors.

PD 1.8 –Bus Information - GCC will provide clear and accurate information on services for passengers through a variety of outlets mediums, reaching every individual in every location.

PD 1.9 – Concessionary Travel - GCC will continue to administer the English National Concessionary Travel Scheme within Gloucestershire.

PD 1.10 – Home to school travel - GCC will continue to help with the cost of school / college transport in line with the latest home to school transport policy and will work with its partners to improve personal safety perceptions of using the transport network services and promote the use of transport to contribute to enjoyment and psychological wellbeing.

The relevant short-term (2015-2021) delivery priorities include:

- Gloucester Transport Hub, Gloucester – new bus station
- A40 Corridor Bus Priority, Cheltenham
- Local Park and Ride facilities

The relevant long-term (2021- 2031) delivery priorities include:

- Bus stop and bus advantage improvements between Stroud and Gloucester corridor
- Local Park and Ride facilities
- Strategic Park and Ride expansion at Waterwells, Gloucester

The relevant revenue projects are:

- Ongoing bus stop improvement programme
- Feasibility Study to consider potential Local Park and Ride sites
- Continued roll out of multi operator bus Smartcard ticket

PD2 - Cycle

Policy Document 2 assesses cycling within the area and outlines the specific cycling improvements which can be make throughout Gloucestershire. Cycling as a travelling mode supports the over-arching economic, social, environmental and health objectives set in the LTP.

PD 2.1 – Gloucestershire's Cycle Network - GCC will deliver a functioning cycle network by improving cycle linkages and safeguard quiet highway connections by working with delivery partners, other agencies, and community stakeholders to identify and remove barriers (physical or psychological) to cycling.

PD 2.2 - Cycle Asset Management - GCC will manage cycle infrastructure in line with the Transport Asset Management Plan (TAMP), the Highways Maintenance Handbook and other guidance or policies such as the updated Gloucestershire Highways Biodiversity Guidance (2015).

PD 2.3 Integration with new developments - GCC will liaise with Local Planning Authorities and developers to ensure connectivity between new developments and existing infrastructure and to ensure that realistic opportunities for travel choice are taken up within and between new developments.

PD 2.4 Cycle Safety, Awareness and Confidence - Contribution will be made by the GCC towards better safety, security and health to improve life expectancy through the reduced risk of death injury or disease.

PD 2.5 – Increasing levels of health and wellbeing - Partners and GCC will work together to encourage physical activity by encouraging larger populations to walk or cycle short distances and promote children to enjoy more independence through physical activity.

The relevant short term (2015 – 2021) delivery projects include:

- Access improvements for Stroud Town Centre
- Cycle infrastructure improvements (countywide)

The relevant long-term (2021-2035) delivery priorities include:

- Access improvement between Eastington and Nailsworth
- Access improvements for Cam and Dursley Greenway to the Railway Station
- Access improvements for Cam and Dursley Greenway to Uley
- Improving access to Gloucester and Sharpness Canal towpath, Gloucester
- Access improvements to national cycle route 45, Stroud
- Access improvements for Cainscross roundabout, Stroud
- Access improvement Multi-use track – B4008 between Little Haresfield and Stonehouse
- Cycle infrastructure improvements (countywide)

PD3 – Freight

Policy Document 3 (PD3) includes all variety of freight such as mail deliveries on foot to the traditional 'heavy' goods vehicles. Journey times and route of freight have become an issue within Gloucestershire, however a balance must be decided on mitigation and effective management of the impacts on demand. Policies set out in the Freight Policy Document that are relevant to this study are as follows:

PD 3.1- Gloucestershire's Freight Network - GCC will work within the role as the Local Highway Authority with Highways England, town/parish councils, policy and highway authorities to maintain a safe and functioning network.

PD 3.2 – Travel Information - GCC will work in partnership with Highways England, neighbouring highway authorities and the Police to increase the role of technology to assist in the dissemination of journey information.

PD 3.3 – Driver Facilities - GCC will ensure drivers' facilities are available at suitable locations to enable drivers to rest along primary routes.

PD 3.4 – Construction Management Plans - As required by the Construction Management Plan (CMP), GCC will support strategic development sites to minimise the impact of their construction on surrounding communities.

PD 3.5 – Managing domestic deliveries in urban or other sensitive locations - To minimise the impact of domestic deliveries in urban or other sensitive locations and of wasted delivery miles due to failed deliveries, GCC will encourage local communities, Chamber of Commerce, Town and Parish Councils to consider the role of freight within their Neighbourhood or Town Centre Plans.

The relevant short term (2015 – 2021) delivery projects include:

- Improvements for A419 corridor, Stonehouse
- B4066 corridor improvements, Berkeley
- Improvements to A38 Berkeley Bridges, Berkeley
- Capital maintenance programme

The relevant long term (2021 – 2026) capital projects include:

- Highway improvement completing the Dursley Relief Road
- Junction improvement A38 / B4066 junction including a new roundabout, Berkeley
- Capital maintenance programme

PD4 – Highways

The fourth Policy Document (PD4) details Gloucestershire's aims to provide the right connections to facilitate economic growth, ensuring the highways network serves all communities, commuters and travellers linking them to job opportunities, services and other areas. This however must be balanced against pressures to reduce car dependency and reduce adverse environmental impacts.

The policies that are relevant to this STS are as follows:

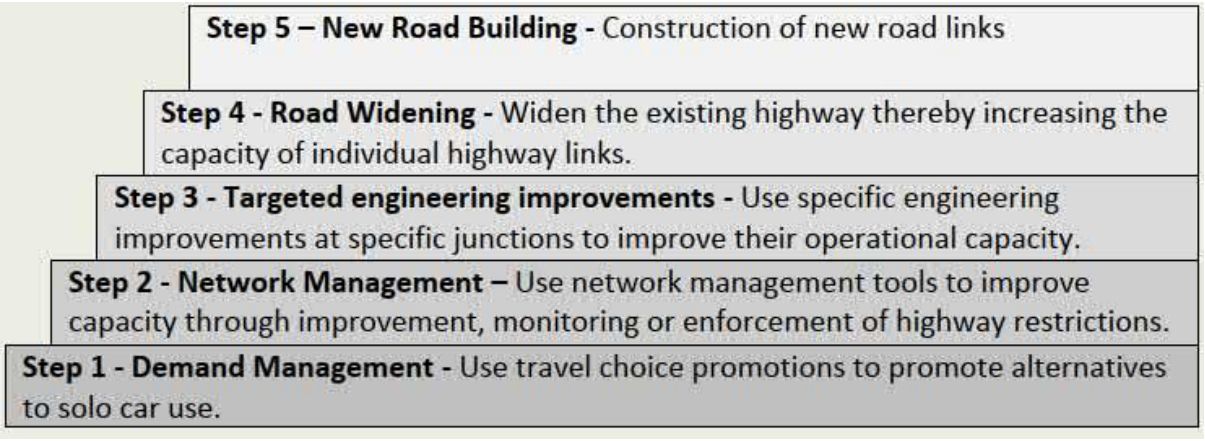
PD 4.1 – Gloucestershire's Highway Network - GCC will maintain a functioning highway network that supports Gloucestershire's transport network by ensuring the safe and expeditious movement of highway users.

PD 4.3 – Highway Maintenance - GCC will manage the local highway asset in line with the Transport Asset Management Plan (TAMP), the Highways Maintenance Handbook and other guidance or policies such as the updated Gloucestershire Highways Biodiversity Guidance (2015).

PD 4.4 – Maximising investment in the highway network - GCC will work with partners to ensure the delivery of a financially sustainable transport network by maximising opportunities for inward investment.

PD 4.5 – Enabling development - GCC will work with its partners to provide realistic and safe opportunities for travel choice for residents, employers, and visitors to new developments whilst maintaining the safe and expeditious movement of traffic on the local highway network by prioritising investment which seeks to reduce recurring congestion in line with the Network Capacity Management Hierarchy as seen below in Figure 4.

Figure 4. GCC LTP Network Capacity Management Hierarchy



PD 4.6 – Road Safety - GCC will contribute to better safety, security and health by reducing the risk of death, injury or illness arising from transport and will work with partners to improve personal safety perceptions and the promotion of transport that contribute to health and wellbeing.

PD 4.7 – On Street car parking - GCC will work in partnership with transport operators, neighbouring traffic authorities and the Borough and District Councils to ensure that parking policies in each area support the local economy and maintain the safe and expeditious movement of traffic on the road network.

PD 4.8 – Pedestrians - GCC will work with all transport providers to provide a safe, reliable and efficient highway network that encourages pedestrian movements and provides vital walking connections between communities, employment and services.

PD 4.9– Environment - GCC will work with District Councils to improve air quality, levels of noise pollution and biodiversity loss resulting from traffic on the highway network.

PD 4.10 – Use of Bus Lanes - To manage the use of County Council managed bus lanes to facilitate the movement of buses along congestion routes ensuring the safe and efficient movement of all highway users

PD4.11 Health and wellbeing - GCC will support the Rights of Way and Countryside Access Improvement Plan in identifying and seeking to support measures to improve safety, accessibility and the quality of the experience for walkers, horse riders, carriage drivers and cyclists where there is an identified need.

Short term projects (2015 – 2021) of relevance include:

- Improvements for A419 corridor, Stonehouse

- B4066 corridor improvements, Berkeley
- Improvements to A38 Berkeley Bridges, Berkeley
- Capital maintenance programme
- Highway safety improvement programme
- 20 mph zones

Long term capital projects (2021 – 2031) include:

- Highway improvement completing the Dursley Relief Road
- Highway improvement Merrywalks (link and roundabout), Stroud
- Junction improvement A38 / B4066 junction including a new roundabout, Berkeley
- Junction improvement A4135 / B4060 Woodfield roundabout, Dursley
- Junction improvement A4135 / B4066 Dursley Road roundabout, Dursley
- Junction improvement A419 / A46 Dudbridge Road roundabout, Stroud
- Junction improvement A46 / Bath Road (Dudbridge Road), Stroud
- Junction improvement A419 London Road / Dr Newton's Way, Stroud
- 20 mph zones
- Capital maintenance programme
- Highway safety improvement programme

PD5 – Rail

This policy document focuses on the future plans for rail. Network Rail are the Government owned company responsible for managing rail infrastructure including rail lines and level crossings, therefore GCC has a limited role when future rail investments are made however GCC can identify opportunities for development to Network Rail. Relevant policies to the STS include:

PD 5.1 - Rail Infrastructure Improvements - GCC will engage with the rail industry to ensure that Gloucestershire is well placed to take advantage of the wider rail infrastructure improvements including route electrification, HS2 at Birmingham, MetroWest, western access to Heathrow Airport and Cross Rail at Reading.

PD 5.2 - Rail Service Capacity Improvements - GCC will engage with the rail industry to ensure Gloucestershire has access to reliable and efficient rail services that enable local access and longer distance services accessing London, Bristol, Birmingham, Cardiff and Worcester.

PD 5.3 – Railways Stations - GCC will engage with delivery partners to maximise the desirability, demand and customer experience of using Railway Stations within Gloucestershire. Station facilities need to meet existing and forecasted demand by providing the safe and secure facilities for pedestrians, cyclists, bus users and car users.

The short term (2015-2021) projects for delivery include:

- Railway station enhancements at Cheltenham, Gloucester, Lydney and Kemble

The long term (2021-2031) schemes for delivery include:

- New railway station(s) south of Gloucester and North of Bristol
- Railway station enhancements at Cam and Dursley, Stonehouse and Stroud
- Electrification of Bristol to Birmingham main line
- Rail junction and capacity improvements to enable more trains to operate and more stopping services
- Railway Station Travel Plans and investment strategies
- Providing an improved service linking Gloucester, Cam & Dursley with Bristol (MetroWest)

PD6 - Thinktravel

The final of the six Policy Documents, PD6, details Gloucestershire's smarter choices programme – 'Thinktravel'. The overarching aim of this initiative is to inform, educate and inspire people to make journeys in a smarter, more sustainable way and therefore reduce the impact of private vehicles on the transport network. There are a number of policies that are relevant to the STS, including:

PD 6.1 – Thinktravel travel promotion - GCC will continue to use the 'Thinktravel' brand and associated marketing and information tools to ensure the appropriate promotional materials are produced in order to carry out a range of travel awareness initiatives to promote the benefits and use of sustainable modes of transport.

PD 6.2 – Managing car use from new developments - GCC will liaise with Local Planning Authorities and developers to secure Development Plan compliant contributions from developers, businesses and local partners to deliver travel plans and promote smarter travel choices including marketing and incentives to encourage sustainable travel and ensure that realistic opportunities for travel choice are taken up in new developments.

Thinktravel has identified the following projects, all of which are revenue funded, to be delivered until 2031:

- Ongoing support for Thinktravel branding
- Bikeability training in schools
- Ongoing installation of electrics cars and bikes charging points
- Personalised Travel Plans for new developments
- Personalised Travel Plans for key corridors
- Workplace Travel Plans

Connecting Places Strategy (CPS) 5- Stroud (2016)

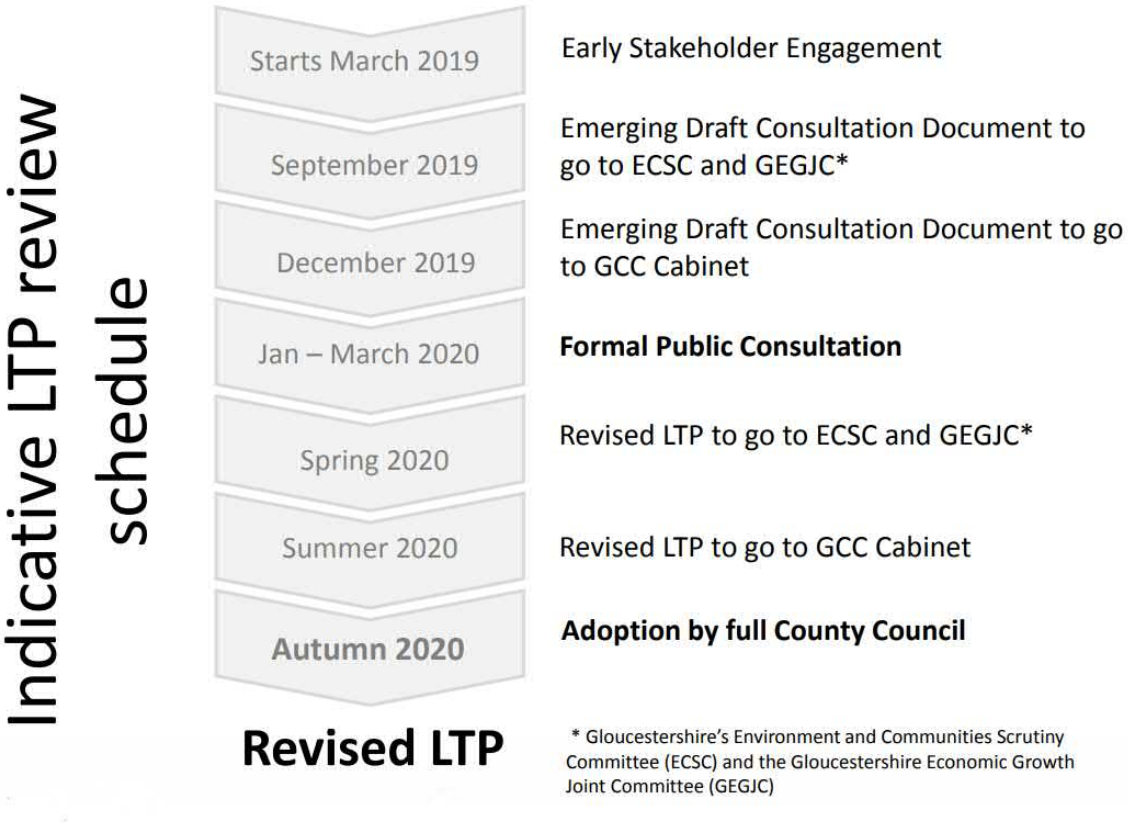
As part of the GCC Local Transport Plan, there are six strategies which characterise transport issues and identify transport priorities within a travel corridor. Stroud has been identified as one of these areas, proposing solutions to support the delivery of the LTP objectives.

The short-term (2015-2021) and long term (2021 – 2031) priorities include measures previously identified in PD1, PD2, PD3 and PD4, with additional long-term rail priorities of Stonehouse and Stroud railway station enhancements.

LTP Review

The LTP is at the early stages of a review, looking to shape the time horizon to 2041, reflect changes to national policy and local priorities, and take account of transport strategies developed for recently adopted local plans. The revised LTP is expected to be adopted in Autumn 2020 (Figure 5).

Figure 5. Indicative GCC LTP schedule



The revised vision is:

> *"A resilient transport network that enables sustainable economic growth by providing door to door travel choices for all, making Gloucestershire a better place to live, work and visit"*

There are no proposed changes to the strategic objectives:

- Support sustainable economic growth
- Enable community connectivity
- Conserve the environment
- Improve community health and wellbeing

Proposed changes include the amalgamation of the six Connecting Places Strategies into one chapter and Scheme Priorities categorised under Strategic, Major, Local and Countywide, replacing the existing Short or Long term.

Stroud District Local Plan (2015)

In November 2015, SDC implemented the Stroud District Local Plan (SDLP). It establishes broad principles about acceptable levels of developments in towns and the countryside, creating a policy framework that sets the scene for sustainable development. It details a set of overarching Strategic Objectives, 'Core Policies' and 'Delivery Policies', acting together to help achieve an overall vision of how the District should evolve to 2031. The Stroud vision is below:

> *Stroud District sits at the south-western edge of the Cotswolds Area of Outstanding Natural Beauty and extends westward across the Severn Vale, which is bordered by a rich estuarine landscape. This Vision draws upon our special environmental, social and economic qualities.*

> *Our rural District is living, modern and innovative. We have responded to climate change through our Local Plan core policies and actions. These contribute to reducing our CO2 emissions and adapting our lifestyles to live within our environmental limits.*
>
> *Our District supports a network of market towns, well connected to their rural hinterlands and wider regional centres. Each contributes to our sustainable and thriving local economy. We capitalise on our heritage, skills, and knowledge – exploiting our unique assets to nurture growth in green technologies and creative industries. We are adaptable and able to respond to changing needs and modern lifestyles.*
>
> *We enjoy a high quality of life within our vibrant and diverse communities, which have a strong sense of their own identity and local distinctiveness – from Wotton-under-Edge in the south, to Stroud Town in the centre and Upton St. Leonards in the north. They are all safe and secure places, where vulnerable people are supported.*
>
> *Every day we see the richness, diversity and beauty of our District. We nurture our historic and cultural heritage, from our arts and crafts, through to the Cotswold Canals and our wool and cloth mills.*

Strategy Objective 4 (SO4) relates to this sustainable transport strategy to:

> *Promote healthier alternatives to the use of the private car and seeking to reduce CO2 emissions by using new technologies, active travel and/or smarter choices, working towards a more integrated transport system to improve access to local goods and services.*

This objective focuses around development opportunities located within or adjacent to the District's larger settlements to reduce the need to travel and provide sustainable travel opportunities to existing networks.

The relevant Core Policies are as follows:

CP1 – Presumption in favour of sustainable development - Supports the NPPF in favouring sustainable growth both economically, environmentally and social progress for future generations.

CP2 – Strategic growth and development locations - Assesses the needs of the District by providing for the strategic development, including housing, employment, retail and other necessary development for the 2006-2031 period. Stroud District will accommodate at least 11,400 additional dwellings within the Local Plan period.

CP3 – Settlement hierarchy - to provide a hierarchy for growth and development across the Districts settlements. First tier priority is given to improving access to local service centres to Cam and Dursley, Stonehouse and Stroud

CP4 – Place Making - supporting the spatial vision for Stroud District through integrating services and neighbourhoods.

CP5 – Environmental development principles for strategic sites - strategic sites are required to have low environmental impact, be readily accessible by all modes to key local services and community facilities and be located in such a way that will achieve sustainable development and/or support regeneration.

CP11 – New employment development - New employment development will be provided through a range of sites and premises across the district, but must be readily accessible by public transport, bicycle and foot.

CP13 – Demand management and sustainable travel measures – Proposals for major schemes should provide for a variety of forms of transport as alternatives to the car, contribute to improving the existing infrastructure network including pedestrian and cycle facilities, and mitigate any significant affects arising from the proposed development.

The following delivery policies are relevant to STS:

DP EI12 – Promoting transport choice and accessibility - New developments will be required to connect with surrounding infrastructure and contribute towards new or improved walking, cycling and rail facilities.

DP EI13 - Protecting and extending our cycle routes - The council will encourage proposals that develop and extend the cycle network. Major development should provide new cycle routes within the development and connect to nearby established cycle routes including the Eastington to Chalford, Eastington to Nailsworth and Cam and Dursley cycle routes and NCN 41.

DP EI16 - Provision of public transport facilities - Proposals should cater for the needs of bus and taxi operators, where appropriate. Layouts should maximise bus passenger traffic and include facilities such as seating and shelters, where necessary.

Parking standards have also been defined with the SDLP, notably cycle parking standards. A minimum of 2 cycle parking spaces must be provided at any new non-residential development, even if car parking is limited. The location of cycle stands should be as close as possible to the destination served, and any more than 10 stands provided should be undercover, lit and appropriately signed. Strategic developments should also provide showers and lockers.

Sustainable Transport Assessment, Local Plan Evidence Base (2015)

This report examines the existing sustainable transport infrastructure at the main development locations in the District, whilst providing a strategy for sustainable transport infrastructure at each of the locations. The report assessed the quality of existing walking and cycling routes at each of the development sites, as well as investigating the accessibility of local facilities and public transport serving the area. On this basis, the overall sustainability of each site was considered, and subsequent infrastructure requirements identified.

Hunts Grove, Stonehouse and North East Cam strategic developments were considered to benefit from sustainable travel reductions in trip rate. A factor of 6% was applied to these sites, where sustainable travel was seen as viable. This included walking facility improvements or provision of new bus stops at Hunts Grove, and pedestrian facilities in the immediate area surrounding Quedgeley East.

Local Plan Review – Emerging Strategy Paper (2018)

The Local Plan started its review in 2018 in anticipation of the Government's requirement to review Local Plans every five years. It is anticipated that the draft plan consultation (Reg 18) will be undertaken in Autumn 2019, with further plan consultation in Autumn 2020 (Reg 19) leading up to adoption in winter 2021/22.

The Local Plan review recognises one of the key issues identified from consultation is ensuring that housing development is located in the right place, supported by the right services and infrastructure to create sustainable development. The emerging strategy will seek to address this issue by:

- Concentrating housing development at locations where there is currently the best access to services, facilities, jobs and infrastructure;
- Creating new sustainable communities at locations where development can transform existing access to services and infrastructure; and
- Concentrating employment growth within the A38/M5 corridor and at locations in tandem with housing growth.

The emerging Strategy Paper includes six principal objectives to provide a tangible way of taking forward the overall vision for the District. These are:

- **Strategic Objective SO1: Accessible communities**: Maintaining and improving accessibility to services and amenities, with:
  - Healthcare for all residents
  - Affordable and decent housing for local needs
  - Active social, leisure and recreation opportunities
  - Youth and adult learning opportunities

- **Strategic Objective SO1a: Healthy, inclusive and safe communities**: Developing communities that support healthy lifestyles, promote social interaction, ensure public safety and reduce the fear of crime
- **Strategic Objective SO2: Local economy and jobs:** Providing for a strong, diverse, vibrant local economy that enables balanced economic growth, coupled with enhancing skills and job opportunities across the District
- **Strategic Objective SO3: Town centres and rural hinterlands:** Improving the safety, vitality and viability of our town centres, which link to and support the needs of their rural hinterlands
- **Strategic Objective SO4: Transport and travel:** Promoting healthier alternatives to the use of the private car and seeking to reduce CO2 emissions by using new technologies, active travel and/or smarter choices, working towards a more integrated transport system to improve access to local goods and services
- **Strategic Objective SO5: Climate Change and environmental limits:** Promoting a development strategy that mitigates global warming, adapts to climate change and respects our environmental limits by:
  - Securing energy efficiency through building design
  - Maximising the re-use of buildings and recycling of building materials
  - Minimising the amount of waste produced and seeking to recover energy
  - Promoting the use of appropriately located brownfield land
  - Supporting a pattern of development that facilitates the use of sustainable modes of transport
  - Minimising and mitigating against future flood risks, recycling water resources and protecting and enhancing the quality of our District's surface and groundwater resources
- **Strategic Objective SO6: Our District's distinctive qualities:** Conserving and enhancing Stroud District's distinctive qualities, based on landscape, heritage, townscape and biodiversity.

The merging strategy paper has measures to improve sustainable in each area, shown below.

Stroud Valleys Cluster

- Improvements to Stroud station; and investigate the potential for an integrated transport hub
- Walking and cycling links to and from the Stroudwater canal and the wider Stroud valleys network
- Achieving a better public transport system
- Further pedestrianisation in Stroud
- Pedestrian improvements to Market Street, Nailsworth
- Improved walking and cycling links to the wider Stroud valleys network
- 20mph zone in Nailsworth town

Cam and Dursley Cluster

- Improved walking and cycling links connecting with Cam and Uley
- Reducing car-borne traffic levels and delivering public transport improvements
- Enhancing rail facilities at Cam and Dursley station
- Urban design, signage and public realm improvements in Dursley

Stonehouse Cluster

- Better cycling and walking links, with signage to/from the canal to the wider Stroud valleys network
- Delivering a new station on the Bristol-Birmingham main line at Bristol Road, Stonehouse
- Designing safe cycle routes and achieving better public transport

- Reducing A419 road congestion and travel to work out-commuting

Gloucester Fringe Cluster

- Maintaining and designing safe footpaths, cycle paths and bridleways

Berkley Cluster

- Designing safe walking and cycle routes from Newport to Berkeley
- Improving transport links with towns and villages in South Gloucestershire and to Bristol beyond

Severn Cluster

- Designing a new cycle way between Arlingham Passage and Newnham on Severn

Wotton Cluster

- The Greenway cycle and walking route, subject to further feasibility work.
- Designing safe walking and cycle routes and achieving a better public transport system

The STS will contribute to achieving each of the Strategic Objectives and therefore is fundamental to the successful delivery of the Local Plan. It will assist communities in maintaining accessibility to services and amenities, and support healthy lifestyles in line with SO1 and SO1a. It will provide for access to jobs and town centres to deliver on SO2 and SO3. In supporting sustainable transport and sustainable growth, it is integral to achieving SO4 and SO5. In providing tools to reduce car dominance, it can play a role in achieving SO6 through lessening the impact of motor vehicles on our landscape, heritage, townscape and biodiversity. Thus, a strong and ambitious STS is vital to the success of the Local Plan.

Strategy Options Transport Discussion Paper – Stroud District Council (July 2018)

This report informs Stroud District Council's process in deciding the preferred development strategy, assessing four development scenarios arising from the Issues and Options stage of the Stroud Local Plan Review. Four options were assessed:

- **Option 1 Concentrated development** - 5,550 dwellings and 30ha B class employment
- **Option 2 Wider distribution** - 5,520 dwellings and 30ha B class employment
- **Option 3 Dispersal** -5,695 dwellings and 40ha B class employment
- **Option 4 Growth Point** -6,010 dwellings and 40ha B class employment

Option 1 was shown to be the most appropriate scenario based on concentrated development. The scenario disperses growth throughout the region with around 35% of new trips impacting Gloucester's southern fringe, linking to the M5, J12. Approximately, 45% of new trips will impact the A419 corridor and around 20% of new trips will be focussed around Cam and Dursley. The likely mitigation package is to include:

- Linkages to Countywide cycle network;
- Improved cycle linkages to Cam & Dursley station;
- Upgrade to Cam and Dursley Station;
- Bus service 12 - extension of existing service;
- Bus service 61 extension & increased frequency for access to Stroud;
- Bus service frequency increase and better linkages to Cam & Dursley railway station;
- A419 corridor – possible dualling from Chipman's Platt Roundabout;
- A38 – Cross Keys Roundabout – upgrade of access;
- A419 corridor – Chipman's Platt Roundabout upgrade; and
- M5 J12, 13 and 14 – Capacity improvements.

GCC LCWIP

Local Cycling and Walking Infrastructure Plans (LCWIPs) set out the strategic approach to identifying long-term cycling and walking improvements, and make the case for future investment through funding bids and by informing discussions with developers

GCC has developed the first phase of a LCWIP for the Central Severn Vale area of Gloucestershire. The authority intends to conduct future investigation of lateral links to the strategic cycle link and to increase walking corridors to extend the current route proposals into more of a network across the Central Severn Vale. The Stroud District is not proposed to be part of the next phase of the LCWIP.

2018 Air Quality Annual Status Report

The 2018 Air Quality report highlights Nitrogen Dioxide (NO_2) as the main pollutant of concern within Stroud District as a result from road traffic emissions. In 2017, NO_2 levels were noted to have stabilised slightly, following a downward trend overall, with no reported levels of NO_2 at or above the national average.

Nevertheless, GCC has a responsibility for strategies relating to traffic management. The LTP3 has a number of policies which promote bus travel, the pedestrian and cycle network, rail network and the Thinktravel campaign.

Other

Shared Mobility – Where Now, Where Next, CREDS (2019)

Although not policy, this research report highlights surface transport as the largest emitting sector in the UK , and yet to show any clear reductions in its emissions trajectory, transport is at the heart of the climate emergency. Currently, there is no coherent national or consistent local policy framework for integrating shared car use within the wider set of mobility options. CREDs inquiry into shared mobility takes, the position that more rapid and radical action is required to decarbonise the transport sector.

The report sets out 20 recommendations which support their evidence base around shared mobility, delivery, deliver more meaningful innovation trials and deliver a step change in the policy framework and incentives which sit around sharing mobility. It states that “there is no ‘one-size fits all’ approach but there are some actions which will have universal benefits”.

The 20 recommendations that are relevant to the STS include:

- Shared mobility options are placed within a road user hierarchy which is directly linked to the public policy outcomes they can deliver.
- Regional or local transport bodies establish a shared mobility strategy with a goal of reducing individual vehicle ownership and promoting access to a cleaner fleet.
- Piloting of mobility hubs in new developments to deliver good practice guidance and workable standards.
- Highways England, in partnership with local transport authorities and car sharing companies, develop a series of pilot schemes with high quality interchange designs to encourage safe car sharing across their network (this should be part of Highways England’s core spend from the Department for Transport)

Transport for New Homes Checklist for new housing developments(2019)

Transport for New Homes aims for new developments to be linked to sustainable transport networks leading to traffic reduction, in order to address climate change and congestion as well as to provide good, healthy living environments. They have produced a checklist for new developments to be used by local authorities, developers and neighbourhoods to ensure new development is not built around car use but to promote good sustainable transport links.

The Checklist will be used as a foundation to inform interventions suggested by this evidence report.

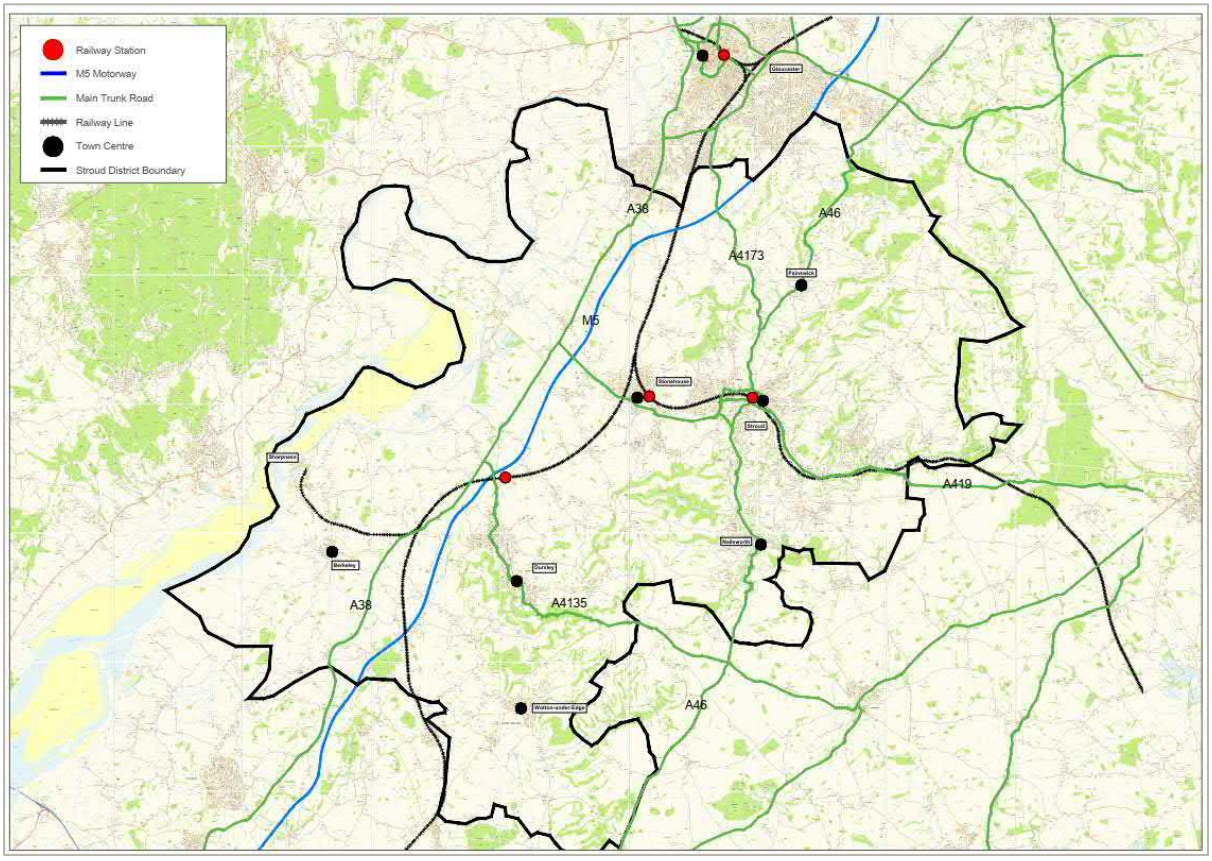
3. Review of Local Context

Geographical Context

This section sets out the geographical context of Stroud District, to assist with understanding the issues, opportunities and constraints for the District.

The Stroud area is made up of several developed areas identified in Figure 6. These areas are Stroud, Cam, Dursley, Nailsworth, Stonehouse, Wotton-under-Edge, Berkeley and Sharpness.

Figure 6. Stroud District area (Source: Gloucestershire County Council Local Transport Plan, p.5).



The area surrounding Stroud is predominantly semi-rural, albeit with the City of Gloucester to the north, with much of the area located with Cotswolds Area of Outstanding Natural Beauty (AONB). To the west of the district is the Severn Estuary, recognised as a Special Protection Area, Ramsar site and Special Area of Conservation. The Cotswold and Gloucester Districts within Gloucestershire are to the east and north respectively.

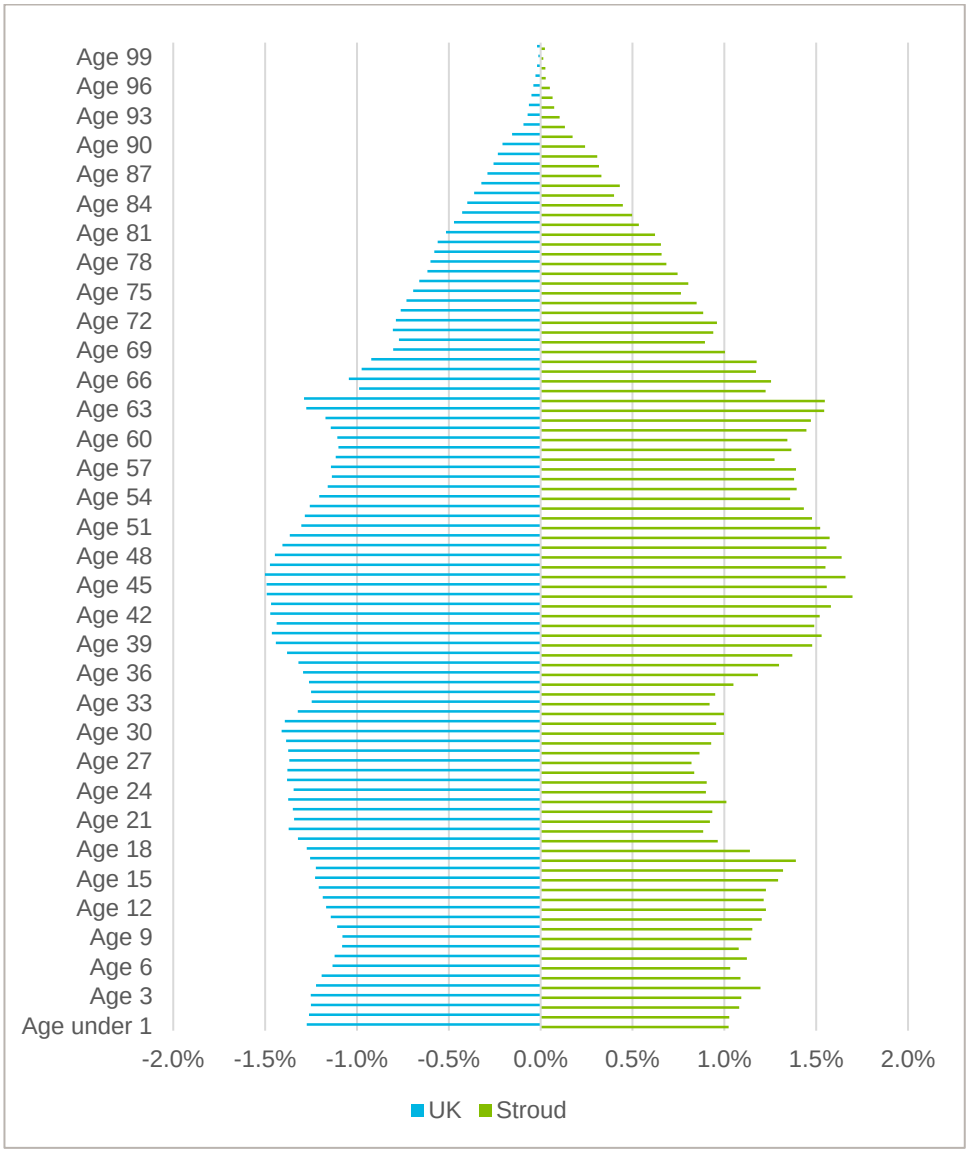
Demography

The current population (2018 estimates) for the Stroud area is 119,000[16], accounting for approximately 20% of Gloucestershire's population. Growth in Gloucestershire is expected to increase by 9% between 2012 and 2031[17].

Figure 7 below highlights the age range of Stroud[18]. A large portion of the population (40%) is between 40 and 65. When compared to the national average, the Stroud district has fewer young adults between the ages of 16 and 34. On balance, the population is generally older than the UK average.

[16] Office for National Statistics 2018
[17] Gloucestershire Local Transport Plan (2015-2031) – Policy Document 1 – Bus
[18] 2011 Census data

Figure 7. Population age distribution of Stroud District and England

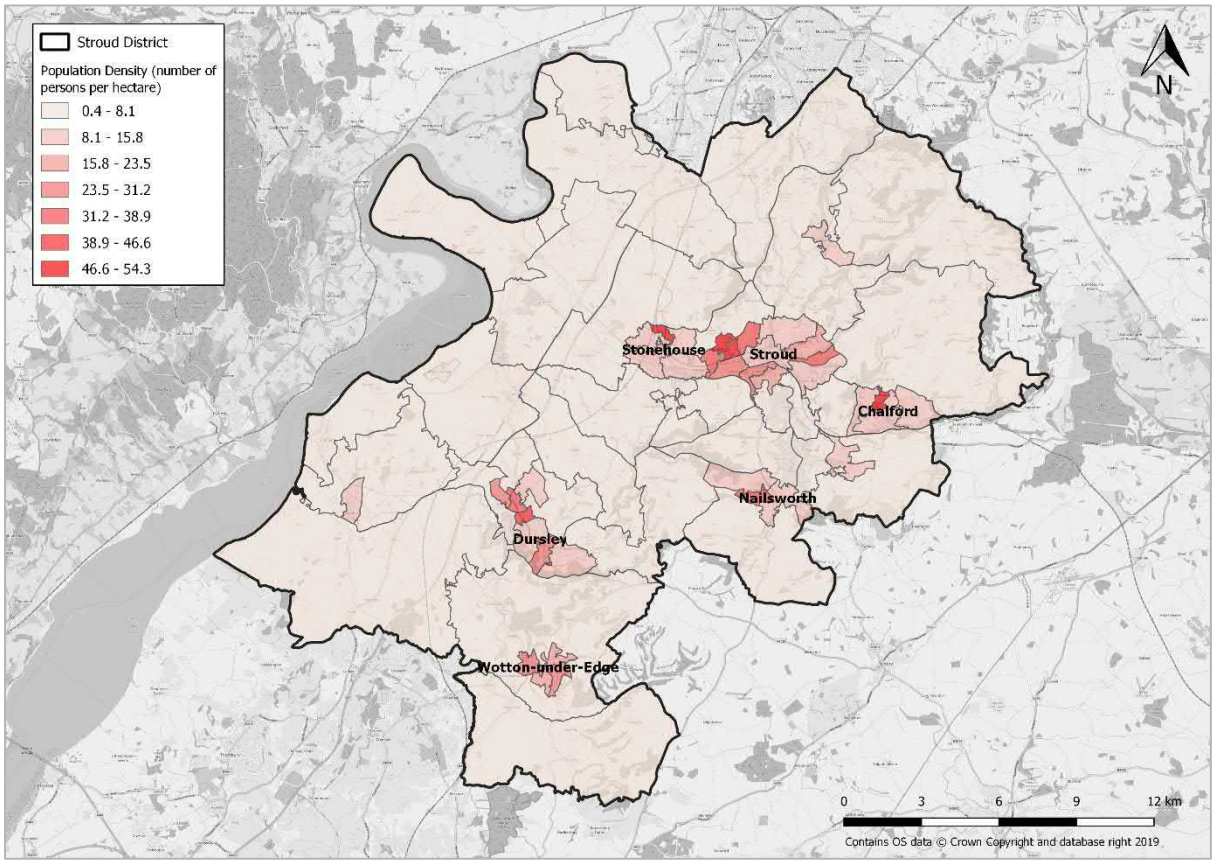


Population Distribution

The population density distribution map of the output areas within the Stroud District is displayed in Figure 8. This has been calculated from 2011 Census data[19] and gives an indication of the spatial distribution of population within the area. Due to the rural nature of the district, the highest population densities are within the main towns: Stroud, Stonehouse, Nailsworth, Dursley and Wotton-under-edge.

[19] Office for National Statistics (KS101EW)

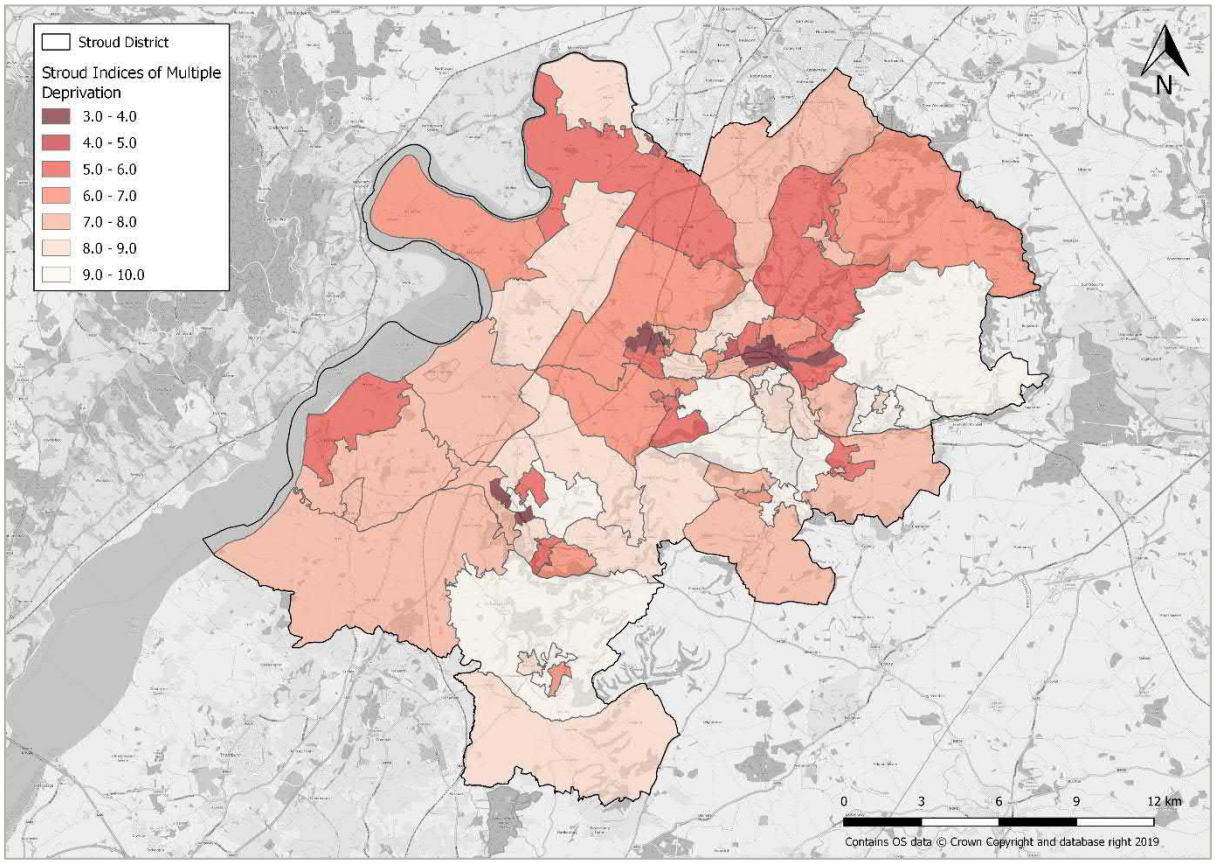
Figure 8. Population Density



Social Context – multiple deprivation scores

Figure 9 demonstrates indices of multiple scores, with the lower numbers representing the most deprived areas. As a district, Stroud experiences low levels of deprivation with no LSOAs within the top 20% of deprived areas in England and Wales. The most deprived areas within the district are within Stroud town centre in the Central, Slade and Trinity 2011 Census wards. The least deprived area is within the Chalford Ward.

Figure 9. Stroud District Index of Multiple Deprivation (2015[20])



Car Ownership

The car ownership per household within the Stroud District is highlighted in Table 1. It shows the spatial distribution of car and van vehicles per household across the area at the time of the last census (2011). 86% of households in Stroud District own at least one vehicle, compared to the national average of 74%. Gloucestershire as a whole has a high car ownership, especially with three or more cars/vans per household. Stroud ranks 24th and 25th (out of 348 local authorities in England) for households with three and four or more cars/ vans, suggesting a high dependency on private vehicles as a mode of transport.

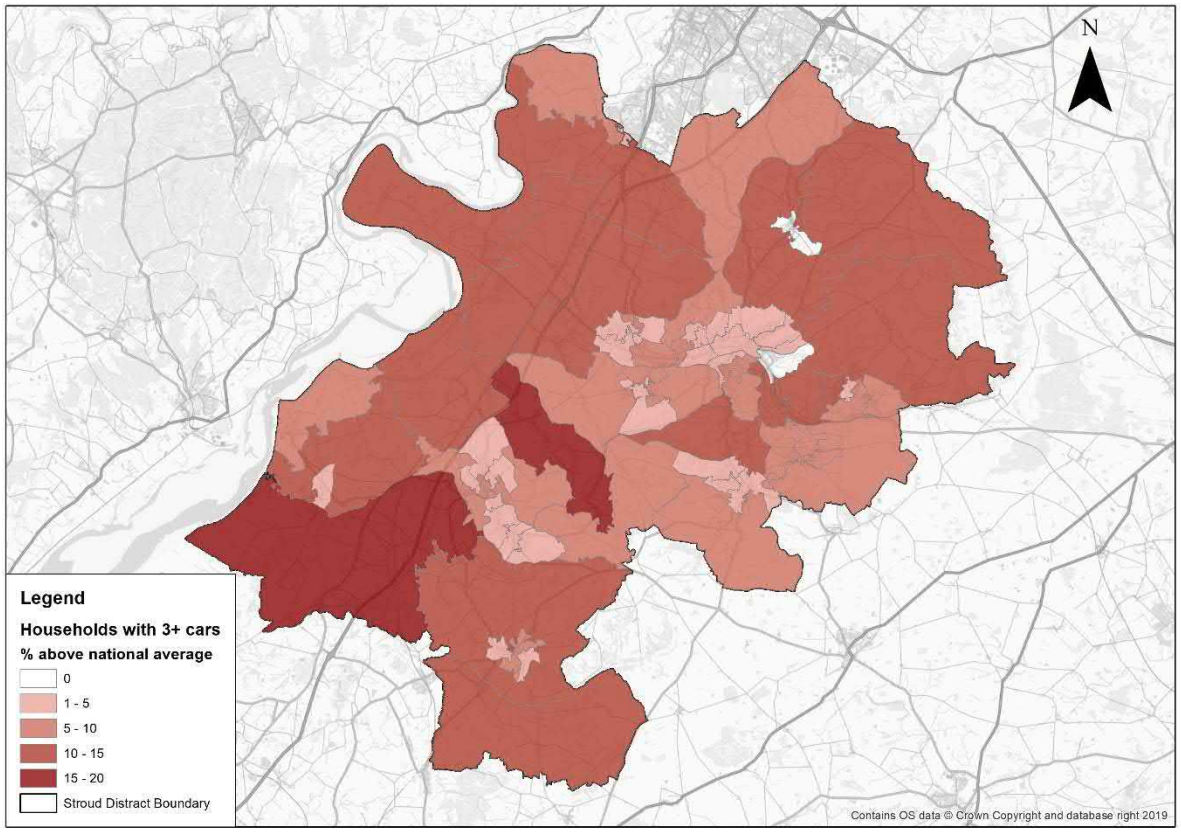
Table 1. Car availability in Gloucestershire

Area		Car/ Van availability	Percentage of households				
			No cars/ vans	1 car/ van	2 cars/ vans	3 cars/ vans	4 or more cars/ vans
England		22,063,368	25.8	42.2	24.7	5.5	1.9
Gloucestershire	**Total**	254,615	17.1	41.8	30.8	7.4	2.9
	Cheltenham	50,929	22.0	46.0	25.5	4.9	1.6
	Cotswold	36,236	12.6	40.1	34.3	9.1	3.8
	Forest of Dean	34,167	14.4	39.2	32.9	9.5	4.0
	Gloucester	50,363	22.6	43.4	26.9	5.4	1.7

[20] Office for National Statistics: English Indices of Deprivation 2015

Area		Car/ Van availability	Percentage of households				
			No cars/ vans	1 car/ van	2 cars/ vans	3 cars/ vans	4 or more cars/ vans
	Stroud	47,794	13.9	38.6	34.4	9.3	3.8
	Tewkesbury	35,126	13.6	42.2	33.5	7.8	3.0

Figure 10. Stroud District Car Ownership, per Household (2011 Census[21])



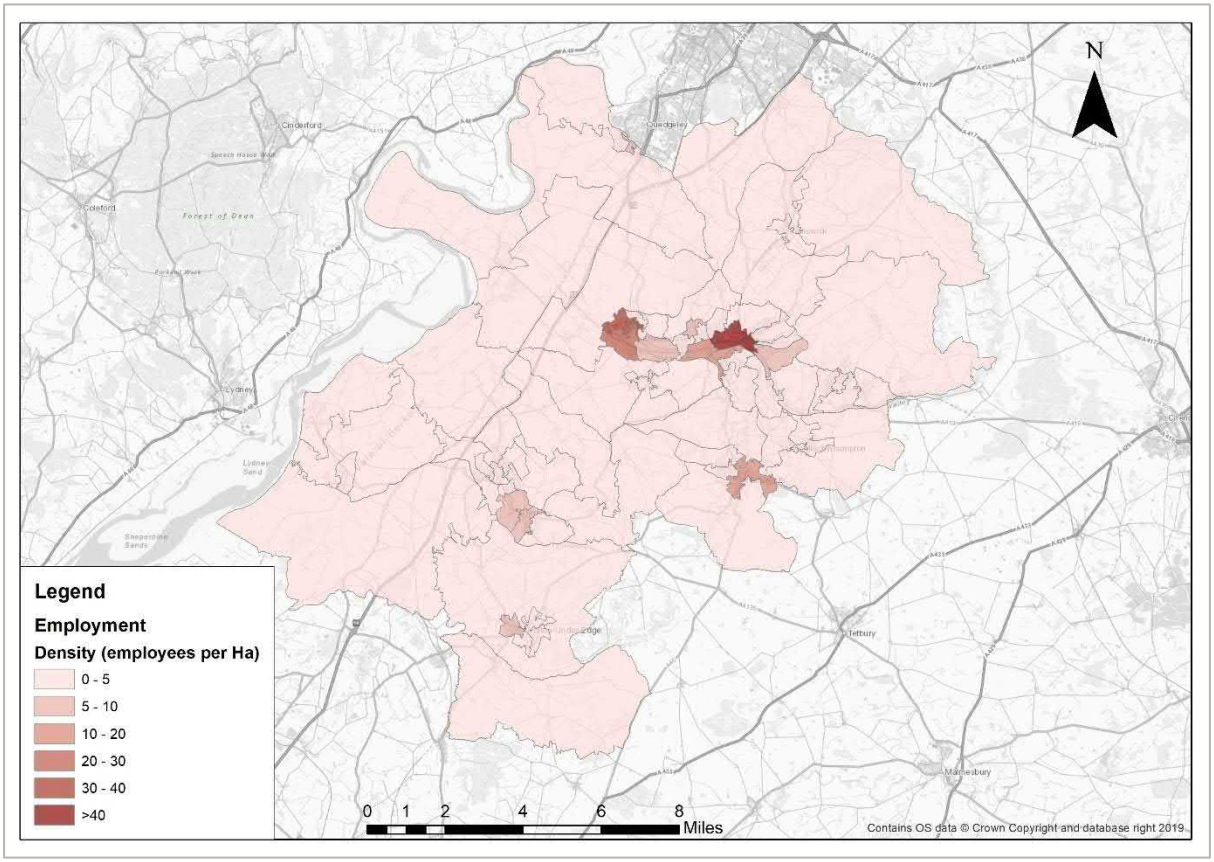
Economic Performance and Activity

Employment Distribution

Employment density is a measure of employment (employees) per hectare. It shows where built up employment areas are and helps to visualise what areas are likely to attract trips in the peak periods. In some cities, employment areas represent a major part of built-up areas but include little to no residential population. However, from the employment distribution map shown in Figure 11**Error! Reference source not found.**, it is evident that the main employment areas within Stroud are generally located within the areas with the greatest population density. The Lower Super Output Areas (LSOAs) with the highest employment densities are centred around Stroud town centre, Stonehouse town centre and Nailsworth town centre.

[21] Office for National Statistics (KS404EW)

Figure 11. Stroud District Employment Distribution (2017 data[22])



Unemployment

Office for National Statistics (ONS) local labour market statistics for the 2018/19 financial year[23] have been reviewed to establish how the Gloucestershire LEP, which includes Stroud District, compares to the United Kingdom on key labour supply indicators (Table 2). The Gloucestershire LEP has relatively high employment levels, slightly above the national average (+7%), with unemployment marginally lower (-2%). This suggests a highly economically active working age population, which could lead to higher journey to work trip proportions than in other areas of the country within these age ranges.

Table 2. Labour Supply Key Indicator Comparison, Gloucestershire LEP and United Kingdom, Working Age Population (16 to 64 years old)

	United Kingdom	Gloucestershire	Difference
Employment	75%	82%	+7%
Unemployment	4%	2%	-2%
Economic Inactivity	21%	17%	-4%

Note: Employment, Unemployment and Economic Activity totals are not 100% due to rounding

Commuting Patterns

Journey to Work (JTW) data is collected as part of the Census and describes aspects of commuting behaviour. This data provides a valuable insight in to the mode choice of both residents and commuters in and out of the Stroud District.

Mode Share

Sustainable trips include those taken by train, bus, as a passenger in a car, bicycle or on foot. Table 3 shows the modal split for journeys to work in the Stroud District.

[22] Office for National Statistics (2017) Business Register and Employment Survey
[23] Office for National Statistics (2019) LI05 Regional labour market: Local indicators for Local Enterprise Partnerships

Table 3. Journey to Work Mode Share

Travel to Work Method	Stroud	Gloucestershire	England
Mainly Work from Home	9%	7%	5%
Walk	9%	12%	11%
Cycle	2%	4%	3%
Bus, Minibus or Coach	2%	4%	7%
Train	1%	1%	5%
Car or Van Passenger	5%	5%	5%
Driving Car or Van	70%	65%	57%
Other	2%	2%	7%
Total	**100%**	**100%**	**100%**

Three quarters of people in the Stroud District travel to work in a car or van; the majority of which drive. This is a significantly higher percentage than the England average of which 62% of people travel by car or van. The next highest mode share is split between walking and working from home. It is notable that the proportion of people who work from home in Stroud is almost double the England average. The other sustainable modes of transport (cycling, bus, train), are all lower than the England average, highlighting the dominance of driving to work and relative limitations in sustainable transport opportunities.

Commuting Distances

Commuting distances have been calculated from 2011 Census data[24] for those living in the Stroud District. The average distance (km) for each MSOA is highlighted geographically in Figure 12.

[24] Office of National Statistics – QS702EW

Figure 12. Average distance (km) travelled to work

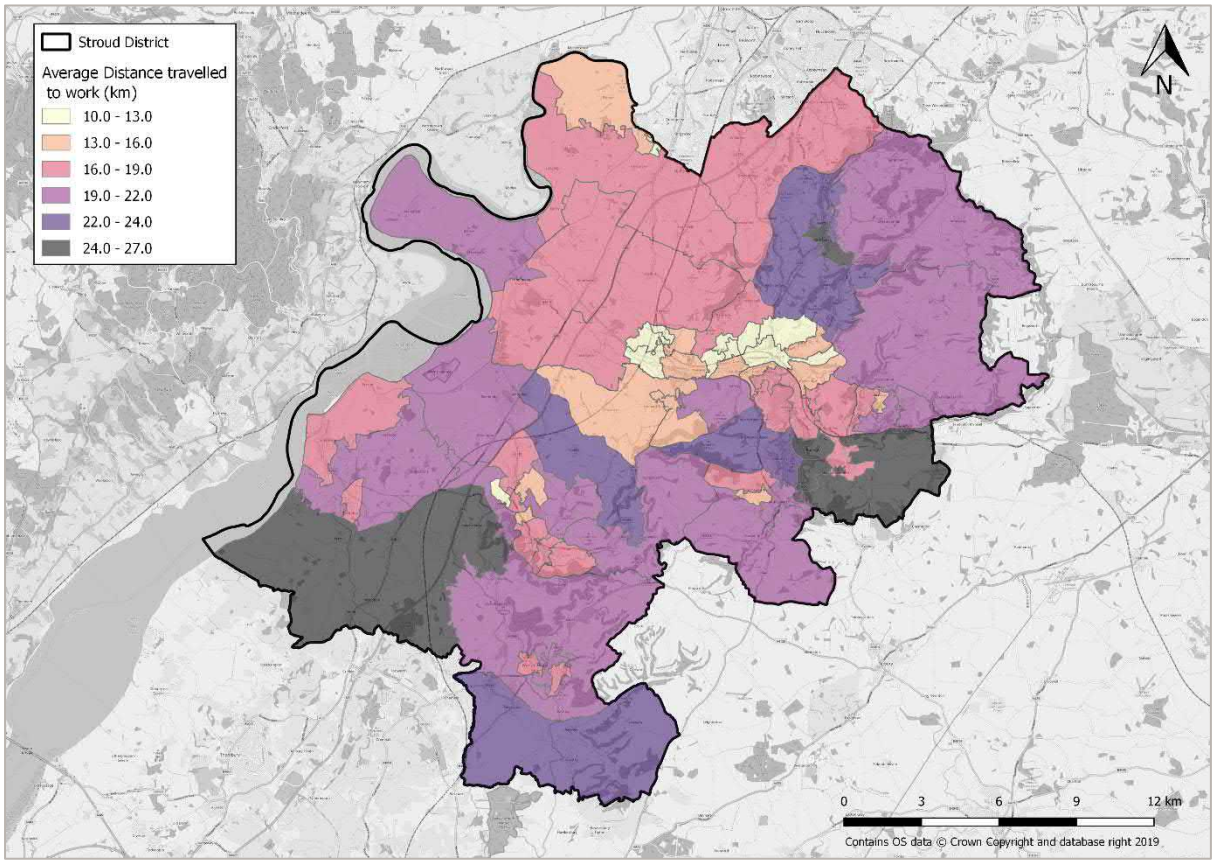


Figure 12 highlights people in the Minchinhampton, Vale and Painswick 2011 census wards travel, on average, the furthest distance to work. Stroud and Stonehouse town centres have the lowest average distances travelled to work, and consequently, the highest proportion of people (on average, approximately 40%) of people travelling less than 5km to work. These wards also have the highest levels of deprivation (Figure 9) and have the highest percentage of people with no access to a car or van.

4. Existing Transport Conditions

Active Travel Network

Cycling

A cycle map is available for the Stroud District (Appendix A), presenting the routes around the area with additional inset maps of the town centres. Highways have been graded along a colour spectrum according to cycling amenity, and because it is recognised the district is hilly, chevrons have been also been shown on the map.

The cycle network is mainly on-road, with limited connected off-road cycle infrastructure available in the district. Nevertheless, the district benefits from canal towpaths on the Gloucester and Sharpness Canal and Thames and Severn Canal.

National Cycle Routes 41 and 45 run through the district. Route 41 runs from Bristol to Stratford whilst Route 45 runs from Salisbury to Chester, shown in Figure 13 below. Figure 13 also shows the close proximity of the cycle network to the strategic development sites. These cycle routes connect to and from the Stroud Pedestrian/Cycle Route and, when its built, the Cam and Dursley cycle route. Other cycle paths in the area include the Stroud Valleys Trail which is a traffic-free route beginning in Stonehouse. This cycle route follows the line of the old Midland railway. There are currently works underway to create an 8km cycle, horse rider and pedestrian Greenway linking Uley, Dursley and Cam.

In Autumn 2019, ThinkTravel produced a brochure regarding travelling around Gloucestershire by bicycle (Appendix B). It identifies a £9million package of improvements, of which £1.3million is set aside for upgrading the canal towpath linking Hardwicke and Gloucester. It also highlights the key cycle desire lines, linking primary areas of growth.

Walking

There are also a number of Public Rights of Way (PROWs), shown in Figure 14. The Cotswold way, a 102-mile long-distance footpath, runs along the Cotswold Edge escarpment, passing through Wotton-under-Edge, Dursley, Stonehouse and Painswick.

Figure 15 highlights the 2km and 5km buffers from the main town centres. These distances are considered acceptable for walking (2km) and cycling (5km), however this is as the crow flies rather than on routes.

Figure 13 - National Cycle Network

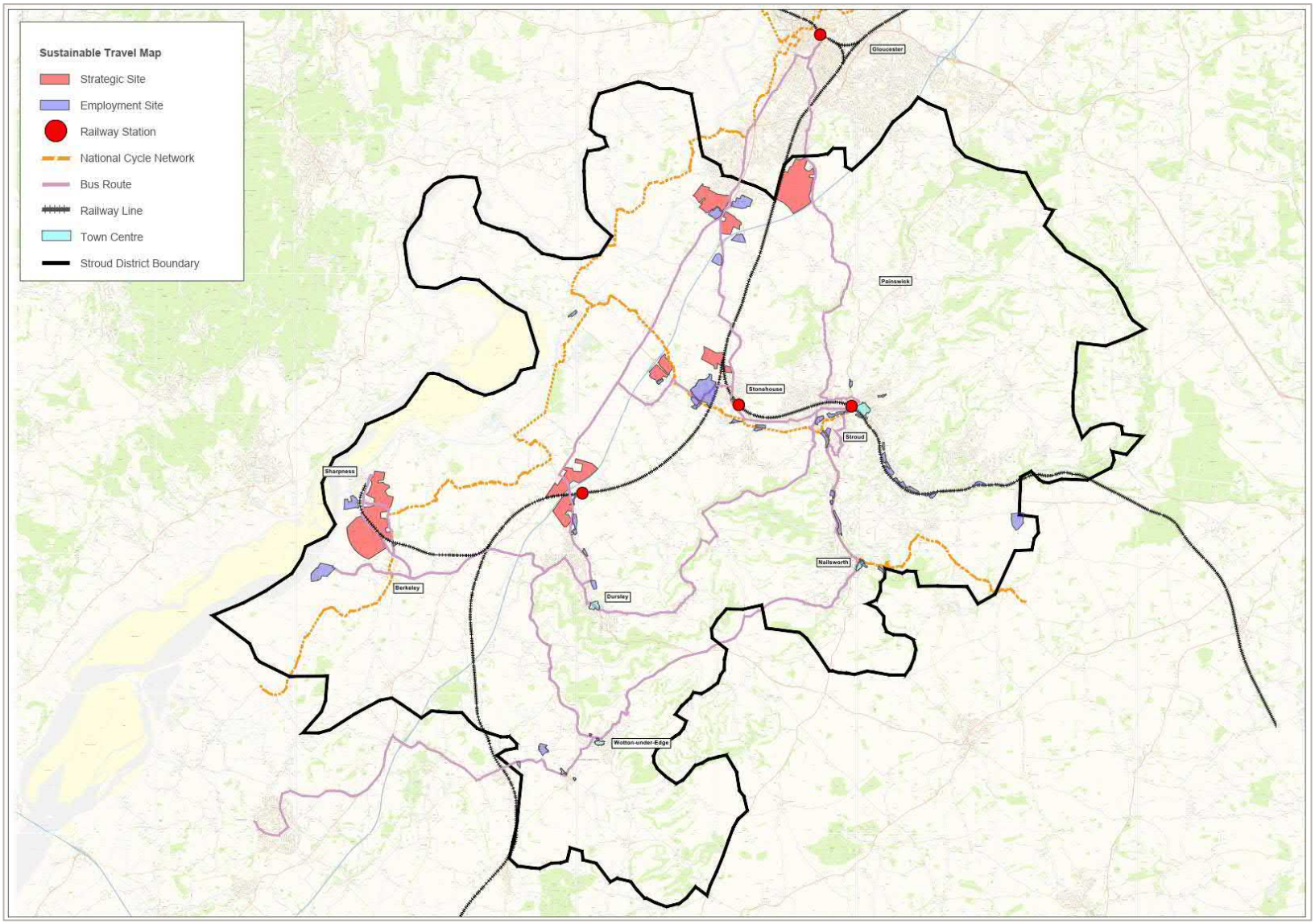


Figure 14 - Public Rights of Way

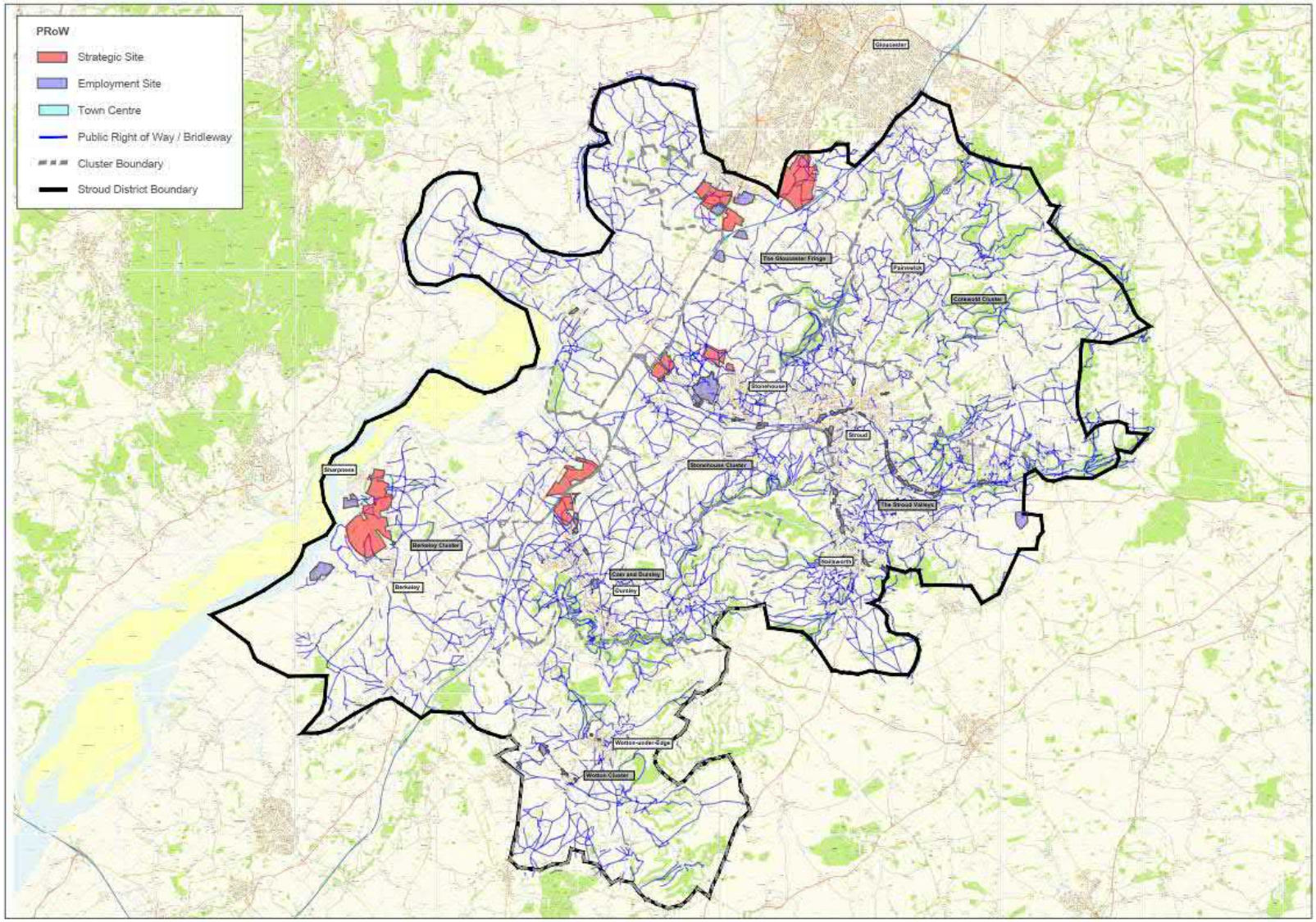
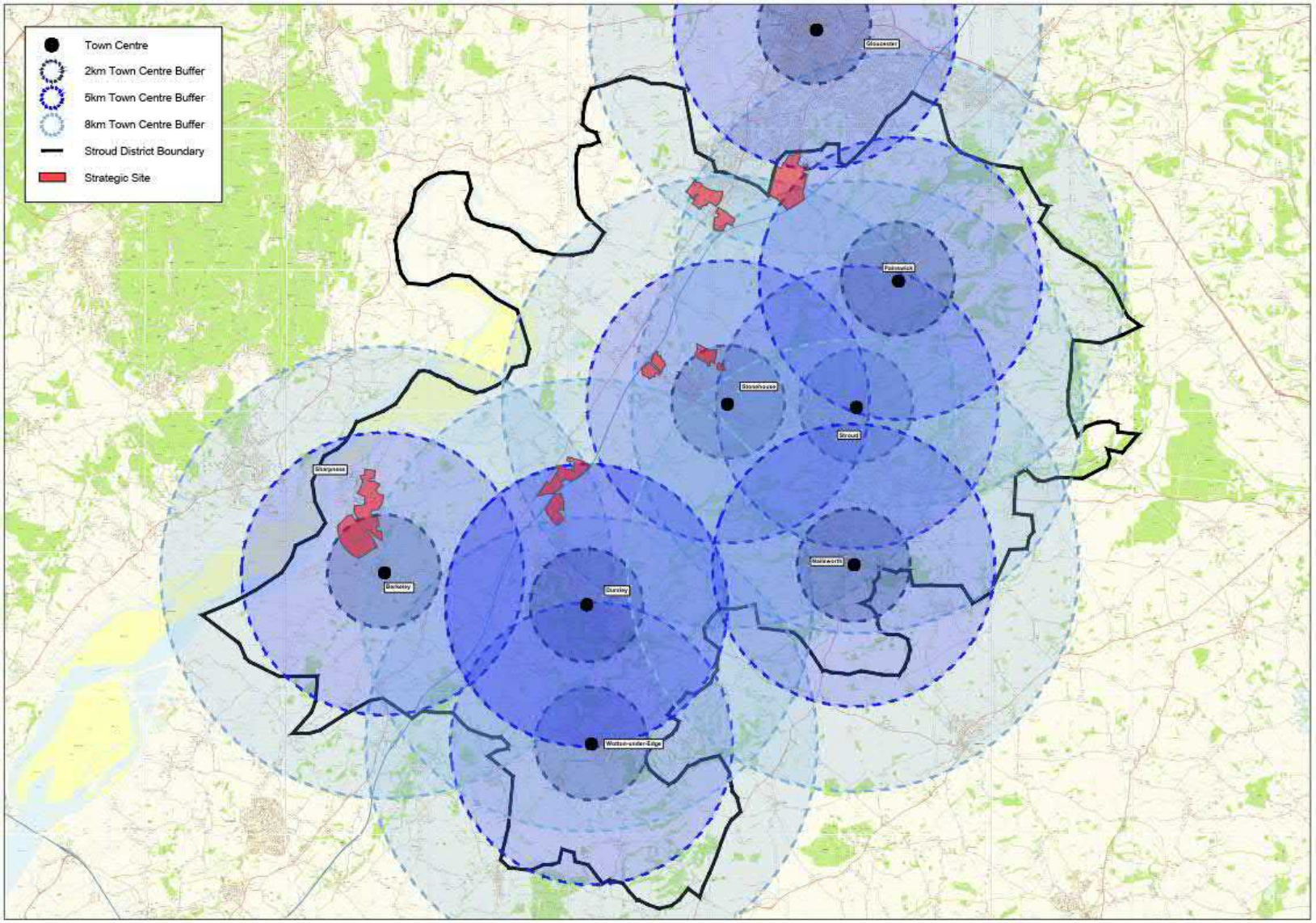


Figure 15: Walkable and Cyclable Distances from main town centres



Bus Network

Stagecoach West is the main bus operator in the area providing travel around the South West region, highlighted in Table 4. There are also several school and community buses operated by companies such as Cotswold Green and Taylors Travel which have not been included in Table 4. National Express also operate in Stroud providing travel to further afield destinations such as London.

Table 4. Bus services within the District

Operator	Service	Route	Days	Freq.	First Bus	Last Bus
Cotswold Green	40	Stroud - Lightpill - Nailsworth - Wotton-under-Edge	Mondays - Fridays	Every 60 – 90 minutes	08:20	17:30
Cotswold Green	40	Stroud - Lightpill - Nailsworth - Wotton-under-Edge	Saturdays	Every 60 – 90 minutes	08:20	17:30
Cotswold Green	54	Stroud - Chalford - Frampton Mansell - Sapperton - Cirencester	Mondays - Fridays	2 a day	11:10	14:10
Cotswold Green	54A	Stroud - Chalford - Frampton Mansell - Sapperton - Coates - Cirencester	Mondays - Fridays	3 a day	09:30	16:50
Cotswold Green	54A	Stroud - Chalford - Frampton Mansell - Sapperton - Coates - Cirencester	Saturdays	3 a day	08:10	16:20
Cotswold Green	8	Stroud - Stroud Hospital - Mason Road - Uplands - Stroud	Mondays - Fridays	hourly	08:40	17:50
Cotswold Green	8	Stroud - Stroud Hospital - Mason Road - Uplands - Stroud	Saturdays	hourly	08:40	17:50
Cotswold Green	8A	Stroud - Uplands - Bowbridge - Stroud Hospital - Stroud	Mondays - Fridays	90 mins	09:10	17:20
Stagecoach West	52	Cirencester - Cirencester Hospital - Brimscombe - Bowbridge - Stroud	Mondays - Fridays	3 a day	09:45	14:10
Stagecoach West	61	Bussage - Stroud - Stonehouse - Eastington - Dursley - Woodmancote	Mondays - Fridays	hourly from 09:35	06:55	19:50
Stagecoach West	61	Bussage - Stroud - Stonehouse - Eastington - Dursley - Woodmancote	Saturdays	hourly	08:35	19:50
Stagecoach West	63	Gloucester - Tuffley - Whiteshill - Stroud - Nailsworth - Forest Green	Mondays - Fridays	half hourly from 09:38	06:36	19:08
Stagecoach West	63	Gloucester - Tuffley - Whiteshill - Stroud - Nailsworth - Forest Green	Saturdays	half hourly from 08:33	07:38	19:08

Operator	Service	Route	Days	Freq.	First Bus	Last Bus
Stagecoach West	63	Gloucester - Tuffley - Whiteshill - Stroud - Nailsworth - Forest Green	Sundays	hourly	09:38	16:38
Stagecoach West	64	Gloucester - Quedgeley - Stonehouse - Stroud	Mondays - Fridays	half hourly from 09:08	06:06	17:18
Stagecoach West	64	Gloucester - Quedgeley - Stonehouse - Stroud	Saturdays	half hourly from 09:08	06:53	17:08
Stagecoach West	64	Gloucester - Quedgeley - Stonehouse - Stroud	Sundays	2 hourly	09:53	17:43
Stagecoach West	65	Stroud - Nympsfield - Uley - Dursley - Hospital - Cam & Dursley Rail	Mondays - Fridays	2 hourly	06:20	17:30
Stagecoach West	66	Stonehouse - Leonard Stanley - King's Stanley - Stroud - Painswick - Cheltenham	Mondays - Fridays	hourly	08:25	22:15
Stagecoach West	66	Stonehouse - Leonard Stanley - King's Stanley - Stroud - Painswick - Cheltenham	Saturdays	hourly	08:30	22:15
Stagecoach West	66	Stonehouse - Leonard Stanley - King's Stanley - Stroud - Painswick - Cheltenham	Sundays	2 hourly	08:38	16:38
Stagecoach West	66X	Gloucester - Stonehouse - Leonard Stanley - King's Stanley - Stroud	Mondays - Fridays	1 a day	07:15	07:15
Stagecoach West	66X	Gloucester - Stonehouse - Leonard Stanley - King's Stanley - Stroud	Saturdays	1 a day	07:30	07:30
Stagecoach West	67	Stonehouse - Leonard Stanley - King's Stanley - Stroud - Painswick - Cheltenham	Saturdays	hourly	08:30	22:15
Stagecoach West	68	Stonehouse - Leonard Stanley - King's Stanley - Stroud - Painswick - Cheltenham	Sundays	2 hourly	08:38	16:38
Stagecoach West	67	Stroud - Paganhill - Cashes Green - Paganhill - Stroud	Mondays - Fridays	every 15 - 30 mins	06:50	19:40
Stagecoach West	67	Stroud - Paganhill - Cashes Green - Paganhill - Stroud	Saturdays	every 20-30 minutes	07:20	19:40
Stagecoach West	69	Stroud - Minchinhampton - Avening - Tetbury - Westonbirt - Old Sodbury	Mondays - Fridays	3 hourly	08:05	17:35
Stagecoach West	69	Stroud - Minchinhampton - Avening - Tetbury - Westonbirt - Old Sodbury	Saturdays	2 a day	10:05	16:25
Stagecoach West	863	Forest Green - Nailsworth - Dudbridge - Brimscombe - Cirencester College	Mondays to Fridays	2 a day	08:05	16:30

Operator	Service	Route	Days	Freq.	First Bus	Last Bus
Stagecoach West	864	Stroud - Bowbridge - Brimscombe - Cirencester College	Mondays - Fridays	1 a day	07:45	07:45
Stagecoach West	866	Gloucester - Quedgeley - Kingsway - Stonehouse - Cirencester College	Mondays - Fridays	1 a day	08:05	16:30
Stagecoach West	869	Paganhill - Stroud - Amberley - Minchinhampton - Cirencester College	Mondays - Fridays	1 a day	16:47	16:47
Ebley Coaches	16A	Quedgeley - Haresfield - Standish - Stonehouse - Cainscross Road	Mon - Fri	1 a day	15:45	15:45
Taylors Travel	X2	Berkeley - Sharpness - Cambridge - Eastington - Stroud High & Marling School	Mondays - Fridays	1 a day	07:15	07:15
Taylors Travel	X54	Stroud High and Marling School - Stroud - Frampton Mansell - Cirencester	Mondays - Fridays	3 a day	08:19	17:05
K B Coaches	401A	Epney - Leonard Stanley - King's Stanley - Stroud High & Marling Schools	Mondays - Fridays	1 a day	15:40	15:40
K B Coaches	401B	Arlingham - Frampton - Eastington - Stroud High & Marling Schools - Stroud College	Mondays - Fridays	1 a day	15:45	15:45

Figure 17 shows the bus routes within Gloucestershire by frequency, highlighting the highest frequencies of services are in Gloucester and Cheltenham with a couple of these services travelling to the Stroud area. The Stroud Valley is not as densely served by bus routes when compared with Gloucester and Cheltenham. 8,000 young people travel through the region on bus services funded by Gloucestershire County Council, however 7,700 use alternative travel including local bus service, privately commissioned school transport, cycling, walking and car[25].

Figure 17 highlights the services that are subsidised, demonstrating the bus network relies heavily on public subsidy except in population centres and on main corridors.

[25] Gloucestershire Local Transport Plan (2015-2031) - Policy Document 1 - Bus, Nov 2017

Figure 16. Bus frequency in Gloucestershire (Source: Gloucestershire Local Transport Plan (2015-2031) - Policy Document 1 - Bus, 2017)

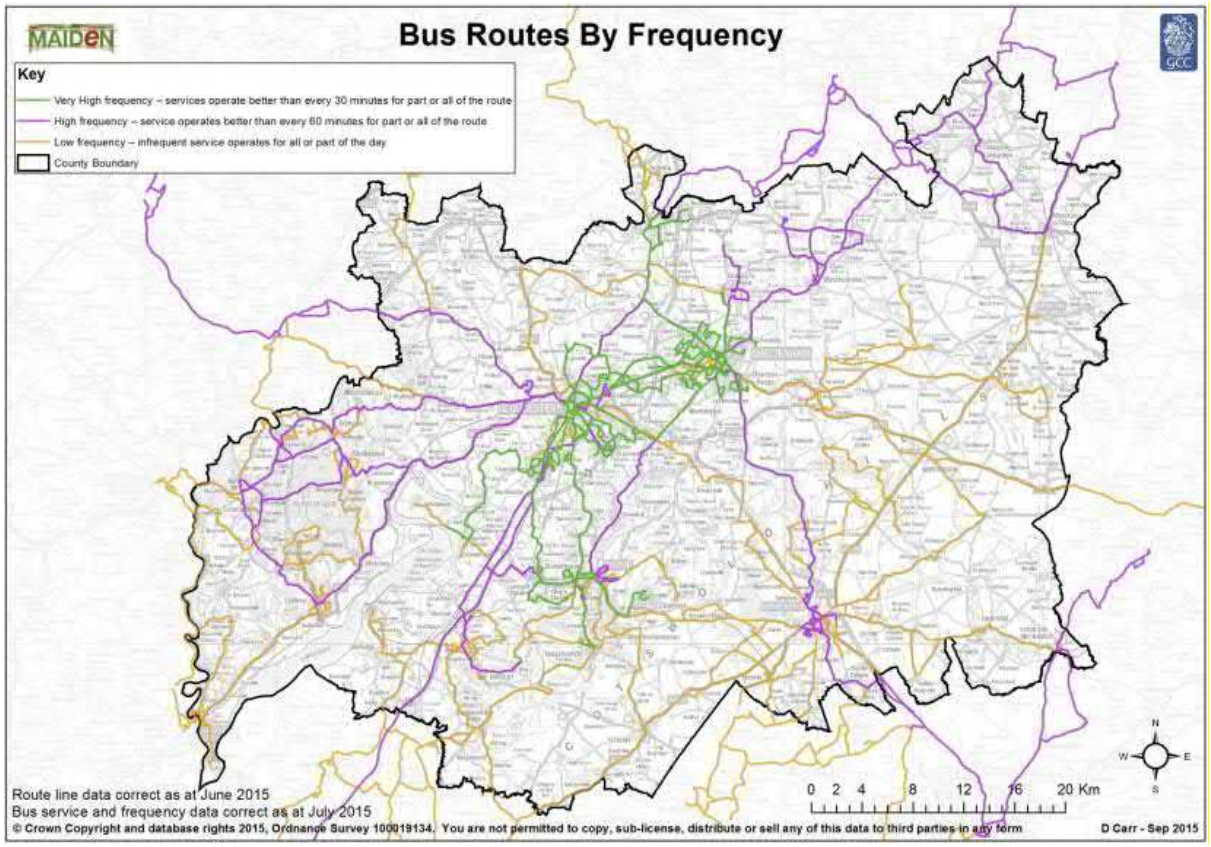
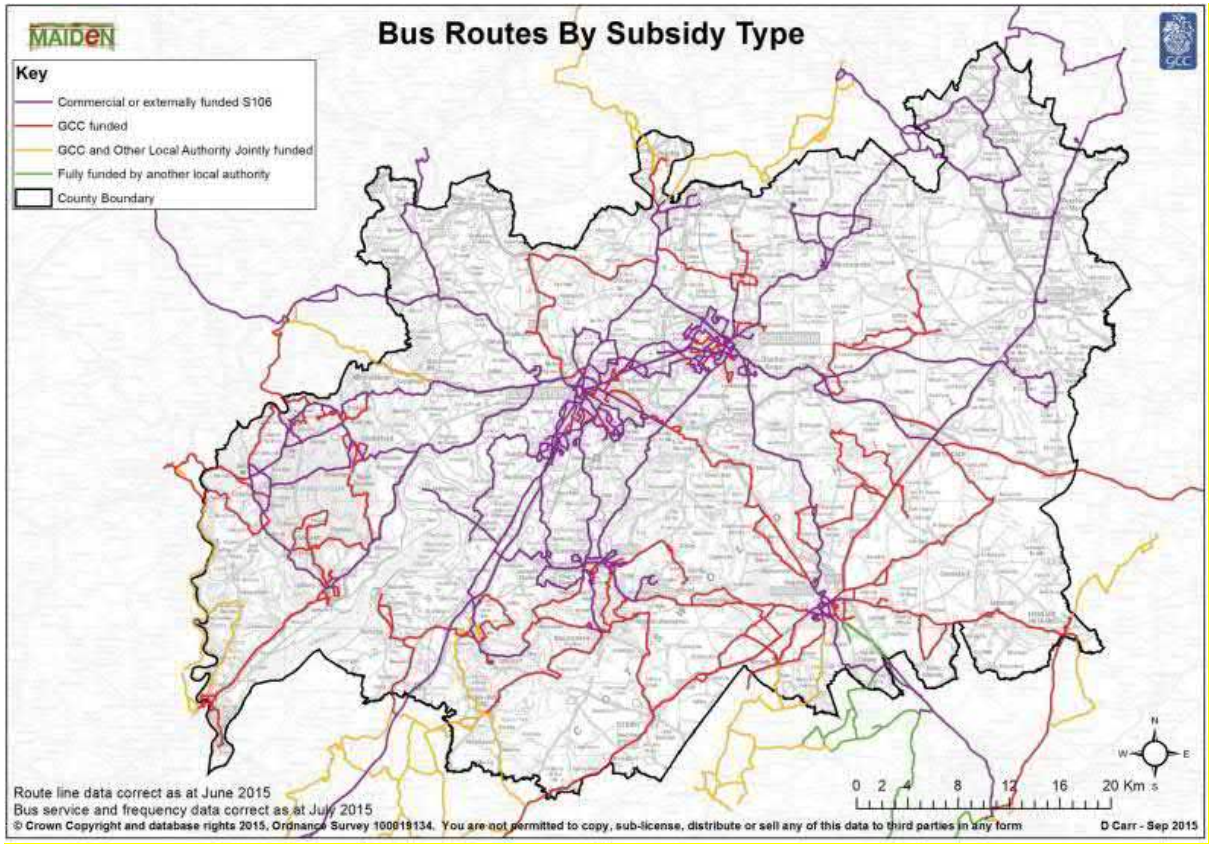


Figure 17. Bus Routes by Subsidy



Bus Patronage

Error! Reference source not found. Table 5 outlines the change in total passenger journeys on local b us services within Gloucestershire, since 2010/11.

Table 5. Bus Passenger Journeys (million passengers)[26]

Local Authority	2010/ 11	2011/ 12	2012/ 13	2013/ 14	2014/ 15	2015/ 16	2016/ 17	2017/ 18	10/11 to 17/18 % Change
Gloucestershire	21.3	21.2	20.5	20.5	20.8	19.5	20.3	20.3	6%

The results in **Error! Reference source not found.**Table 5 demonstrate that bus travel in the G loucestershire has decreased by 6% since 2010. This decrease in travel coincides with the trend for England which has seen a reduction in bus travel by approximately 6% within the same period. The South West region overall however has seen an increase in bus travel of 9% over this period.

Cost of Bus Travel in Stroud

Table 6 lists the cost per day for commuting to the major urban centres within Stroud using the bus network. Tickets are available to allow travel across the whole of the South West region. Tickets can be bought on the bus or beforehand at a discounted price on the Stagecoach app.

Error! Reference source not found.**Table 6. Bus Operator Charges (Fees as of July 2019)**

Operator	Cost (per working day)	Travel Bounds
Stagecoach (Daily Ticket)	£7.00 (via app) £7.20 (on bus)	

[26] DfT (2019) BUS0109

Operator	Cost (per working day)	Travel Bounds
Stagecoach (Weekly Ticket)	£3.00 (via app) (£3.07 on bus)	See above
Stagecoach (Monthly Ticket)	£2.95	See above

Bus Service Demand

Between August 2014 and Spring 2015, GCC worked with Parish Councils, Town Councils and intermediary stakeholder groups to assess the bus demand for the surrounding communities[27]. Some key issues were raised throughout the consultations:

- Gaps with public transport network restricting movement to medical and health services. Appointments with these services are arranged to accommodate bus time tables.
- There is a high car reliance for leisure and night time demands between rural areas to the main hubs due to this being the only option.
- A lack of clear and legible information at bus stops and on parish notice boards on all corridors were noticed.
- Timings on many rural services are perceived to be unsuitable to meeting commuter needs with missing services from residential areas to key transport hubs, e.g. Cam and Dursley.
- Bus services have been perceived to be unreliable and at risk of changing whilst the car use is reliable especially in rural areas.
- The missing gaps in the network have become a restriction to young children and adults for access to education, work and social life.
- Poor access for the elderly from rural areas to access key services and avoiding social isolation for this group. Including the individual's health and wellbeing should also be considered.

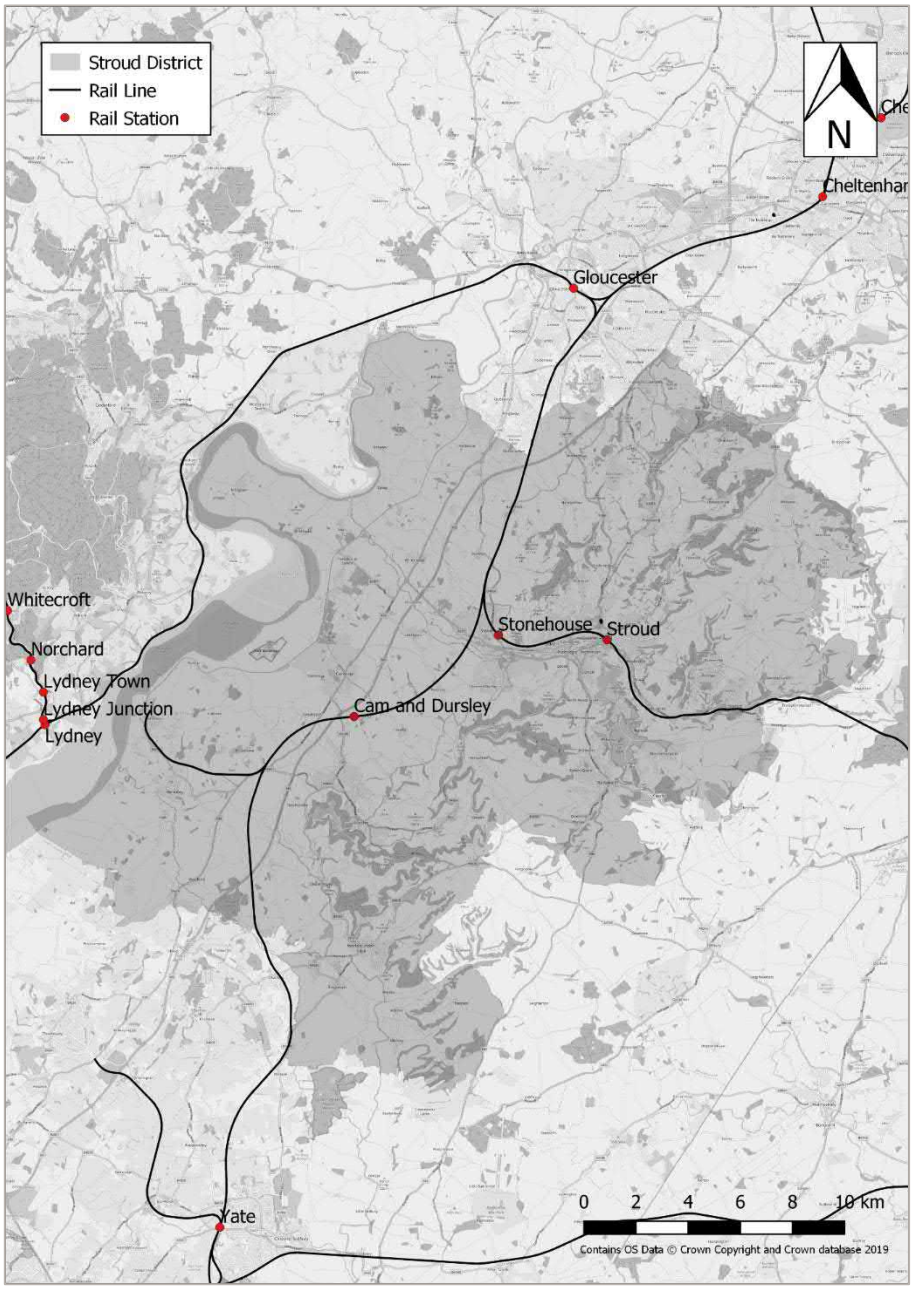
Increasing trends show a widening of travel patterns to 'pull' destinations such as Swindon, Bristol, Birmingham and Cardiff for employment, leisure and shopping. Growth has also been identified in Tewkesbury, Mitcheldean, Gloucester and Cheltenham for start-up and small to medium enterprise businesses.

Rail Network

Stroud station is located on the Swindon to Gloucester Golden Valley line which diverges from the Great Western Main Line at Swindon and joins the Bristol Temple Meads to Birmingham New Street Line at Standish Junction. Other stations within the district include Stonehouse and Cam & Dursley. Stonehouse station is also located on the Golden Valley line and provides hourly services to London. Cam & Dursley station is located on the main Bristol-Birmingham line between Yate and Gloucester. Great Western Railway serves all these stations station. Cam & Dursley provides a commuting option for journeys to Bristol with trains to Bristol Temple Meads operating every hour.

[27] Gloucestershire Draft Local Transport Plan – Policy Document 1 - Bus

Figure 18. Rail Stations within, and in close proximity to the Stroud District



Rail Patronage

Table 7**Error! Reference source not found.** lists the annual passenger usage for stations within the Stroud District. The annual estimates are based on sales of tickets which end or originate at the stations.

Table 7. Estimated Annual Passenger Usage for Stroud Stations (millions)[28]

Station Name	2010/11	2017/18	Growth
Stroud	0.45	0.54	20%
Stonehouse	0.12	0.15	25%
Cam & Dursley	0.15	0.18	20%

[28] Office of Rail and Road (2019)

The figures show that all stations in the Stroud District have seen an increase in passenger numbers since 2010/11. The Stroud area has experienced a passenger growth of 22% between 2010/11 and 2017/18. This broadly follows wider trends of increased passenger numbers within the rail industry.

Rail Fares and Journey Times

Approximate fare prices and journey times of services[29], as of September 2019, are shown below in Table 8.

Table 8. Rail Journey Times and Ticket Prices (Fees as of September 2019)

Station	Journey Time	Ticket Price
Gloucester	~25 mins	£5.10
London Paddington	~1 hour and a half	£82.50 (peak) £29.00 (off-peak)
Bristol Temple Meads	~1 hour and a half	£23.90 (peak) from £12.60 (off-peak)
Southampton	~2 and a half hours	£82.50 (peak) £47.20 (off-peak)

Rail Station parking

All stations within the Stroud District have step free access allowing accessibility for passengers with disabilities and also allows passengers with non-folding bikes to access the stations with ease.

There are a reasonable number of cycle parking spaces located at Stroud and Cam & Dursley, however there are only 6 available in Stonehouse, shown in Table 9.

Funding has been granted to provide covered cycle parking at Stroud station which is due to be completed by March 2020.

Table 9. Stroud Rail Station Parking and Accessibility Facilities[30]

Station Name	Cycle Parking	Car Parking	Step Free Access?
Stroud	20	150	Yes (not direct)
Cam & Dursley	30	90	Yes
Stonehouse	6	25	Yes (not direct)

Great Western Railway apply restrictions to bikes on trains arriving into London Paddington at peak times but otherwise operate a ‘first come, first served’ basis.

South Western Railways restrict usage on services arriving into London Waterloo at peak times, but otherwise operate on a ‘first come, first served’ basis[31]. Great Western Railway provide two non-reservable cycle spaces (first come, first served).

Road Network Characteristics

Main Artery routes

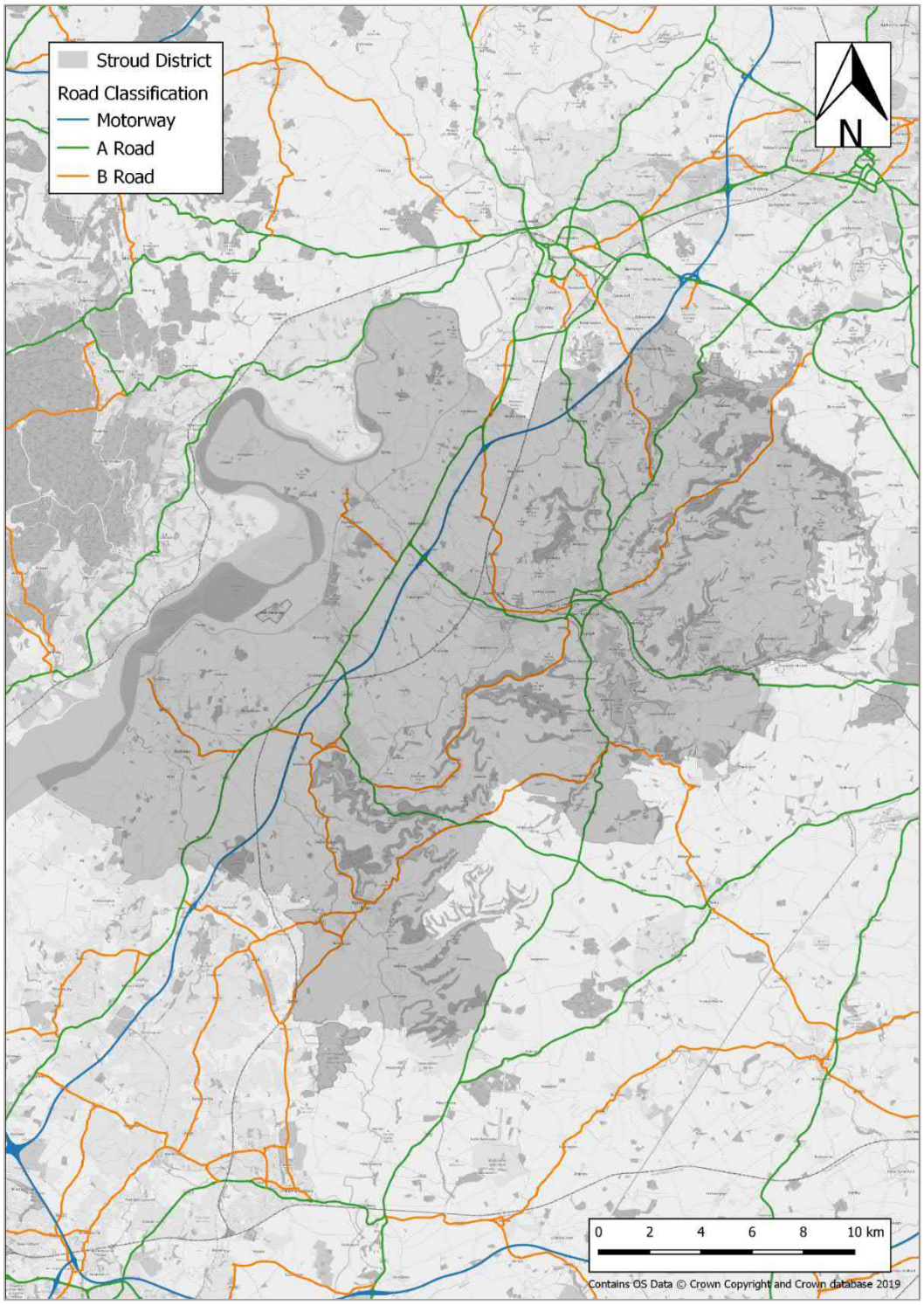
Figure 19 presents the road network within the Stroud District. The M5 and the parallel A38 are in the west of the district, forming a north-south link between Gloucester and Bristol. There are two motorway

[29] Network Rail (2019)
[30] National Rail (2019) Station Services and Facilities
[31] Great Western Railways (2019)

junctions in the district; M5 Junction(J) 12 (Quedgeley) and J13 (Stroudwater). J11a and J14 are just outside of the study area, but provide connections between the M5 and large parts of in the north and the south of the district respectively.

There are no dual carriageways in the district, and the majority of the road connections follow a north-south pattern. There are two main A-roads that provide an east-west connection across the district. The A419 connects the A38 and M5 to Cirencester, through the main towns of Stonehouse and Stroud. The A4135 is the main highway through Cam and Dursley and connects the A38 to the A433, Tetbury.

Figure 19. Road network within the Stroud District



Local roads

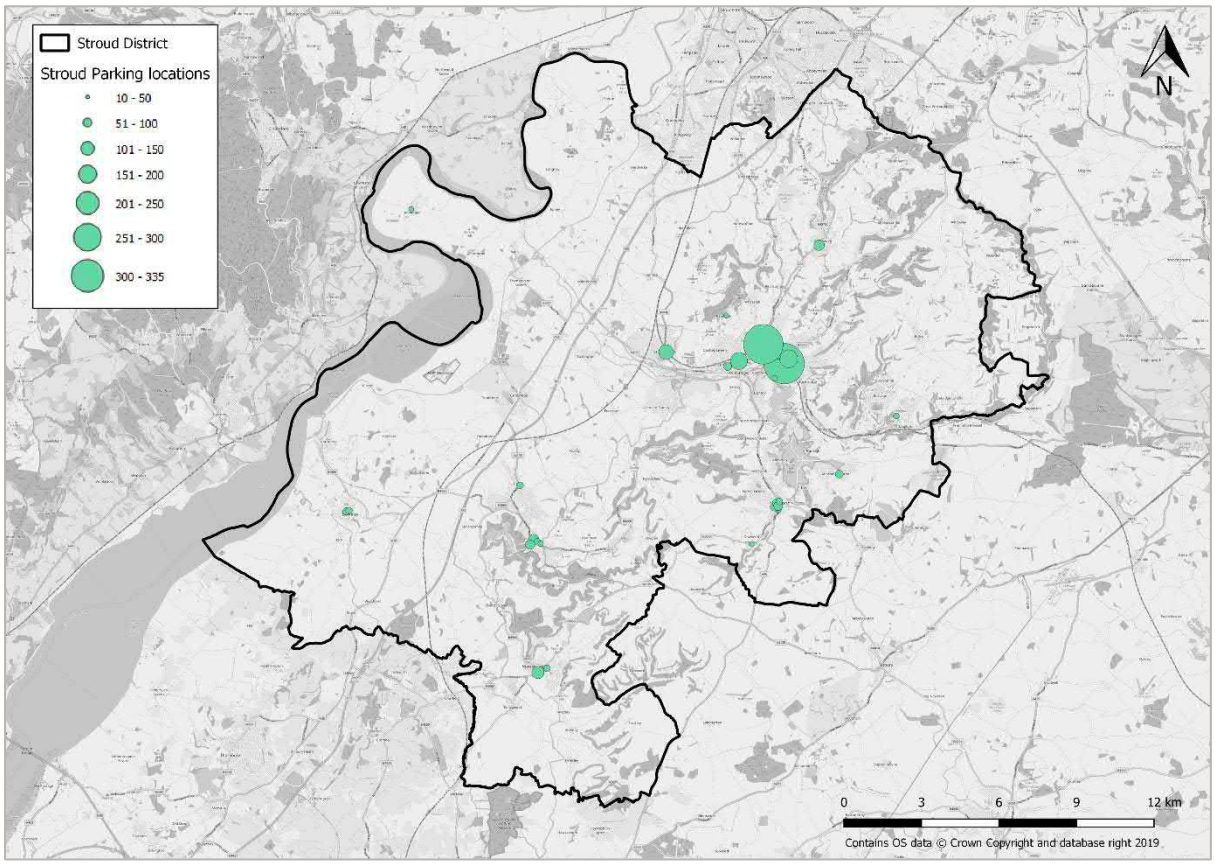
There are a number of local roads connecting the villages and market towns to the main artery routes. Most notable ones include:

- B4008, connecting Stonehouse and Quedgeley, via M5 J12
- B4058, linking Wotton-under-Edge and Nailsworth
- B4060, connecting Cam and Wotton-under-Edge
- B4066, connecting Sharpness and Stroud
- B4070, linking Stroud and the villages in the north-east of the district
- B4073, connecting Painswick and Gloucester

Parking

Figure 20 shows the location of the car parks available within the District. The highest frequency of car parks are located in the more urban areas, specifically Stroud. Stroud, as the main town in the district, also has the largest capacity car parks. These are a mixture of privately owned and Council run carparks.

Figure 20. Public Car Parking locations in the Stroud District



Costs

There are numerous free car parks available in the district. For the car parks that charge, the prices vary from £2.10 to £3.30 for a four hour stay. Prices are cheaper however when using the MiPermit parking app.

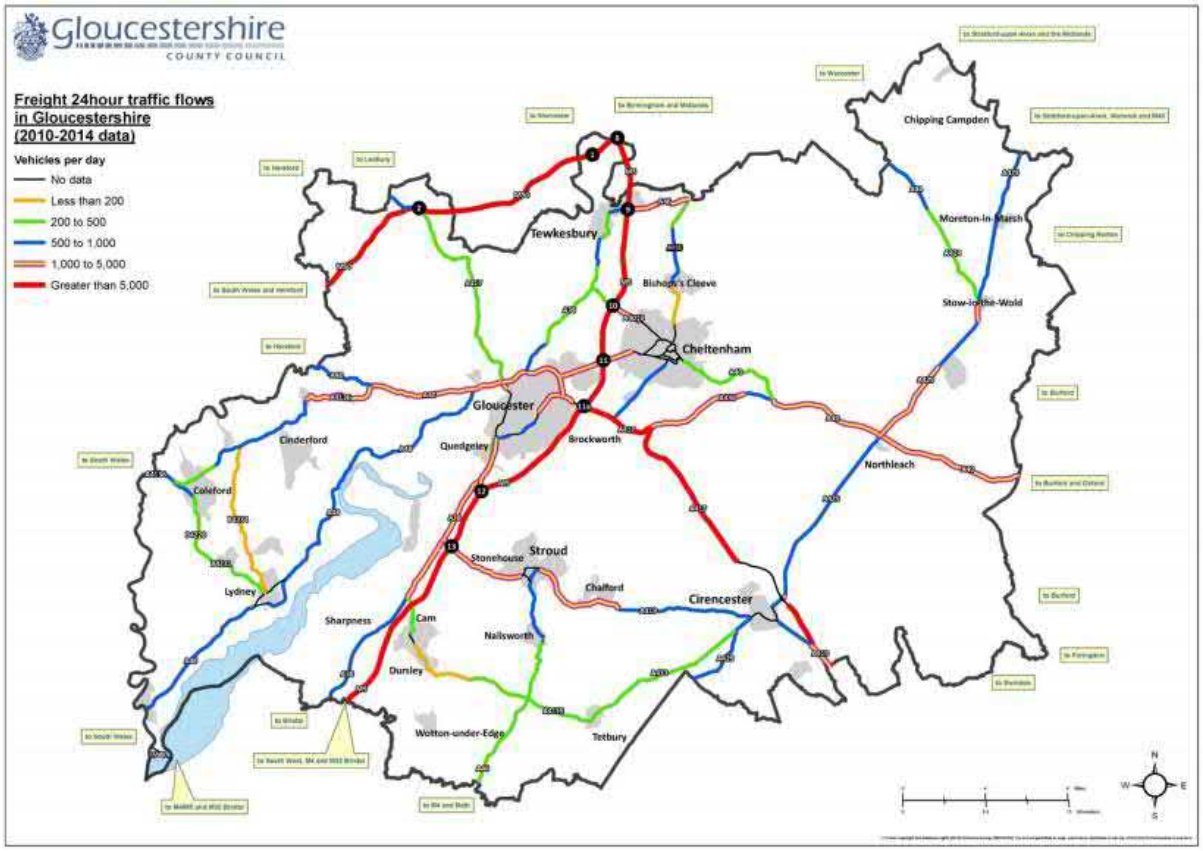
Freight Movements

In Gloucestershire, freight vehicles account for 1 - 8% of all vehicle movement[32], Figure 21 shows the daily freight flow between 2012 and 2014 showing the M5 and A417 to be the heaviest used. The roads

[32] Gloucestershire Local Transport Plan (2015-2031) - Policy Document 3 - Freight, Nov 2017

surrounding Stroud are also highlighted as being well used by freight, especially through Stonehouse and Chalford.

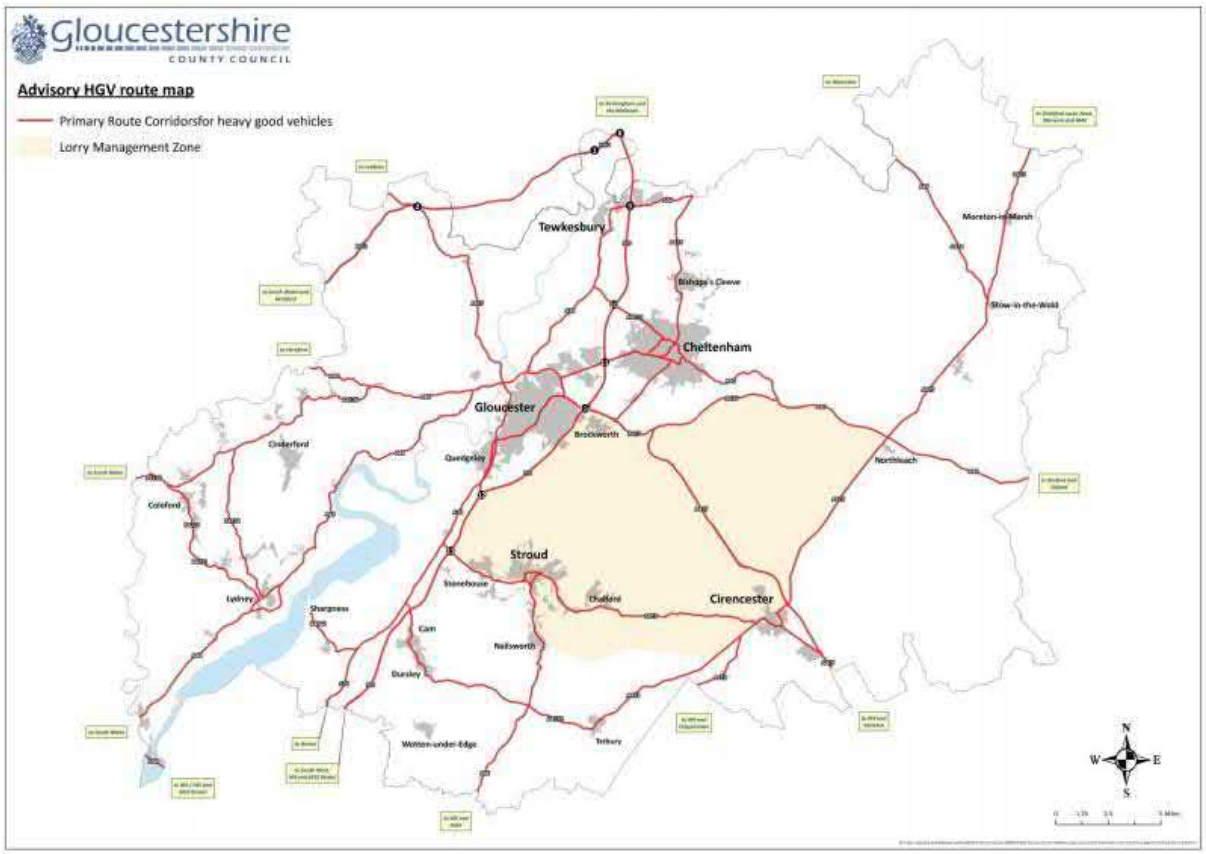
Figure 21. Average Annual Daily Freight flows by corridor 2012 - 2014 (Source: Gloucestershire Local Transport Plan (2015-2031) - Policy Document 3 - Freight, Nov 2017)



Much of the Cotswolds fall within the Cotswold Lorry Management Zones, seen in Figure 22, which includes several Traffic Regulation Orders in place to reduce the number of HGVs using unsuitable roads for their journey. The M5, A38, A46 and the A419 in the study area all fall within the Cotswold Lorry Management Zone.

The LTP has identified the primary pinch points in Gloucestershire, however none of these are in, nor close to the Stroud District.

Figure 22. Primary routes for HGVs and Lorry Management Zone



Road Safety

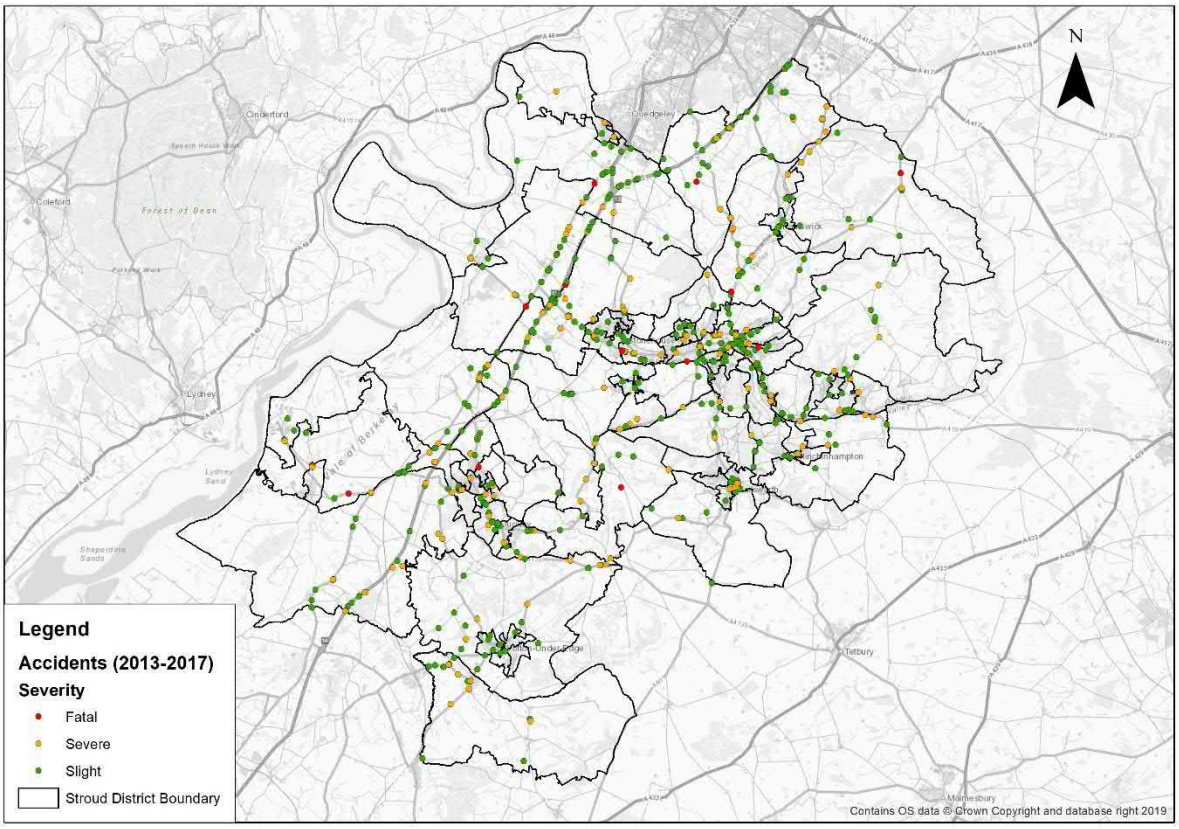
Within the Stroud District there have been 603 reported accidents over a five-year period (2013-2017), shown in Figure 23. Of these, 17 were fatal, 166 were classed as severe and 420 were classed as slight.

In total, 638 casualties were reported over this 5-year period, described in more detail in Table 10. Of these casualties, 63 were pedestrians, 52 were cyclists and 523 were vehicle-based. There were two pedestrian fatalities and one cyclist fatality. The majority of accidents occurred on major roads within the District.

Table 10. Stroud Collision Casualties figures (2013-2017)

Severity	Pedestrian	Cyclists	Vehicles	Total
Fatal	2	1	10	13
Serious	17	11	83	111
Slight	44	40	430	514
Total	63	52	523	638

Figure 23. Accidents within the Stroud District between 2013 and 2017[33]



[33] STATS19

Appendix A - Stroud District Cycle Map

How to use this map

The purpose of this map is to help you plan your route according to your own cycling ability. Traffic-free paths and pavements are shown in dark green. Roads are graded from 'quieter/easier' to 'busier/more difficult' along a green, to yellow, to orange, to pink, to red spectrum. If you are a beginner, you might want to plan your journey along mainly green and yellow roads. With confidence and increasing experience, you should be able to tackle the orange roads, and then the busier pinky red and darker red roads.

Our area is pretty hilly and, within the Stroud District boundaries, we have used height shading to show the lie of the land. We have also used arrows > and >> (pointing downhill) to mark hills that cyclists are going to find fairly steep and very steep.

We hope you will be able to use the map to plan cycling routes from your home to school, college and workplace. We also hope that you will be able to see that it is possible to use your bike for other short journeys - to the shops, to the village hall, to the leisure centre, and so on. We have also given a list of places of interest that are within cycling distance.

Rural Cafés (town cafés overleaf)

Berkeley
29 Perfect Blend Coffee and Craft Shop, 1 High Street T: 01453 810088

Falfield
40 Eastwood Nurseries, Eastwood Park T: 01454 260288

Frampton on Severn
4 Ley Bistro, The Green T: 01452 740077
42 Stables Café, Sandfield Bridge, Canal Bank, Saul Junction T: 01452 741965

Haresfield
3 Wyevale Garden Centre, Bath Road T: 01452 721081

Painswick
2 Painswick Rococo Garden, Gloucester Street T: 01452 813204
1 Prinknash Abbey Park, Cranham T: 01452 812727

Slimbridge
22 Slimbridge Boat Station café, Patch Bridge T: 01453 899273
21 Wildfowl and Wetlands Trust café (phone to request entry fee be waived for using café only) T: 01453 891900

Stroud outskirts
19 Lavender Bakehouse, 20 London Road, Chalford T: 01453 889239
20 The Kitchen, 7 High Street, Minchinhampton T: 01453 882655
18 Winstones Ice Cream Ltd, Greenacres, Bownham (enjoy an ice cream direct from the factory!) T: 01453 873270

Tetbury
37 Edges Olde Tea Shoppe, 25a Church Street T: 01666 505660
38 Lyndsey's, 19 Church Street T: 01666 503696
39 Veloton Cycles & Coffee, 22 Market Place T: 01666 504343

Whitminster
5 Highfield Garden World, Bristol Road T: 01452 741444

Wickwar
41 Wickwar Tea Rooms, 43 High Street T: 01454 294899

Places of interest

- p **Berkeley Castle** *www.berkeley-castle.com* T: 01453 810303
- g **Bisley Wells** Bisley
- q **Cattle Country Adventure Park** Berkeley Heath Farm, Berkeley *www.cattlecountry.co.uk* T: 01453 810510
- k **Coaley Peak picnic area** (views and long barrow)
- o **Edward Jenner Museum** The Chantry, Church Lane, Berkeley *www.jennermuseum.com* T: 01453 810631
- n **Hetty Peglar's Tump** (roofed Neolithic long barrow with crawl-in access)
- f **Museum in the Park** Mansion House, Stratford Park, Stroud *www.museuminthepark.org.uk* T: 01453 763394
- v **National Arboretum** Westonbirt, Tetbury *www.forestry.gov.org/westonbirt* T: 01666 880220
- r **Owlpen Manor** (house and gardens) *www.owlpen.com* T: 01453 860261
- d **Painswick Rococo Garden** *www.rococogarden.org.uk* T: 01452 813204
- b **Prinknash Abbey Park** (Bird and Deer Park) *www.thebirdpark.com* T: 01452 812727
- s **Ruskin Mill**, Horsley Road, Nailsworth (lake-side walk, exhibitions, café) T: 01453 837500
- e **Saul Junction** (meeting of the Stroudwater and Gloucester Sharpness canals) *www.cotswoldcanals.com*
- i **Selsley Church** (William Morris school stained glass)
- c **St Augustine's Farm** High Street, Arlingham (working dairy farm) T: 01452 740277
- h **Wildfowl and Wetlands Trust** Slimbridge *www.wwt.org.uk* T: 01453 891900
- a **The Severn Bore** view from Stonebench or Weir Green. Around 50 visible bores (1 - 5 star) occur each year after new or full moons, the biggest in Spring and Autumn. *www.environment-agency.gov.uk* and leaflet at TICs
- w **Severn Trow Hulks, Purton** Graveyard for old barges along the banks of the River Severn.
- u **Tortworth Chestnut** (tree dating from the 1200s)
- t **William Tyndale Monument** North Nibley
- l **Woodchester Mansion** (incomplete 19th C mansion with access inside on open days. Enter park from west, not east) *www.woodchestermansion.org.uk* T: 01453 861541
- m **Woodchester Park** Nympsfield (National Trust parkland and lakes)
- j **North Woodchester Churchyard** (buried Roman Orpheus mosaic, last revealed in 1973).

Key

Cycleability gradations, in increasing difficulty

1 2 3 4 5

- Designated traffic-free cycle paths: off road, shared-used pavements, canal towpaths (generally hard surfaced). Note: cycle lanes marked on the actual road surface are not shown; the road grading takes into account the existence and quality of a cycle lane
- Canal towpath, usually good surface
- Canal towpath, variable surface
- Useful paths, may be poorly surfaced
- Motorway
- Pedestrian street
- One-way street
- Hill arrows - arrow points downhill (Steep; Very steep (more than 15%))
- Level crossing
- Train station
- Bus station
- School
- Hospital
- Toilet
- Bike shops (lettered)
- Cafés (numbered)
- Places of interest (lettered)
- Leisure centre
- Place of worship
- Cycle parking
- Pub
- Library
- Farmers' market
- Post Office
- Tourist Information Centre
- 41 45 10 National Cycle Network routes
- Steps - with a ramp for wheeling bikes
- **Stroud** Towns
- Amberley Villages
- *Horsley* Villages with Post Offices / local stores

The representation of a track or path is no evidence of a public right of way. Users of these routes do so at their own risk.

Riding the pink roads: a reflective jacket can help you to be seen in traffic

Why cycle?

Someone who cycles regularly becomes fitter and suffers less from ill-health. The more you cycle, the fitter you become. Also, as more people cycle, the easier and safer the roads are to cycle on. And leaving the car at home and cycling for short journeys is a good way of reducing pollution and the effects of climate change.

Cycling is one of the most efficient forms of transport: a person pedalling a bike uses energy more efficiently than a gazelle or an eagle. And on a bicycle, you can go three or four times faster than a pedestrian, but use four times less energy in the process. Indeed, some disabled and elderly people who find difficulty in walking even a short distance, can go several miles on a bike.

Involvement in local activities depends on being able to attend: public transport in our towns and villages may be unreliable or non-existent, but a bicycle can give freedom and autonomy at a low cost. And, as our list shows, there are lots of interesting places within cycling distance of home. For longer journeys, a bicycle and public transport enable you to get anywhere.

STROUD DISTRICT CYCLING MAP

For Purpose and Pleasure

2nd Edition £2.50

ACKNOWLEDGEMENTS

First edition funded with contributions by:

Stroud District Council
Gloucestershire County Council
Gloucestershire Rural Transport Partnership
Gloucestershire NHS Primary Care Trust
Dursley Town Council
Nailsworth Town Council
Stonehouse Town Council
Stroud Town Council
Wotton-under-Edge Town Council
Hardwicke Parish Council
Kings Stanley Parish Council
Miserden Parish Council
Painswick Parish Council
Rodborough Parish Council
Woodchester Parish Council
Cattle Country Adventure Park, Berkeley
National Arboretum, Westonbirt
Noah's Ark Cycles & Snowboards, Stroud
Painswick Rococo Garden
Perfect Blend Coffee and Craft Shop, Berkeley
Slimbridge Boat Station
Star Anise Arts Café, Stroud
Stonehouse Accessories Ltd
Stroud Valleys Cycling Club
Big Lottery Fund: Awards for All

Second edition funded by:

thinktravel
New sense of direction.

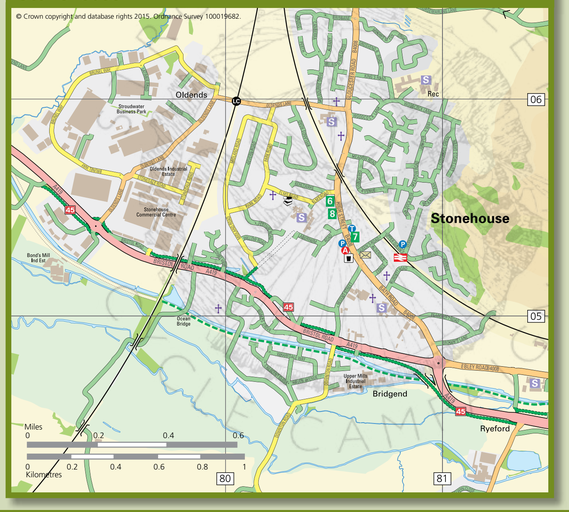
Thinktravel is a Department for Transport (DfT) funded initiative that gives you information about sustainable travel options such as walking, cycling, using the bus and train, and car sharing in Gloucestershire.
www.thinktravel.info
You can also follow Thinktravel on Twitter @thinktravelglos

Stroud Valleys Cycle Campaign would like to thank:

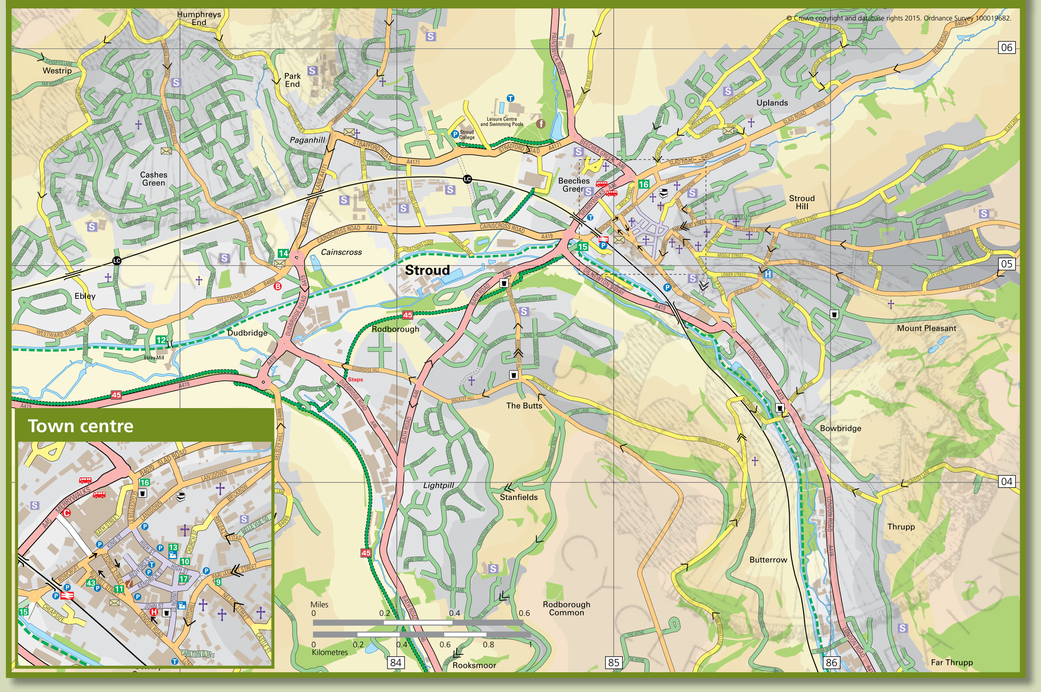
- TammyLynn Photography, 01453 766029, *www.tammylynn.co.uk*
- the first edition working party members: Dominique Shead, Jeff Cloves, Nigel Stanton, Sheila Booth and Tony Partridge, and to the army of volunteers who rode the roads for us.
- Dominique Shead, Nigel Stanton, Nicholas James, Carol Kambites and Tony Partridge, who made the modifications for the second edition.

We would also especially like to acknowledge the work of Sheila Booth, who was a staunch campaigner for cycling in the Stroud Valleys over the past 20 years.

Stonehouse



Stroud



Town centre

Tourist information centres

Main offices
Stroud, Sub Rooms, George Street T: 01453 760960
Nailsworth, Old Market T: 01453 839222
Tetbury, 33 Church Street T: 01666 503552

and also
Wotton-under-Edge, Heritage Centre, The Chipping T: 01453 521451
Dursley, Library, May Lane T: 01453 543059

Useful contacts

Cycle training

- Gloucestershire County Council Road Safety Team offers Bikeability cycle training through schools. T: 01452 425662 *roadsafety@gloucestershire.gov.uk*
- Bikeability (cycling proficiency for the 21st century). *www.bikeability.dft.gov.uk*
- *Cyclecraft*, by John Franklin ISBN 0 11 702051 6 (a book of skilled cycling techniques for adults).

Cycle-Aid (cycle accident solicitors), T: 0800 387815 *enquiries@cycle-aid.co.uk*
Free Help Line giving advice and support to all cyclists, with legal help following accidents.

Environmental Transport Association
(cycle insurance and breakdown cover), 68 High Street, Weybridge KT13 8RS T: 0333 0001234 *www.eta.co.uk*
Offers cycle rescue, repair, and puncture cover for UK and Europe, if more than one mile from home. Takes cycle and cyclist to station or repair shop.

Hotlines

- **Potholes: Gloucestershire County Council** T: 08000 514514, *www.gloucestershire.gov.uk/potholes*
  Potholes meeting minimum criteria will be repaired within one working day
- **Glass, litter on cycle paths, roads, pavements:** Stroud District Council T: 01453 754424
- The **CTC** has a website to report potholes in roads: *www.fillthathole.org.uk*. Type in details and mark location, and CTC forwards details to the relevant local authority for action.

Town Cafés (rural cafés overleaf)

Cam

32 Berry Blue Bistro, 5 Noel Lee Way T: 01453 547595

Dursley

30 Courtyard Café, 12 Parsonage Street T: 01453 544246

31 Hummingbird Café, 43 Parsonage Street T: 01453 299276

Nailsworth

23 Green Spirit, Market Street T: 01453 835735

24 Hobbs House Bakery, 4 George Street T: 01453 839396

27 Ruskin Mill café, Horsley Road T: 01453 837527

26 The Coffee Pot, 8 Old Market T: 01453 836100

25 The Olive Tree, 28 George Street T: 01453 834802

28 Wyvale Garden Centre Restaurant, Avening Road T: 01453 834624

Stonehouse

7 Zi's, 17 High Street T: 01453 828384

6 The Bay Tree, 50 High Street T: 01453 822288

8 Wynne's, 20 High Street T: 07527 686304

Stroud town

9 Black Book Café, 2 Nelson Street T: 01453 764509

42 Café Max, 21-23 Russell Street T: 01453 840999

10 Costa Coffee, 52-53 High Street T: 01453 762831

11 Fifteen, 15 George Street T: 01453 751117

12 Kitsch Coffee Bar, Ebley Wharf, Ebley T: 01453 847424

13 Mills Café, 8 Withey's Yard, 55 High Street T: 01453 752222

14 Nosh, 18-20 Westward Road, Cainscross T: 01453 767622

16 Star Anise Arts Café, Painswick Inn, Gloucester Street T: 01453 840021

15 Upper Lock Café, Wallbridge T: 01453 757772

17 Woodruffs Organic Café, 24 High Street T: 01453 759195

Wotton-under-Edge

33 Bunters Sandwich Company, 6 Bear Street T: 01453 845557

34 Edge Coffee Shop, 44 Long Street T: 01453 844108

35 Singing Teapot, 47 Long Street T: 07889 865079

36 The Ark, 43 Long Street T: 01453 521838

Places of interest

- **Berkeley Castle** *www.berkeley-castle.com* T: 01453 810303
- **Bisley Wells** Bisley
- **Cattle Country Adventure Park** Berkeley Heath Farm, Berkeley *www.cattlecountry.co.uk* T: 01453 810510
- **Coaley Peak picnic area** (views and long barrow)
- **Edward Jenner Museum** The Chantry, Church Lane, Berkeley *www.jennermuseum.com* T: 01453 810631
- **Hetty Peglar's Tump** (roofed Neolithic long barrow with crawl-in access)
- **Museum in the Park** Mansion House, Stratford Park, Stroud *www.museumintheparkorg.uk* T: 01453 763394
- **National Arboretum** Westonbirt, Tetbury *www.forestry.gov.org/westonbirt* T: 01666 880220
- **Owlpen Manor** (house and gardens) *www.owlpen.com* T: 01453 860261
- **Painswick Rococo Garden** *www.rococogarden.org.uk* T: 01452 813204
- **Prinknash Abbey Park** (Bird and Deer Park) *www.thebirdpark.com* T: 01452 812727
- **Ruskin Mill**, Horsley Road, Nailsworth (lake-side walk, exhibitions, café) T: 01453 837500
- **Saul Junction** (meeting of the Stroudwater and Gloucester Sharpness canals) *www.cotswoldcanals.com*
- **Selsley Church** (William Morris school stained glass)
- **St Augustine's Farm** High Street, Arlingham (working dairy farm) T: 01452 740277
- **Wildfowl and Wetlands Trust** Slimbridge *www.wwt.org.uk* T: 01453 891900

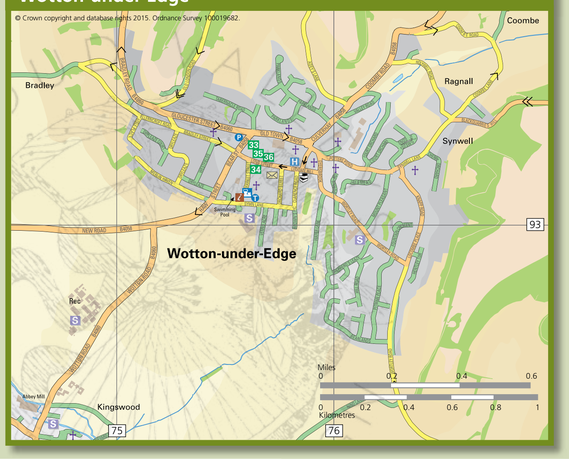
- **The Severn Bore** view from Stonebench or Weir Green. Around 50 visible bores (1 - 5 star) occur each year after new or full moons, the biggest in Spring and Autumn. *www.environment-agency.gov.uk* and leaflet at TICs
- **Severn Trow Hulks, Purton** Graveyard for old barges along the banks of the River Severn.
- **Tortworth Chestnut** (tree dating from the 1200s)
- **William Tyndale Monument** North Nibley
- **Woodchester Mansion** (incomplete 19th C mansion with access inside on open days. Enter park from west, not east) *www.woodchestermansion.org.uk* T: 01453 861541
- **Woodchester Park** Nympsfield (National Trust parkland and lakes)
- **North Woodchester Churchyard** (buried Roman Orpheus mosaic, last revealed in 1973).

Keeping fit?

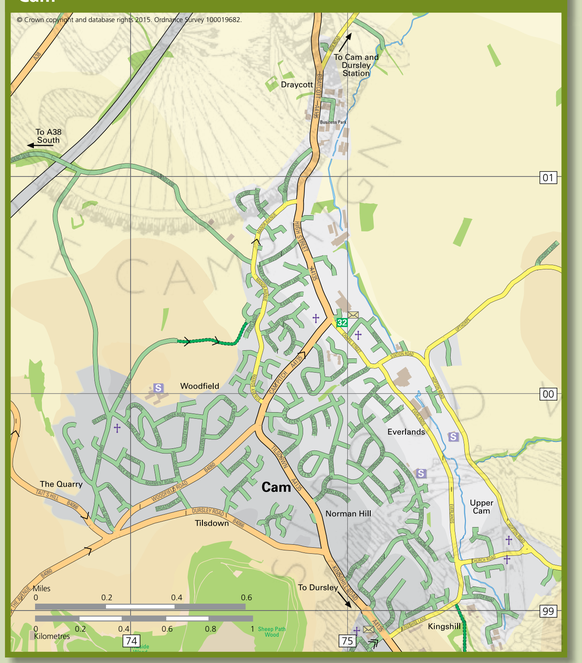
Don't waste an opportunity!
Go to the leisure centre on your bike. And use this map to find the best route.

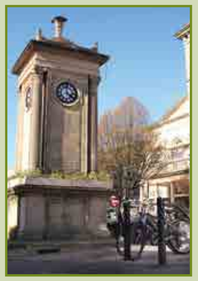
Dursley Pool and Sports Centre
T: 01453 546441
Maidenhill Sports & Dance Centre, Stonehouse
T: 01453 824366 eve
Nailsworth Recreation Centre
Nailsworth Primary School
T: 01453 834822
Stratford Park Leisure Centre (and pools), Stroud
T: 01453 766771
Thomas Keble Leisure Centre, Eastcombe
T: 01452 770617 eve
Wotton-under-Edge Pool (outdoor)
T: 01453 842086
Wotton-under-Edge Sports Centre
Katharine Lady Berkeley's School
T: 01453 842626 eve

Wotton-under-Edge

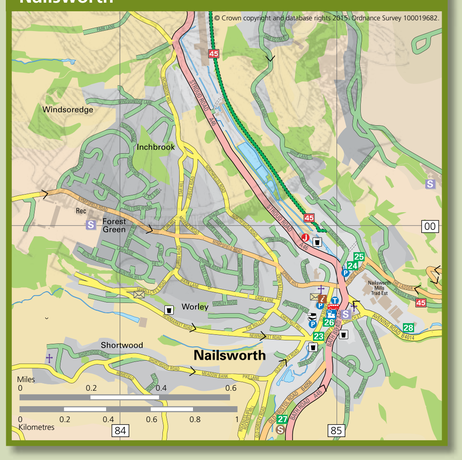


Cam





Nailsworth



Fancy a read? Go for a ride!

Use the map to find the best route to your library.
www.gloucestershire.gov.uk/libraries

Berkeley, School Lane	T: 01453 810520
Dursley, May Lane	T: 01453 543059
Minchinhampton, School Road	T: 01453 885497
Nailsworth, Old Market	T: 01453 832747
Painswick, Victoria Square	T: 01452 814744
Stonehouse, Elms Road	T: 01453 823176
Stroud, Lansdown	T: 01453 751651
Wotton-under-Edge, Ludgate Hill	T: 01453 842115
Out of hours service	T: 0845 230 5420

Cycling organisations

Stroud Valleys Cycle Campaign
www.facebook.com/StroudBike
7 Oak Way, Stonehouse, GL10 2QJ
T: 01453 827929 *ckambites@btinternet.com*
Cycle map coordinator: Tony Partridge
T: 01453 822451
tony.partridge@virgin.net

- We aim to promote and encourage cycling as a mode of transport and as a leisure activity.
- We campaign for safer roads, better cycling facilities, cycle-friendly town centres and the lowering of urban speed limits, and improved, and cohesive public transport systems.
- Membership is open to all, with low individual, family and concessionary rates.

CTC (the UK's national cyclists' organisation)
www.ctc.org.uk
Parklands, Railton Road, Guildford GU2 9JX
T: 01483 238301
cycling@ctc.org.uk
Membership fee includes monthly magazine, accident insurance, legal help, touring route information and membership of the local club.

Stroud Valleys Cycling Club (CTC local branch)
www.ctcwest.org.uk/stroud
Secretary: Clare Smith
T: 07772 888267
secretary@stroudvalleys.cc
A broad programme of regular weekly rides for all abilities.

Stonehouse Wheelers Cycling Club
www.stonehousewheelers.org.uk
Secretary: Roy Jones
T: 01453 298759
info@stonehousewheelers.co.uk
Sunday afternoon rides throughout the year, afternoon and evening rides in summer.

Sustrans (the sustainable transport charity)
www.sustrans.org.uk
2 Cathedral Square,
College Green, Bristol BS1 5DD
T: 0117 926 8893
Sustrans is a leading UK charity that's enabling people to travel by foot, bike or public transport for more of the journeys we make every day. Sustrans is behind many ground breaking projects including the National Cycle Network (NCN), over 14,000 miles of traffic-free, quiet lanes and on-road walking and cycling routes across the UK.

Bike shops

Dursley

G Delta Bikes
25 Silver Street
T: 01453 545480. Bike sales, servicing, repairs, parts and accessories.

Nailsworth

J Black8Bikes
Stroud Road T: 01453 391977.
Bike sales, servicing, repairs, parts and accessories.

South Woodchester

D The Bike Works
Frogmarsh Mill T: 01453 872824.
Bike sales, servicing, repairs, parts and accessories.

Stonehouse

A Tarmac and Trail
18 High Street T: 01453 822881.
Bike sales, servicing, repairs, parts and accessories, bike hire.

Stroud

B Cytek
59 Westward Road, Cainscross T: 01453 753330. Bike sales, servicing, repairs, parts and accessories.

H eCycle UK
10 John Street T: 01453 299171.
Electric bikes and accessories.

C Halfords
Unit F, Merrywalks
T: 01453 761590. Bike sales, parts and accessories.

E Noah's Ark Bikes & Snowboards
Bourne Mills, Brimscombe
T: 01453 884738. Bike sales, servicing, repairs, parts and accessories.

F Square Deals on Wheels
Farm Bungalow, Cowcombe Lane T: 01285 760475.
www.sdeals.com. Internet shop and lightweight bike specialists.

Tetbury

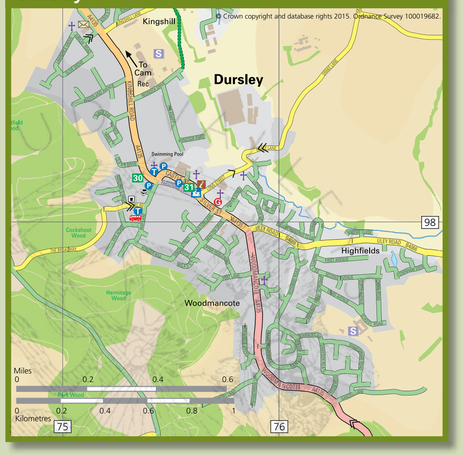
I Veloton Cycles & Coffee
22 Market Place
T: 01666 504343. Bike sales, servicing, repairs and clothes.

Key

- Cycleability gradations, in increasing difficulty (1 2 3 4 5)
- Designated traffic-free cycle paths
- Canal towpath, usually good surface
- Canal towpath, variable surface
- Useful paths, may be poorly surfaced
- Motorway
- Pedestrian street
- One-way street
- Hill arrows - arrow points downhill (1 in 10 / Very steep (more than 15%))
- Level crossing
- Train station
- Bus station
- School
- Hospital
- Toilet
- Bike shops (lettered)
- Cafés (numbered)
- Places of interest (lettered)
- Rec Leisure centre
- Place of worship
- Cycle parking
- Pub
- Library
- Farmers' market
- Post Office
- Tourist Information Centre
- 41 45 10 National Cycle Network routes
- Steps - with a ramp for wheeling bikes
- **Stroud** Towns
- Amberley Villages
- *Horsley* Villages with Post Offices/ local stores

The representation of a track or path is no evidence of a public right of way. Users of these routes do so at their own risk.

Dursley



Public transport links

Stroud Railway Station
to Gloucester and north
to Swindon and London

Stonehouse Railway Station
to Gloucester and north
to Swindon and London

Cam and Dursley Railway Station
to Gloucester and north
to Bristol and south

Stroud Bus Station, Merrywalks, Stroud
Nailsworth Bus Station, Old Market, Nailsworth
Dursley Bus Station, May Lane, Dursley

Public transport contact numbers:

National Rail Enquiries
T: 08457 48 49 50 *www.nationalrail.co.uk*
National Express
T: 0871 7818181 *www.nationalexpress.com*
Stagecoach
T: 01452 418630 *www.stagecoachbus.com*
Traveline:
T: 0871 2002233 *www.traveline.info*

Going green?

Use your local markets, and travel by bike.
Use the map to find your best route.

Dursley Farmers' Market
2nd Saturday Mar to Dec
Nailsworth Farmers' Market
4th Saturday
Stroud Farmers' Market
Saturdays
Stroud Shambles Market
Fridays and Saturdays
Wotton Farmers' Market
1st Saturday

Stroud & Stonehouse

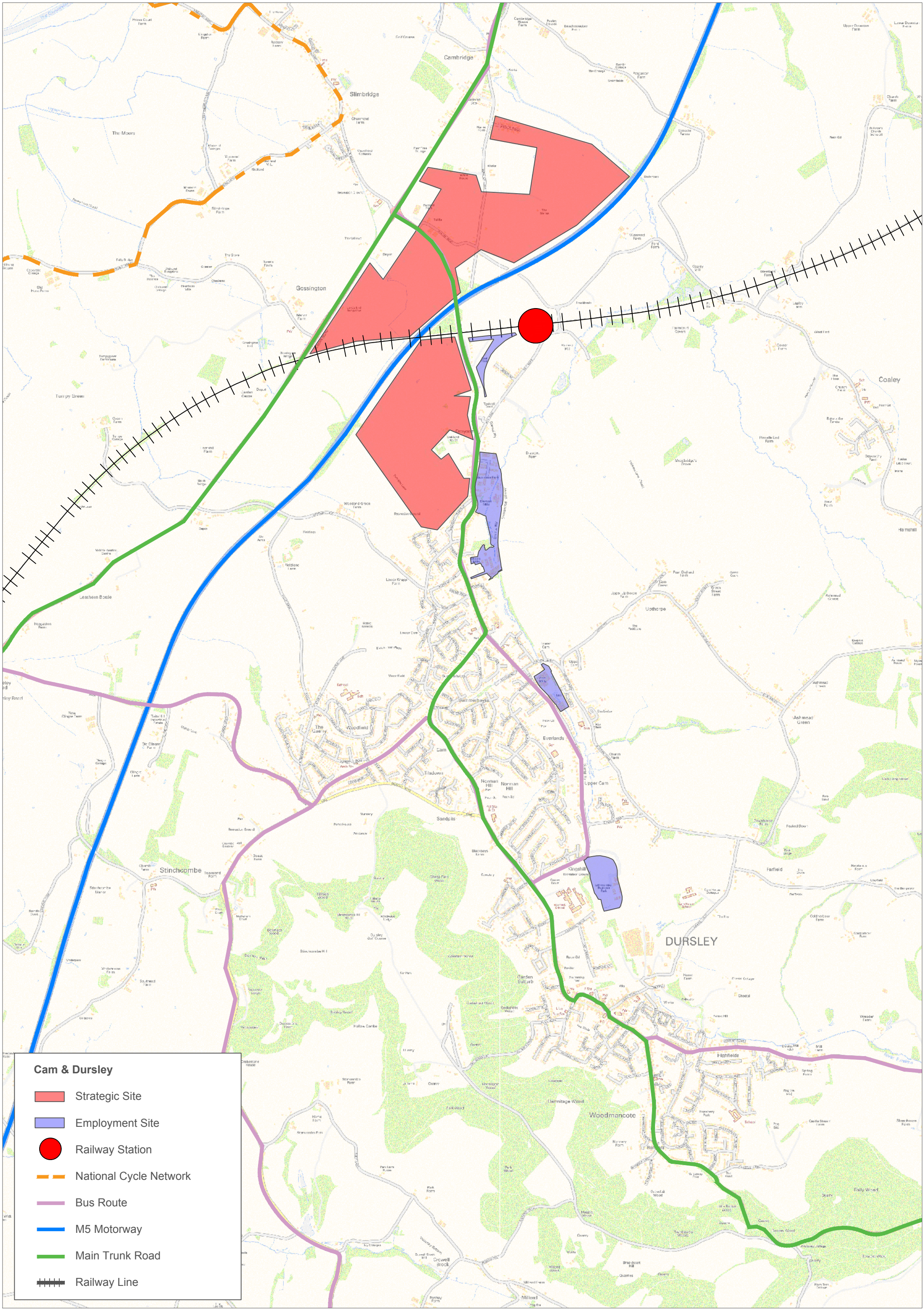
- Strategic Site
- Employment Site
- Railway Station
- National Cycle Network
- Bus Route
- M5 Motorway
- Main Trunk Road
- Railway Line

Stroud Valleys

- Employment Site
- Railway Station
- National Cycle Network
- Bus Route
- Main Trunk Road
- Railway Line
- Stroud District Boundary

Nailsworth

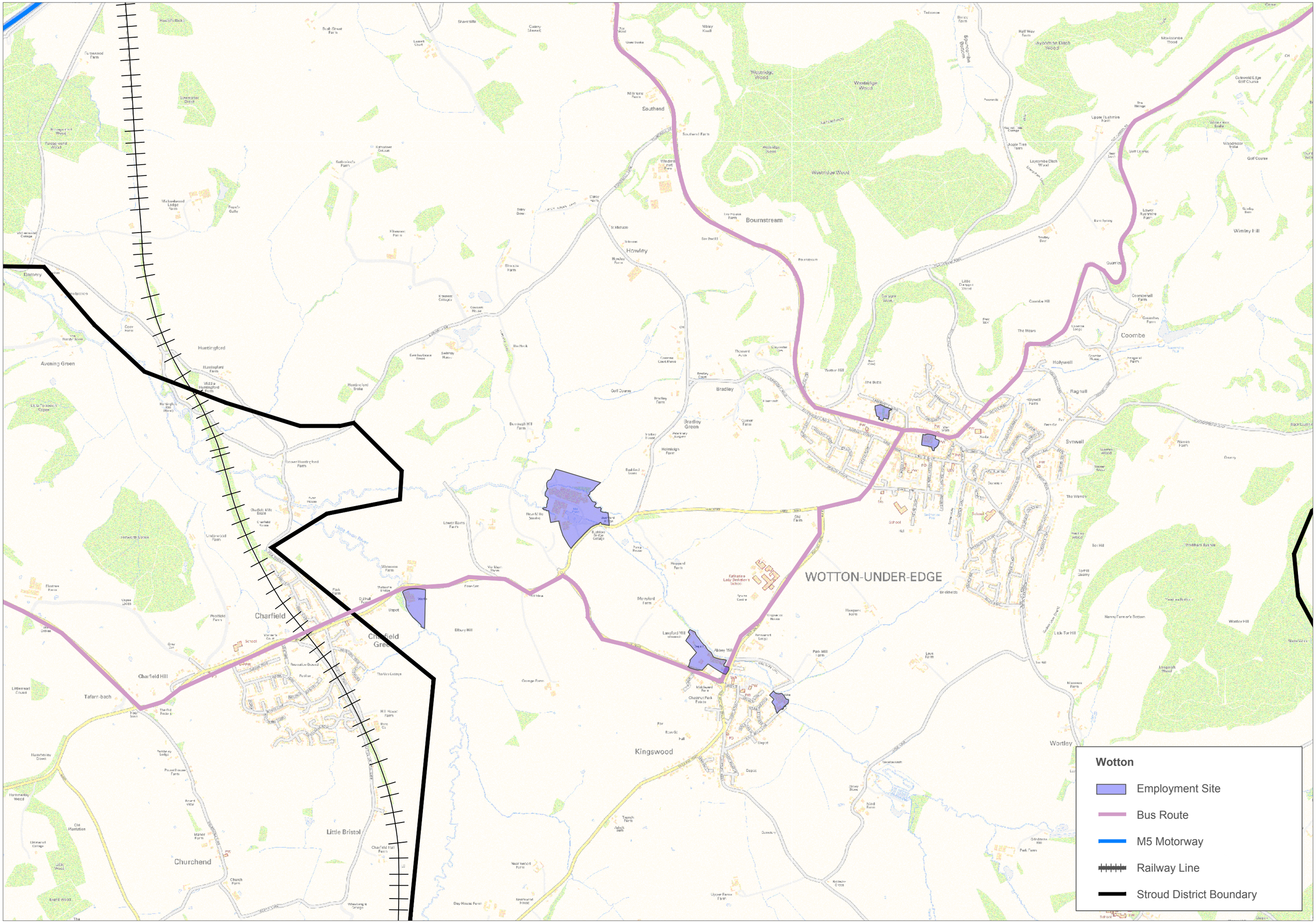
- Employment Site
- National Cycle Network
- Bus Route
- Main Trunk Road
- Stroud District Boundary

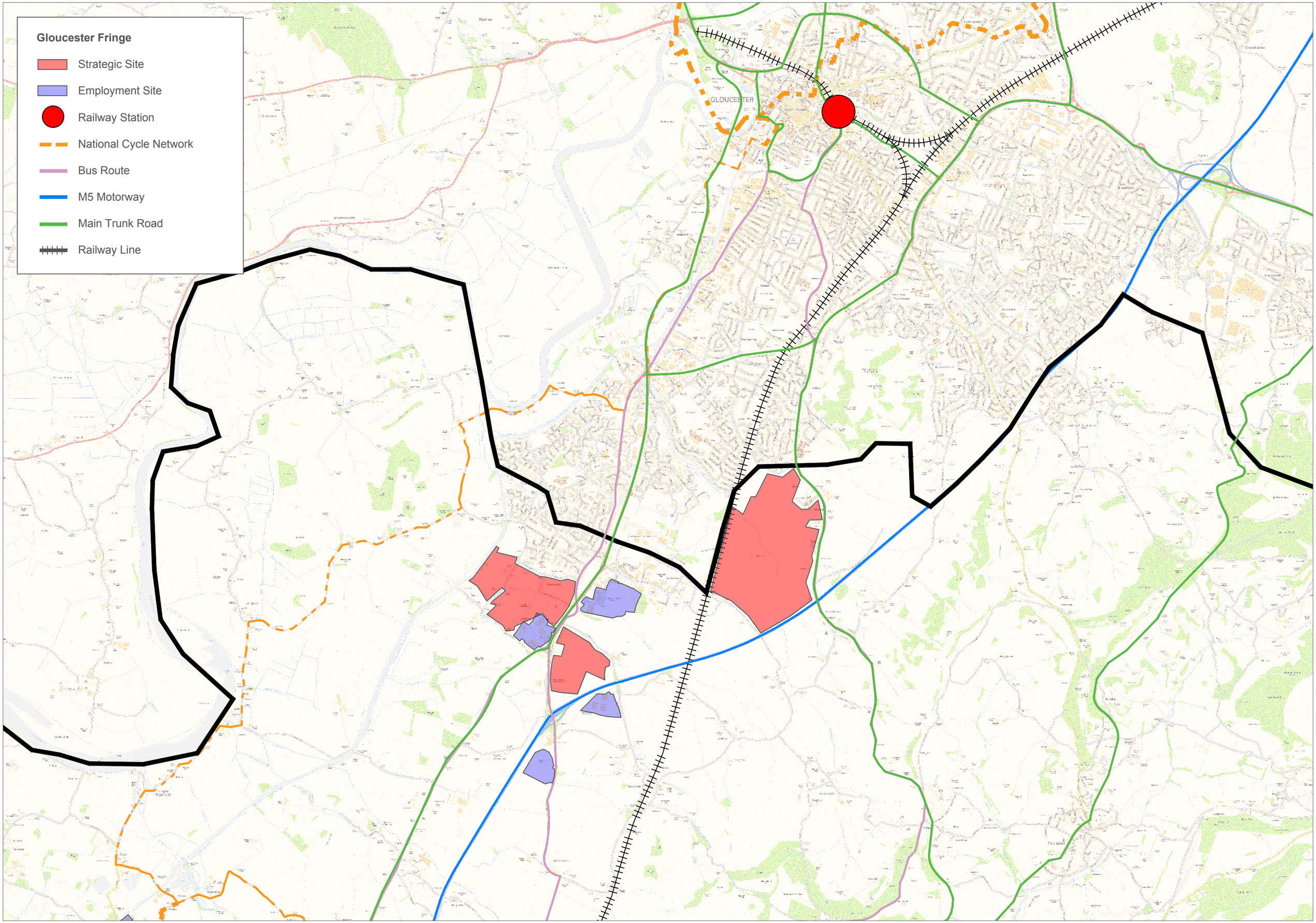

Cambridge
Slimbridge
The Moors
Gossington
Coaley
Tuntpy Green
Leathern Bottle
Stinchcombe
Sandpits
Cam
Dursley
Woodmancote
Ashmead Green
Upthorpe
Hamehill
Farfield
Tilsdown
Norman Hill
Everlands
Woodfield
The Quarry
Kingshill
Highfields
Crowell Brook
Folly Wood
Hermitage Wood
Garden Suburb
Oldbury Power Station
Oldbury Rhyne
Cam & Dursley
Strategic Site
Employment Site
Railway Station
National Cycle Network
Bus Route
M5 Motorway
Main Trunk Road
Railway Line

Sharpness & Berkeley

- Strategic Site
- Employment Site
- National Cycle Network
- Bus Route
- Main Trunk Road
- Railway Line
- Stroud District Boundary

Purton
The Walls
Hinton
Sharpness
River Severn
Brookend
Vale of Berkeley
Newtown
Wanswell
Helmore
Broadstone
Sanigar Sands
New Grounds
Sand
Lydney Sand
Berkeley
Berkeley Heath
Ham


Southend
Bournstream
Howley
Bradley
Bradley Green
Coombe
Holywell
Ragnall
Symwell
Wimley Hill
Damery
Avening Green
Huntingford
Charfield
Charfield Green
Charfield Hill
Tafarr-bach
Churchend
Little Bristol
Kingswood
WOTTON-UNDER-EDGE
Wortley
Wotton
Employment Site
Bus Route
M5 Motorway
Railway Line
Stroud District Boundary


Gloucester Fringe
Strategic Site
Employment Site
Railway Station
National Cycle Network
Bus Route
M5 Motorway
Main Trunk Road
Railway Line
GLOUCESTER

Appendix B - Gloucestershire Travel By-cycle pamphlet

Autumn 2019

Travel by-cycle around Gloucestershire

thinktravel
New sense of direction.

Gloucestershire
COUNTY COUNCIL

Travel by-cycle

Foreword

Gloucestershire County Council is committed to improving its cycle network and is developing a £9 million package of improvements to make it easier to cycle across the county.

At a strategic level making more trips by bike will help us to reduce transport emissions that contribute to climate change. At a local level cycling helps to reduce congestion and improve local air quality. On an individual level it is good for our personal health and well being.

Our ambition is to deliver a safe cycling route around the county within the next five years and 'to make cycling and walking the natural choice for shorter journeys'. We want to develop a high quality cycle network across Gloucestershire which connects our communities and encourages confidence in cycling for leisure, work, school and health.

We have nearly 300 miles of dedicated cycle routes in Gloucestershire and 4.5% of trips to work are by bike, which is almost twice the national average. However, we aspire to do better than this: our vision is for more people to be able to cycle off road where possible between the urban areas of Tewkesbury, Cheltenham, Gloucester and Stroud; and in due course the Cotswolds and Forest.

We know that parish and town councils play a vital role in our communities and we hope that our plans for cycle route improvements will encourage further investment in local areas.

Councillor Vernon Smith
Cabinet Member
Highways and Flood

Gloucestershire's cycling ambitions go up a gear

This year we will complete a £1.3 million upgrade to the canal towpath linking Hardwicke to Gloucester city centre. We will shortly begin work on £1 million of Gfirst LEP funded cycleway improvements connecting Aylburton, Lydney town centre, Lydney station, Dean Academy and residential areas.

We are currently supporting Highways England with their design and consultation plans for a £3.6 million route between Cheltenham and Gloucester that is due to be built in 2020. Looking further ahead we are developing a £3 million scheme between Bishop's Cleeve and Cheltenham.

To help us identify missing links and plan future routes we are investing £30,000 on developing a digital map of our existing cycle network, with information on the extent and condition of our on-road cycle lanes, off-road dedicated cycle routes and shared routes.

The benefits of cycling and the role of the cycle network

- Most of the county's population could reach key services, jobs and education by bike, as distances are typically less than 5km - a comfortable cycling distance
- The highway network is vital to the economic, social and environmental wellbeing of Gloucestershire
- Gloucestershire County Council as Local Highway Authority is responsible for maintaining the highway network, including cycle ways

The wheel of success

The £9m investment package is the beginning of our ambition to provide safe cycling routes in Gloucestershire and aims to encourage cycling as a natural choice for local trips, or as part of an onward journey.

Did you know...

The percentage of cycle to work trips in Gloucestershire **(4.5%)** is above the national average **(2%).**

Around **550** cyclists use Newtown cycle track every day.

On average, cyclists live **two years longer** than non-cyclists.

Moderate pedal-pushing burns up to **500** calories per hour, which is more than walking or swimming.

By cycling **three miles** to work every weekday, you'll achieve your recommended amount of activity without ever having to go to a gym.

5-18 year olds need at least **60 minutes** of physical activity every day. Cycling the school run is an easy way to achieve this.

Cycling will save you and your family a small fortune, and can save travel time.

Physical activity can increase energy, **positive** mood, self-esteem, as well as reducing stress and anxiety.

Those who cycle can experience **five times less pollution** levels than those who travel by car.

Case study 1:

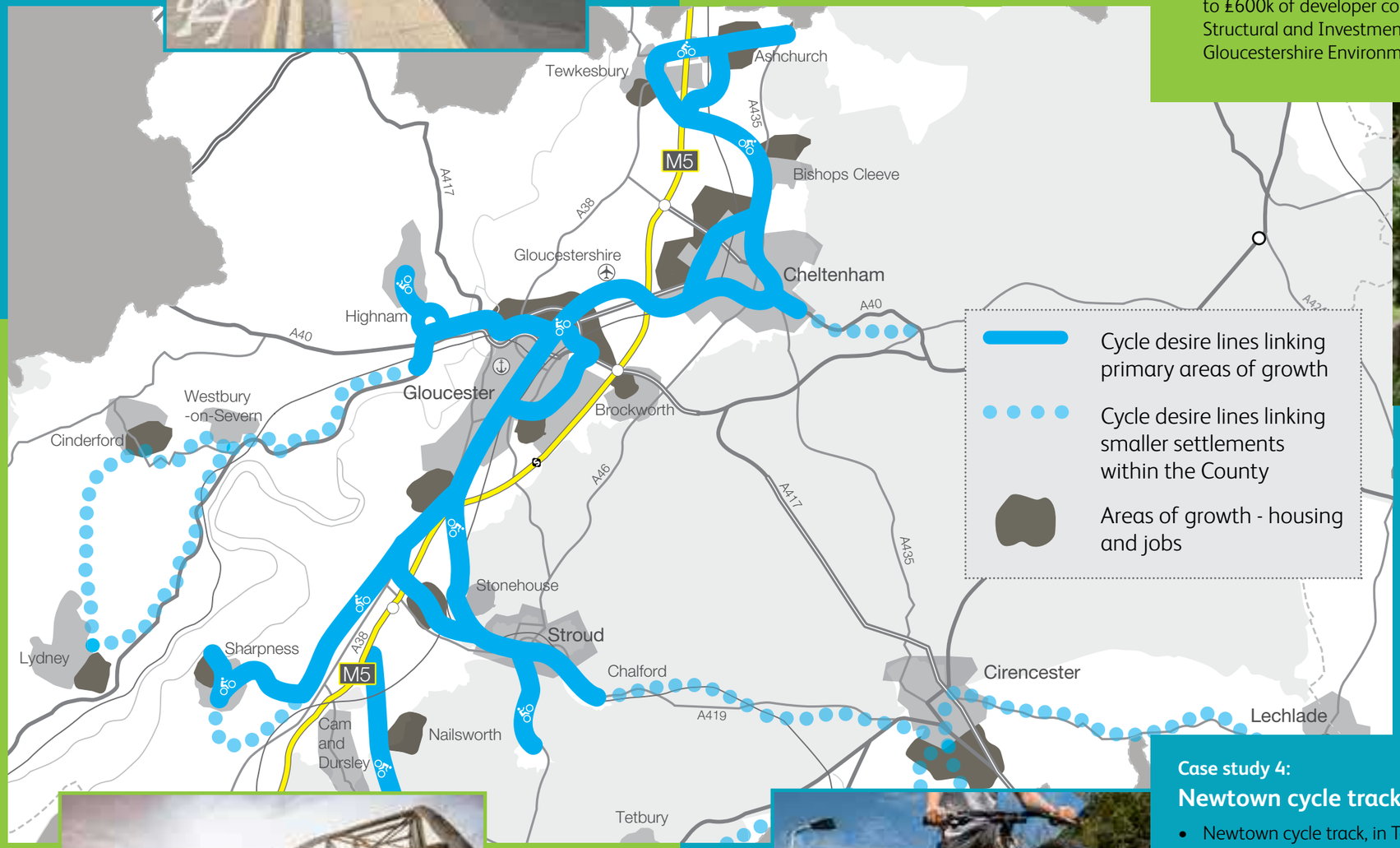
Cycle lane improvements, Cheltenham

- Allowing cyclists to ride both ways along Sandford Mill Lane
- Coloured cycle lane with raised separator to improve safety
- Scheme completed in October 2017
- Amount invested in scheme: £40k.

Case study 3:

Gloucester Canal towpath upgrade

- Upgrade to the 5.6km of canal towpath between High Orchard Bridge, Gloucester and the Pilot Inn, Harwicke
- The Canal and River Trust began construction in May 2018. The first phase has been completed (between Midsummer Walk and Rea Bridge) with works expected to extend as far as the Pilot Inn before March 2020
- Amount invested in scheme: £1.3m, which includes up to £600k of developer contributions, £435k European Structural and Investment funds and £250k from Gloucestershire Environmental Trust.



Case study 2:

Honeybourne Line, Cheltenham

- This is the second busiest cycle route in the county and runs from Cheltenham train station to the Prince of Wales Stadium and Pittville Park
- Built between 2002 and 2006 with funding from Gloucestershire County Council (GCC) and GCHQ
- In 2020 it will be extended to the A40 Lansdown Road with £900k funding from the Gfirst LEP Growth Deal, GCC, developers and GWR.

Case study 4:

Newtown cycle track, Tewkesbury

- Newtown cycle track, in Tewkesbury, is one of the busiest cycle routes in the county, with around 550 cyclists using it every day
- The cycle track is a core traffic free spine route for people, especially school children and commuters, to walk and cycle between key destinations
- This cycle track links Tewkesbury town and Ashchurch, as well as connecting to lots of places in-between. It has been developed over the last 20 years and, more recently, there has been an investment of £106k on surface improvements on this well-loved section of Tewkesbury's cycle network.

Travel by-cycle

Ride as much or as little, as long or as short as you feel. But ride.
Eddy Merckx

Cycling to work is an important issue for business – the more who do it, the more our communities will support it. Healthy and green, cycling is worthy of the support of every business in the land.
Sir Digby Jones, former director general of the Confederation for British Industry

One of the most important days of my life, was when I learned to ride a bicycle.
Michael Palin

An engineer designing from scratch could hardly concoct a better device to unclog modern roads – cheap, nonpolluting, small and silent….
Rick Smith, International Herald Tribune

thinktravel
New sense of direction.

www.thinktravel.info
enquiries@thinktravel.info

GCC_2697 9.19

Appendix B Long List of Interventions

No.	Intervention	Description	Source	Theme	Sub-theme	JR scoring	RA Scoring	Average scoring
135	Cycle access improvements for Stroud town centre	Improvements to cycle infrastructure on the main arteries into Stroud, e.g. Merrywalks	CP	Infrastructure	Cycling	17	17	17
122	M5 pedestrian/ cyclist overbridge to Cam and Dursley station	A pedestrian and cycle only bridge over the motorway, providing a more direct access to Cam and Dursley station from the Wisloe development site	SPW	Infrastructure	active travel	16	16	16
123	Cycle route to Stroud from Sharpness development	Direct cycle route to Stroud, making use of off-road paths and providing infrastructure where necessary	SPW	Connectivity	Cycling	16	16	16
130	Dutch style cycle facilities to link all villages and major centres	Segregated off-road routes in towns, with a network linking to villages	STW	Infrastructure	Cycling	16	16	16
137	Cycle Access improvements between Eastington and Nailsworth	Cycle Access improvements between Eastington and Nailsworth	CP	Infrastructure	Cycling	16	16	16
60	Cantilever bridge off A4135 over railway	Pedestrian cantilever walkway as an extension to the existing railway bridge to bring footway up to standard	SPW	Connectivity	active travel	16	14	15
64	Time-limited Pedestrianisation in towns	Pedestrianisation of some roads in town centre to reduce number of vehicles and emissions. Pedestrianisation between 10am and 4pm	AECOM	Safety	active travel	15	14	15
117	Prioritise Greenway Corridors over highway solutions	Priority of off-road active travel solutions over highway modifications	STW	Infrastructure	active travel	15	15	15
118	Extension of Cam and Dursley Greenway	Extension of the Greenway north to Slimbridge and Cambridge, and south to Wotton, Charfield and Kingswood	AECOM	Infrastructure	active travel	15	15	15
119	Improvement to the Cam and Dursley Greenway	Cycle access improvements to Cam and Dursley Rail Station and to Uley	STW	Infrastructure	active travel	15	15	15
129	Purchase land for active travel routes	Additional land to increase opportunity for high quality walking and cycling infrastructure	STW	Cost	Cycling	15	15	15
133	Free e-bikes for 18 year olds	Provision of e-bikes to students to get to college	STW	Technology	Cycling	16	13	15
134	Introduce e-bikes with suitable charging facilities to overcome Stroud's topography	Public e-bike hire bike service	STW	Technology	Cycling	16	13	15
136	Cycle infrastructure improvements (countywide)	Cycle infrastructure improvements (countywide)	CP	Infrastructure	Cycling	15	15	15
139	Cycle Access improvements to national cycle route 45, Stroud	Improved access points onto NCN	CP	Infrastructure	Cycling	15	15	15
140	Cycle Access improvements for Cainscross roundabout, Stroud	Cycle crossing facilities at the roundabout to improve safety for cyclists	CP	Infrastructure	Cycling	15	15	15
141	Cycle access improvement Multi-Use Track - B4008 between Little Haresfield and Stonehouse	Widening of existing pavement to a multi-use track	CP	Infrastructure	Cycling	15	15	15
146	Improved walking and cycling links connecting with Cam and Uley	Extend the Cam and Dursley greenway to connect to Uley	SLP	Connectivity	active travel	15	14	15
147	Cycle training	Provision of free adult cycle training for all abilities	AECOM	Behaviour	Cycling	15	15	15
148	Separate cycle signal phase at traffic lights	To improve cyclists safety. Options include pre-signal to give cyclists a 5-secs head-start, or a separate signal phase for cyclists	AECOM	Infrastructure	Cycling	18	11	15
156	Improvements for A419 corridor, Stonehouse	Provision for pedestrians and cyclists on the A419	CP	Infrastructure	road	15	14	15
165	Active travel infrastructure in place before the new development is open before first occupation	Active travel infrastructure in place before the new development is open before first occupation to encourage active travel habits	AECOM	Policy	Cycling	14	15	15
166	Attractive, safe and direct active travel routes to local facilities and town centres	Desireable routes over journeys by car to local facilities	AECOM	Infrastructure	Cycling	15	15	15
171	Segregated cycling infrastructure in all new developments	Segregated cycling infrastructure in all new developments	AECOM	Policy	Cycling	15	15	15
20	Increase and prioritise government investment for active travel infrastructure and buses including hubs	Government to prioritise spending on sustainable transport measures	STW	Cost	Politics	10	18	14

No.	Intervention	Description	Source	Theme	Sub-theme	JR scoring	RA Scoring	Average scoring
21	Political Will to prioritise development in sustainable travel modes	Support from SDC and GCC to prioritise spending on sustainable transport measures	STW	Cost	Politics	10	18	14
63	Pedestrian improvements to Market Street	Placemaking to enhance pedestrian safety and user experience	SLP	Infrastructure	active travel	15	13	14
138	Cycle Access improvements to Gloucester & Sharpness Canal towpath, Gloucester	Improved access points onto the canal network	CP	Infrastructure	Cycling	14	14	14
144	Improved cycle linkages to Cam & Dursley station	Improved cycle access to Cam and Dursley station	SLP	Connectivity	Cycling	14	14	14
145	Improvements to Stroud station; and investigate the potential for an integrated transport hub	Improvements to walking, cycling and bus links and infrastructure at the station	SLP	Infrastructure	rail	13	14	14
157	B4066 corridor improvements, Berkeley	Improvements dictated in the Safe and Sustainable Travel in Standish Report, 2017	CP	Safety	road	14	14	14
158	Highway safety improvement programme	Highway safety improvements for pedestrians and cyclists across the district	CP	Safety	road	14	14	14
162	A38 – Cross Keys Roundabout – upgrade of access;	Upgrade of pedestrian and cycling infrastructure to improve safety	SLP	Infrastructure	road	14	13	14
163	A419 corridor – Chipman's Platt Roundabout upgrade;	Improvements to National Cycle Route through the installation of an off carriageway shared use cycle way from Spring Hill Road to Grove Lane	SLP	Infrastructure	road	15	13	14
3	Charging points for Ebikes	Public charging points for e-bikes	STW / GLTP	Infrastructure	Cycling	12	13	13
28	Create Cycle and Walking Strategy for area	Production of a Walking and Cycling Strategy to outline districts ambitions and financial resources available	STW	Policy	Politics	11	14	13
41	Ebley Road between Stroud and Stonehouse requires more sustainable infrastructure, including bus and active travel priority	Bus and Active travel priority on Ebley Road	STW	Infrastructure	sustainable transport	12	13	13
61	Pedestrian/ cycle access over A4135/box road junction	Facilities to allow pedestrians and cyclists to cross from Draycott development, including reducing entry radius of the bellmouth	SPW	Infrastructure	active travel	13	13	13
116	Maximise and prioritise use of towpath for active travel and Uley, Cam, Dursley Greenway	Provision of a high quality upgrades to the canal and greenway networks	STW	Behaviour	active travel	12	13	13
120	Cycle parking at key destinations	Provision of Sheffield stands at key retail, education, employment and healthcare destinations to encourage cycling	STW/AECOM	Infrastructure	Cycling	13	13	13
121	Secure cycle parking in new developments	Provision of secure cycle parking for all residents and visitors	AECOM	Policy	Cycling	13	13	13
124	Hire Bike Scheme	Scheme available to residents to use that have no access to a bicycle	SPW	Infrastructure	Cycling	13	13	13
142	Bikeabilitiy training in schools	Modern cycle training programme delivered across 3 levels to children	GLTP	Behaviour	Cycling	13	13	13
169	New developments to be near facilities within 10 minutes without the use of a car	Facilities available (or committed) within 10 minutes without a car? (including nursery, primary school, convenience store, cafe, small business service hub, community centre, GP practice, sport/leisure facilities, playground)	AECOM	Connectivity	sustainable transport	13	13	13
42	Sustainable 'Spine' through Wisloe - Cam - Stroud - Dursley promoting high quality sustainable transport	Creation of a high-quality, reduced travel-time route	STW	Infrastructure	sustainable transport	10	13	12
44	Shared space or 'drop the pace' campaign to reduce conflicts between pedestrians and cyclists	Signs on shared use path and greenways reminding users of etiquette	STW	Communication	other	12	11	12

No.	Intervention	Description	Source	Theme	Sub-theme	JR scoring	RA Scoring	Average scoring
45	Improve existing active travel infrastructure	Improvements including lighting, road surfaces, widening, vegetation clearance	STW	Infrastructure	sustainable transport	11	12	12
47	Signage strategy for active travel users to improve wayfinding in the county. Applicable to existing and new infrastructure.	Consistent, recognisable wayfinding across the walking and cycling network	STW	Policy	other	13	11	12
72	Cam and Dursley Railway station enhancements	Improvements to walking, cycling and bus links and infrastructure at the station	CP	Infrastructure	rail	13	11	12
125	Prioritise the allocation of highway land to active travel users rather than motorised vehicles	Retrofitting of highway to cater for pedestrian and cycle schemes	STW	Behaviour	active travel	13	11	12
126	Complete a road audit of Sustrans NCN routes to align with current desire lines	Audits to understand quality of routes	STW	Communication	Cycling	13	11	12
132	Identify pinch points in canal towpaths	Establish areas of the towpath for improvement	STW	Safety	active travel	12	11	12
143	Linkages to Countywide cycle network	Strategic development sites to link into the cycling network	SLP	Connectivity	Cycling	12	12	12
155	Road safety improvements for cyclist to remove drains and have kerb stone inlets	improvements to the highway network to improve safety and transitioning between road/off-road infrastructure	STW	Infrastructure	Cycling	13	10	12
17	Ban parking in town centres	Restriction of parking in town centres, giving space back to pedestrians and cyclists	STW	Behaviour	Parking	11	11	11
29	Planning policy to promote connectivity and modal shift	Policy highlighting the aims and objectives of SDC to move towards a modal shift	STW	Policy	Politics	11	11	11
75	Stonehouse railway station enhancements	Improved facilities, including a more direct step-free access and sheltered cycle storage	CP	Infrastructure	rail	10	11	11
77	Railway Station Travel Plans	A strategy for encouraging sustainable travel options of customers going to and from the station	GLTP	Policy	rail	11	11	11
84	Easy to find bus information that is in one place	Instant up to date arrival information for each bus, including location of bus stops and frequency of services	STW	Communication	bus	10	11	11
105	Continued roll out of multi operator bus Smartcard ticket	Bus ticket that can be used on all services	GLTP	Technology	bus	11	10	11
110	Smart ticketing - contactless payments	Pay for tickets on buses using contactless payments	AECOM	Technology	bus	11	11	11
112	All developments should have mandatory provision infrastructure for active travel and EV charging points, following guidance provided by SDC	Developments to follow national and local design guidance to make developments sustainable	STW	Policy	development	10	11	11
128	Dedicated resources for developing off road, segregated cycle routes		STW	Cost	Cycling	11	11	11
131	Cycle racks for buses	Integrates bus and bikes	STW	Infrastructure	Cycling	12	9	11
6	Grants available for businesses for E-bikes	Grants available for businesses for E-bikes for business use	AECOM	Communication	Cycling	10	10	10
15	Active Travel Maintenance Strategy	A strategy to inform how to deliver maintenance programmes for active travel, referring to national guidance	AECOM	Policy	Maintenance	8	11	10
16	Neighbourhood enforcement to stop pavement parking	SDC to enforce a ban for vehicles parked on the pavement to give space back to intended users and reduce damage to pavements caused by vehicles.	STW	Behaviour	Parking	9	11	10
32	Positivity campaigning to promote public transport and active travel	Campaigns to promote public transport and active travel	STW	Communication	other	10	10	10
39	Increase and ring-fence funding for sustainable transport	keeping a proportion of funding solely for sustainable transport interventions	STW	Cost	Politics	9	11	10
43	Water taxi between Sharpness and Gloucester	Water taxi on River Severn/ Gloucester Canal	STW	Infrastructure	sustainable transport	11	8	10
49	Ongoing support for Thinktravel branding	Promotion of 'Thinktravel'; the brand name for Gloucestershire's smarter choices programme, designed to help people consider their travel choices and encourage use of more sustainable modes of transport	GLTP	Communication	other	9	11	10

No.	Intervention	Description	Source	Theme	Sub-theme	JR scoring	RA Scoring	Average scoring
58	Road user awareness	Campaigns, such as the THINK cyclist campaign at bus stops, backs of buses etc	AECOM	Behaviour	other	10	9	10
113	Locate new developments where public transport solutions are possible	Development next to existing transport networks (rail, bus, cycle)	STW	Infrastructure	development	10	9	10
168	New developments to have walkable distances to bus stops and rail stations	All areas of new development to be within walking distance of bus stops (max 300m) and rail stations (max 800m)	AECOM	Connectivity	active travel	10	10	10
12	Encouraging the development of Last Mile delivery schemes (at suitable locations)	retiming of last mile deliveries as a positive tool to manage travel demand in town centres and locations where there are residential properties close by.	GLTP	Behaviour	HGV	9	9	9
14	Capital Maintenance Programme	Regular maintenance of highways, footways, cycleways and bus infrastructure	CP	Policy	Maintenance	9	9	9
25	Work with top 20 employers to create an active travel plan	Travel Plan initiatives to encourage employees to travel sustainably	STW	Policy	other	8	10	9
31	Business engagement with Gloucestershire County Council to promote and encourage active travel	Target for employers to produce an Active Travel Plan	STW	Policy	other	8	9	9
59	New junction design to be consistent	Design to follow Manual for Gloucestershire Streets and other relevant guidance	AECOM	Policy	other	9	9	9
88	Improvement connections between bus and rail	Improved transition at rail stations between rail and bus services	STW	Connectivity	bus	8	9	9
99	Bus corridor upgrade on Wotton-Kingswood-Charfield-Thornbury (developer funded)	Frequent, direct bus service between Wotton-under-Edge and Thornbury	STW	Infrastructure	bus	8	9	9
100	Real Time Indicators for bus and car parks, especially in hub locations	Real Time Information about bus services and real-time parking availability information	STW	Technology	bus	9	8	9
109	New bus service required to serve new strategic allocation at Sharpness & Cambridge	Existing bus services to connect into strategic housing development sites	SLP	Connectivity	bus	9	9	9
127	Promotion of new cycle routes to sustrans for where locals want to go	Advertisement of local routes via Thinktravel	STW	Connectivity	Cycling	9	9	9
167	Provision of frequent Public Transport services from first occupation	Provision of services to key destinations	AECOM	Connectivity	Bus	9	9	9
4	EV fleet for public/council organisations and companies	Fleet of Electric vehicles in organisations for business use	STW	Technology	EV	8	8	8
23	Travel Plan initiatives incorporated into residents welcome party	Travel Plan initiatives given directly to residents rather than via paper/ email communications	SPW	Behaviour	development	7	8	8
34	Promote alternative routes for different modes	Information readily available to residents and visitors on active travel and public transport networks	STW	Communication	other	8	8	8
55	High speed broadband	High speed broadband across the district to reduce the need to travel to work, in new and existing developments	AECOM	Technology	other	8	7	8
62	Daily walking clubs. Walks in small and large communities (and cycle clubs for different age groups)	Clubs to encourage health and fitness	STW	Behaviour	active travel	8	7	8
68	Tram or rail between Sharpness and Gloucester centre with the potential to connect to Cheltenham	Rail or Light rail line connecting Sharpness and Gloucester	STW	Infrastructure	rail	8	7	8
73	A new railway station(s) south of Gloucester, north of Bristol	New station allowing greater transport choice for new developments	CP	Infrastructure	rail	7	8	8
82	Bus Gate on Naas Lane	Bus gate to remove vehicular traffic (except buses) to prioritise sustainable travel along the most direct route to the business park	SPW	Infrastructure	bus	8	7	8
85	Improve bus frequency between Stroud, Stonehouse and Gloucester.	15-minute frequency from Stroud to Gloucester	STW	Connectivity	bus	8	8	8
86	Metrobus northern extensions	Extension of metrobus to Gloucester	STW	Connectivity	bus	8	8	8

No.	Intervention	Description	Source	Theme	Sub-theme	JR scoring	RA Scoring	Average scoring
87	New bus services to rural areas and shuttle buses for commuters	Bus services to connect rural districts to town centre	STW	Connectivity	bus	8	8	8
90	Metrobus extension in Thornbury-Charfield-Wotton-M4 Junction 14 and Park and Ride	Metrobus extension to Wotton-under-Edge	STW	Connectivity	bus	8	8	8
96	Use of A38 to create a bus Express between Bristol North Fringe and Gloucester, including stops at Whitminster, Falfield and Wisloe. Local park and change	Limited stop service between Bristol and Gloucester in the peaks	STW	Infrastructure	bus	8	8	8
102	Bus stop and bus advantage improvements for Stroud - Gloucester corridor	Upgrades to bus stop infrastructure	GLTP	Infrastructure	bus	8	8	8
104	Ongoing bus stop improvement programme	Programme to bring all bus stops to the same standard in the District, including shelters, RTI	GLTP	Policy	bus	7	8	8
106	Bus service 12 - extension of existing service	Extension of the 12 service to link into strategic development sites	SLP	Connectivity	bus	8	8	8
107	Bus service 61 extension & increased frequency for access to Stroud.	Increased frequency to cater for demand	SLP	Connectivity	bus	8	8	8
108	Bus service frequency increase and better linkages to Cam & Dursley railway station	Provision of a more frequent bus service to/from Cam& Dursley station to cater for last-mile movements	SLP	Connectivity	bus	8	8	8
111	Bus priority	Retrofitting Bus priority measures on the highway to allow a time-advantage	AECOM	Infrastructure	bus	8	8	8
27	Support working from home/community working	Promote working from home within businesses	STW	Technology	other	7	7	7
33	Consult with communities to improve opportunities for partnership working	Consultation with communities when designing new sustainable measures	STW	Communication	other	7	7	7
50	Personalised Travel Plans for new developments	A method to encourage new residents to make more sustainable travel choices through the provision of information, incentives and motivation directly to individuals to help them voluntarily make more informed travel choices.	GLTP	Policy	development	7	7	7
51	Personalised Travel Plans for key corridors	A method to encourage residents and businesses on A38, A419, A4135, B4066 to make more sustainable travel choices through the provision of information, incentives and motivation directly to individuals to help them voluntarily make more informed travel choices.	GLTP	Policy	other	7	7	7
69	New railway station to Bristol from Stonehouse	Direct link from Stonehouse onto Bristol-Birmingham Line	STW	Infrastructure	rail	7	6	7
79	Extension of bus services into new development sites	Extension of bus services into all new developments from first occupation	SPW	Connectivity	bus	7	7	7
80	Bus gate on Grove Lane	Bus gate to reduce flow of traffic on that link	SPW	Infrastructure	bus	6	7	7
81	Rapid Bus/coach service to Bristol	Limited stop service to Bristol from Sharpness, stopping at North Fringe, MOD, and city centre	SPW	Connectivity	bus	7	7	7
92	Free public Transport	Public transport without charge	STW	Cost	bus	7	6	7
93	Public transport should be at a reduced cost	Subsidised bus network to reduce cost of fares	STW	Cost	bus	7	6	7
94	Identify bus only priority routes to help force use of park and rides	Park and ride connected via bus-only routes to be more attractive to use	STW	Infrastructure	bus	7	6	7
95	Interchange hubs for multi-modal on onward travel		STW	Infrastructure	bus	5	8	7
170	New developments to have a standard bus stop infrastructure	Developments should be planned such that all bus stops are equipped with seating and a shelter	AECOM	Policy	bus	7	7	7
1	EV charging points at new developments	Charging points available for residents at new development sites	SPW	Policy	EV	6	5	6

No.	Intervention	Description	Source	Theme	Sub-theme	JR scoring	RA Scoring	Average scoring
2	Communal EV charging points for existing communities	Public charging points available in the district for existing residents	STW	Infrastructure	EV	6	6	6
7	Promotion of car share with benefits dedicated to car share users	Promotion of car share to public and businesses, with car share spaces closer to destinations as an incentive	STW	Cost	sustainable transport	6	5	6
56	Travel Information - RTI on social media/ app	Use of big data between road, rail information, car park availability, and bus information to allow travellers to make an instant decision on which network to use with the least delay.	AECOM	Technology	sustainable transport	6	6	6
67	Utilise rail line at Sharpness	Use of the existing freight line to connect Sharpness to Cam and Dursley station	STW	Connectivity	rail	7	5	6
71	Invest in new routes such as light rail	New light rail routes in the district to combat accessibility issues	STW	Infrastructure	rail	6	6	6
74	Rail Junction and Capacity improvements (dynamic loops) to rail lines	To enable more trains to operate and more stopping services, including possible new stations	CP	Infrastructure	rail	6	5	6
78	Bus turning Circle at Cam and Dursley station	Turning Circle to benefit bus routes	SPW	Infrastructure	bus	6	5	6
83	Improve customer service on public transport	Enable customers to feedback information to public transport providers	STW	Behaviour	bus	5	7	6
89	Bus scheme similar to a "Rural Uber"	Call a bus scheme	STW	Connectivity	bus	6	6	6
97	New Stroud/Stonehouse Bus Depot	New Stroud/Stonehouse Bus Depot	STW	Infrastructure	bus	7	5	6
114	Mixed used development at Sharpness would help to reduce demand for travel	Encourage mixed used development for a level of containment to reduce number of trips	STW	Infrastructure	development	6	6	6
150	A38 Interchange	An interchange on the A38 to allow travellers to switch easily between modes	SPW	Infrastructure	road	5	6	6
172	Parking Controls on streets of new developments	Restrictions to stop/ reduce on-street and pavement parking in new developments	AECOM	Behaviour	Parking	6	6	6
173	Major employment available within 30 minutes by public transport from new developments	Major employment available within 30 minutes by public transport from new developments	AECOM	Connectivity	sustainable transport	6	6	6
5	Develop standards for road markings for AV	Set new standards for road markings at roadworks so that AV can travel safely	AECOM	Technology	AV	5	4	5
8	Freight Gateway management system	On-line mapping portal to ensure HGVs are guided to the safest most appropriate routes and facilities.	GLTP	Technology	HGV	4	5	5
40	Focusing improvements along valley bottom and A38 e.g. widen roads and increase bus corridors	Focus improvements on the main arteries rather than connecting country roads	STW	Infrastructure	road	5	5	5
65	Closure of level crossings on Bristol, Birmingham line	Level crossing closure to improve safety for active travel users	SPW	Safety	rail	5	5	5
70	Opening of halts as central hub	preserving land for future rail stations and masterplanning a local centre around this	STW	Infrastructure	rail	4	5	5
76	Electrification of Bristol to Birmingham main line	Electrification to improve speeds and air quality on the line	GLTP	Infrastructure	rail	5	5	5
91	Prioritise a Park and Ride to Stonehouse and Stroud	Park and ride off M5 J13 to Stroud and Stonehouse	STW	Infrastructure	bus	7	3	5
151	Transport Hub at M5 J13		SPW	Infrastructure	road	5	5	5
159	20 mph zones	20mph zones across urban areas and new developments	CP	Safety	road	5	4	5
161	A419 corridor – possible dualling from Chipman's Platt Roundabout;	Dualling to allow a bus lane on the A419	SLP	Infrastructure	road	5	4	5
13	Engage with police and senior representatives to enforce HGVs and good driver behaviour e.g. speeding	Increase safety on road for all users	STW	Behaviour	HGV	4	4	4
18	Smart parking - pre booking of parking spaces	Pre-booking of parking spaces to avoid driving round to find a space, or to see if there are spaces available before the journey is made	AECOM	Technology	Parking	4	3	4

No.	Intervention	Description	Source	Theme	Sub-theme	JR scoring	RA Scoring	Average scoring
26	Collate high quality travel data to understand peoples movement	Greater database of movement data (cycle counts, pedestrian counts, junction counts, traffic counts)	STW	Behaviour	other	3	5	4
35	Congestions charges in towns and cities	Charge for vehicles entering towns and cities	STW	Cost	other	3	5	4
36	Invest in renewable energy in the county	All council owned buildings to use energy made from renewable sources	STW	Cost	other	3	5	4
46	Use of solar and battery technology alongside transport structures e.g. solar panels on car parks and alongside electric rails	Additional sources of renewable energy	STW	Technology	other	4	3	4
48	Feasibility Study to consider the role of Intelligent Transport Systems	A study into how the use of technology can improve the transport network	GLTP	Technology	other	4	4	4
66	Rail Halt at Whaddon	Land set aside for future rail station	SPW	Infrastructure	rail	4	4	4
101	Local Park and Ride facilities	Local Park and Ride sites around the district - feasibility study required to determine sites	STW	Infrastructure	bus	4	3	4
103	Strategic Park and Ride expansion at Waterwells, Gloucester	Additional car parking spaces at the Waterwells Park and Ride to capture trips from A38 to Gloucester	GLTP	Infrastructure	bus	4	4	4
149	A4135 - slow traffic and encourage other modes	Reduction of speed on A4135 to 30mph at existing 40mph sections coupled with road narrowing	SPW	Safety	road	4	4	4
152	Peak spreading of trips	Reducing the proportion of traffic in the most congested time period, with measures such car sharing, public transport incentives, encouraging businesses to allow working from home and flexible working	SPW	Behaviour	road	4	3	4
153	Peak time management at road junctions and rail services	Peak spreading of journeys to reduce pressure on the network, including working from home to reduce demand	STW	Connectivity	road	4	3	4
10	Deployment of non enforceable average speed cameras	To monitor speeds of HGVs	GLTP	Safety	HGV	2	3	3
11	HGV Highway Safety promotions	Ensuring HGVS and other road users are interacting safely	GLTP	Safety	HGV	3	3	3
22	Rationalisation of school catchments	Ensuring that children go to their nearest school where possible to minimise vehicle school trips and encourage active travel	SPW	Behaviour	other	3	3	3
24	Integration of County Transport Policy, Energy Policy, Industrial Policy and Health & Wellbeing	Integration of all policies for consistency	STW	Policy	Politics	2	4	3
30	Reduce provisions for developments which cannot demonstrate certainty about the delivery of a travel plan		STW	Communication	development	3	2	3
38	Build up economy to reduce out-commuting (money and skills) from Stroud	continue to work towards becoming a high-value economy	STW	Cost	other	3	3	3
52	Inverse Charging	Road charging scheme that charges more for shorter journeys	AECOM	Cost	other	3	3	3
53	CHARM control system	Improving traffic management integration through controlling traffic signals and exchanging data with local authorities	AECOM	Technology	other	3	2	3
9	On street parking management schemes	Scheme to restrict parking of HGVs in unsuitable locations	GLTP	Safety	HGV	2	2	2
54	Low emission zone in town centres	Pollution charging scheme to reduce emissions in town centres	AECOM	Environment	other	1	3	2
57	Decriminalisation	Allow council to enforce parking bans, speed limits	AECOM	Communication	other	2	2	2
98	Less polluting, and higher quality buses	Electric buses	STW	Infrastructure	bus	1	3	2
154	Introduction of a tax per mile for vehicles to discourage short-distance trips	Higher tax per mile for shorter distance journeys, compared to longer distance	STW	Cost	road	2	2	2

No.	Intervention	Description	Source	Theme	Sub-theme	JR scoring	RA Scoring	Average scoring
164	Ramp metering on junction	Controlling access onto M5 junctions during peak congestion in order to manage demand, reduce overall delay and improve safety	AECOM	Infrastructure	road	3	0	2
37	Increase petrol and diesel costs	Increase in fuel costs could discourage some trips	STW	Cost	other	1	1	1
115	Don't build at Berkeley as it is poor for buses and services access	Consider potential for sustainable transport options at Berkeley	STW	Infrastructure	development	2	0	1
19	Residents Parking Zones	Residents parking zones to reduce commuter/shopper parking in residential streets	AECOM	Safety	Parking	1	-1	0
160	Junction improvement A38 / B4066 junction including a new roundabout, Berkley	Junction improvement to benefit freight movement	GLTP	Infrastructure	road	0	-4	-2

Appendix C Package of Interventions

A38
Water taxi between Sharpness and Gloucester
Use of modal filters to benefit sustainable travel modes
Rapid bus/coach service to Bristol
Improved frequencies of bus services, improvements in bus stop infrastructure, and where appropriate, bus
Northern Metrobus extension
B4066 corridor improvements, Berkeley
Safety improvements for pedestrians and cyclists at Cross Keys Roundabout

A419/ B4008
Cycle Access improvements between Eastington and Nailsworth
Cycle Access improvements to National Cycle Route 45, Stroud
Cycle Access improvements for Cainscross roundabout, Stroud
Improved provision for pedestrians and cyclists on the A419 Ebley Road corridor
Improved frequencies of bus services on A419/B4008 between Stroud, Stonehouse and Gloucester, including improvements in bus stop infrastructure, and where appropriate, bus priority
A419 corridor – Chipman's Platt Roundabout upgrade;

A4135
Dedicated pedestrian and cycle provision at railway pinch-point
Improved pedestrian and cyclist access over A4135/Box Road junction
Increase in bus service frequency and bus stop infrastructure, with improved connections to Cam and Dursley railway station
Sustainable 'Spine' through Wisloe - Cam - Stroud - Dursley promoting high quality sustainable transport

Rail
Improvements to pedestrian, cyclist and bus access and facilities at Stroud station, investigating the potential for an integrated transport hub
Improvements to pedestrian, cyclist and bus access and facilities at Cam and Dursley Railway Station
Improvements to pedestrian, cyclist and bus access and facilities at Stonehouse Railway Station
Railway Station Travel Plans
Rail Junction and Capacity improvements (dynamic loops) to rail lines
A new railway station(s) south of Gloucester, north of Bristol
Utilisation of existing rail line at Sharpness for domestic travel
Closure of level crossings on Bristol, Birmingham line
Opening of halts as central hub in new developments, where applicable

Bus
New bus services connecting rural areas and shuttle buses for commuters
Extension of bus services into new development sites
Ongoing bus stop improvement programme
Real time bus information, readily available in one place
Continued roll out of multi operator bus Smartcard ticket

Active travel
Improvement of existing active travel infrastructure in the District as a result of active travel audits
Extension of Cam and Dursley Greenway
Improvements to Gloucester & Sharpness Canal towpath, including access
Cycle access improvements for Stroud town centre
Cycle access improvement Multi-Use Track - B4008 between Little Haresfield and Stonehouse
Strategic development sites to link into the cycling network, providing improvements where possible
Attractive, safe and direct active travel routes to local facilities and town centres
Pedestrian improvements to Market Street
Time-limited Pedestrianisation in towns
Hire Bike Scheme, including hire of e-bikes, for residents, schools/colleges and businesses
Cycle parking at key destinations
Free Cycle training for all ages and abilities

Behaviour/cultural Change
Travel Plan initiatives incorporated into residents welcome party
Personalised Travel Plans for key corridors and for residents in new developments
Shared space or 'drop the pace' campaign to reduce conflicts between pedestrians and cyclists
Daily walking clubs. Walks in small and large communities (and cycle clubs for different age groups)
Improve customer service on public transport
Promotion of car share with benefits dedicated to car share users
Encouraging the development of Last Mile delivery schemes (at suitable locations)
Ongoing support for Thinktravel branding, including positivity campaigning to promote public transport, active travel and road user awareness
Real Time travel information for all modes on social media/ app
High speed broadband, encouraging home/community working
Consult with communities, improving opportunities for partnership working
Business engagement with Gloucestershire County Council to promote and encourage active travel

Enabler (includes strategy)
Active Travel (Walking and cycling) Strategy for Stroud District, including maintenance, signage, safety and suggested infrastructure improvements
Political Will to prioritise development in sustainable travel modes
Planning policy to promote connectivity and modal shift
Increase and ring-fence funding for sustainable transport
Prioritise the allocation of highway land to active travel users rather than motorised vehicles, purchasing additional land where required
Neighbourhood enforcement to stop pavement parking
New junction design to be consistent
All developments should have mandatory provision infrastructure for active travel and EV charging points, following guidance provided by SDC
New developments to have walkable distances to bus stops and rail stations
Major employment available within 30 minutes by public transport from new developments
Interchange hubs for multi-modal onward travel
EV fleet for public and private organisations
Reduce cost of public transport fares
Restriction of parking in town centres
Cycle racks for buses

Appendix D Amended Local Plan Policy Text

Technical Note

Project:	**Sustainable Transport Strategy, Stroud**	Job No:	**60598598**
Subject:	**Local Plan Policy – Review and Proposed Amends**		
Prepared by:	[redacted]	Date:	**08/10/2019**
Checked by:		Date:	**09/10/2019**
Approved by:		Date	**10/10/2019**

Introduction

This Technical Note sets out AECOM's proposed amendments to Local Plan Policy as part of the Sustainable Transport Strategy (STS). It directly copies existing Local Plan 2015 planning policies and highlights additions in yellow, and deletions in ~~strikethrough~~.

Core Policy CP13
Demand Management and Sustainable Transport Measures

Proposals for major schemes, as defined by the Town and Country Planning (Development Management procedure) (England) Order 2010, will be supported where they:

1. Provide for a variety of forms of transport as alternatives to the car to allow more sustainable choices
2. Improve the existing infrastructure network, including road, rail and bus, facilities for pedestrians and cyclists, including provision for those with reduced mobility, and other users
3. Mitigate any significant adverse effects upon the transport network that arise from the development proposed.

In all development cases, schemes shall:

i) be located where there are, or will be, at the time of development, choices in the mode of transport available and which minimise the distance people need to travel
ii) provide appropriate vehicular parking, having regard to car ownership and the Council's adopted standards
iii) not be detrimental to and, where possible, enhance road safety; and
iv) not cause or contribute to significant highway problems or lead to traffic related environmental problems.

Development proposals shall be consistent with and contribute to the implementation of the agreed transport strategy, set out in the Gloucestershire Local Transport Plan and Stroud Sustainable Transport Strategy. Any transport assessment needs will be consistent with the requirements set out in the Gloucestershire Local Transport Plan or the relevant Government guidance and regulations.

Delivery Policy EI12
Promoting transport choice and accessibility

Sustainability through design

All developments should be planned in line with the Sustainable Transport Hierarchy. In the first instance, opportunities to reduce the need to travel should be maximised, including through the provision of ancillary facilities on-site and through measures which enable people to work from home, such as high speed broadband. Development should be located in areas which are already well served by public transport and have access to a range of local facilities within walking and cycling distance. Masterplans should be designed to prioritise active travel modes, including emerging mobility options such as e-bikes and e-scooters, over private car usage. Residential streets should be designed to a 20mph speed limit to enhance pedestrian and cycle safety.

Bus permeability and associated facilities should be incorporated into development proposals, where appropriate, and pedestrian facilities should be provided to ensure people can access bus services, either on or off-site. Shared mobility opportunities should be explored and accommodated through design, with the aim of reducing car ownership whilst maintaining personal mobility.

Delivering Transport Infrastructure

Where appropriate, new developments will be required to connect into the surrounding infrastructure and contribute towards new or improved walking, cycling and rail facilities within the District and the provision of an integrated public transport network across the District. Walking, cycling and public transport facilities will be required to be put in place as early as possible in development proposals to ensure that opportunities for sustainable travel are available to support early occupiers in establishing sustainable travel patterns.

Developers must take account of the proposals included within Stroud Infrastructure Delivery Plan, the Stroud Sustainable Transport Strategy, and the Gloucestershire Local Transport Plan. In appropriate circumstances, new development will be required to contribute towards these schemes. Contributions, where reasonable and viable, will be sought towards these strategic transport infrastructure schemes from major development proposals throughout the plan period. Proposals which are likely to prejudice the future development of strategic transport infrastructure will not be permitted.

Enhancing Accessibility

All development proposals should have full regard to the transport~~affic~~ impact on the local and strategic ~~highway~~transport network. Major development proposals, or those that are likely to have a significant impact on the local and/or strategic transport network, will be required to submit a Transport Assessment as well as a Travel Plan, to demonstrate that they have fully considered safe and suitable access by all modes of transport.

The Transport Assessment will be required to establish the transport impact of the development proposals in the absence of mitigation. Where a severe impact is identified, mitigation will be required. Mitigation should be proposed in line with the sustainable transport hierarchy, with measures to reduce car trips through demand management viewed favourably. Measures which increase traffic capacity should not be seen as the default mitigation mechanism and will be accepted only where residual traffic impact remains severe, or where there is a risk to safety, after sustainable transport mitigation measures have been accounted for.

The Travel Plan shall set out targets and measures for addressing travel demand through a package of measures. This will include maximising accessibility by sustainable transport modes, minimising traffic generation and mitigating the effects of additional traffic through a package of multi-modal measures which minimise the distance people have to travel. Travel Plans will be expected to include the offer of Personalised Travel Planning to all residents or users of proposed development. Any planning permission will require full implementation of the Travel Plan.

Parking Standards

Vehicular parking standards and principles for new development should be provided in accordance with adopted standards, as set out in **Appendix 2** of this Local Plan. This includes a requirement for~~, or where~~ the developer to~~can~~ adequately justify their own parking provision with evidence accompanying any planning application. Evidence will need to demonstrate that the level would not have a detrimental impact on the local road network.

New Policy:
District Wide Mode-Specific Strategies

Stroud District Council will work with key partners including Gloucestershire County Council and Highways England to develop District-wide strategies to enhance sustainable travel opportunities for all. This will integrate with patterns of growth coming forward in the District, as well as establishing conditions for existing movement patterns to be accommodated in as sustainable a way possible. Strategies will include:

- District-Wide Walking and Cycling Strategy: To identify and accommodate both local and strategic movement patterns and opportunities, and prioritise investment in improvement

schemes to create a connected network. This Strategy should take account of technology such as e-bikes, providing opportunities for longer distance cycling to become available for a wider range of people, and plan for investment accordingly. The Walking and Cycling Strategy should inform Highways Maintenance programmes, as carriageway in a poor state of repair can disproportionately impact on cyclists.

- Shared Mobility Strategy: Establish a Shared Mobility Strategy with a goal of enabling a transition to a shared mobility transport system. The strategy should support a shift to reduce individual vehicle ownership and stimulate shared access of a cleaner, lower carbon, vehicle fleet and other sustainable transport options.
- Interchange Strategy: Opportunities may exist for a range of Interchange Hubs to be established on the edge of settlements and/or at strategic road connections, such as M5 Junctions and where the A38 meets distributor roads such as the A4135. Interchange Hubs would need to offer seamless multi-modal connectivity, facilitated by technology. Opportunities to develop such Interchange Hubs into Strategic Sites should be considered, although the relative merits of each option would need to be considered on a site-specific basis and in consultation with Highways England and Gloucestershire County Council. Interchange and Shared Mobility Strategies should be integrated.
- District-Wide Parking Strategy: This should consider both the charging and availability of public parking across the District. The primary objective should be to use parking as a policy lever to discourage car trips where viable sustainable alternatives exist. However, the strategy will need to recognise the rural context of parts of the District and the disparity in availability of sustainable alternatives across the District. The Strategy should consider all available tools, including parking charges, supply of off-street parking, and control of on-street parking. The Parking Strategy should extend to consider the impact of pavement parking on vulnerable pedestrians. This should include potential solutions to address this problem, including the use of Traffic Regulation Orders to enable enforcement by Local Authority.
- Public Transport~~Bus~~ Corridor Strategy: This Strategy will identify and prioritise express bus corridors to deliver direct and attractive, limited stop services to key destinations, including rail stations. It should propose a programme of measures to include high frequency bus services, bus stop locations to tie into population centres and form focal points for rural area, and bus priority measures where necessary. Pump-prime funding for these measures will be sought from developer contributions. These corridors will provide an express movement function designed to be attractive in comparison with private car use for the same journey. The corridors would integrate with interchange hubs, and link with more local bus services and community transport.

Appendix 2 Parking Standards for Vehicles and Cycles

Vehicle parking:

~~1. The standards relate to uses defined in the Town and Country Planning (Use Classes Order) 1987.~~

~~2. For any use not included in the standards below,~~ 1. General vehicle parking standards for Planning Use Classes are not specified by the SDC Local Plan. The number of parking spaces will be a matter for negotiation and assessed according to individual circumstances. ~~The standards represent SDC's Policy position for parking levels for developments. Where a departure from Policy is sought,~~ the proposed provision will need to be demonstrated to be suitable based on the following

- The accessibility of the development.
- The type, mix and use of the development.
- The availability of and opportunities for public transport.
- Local car ownership levels; and
- The need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.

2. Opportunities to improve the sustainable accessibility of the site, and for shared mobility solutions to reduce local car ownership, will be prioritised ahead of provision of parking ~~above Policy levels~~ as measures to accommodate travel demand for new development. Provision of excessive parking levels at new development will not be supported due to the risk of encouraging unnecessary car travel where viable sustainable alternatives exist.

~~3. All standards are based on gross floor area by external measurement unless stated to the contrary.~~
3. All car parking spaces (except disabled) shall be a minimum of 2.4m x 4.8m, with a minimum aisle width of 6m.
4. When required, lorry parking spaces will range between 13.5m x 6.3m to 17.5m x 7.4m depending on the types of vehicles anticipated.
5. Parking levels for ~~M~~mixed use developments ~~w~~will be assessed as a sum of the parking requirements of the individual elements of the scheme ~~based on the standards~~, with consideration of the potential for linked trips, i.e. one trip accessing two or more parts of the development, to reduce the overall parking demand.
This also applies to ancillary uses such as an office use within an industrial development, or a bar open to non-residents within a hotel.
6. Parking Management Plans will be required for mixed use developments to demonstrate how the parking resource will be managed across the whole site to ensure that excess levels of parking are not available to an individual land use which could provide an incentive for private car use over sustainable travel. An appropriate balance will be sought between unallocated and allocated parking with the aim of minimising the level of parking required for the development overall.
7. The requirement to provide appropriate levels of parking apply ~~standards apply~~ to new developments or extensions and to changes of use. When considering an extension to an existing use the opportunity to ~~for~~ reduce ~~d operational minimum~~ parking levels ~~standards~~ will be considered.
8. For residential development the allocated parking spaces shall be provided within easy walking distance of the dwellings they intend to serve.
~~9The abbreviation FTE means 'full time equivalent' where used in these standards.~~

Disabled car parking bays:

(a) Disabled parking bays (dpb) should be provided in relation to publicly accessed parking at a ratio of 1 dpb per 10 conventional parking bays.
(b) Disabled parking bays should be large enough to facilitate access by wheelchair users, i.e. 3.6m x 4.8m, especially in public car parks. Only where space is limited will a smaller space (minimum 3.0m x 4.8m) or two adjoining spaces (of 2.4m x 4.8m each with a shared space between of 1.2m) be acceptable. A standard of 2.4m x 4.8m can be provided where the long side is left open for access.
(c) The disabled car parking bays should be located close to an entrance to the building, with the route from the space to the building capable of use by a disabled person. This may require the provision of ramps (maximum gradient 1:20) and convenient handrails.
(d) For pedestrian areas, bays should be within 50m of the destination.
(e) Each bay should have a zone for transfer from car to wheelchair.
(f) Each transfer zone should either serve two bays or be positioned in the corner of a parking area to avoid abuse by other drivers.
(g) Bays and transfer zones should be clearly marked and should display the British Standard "Disabled" symbol, both on the road surface and on a discreet, but clearly visible, signpost or wall.
(h) The bay should be level, without camber or flanking upstand kerbs.
(i) No bay, or access to it, should be so restricted in height as to make it inaccessible for cars carrying wheelchairs on roof racks.

Ultra Low Emissions Vehicles (ULEV)

The Office of Low Emissions Vehicles started a consultation in July 2019 on policies for electric charging points for residential and non-residential properties. At the time of writing, these policies are not adopted by the Government. Stroud District Council seeks to maximise opportunities to secure ULEV infrastructure through planning policy to assist meeting carbon neutrality objectives. ULEV policy will be whichever is the greater requirement of adopted government policy, or:

- Every new **residential** building with an associated car parking space will have a chargepoint. This also applies to buildings undergoing a material change of use to create a dwelling.

- Every **residential** building undergoing major renovation with more than 10 car parking spaces to have cable routes for electric vehicle chargepoints in every car parking space.
- Every new **non-residential** building and every **non-residential** building undergoing major renovation with more than 10 car parking spaces to have one chargepoint and cable routes for an electric vehicle chargepoint for one in five spaces.
- Every existing **non-residential** building with more than 20 car parking spaces should have at least one chargepoint from 2025

To be classified as a chargepoint for the purpose of policy compliance, each chargepoint must be a minimum 7kW and be at least Mode 3 or equivalent. It is recognised that innovations are coming to market that use different types of chargers and charging speeds, such as wireless and ultra-rapid charging, although these are unlikely to be used in residential settings. Policy specifically allows for equivalence with Mode 3 chargepoints to allow for future innovation to not be excluded where it provides an equal or better facility.

Cycle parking:

A minimum of 2 cycle parking spaces must be provided at any new non-residential development, however small. Transport Assessments will need to demonstrate that levels of cycle parking are appropriate to the development being proposed.
In addition to the required level of parking provision (which should be under cover and secure), strategically significant developments (i.e. those included in Table A) should also provide showers and lockers for cyclists.
The Council may also seek shower and/or locker facilities in other developments that generate large numbers of employees.
In town centres developers have the option of paying commuted sums in lieu of the required provision, for public cycle parking to be provided by the District Council, although there must be a demonstrable solution to the required level of spaces being provided prior to grant of planning permission.
The location of cycle stands shall be as close as possible to the destination served, in secure positions or open positions where surveillance by staff or the general public is a deterrent to theft. At any site where 10 or more spaces are provided, the stands should be located under cover, be lit and appropriately signed. The detailed design and lighting of such facilities must have regard to the locality and to the proposed development. In residential development garages and rear garden space (for sheds etc.,) will be acceptable as cycle storage provision. In flats developments secure communal space should be provided. Where, due to specific circumstances, e.g. small development, access restrictions etc., the amount of car parking is reduced or waived, no reduction shall be made in the number of cycle spaces to be provided.

Table A:

Car parking standards for strategically significant land uses

This table will be deleted.

Table B:

Car parking standards for other land uses

This table will be deleted.

Table C:

Minimum cycle and motorcycle parking standards

This table will be retained.

Land Use	Car parking
A1 Food retail	1/60 sq m
A1 Non-food retail	1/120 sq m
A2 Professional services	1/166 sq m
A3 Public House/Restaurant	1/26 sq m
B1 (a) and (b) Office and R&D	1/166 sq m
B1 (c) /B2 Industrial	1/330 sq m
B8 Warehousing/distribution	1/330 sq m
C1 Hotel	0.15/employee
C1 Hostel	0.15/employee
C2 Hospital	0.15/employee
C2 Nursing Home	0.15/employee
C2 Boarding School	0.15/employee + 0.15/student
C3 Dwelling houses/flats	1/dwelling
C3 Sheltered Housing	0.15/employee
D1 Doctor's/Vet's Surgery/Health Centre	0.15/employee
D1 School/Crèche/Day Centre	0.15/employee + 0.15/student
D1 Higher/Further Education	0.15/employee + 0.15/student
D1 Art Gallery, museum, library	1/300 sq m public area + 0.15/employee
D1 Public Hall/Place of Worship	1/20 seats or 1/26 sq m
D2 Cinema, Concert Hall, Night Club	1/20 seats or 1/26 sq m
D2 Leisure/Sports Centre/Fitness Club	1/66 sq m

Definitions:

- Floorspace figures (in sq m) refer to Gross Floor Area.
- Employees refers to the total of full-time equivalent employees, e.g. a person employed half-time would count as 0.5.

[redacted]
Associate Director
E: chris.carter@aecom.com

AECOM Limited
3rd Floor, Portwall Place
Portwall Lane
Bristol BS1 6NA
United Kingdom