

Stroud Sustainable Transport Strategy Addendum

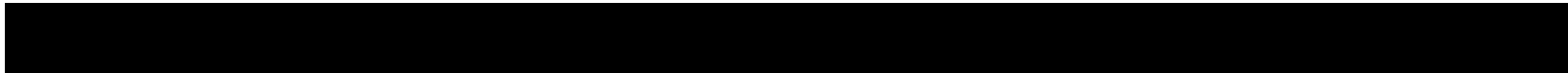
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Prepared for:

Stroud District Council

Prepared by:

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

T: +44 117 901 7000
aecom.com

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1. Introduction

Background

- 1.1 This Sustainable Transport Strategy (STS) has been developed to form part of the evidence base for Stroud District Council's (SDC) Local Plan Review. The 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.
- 1.2 This STS addendum has been produced to provide an update to the original STS document produced in 2019, with a minor update in 2021 to include modelling results only. Since the publication of this document, there have been various changes to the policy and guidance framework, changes to the certainty surrounding sustainable transport interventions, and new transport interventions have emerged. The SDC Local Plan has also been updated, to include additional site allocations, revisions to previous site allocations and also removes some allocations. These changes have been captured in this STS addendum.

Overview of STS

- 1.3 The STS provides an important opportunity to tackle issues such as climate change, congestion, accessibility, air quality, public health and safety whilst supporting the District in delivering mobility for inclusive growth. 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.

STS Vision and Objectives

- 1.4 The STS is informed by a vision and objectives which have been developed through consultation with stakeholders. The vision of the STS is:

"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."

- 1.5 The objectives of the STS are as follows:

- Improve community health and wellbeing by promoting and prioritising active travel modes;
- Improve accessibility and connectivity via sustainable mode choices;
- Promote a sustainable travel hierarchy which prioritises sustainable modes and reduces the need travel;
- Protect and extend existing active travel infrastructure;
- Improve the safety of people travelling around the district, in particular pedestrians, cyclists and public transport users;
- Support sustainable economic activity; and
- Encourage innovative and technological mobility solutions to support the Council's ambition to become carbon neutral by 2030.

Structure of the STS Addendum

1.6 The remainder of the STS Addendum report includes the following sections:

- **Section 2: Updated Policy, Strategy and Guidance Review** – summarises the key policy, strategy and guidance documents relevant to the STS which have been updated or emerged since the publication of the STS in 2019. This includes the revised Gloucestershire Local Transport Plan (GLTP4).
- **Section 3: Local Plan Update** – summarises the changes to the SDC Local Plan since the publication of the STS. There have been material changes to the development allocations across the District.
- **Section 4: Additional Interventions** – outlines the additional interventions identified for the STS. The interventions are considered in relation to mode, movement corridor and strategic sites.
- **Section 5: Effects of STS Measures** – provides an overview of the changes to the assessment framework to include the additional interventions and other reductions in traffic for a revised STS modelling scenario.

2. Updated Policy, Strategy and Guidance Review

Introduction

- 2.1 The STS included a review of existing and emerging planning and transport policy and guidance, identifying relevant measures for inclusion in the long list of interventions.
- 2.2 Since the publication of the STS in 2019, a number of policies have been revised and new strategy documents have been published. These have been summarised in this section of the STS addendum with regard to their impact upon the STS for the emerging SDC Local Plan.

National Policy

Gear Change: A Bold Vision for Cycling and Walking, 2021

- 2.3 The UK Government’s ‘Gear Change’ strategy sets out the actions required at all levels of government to make England a great walking and cycling nation. Actions set out in this strategy are grouped under four themes, which are set out in **Table 2-1**.

Table 2-1: Gear Change Actions

Theme	Action
Better streets for cycling and people	<ul style="list-style-type: none"> • To create cycle, bus and walking corridors, closing a limited number of main roads to through traffic except for buses and access. • To reduce rat-running and increase the number of low-traffic neighbourhoods. • To increase the number of “school streets” to protect children • To create more “Mini-Hollands”. • To create at least one zero-emission city. • To improve the National Cycle Network. • To set much higher standards.

Theme	Action
Putting cycling and walking at the heart of transport, place-making, and health policy	<ul style="list-style-type: none"> • To significantly increase spending. • To create a long-term cycling and walking programme and budget, like the roads programme and budget. • To ensure that new local and strategic A-road schemes include appropriate provision for cycling. • To ensure that the tools which assess transport schemes’ value-for-money give fair weight to the broader benefits of cycling schemes. • To make sure railways align better with cyclists needs. • To carry bikes on more bus routes. • To increase cycle parking and ensure that it is provided where needed. • To ensure that all new housing and business developments are built around making sustainable travel, including cycling and walking, the first choice for journeys. • To conduct a series of national urban road audits to help inform future allocation of road space. • To promote cycling for the carriage of freight, and work to reduce unnecessary motorised freight and servicing traffic.
Empowering and encouraging local authorities	<ul style="list-style-type: none"> • To significantly increase funding for local authorities. • To significantly improve capacity and assistance for local authorities. • To provide new powers for local authorities. • To only fund schemes which meet the new standards. • To enforce time limits for the delivery of schemes. • To establish a new funding body and inspectorate to enforce the standards and time limits and raise overall performance. • To enable Active Travel England’s assessment of an authority’s performance on active travel to influence the funding it receives for other forms of transport. • To eliminate the “one size fits all” approach.
We will enable people to cycle and protect them when they cycle	<ul style="list-style-type: none"> • To ensure that every adult and child, who wants to, can be trained how to safely ride a cycle. • To work more closely with the NHS, incentivising GPs to prescribe cycling and building cycle facilities in towns with poor health. • To do more to combat bike theft. • To make legal changes to protect vulnerable road users. • To consult on updates to The Highway Code to strengthen and improve safety for all road users. • To mandate higher safety standards on lorries. • To establish a national electrically assisted bike support programme.

Local Transport Note (LTN) 120 Cycle Infrastructure Design

- 2.4 The Gear Change strategy is supported by Local Transport Note 1/20 (LTN 1/20) 'Cycle Infrastructure Design' which provides guidance as to the design and implementation of cycle infrastructure. LTN 1/20 outlines five 'Core Principles' for cycling infrastructure, which states that cycle networks and routes should be Coherent, Direct, Safe, Comfortable and Attractive. The core principles are supported by 22 summary principles.
- 2.5 The implementation of active travel infrastructure as outlined in the STS and this STS addendum must be delivered in accordance with the principles and design guidance outlined in Gear Change and LTN 1/20.

Decarbonising Transport: A Better, Greener Britain (Department for Transport), 2021

- 2.6 Decarbonising Transport sets out the UK Government's plan to decarbonise transport and achieve net zero emissions from all transport modes by 2050.
- 2.1 The report outlines six strategic priorities as outlined in the 'Decarbonising Transport: Setting the Challenge' published in 2020.
- **Accelerating modal shift to public and active transport:**
 - Public Transport and active travel will be the natural first choice for our daily activities;
 - We will have a cohesive, widely available, net zero public transport network designed for the passenger; and
 - We will use our cars differently and less often, with new technology helping to reduce our carbon footprint.
 - **Decarbonisation Road Transport:**
 - We will phase out all new non zero emission road vehicles from, from motorbikes to HGVs by 2040;
 - Delivered by a world leading regulatory framework and support packages, leading the global race to zero emission road transport; and

- We will ensure infrastructure will not be a barrier to the zero emission transition.
- **Decarbonising how we get our goods:**
 - We will decarbonise our freight system, pioneering new zero emission technologies with mass scale demonstrators for HGVs;
 - Increasing amount of freight will shift from road and air to more sustainable modes, with digital solutions and data sharing optimising efficiency; and
 - The last mile will be decarbonised, and places will have the logistics solutions best suited to their specific needs.
- **UK as a hub for green transport technology and innovation:**
 - We will lead the modern industrial revolution through UK transport, becoming the internationally recognised leader in green technology, innovation, science and research; and
 - We will harness the opportunities from green innovation and technology to drive UK productivity growth and create new jobs.
- **Place-based solutions:**
 - By 2050 every place in the UK will have its own net zero transport network;
 - We will reform the way local transport infrastructure is funded to drive decarbonisation at a local level; and
 - All places will have the ability to take bold action to decarbonise transport, to radically change how people travel and level up the UK.
- **Reducing carbon in a global economy:**
 - UK aviation will meet net zero by 2040 and UK shipping by 2050;
 - We will ensure the impact of aviation on the environment is significantly reduced and by 2050, zero emission ships will be commonplace globally; and
 - We will continue to lead international ambition, cooperation and collaboration.

Bus Back Better (DfT), 2021

- 2.2 'Bus Back Better' sets out a vision for the future of bus provision within the UK, with respect to the effects of the COVID-19 pandemic. The strategy includes long-term national funding commitments in order to increase bus patronage, with an initial aim to return to pre-pandemic usage and ultimately to exceed it.
- 2.3 The strategy sets out key areas for improvement, including improved frequency and reliability, better co-ordination, greener infrastructure, and lower fares. A £3billion investment for bus services outside of London was announced in February 2020, and will initially be invested in:
- Supporting new and increased services;
 - Bus priority schemes to speed up journeys, with the first schemes delivered in 2021/22; and
 - Accelerating the delivery of zero emission buses.
- 2.4 To encourage the modal shift back towards public transport, the strategy stresses the importance of Local Transport Authorities (LTAs) working with the Government and bus operators in order to prioritise implementation of two key policies:
- The expectation that LTAs will install bus lanes (subject to consultation with local residents and firms) in areas where there is frequent bus service, congestion, and the physical space for installation, alongside measures to convert part-time bus lanes to 24-hour operation.
 - The introduction of targeted fare cuts (working alongside the DfT).
- 2.5 The Strategy required LTAs to publish their own Bus Service Improvement Plans (BSIPs) by the end of October 2021, detailing how they proposed to use their powers to improve bus services, with decisions made over whether to progress an Enhanced Partnership solution or Franchising.

Local Policy

Gloucestershire Bus Service Improvement Plan (BSIP), 2021

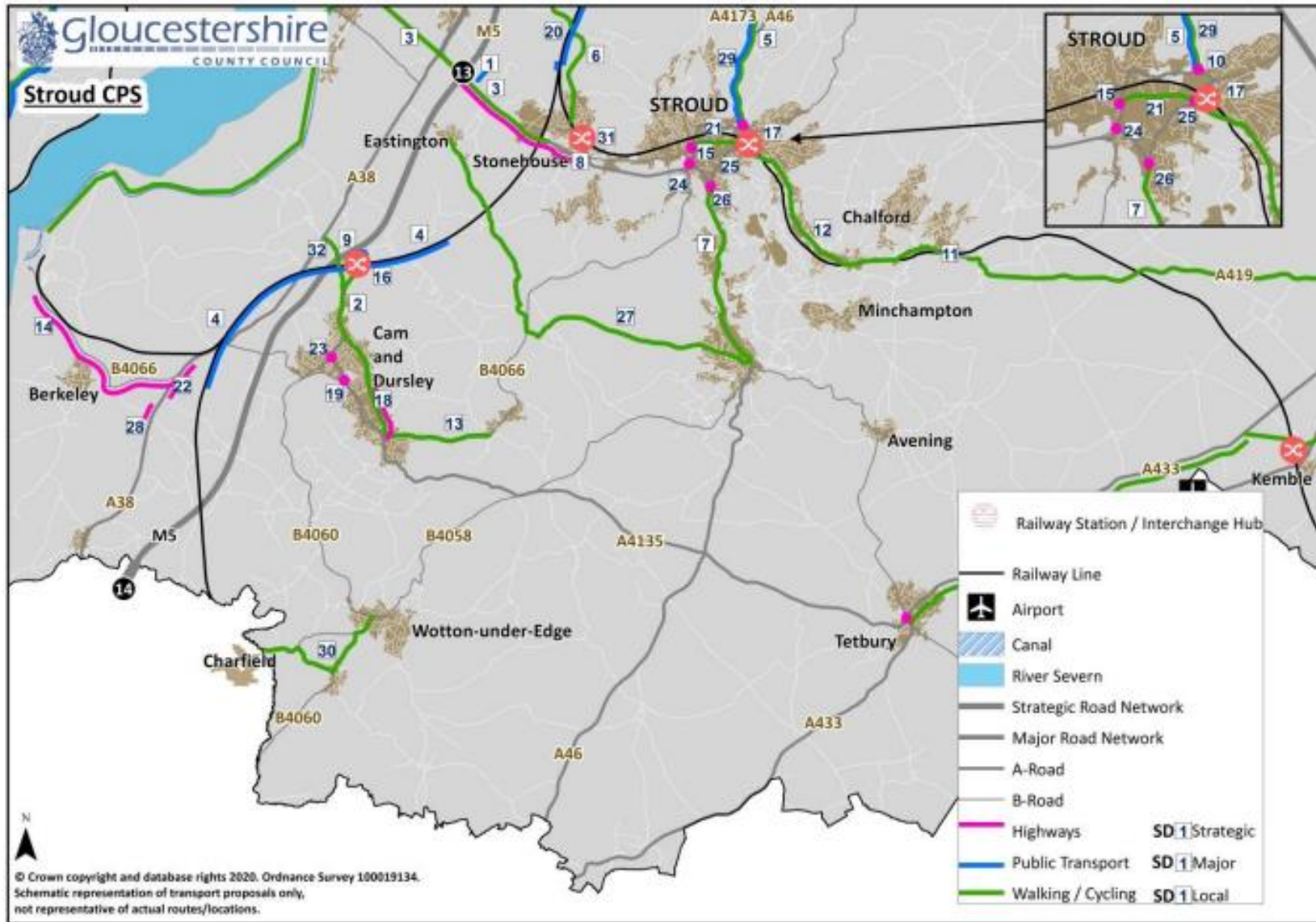
- 2.6 Following requirements set out in Bus Back Better, GCC developed their own BSIP in order to set out a vision for how and why local services should be improved. Focusing on an overall ambition for bus travel to become the de-facto choice for all transport requirements, the plan aims to ensure equity of access to education, employment, and training, as well as to services and facilities.
- 2.7 Improved integration with other transport modes is central to the plan, in particular providing links to key railway stations. This is a key intervention for a number of SDC Local Plan Allocations as outlined in the STS and STS addendum.
- 2.8 A number of key transport corridors have been identified to support expansion of the "Express Bus" network. These include:
- Gloucester to Cheltenham: Including Quedgeley, Kingsway, new developments including Hunts Grove, and reviews of intersections such as Cross Keys Roundabout; and
 - Stroud and Stonehouse: Including Merrywalks, links to Stroud and Stonehouse stations, and the A419 routes to and from Stonehouse / Gloucester. This is a separate bus corridor to that considered for the A4173 later in this STS Addendum.

Gloucestershire Local Transport Plan 4 (2020 - 2041)

- 2.9 Gloucestershire's Local Transport Plan 4 (GLTP4) sets out the long-term strategy for transport across the region up to 2041. The strategy aims to optimise the existing transport network, support innovation and low carbon infrastructure.

- 2.10 The focus of the GLTP4 is towards an ambition for transformative new public transport infrastructure, bringing different sustainable transport modes together at Transport Interchange Hubs, to improve travel connections. Investment will be targeted at improving the attractiveness of cycle links, encouraging active travel, and improved integration of strategic land use, infrastructure and transport planning.
- 2.11 The report sets out Gloucestershire's vision for transport to be:
- 'A resilient transport network that enables sustainable economic growth by providing travel choices for all, making Gloucestershire a better place to live, work, and visit'*
- This vision reinforces the importance of journey time reliability, travel choice and improved accessibility to transport for all. Four key objectives support and guide work towards this vision:
- Protect and enhance the natural and built environment;
 - Support sustainable economic growth;
 - Enable safe and affordable community connectivity; and
 - Improve community health and wellbeing and promote equality of opportunity.
- 2.12 The GLTP4 is structured around six 'Connecting Place Strategies' (CPS). Each CPS area sets out priorities based on strategic, major and local schemes. As such, LTP schemes represent the transport priorities for Gloucestershire, rather than a funding commitment.
- 2.13 CPS5 represents the strategy for the Stroud District, setting out the key priorities for the transport network in the area up to 2031. This represents transport schemes to be implemented broadly during the first half of the emerging SDC Local Plan period.
- 2.14 Central to these priorities is a desire to maximise the potential of the rail stations in the district, providing opportunities for sustainable travel to key urban areas within the county and on a regional and national level. Other areas to note include improvements to capacity and safety constraints at Junction 12 of the M5, and the creation of interchange hubs to capture inbound traffic direct from the Strategic Road Network (SRN). Continued expansion of the active travel network will help to provide missing links between these hubs and key stations.
- 2.15 An outline map of key GLTP4 schemes across Stroud district is provided at **Figure 2-1**.
- 2.16 The STS was originally produced prior to the publication of GLTP4, although it was drafted in close consultation with GCC, and therefore the new LTP has been reviewed to identify new interventions for consideration alongside the emerging SDC Local Plan which have not previously been considered in the STS. These include a range of sustainable and highways improvement measures, as outlined in **Table 2-2**. The relevant additional sustainable travel schemes identified have been considered further as part of this STS addendum.

Figure 2-1: Stroud CPS5 Scheme Map (reflecting schemes up to 2031)



Source: Gloucestershire Local Transport Plan 4

Table 2-2: Interventions to be included in STS Addendum

Ref	Type	Description	Funding Status
CSV 7	Public Transport (Bus)	Strategic Park & Interchange hub scheme for M5 J12	Still Required
SD 5	Public Transport (Bus)	Bus stop and bus advantage improvements for Stroud – Gloucester Corridor	Still Required
SD 10	Highway Scheme	Highway Improvement – Merrywalks	Still Required
SD 11	Active Travel (Walking / Cycling)	Cycle access improvements Chalford and Cirencester	Still Required
SD 12	Active Travel (Walking / Cycling)	Cycle access improvements Stroud and Chalford	Still Required
SD 18	Highway Scheme	Highway improvements Dursley Relief Road	Still Required
SD 19	Highway Scheme	Junction improvement - A4135 / B4066 Dursley Road roundabout, Dursley	Still Required
SD 23	Highway Scheme	Junction improvement - A4135 / B4060, Woodfield roundabout, Dursley	Still Required
SD 25	Highway Scheme	Junction improvement - A419 / Dr Newton's Way, Stroud	Still Required
SD 26	Highway Scheme	Junction improvement A46 / Bath Road (Dudbridge Road)	Still Required
SD 27	Active Travel (Walking / Cycling)	Cycle access improvements between Eastington and Nailsworth	Still Required
SD 29	Active Travel (Walking / Cycling)	Cycle access improvements to Stroud Road, Gloucester - Stroud Corridor	Still Required
SD 30	Active Travel (Walking / Cycling)	Creation of an Active Travel Route between Wotton-Under-Edge, Charfield	Still Required
SD 20	Public Transport (Rail)	A new railway station(s) south of Gloucester, north of Bristol	Still Required

3. Update to the Local Plan

Introduction

- 3.1 The current Stroud District Local Plan was adopted in November 2015 and outlines the agreed development strategy across the district up to 2031.
- 3.2 SDC commenced with the latest Local Plan Review in 2017, with a 'Draft Plan for Consultation' published in November 2019 and a 'Pre-Submission Draft Plan' published in May 2021. The Local Plan Review is currently progressed to the Examination in Public (EiP) stage. The 2019 draft included interim and developing policies, including in relation to sustainable travel. These have been fully developed in the latest version (2021).

Stroud Local Plan Updates

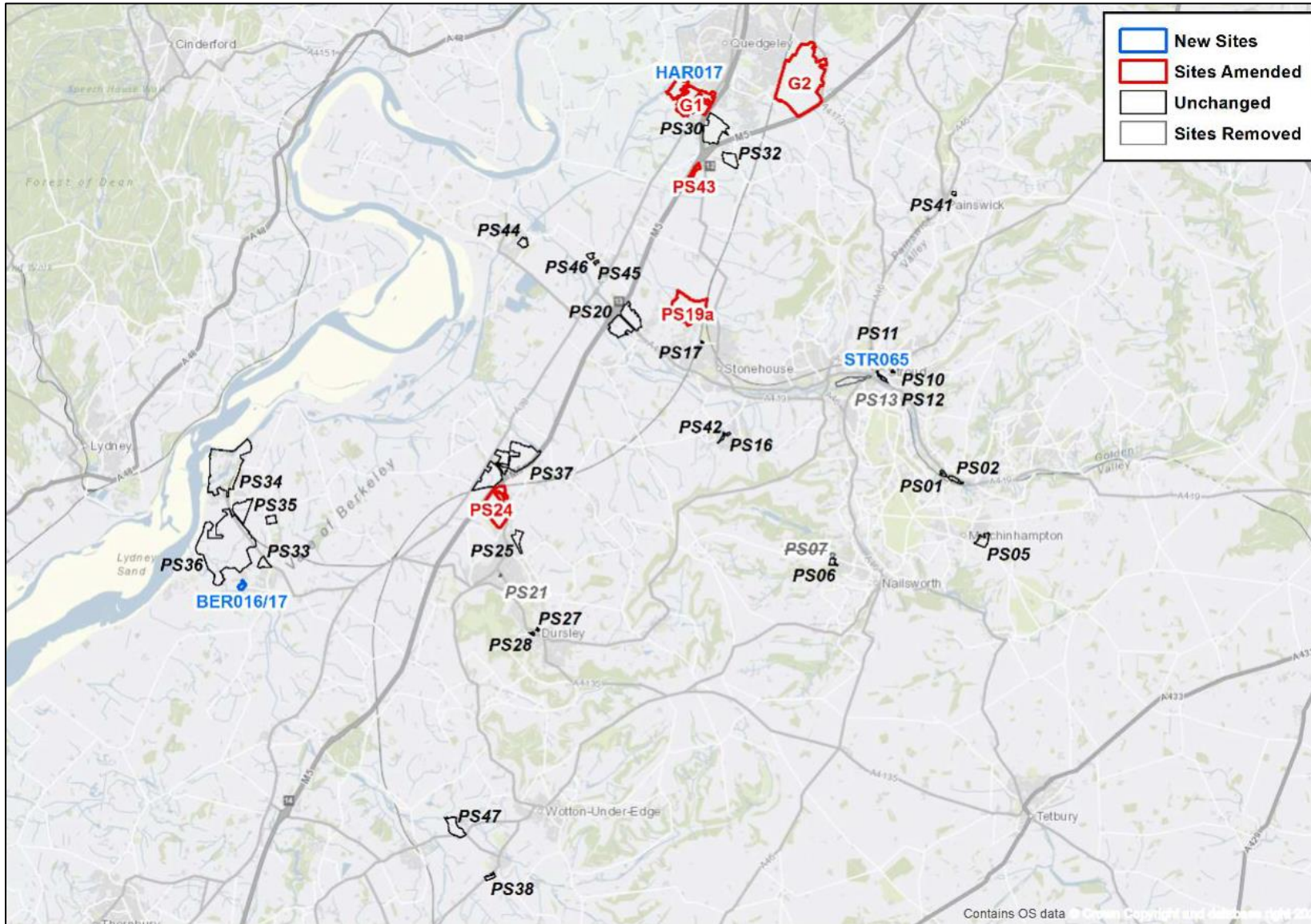
- 3.3 Since the publication of the original STS in 2019, the Local Plan has been updated with regards to proposed site allocations. Whilst most allocations remain unchanged from the 2019 Draft Plan, the Allocated development quantum has been revised at five sites, three new sites have been added to the Local Plan, and a further three sites have been removed from the Local Plan allocations. These changes are summarised in **Table 3-1**. The locations of affected site are shown in **Figure 3-1**.
- 3.4 The most significant changes to previous Local Plan allocations, in terms of overall scale are as follows:
 - Javelin Park (PS43): increase from 9ha to 27ha (+200%);
 - Land at Whaddon (G2): increase from 2,500 dwelling to 3,000 dwellings (+20%);
 - West of Draycott (PS24): increase from 700 dwelling to 900 dwellings (+29%); and
 - South of Hardwicke (G1): increase from 1,250 dwelling to 1,350 dwellings (+13%).

- 3.5 The changes to the Local Plan allocations are outlined in the sections for each site allocation below.

Table 3-1: Local Plan Revisions

Site ID	Site Name	Number of Dwellings		Employment (Hectares)	
		Draft Plan 2019	Local Plan 2021	Draft Plan 2019	Local Plan 2021
Revised Sites					
G1	South of Hardwicke	1200	1350	-	-
G2	Land at Whaddon	2500	3000	-	-
PS19a	Northwest of Stonehouse	650	700	5	5
PS24	West of Draycott	700	900	-	-
PS43	Javelin Park	-	-	9	27
Sites added to Local Plan					
BER016/17	Land at Lynch Road, Berkeley	-	60	-	-
HAR017	Land at Sellars, Hardwicke	-	10	-	-
STR065	Beeches Green, Stroud	-	20	-	-
Sites removed from Local Plan					
PS07	North Nymphsfield Road, Nailsworth	25	-	-	-
PS13	Central river/canal corridor	120	-	-	-
PS21	Land adjacent to Tilsdown House, Cam	15	-	-	-

Figure 3-1: Local Plan Site Allocations



Source: SDC Traffic Forecasting Report, Mott McDonald (2022)

Sustainable Transport Policies

- 3.6 The Local Plan review includes further details in relation to sustainable transport policies, which have been incorporated or developed in accordance with the recommendations of the original STS. The policies include provisions to be considered by all development within the District through the development management process, as summarised below:
- Allocation sites should deliver a layout which prioritises cycling, walking and access to public transport over private motorised vehicles, in accordance with Manual for Streets (MfS) principles.
 - Allocation sites should create new bus stops and shelters at appropriate locations to provide the necessary infrastructure for the new and enhanced bus services that will serve the new development. The opportunities to divert bus services into the development should be considered.
 - Measures that change personal behaviour in order to encourage uptake in sustainable travel should be promoted. This should also be delivered through a combination of improved active travel infrastructure and the implementation of Travel Planning.
 - Electric vehicle charging points should be provided in accordance with local parking standards. This will help to incentivise increased take-up of private electric vehicles by residents.
- 3.7 Other policies are specific to individual site allocations, and are specifically to be delivered as part of these sites. The key sustainable travel policies relevant to each of the site allocations are discussed in the following sections.

Land at Whaddon - 2,500 Dwellings

Site Overview

- 3.8 The proposed strategic site represents a residential development 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.

Updates to Site Proposals / Policies

- The 2019 Draft Local Plan allocated a total of 2,500 new dwellings. This has been updated to include an additional 500 new homes, with a new planned total of 3,000 dwellings. Additional dwellings will generate greater demand for sustainable and active travel services and routes, increasing the importance of their inclusion within site plans.
- The development will be required to support and contribute to sustainable transport measures on the A4173;
- The development should create a multi-modal travel interchange hub at accessible and central locations adjacent to the A4173. This measure will allow the interchange to sustainable modes such as active travel, bus and car sharing;
- The development proposed will include a link between Naas Lane and Grange Road, allowing transport permeability through the site. The development will also include a movement strategy with a modal filter onto Naas Lane and sustainable transport modes to local destinations to the west and Waterwells Business Park; and
- The development should provide high-quality and accessible cycling and walking routes, connecting to the Waterwells Business Park and local facilities in Tuffley. Furthermore, appropriate off-site active travel infrastructure and routes to be put in place in Tuffley to connect the new development with key destinations such as Gloucester city centre.

South of Hardwicke – 1,200 Dwellings

Site Overview

- 3.9 The proposed site represents a residential development located immediately adjacent to and south of 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.

Updates to Site Proposals / Policies

- The 2019 Draft Local Plan allocated a total of 1,200 new dwellings. This has been updated to include an additional 150 new homes, with a new planned total of 1,350 dwellings. Additional dwellings will generate greater demand for sustainable and active travel services and routes, increasing the importance of their inclusion within site plans.
- The development should provide high-quality and accessible cycling and walking routes, which connect to Quedgeley West Business Park and local community facilities on Green Lane. Furthermore, appropriate off-site active travel infrastructure and routes to be put in place to connect the new development with local schools, Quedgeley local centre and Gloucester city centre; and
- The development will contribute to sustainable transport measures on the A38 sustainable transport corridor.

Eco Park M5 Junction 13 – 10ha Employment

Site Overview

- 3.10 This site is allocated for 10ha 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.

Updates to Site Proposals / Policies

- It is specified that employment space will be utilised for business uses associated with the green technology and low carbon sector, with land allocated for strategic mixed-use development, including employment, a sports stadium, sports pitches, 70 bed care village, hotel, canal and open space uses.

- A multi-modal travel interchange hub has been proposed to serve the development at a central accessible location north of the A419. This would allow for interchange to / between sustainable modes including bus, bicycle, walking, other forms of personal transport and car sharing.
- The site should be connected by high quality, safe and secure walking and cycling routes. The active travel routes have to connect to the NCR45 as well as contribute towards the enhancement of off-site active travel routes that connect the development to key destinations such as Stroud, Stonehouse railway station and Stonehouse town centre;
- The development will support the sustainable transport measures on the A38 and A419 sustainable transport corridors;
- The development will have a dedicated shuttle bus service, which will connect it to Stonehouse and Cam and Dursley rail stations;
- The development will be an important contributor towards the re-opening of the Stonehouse Bristol Road rail station; and
- The site will have an active managed car parking provision in order to reduce unnecessary car usage.

Stonehouse North West – 650 Dwellings

Site Overview

- 3.11 The proposed strategic site represents a primarily residential development located approximately 2km north of Stonehouse. The Great Oldbury strategic site, also known as Land West of Stonehouse, 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.

Updates to Site Proposals

- The 2019 Draft Local Plan allocated a total of 650 new dwellings. This has been updated to include an additional 50 new homes, with a new planned total of 700 dwellings. Updated plans also include provision of land for the construction of 5ha of office, B2 and B8 employment land to reflect the identified sectoral needs of the District and local area. Additional development will generate some additional demand for sustainable and active travel services and routes, increasing the importance of their inclusion within site plans.
- The development should provide high-quality and accessible cycling and walking routes, which connect the development to Great Oldbury local centre, employment and local schools and open spaces. Furthermore, appropriate off-site active travel infrastructure and routes to be put in place to connect the new development with key destinations such as Maidenhill school, Stonehouse town centre, Stroud and Stonehouse railway station;
- The development will support and contribute to sustainable transport measures on the A38 and A419 sustainable transport corridors; and
- An important contributor towards the re-opening of the Stonehouse Bristol Road rail station.

New settlement at Wisloe, Slimbridge – 1,500 Dwellings & 5ha Employment

Site Overview

- 3.12 The site proposals are for 1,500 residential dwellings and 5 hectares of employment space (B2 and B8), 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.

Updates to Site Proposals / Policies

- Updated proposals also include measures to reduce car ownership outright, as well as car usage, including Mobility-as-a-Service (MaaS) systems to provide occasional access to vehicles, bike hire schemes and public transport vouchers/incentives.
- The development should provide high-quality, accessible and safe cycling and walking routes, connecting the site and facilities in Lower Cam, Cam, local centre, Draycott and Cam and Dursley stations. Furthermore, appropriate off-site active travel infrastructure and routes to be put in place to connect the new development with NCR41 to the north and Cam and Dursley Greenway to the south;
- The development will support and contribute to sustainable transport measures on the A38 and A4135 sustainable transport corridors;
- The development will improve access to sustainable travel modes to Cam and Dursley stations and contribute towards the improvement of passenger facilities; and
- Measures to reduce car usage and ownership will be part of the development, which will include Mobility-as-a-Service systems, bike hire schemes and incentives for public transport use.

Cam North West – 700 Dwellings

Site Overview

- 3.13 The proposed strategic site represents a residential development 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.

Updates to Site Proposals / Policies

- The 2019 Draft Local Plan allocated a total of 700 new dwellings. This has been updated to include an additional 200 new homes, with a new planned total of 900 dwellings. Additional dwellings will generate greater demand for sustainable and active travel services and routes, increasing the importance of their inclusion within site plans.
- The development should provide high-quality and accessible cycling and walking routes, including safer crossings of the A4135 to access Cam and Dursley station and Cam local centre. Furthermore, appropriate off-site active travel infrastructure and routes to be put in place to connect the new development with key destinations such as Cam local centre, Draycott Mills, Local schools, the A38, Dursley and Cam Greenway and Draycott Business park; and
- The development will support and contribute to sustainable transport measures on the A38 and A4135 sustainable transport corridors.

New settlement at Sharpness – 2,400 Dwellings & 10ha Employment

Site Overview

- 3.14 The site proposals are for 2,400 residential dwellings by 2040 (with 5,000 dwellings by 2050) with 10ha of employment space (B2 and B8) 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.

Updates to Site Proposals / Policies

- The development should provide high-quality and accessible cycling and walking routes, connecting to employment, local and educational centres. Furthermore, appropriate off-site active travel infrastructure and routes to be put in place to connect the new development Berkeley green, Berkeley town centre, Sharpness, Newton and to national cycle and canal networks;

- The development will lead to enhancements to the Sharpness branch line and support a regular passenger service to Gloucester; and
- Measures to reduce car usage and ownership will be part of the development, which will include Mobility-as-a-Service systems, bike hire schemes and incentives for public transport use.

Javelin Park – 27ha Employment

- 3.15 The Javelin Park allocation was not included in the original STS but has been allocated for a significant level of employment development in the latest Local Plan draft and has therefore been considered within the STS Addendum.

Site Overview

- 3.16 Proposals for the Javelin Park strategic site have been developed in the period since the original Local Plan was published, and as such a more detailed summary is provided below. The strategic site has proposals for 27ha of B1, B2 and B8 Use Class employment space, located to the south of M5 Junction 12, approximately 4km south of Quedgeley. The site is bordered to the west by the M5, with the eastern boundary determined by the B4008. The existing Javelin Park EfW site is located directly adjacent to the site to the north. The site forms part of the 'Gloucester Fringe' cluster.

Key Opportunities

- Strategically positioned on Gloucester's urban fringe, offering convenience for people working in Gloucester. The site is located within a 30-minute cycle of Gloucester city centre and approximately 4km from Quedgeley to the north.
- The site is located near to existing bus stops on the B4008 serving Blooms Garden Centre which are served by a direct, hourly service between Gloucester and Stonehouse.

Key Issues

- The site is in close proximity to Junction 12 of the M5 and also the B4008.

- 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.
- The Traffic Forecasting report identifies a traffic impact on the B4008. A more site specific understanding of this impact will need to be determined, and a sustainable transport led approach identified at planning application stage.

Transport Sustainability Measures Required

- Masterplan proposals to integrate all sections of the site through safe and secure pedestrian connections.
- Enhanced active travel links to connect with the wider network, including appropriate infrastructure and crossing facilities.
- Robust car parking provision and management to provide a level of constraint to unnecessary car usage.
- Contributions and support to sustainable transport measures between the site and Gloucester, Stroud and Stonehouse on the B4008 corridor.
- Improved frequency of bus services to connect the site with Stonehouse, Stroud, Gloucester and other key destinations.
- Electric vehicle charging points to be provided in accordance with local standards.

3.17 Policy PS43 of the Stroud Local Plan states that the development at Javelin Park “*will provide sustainable transport measures to link the site with Gloucester City, Stonehouse and Stroud and necessary improvements to the existing highway network*”.

4. Additional Interventions

Introduction

- 4.1 The STS sets out various sustainable transport initiatives developed to achieve the objectives of the STS vision and enable and support the growth and development of the District and refocus investment towards active, sustainable mobility.
- 4.2 This STS Addendum considers additional interventions which have emerged or been developed since the publication of the STS. These include the relevant measures identified from the review of the GLTP4, as outlined in **Section 2**, as well as other interventions identified for consideration at this time (i.e. Charfield Station).
- 4.3 The original STS includes strategies in relation to Movement Corridors, which 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. The corridors deliver sustainable transport opportunities linking up the District as a whole, as well as with external destinations. The corridor packages consisted of:
 - The A38, forming a north-south spine through the area;
 - The A419 / B4008, connecting Stroud and Stonehouse with the M5 and Gloucester;
 - The A4135, connecting Cam and Dursley with the A38 and areas to the south east;
 - Stroud / Stonehouse to Bristol. A key part of the STS is to improve sustainable travel opportunities along this corridor; and
 - The A46, a key strategic north-south movement corridor within the Stroud District.

- 4.4 The additional interventions identified in this STS addendum are aligned with these movement corridors and contribute to the aims of each. The additional interventions also enable sustainable travel across the wider district area and Gloucestershire County.

Additional Interventions

- 4.5 The additional interventions are summarised in **Table 4-1** and discussed in the following sections. The interventions have been outlined under mode headings, as well as related to strategic allocations and movement corridors as considered in the STS report.

Table 4-1: Additional Interventions

Location	Mitigation Scheme
M5 J12 Park & Interchange Hub	Strategic P&R and interchange hub at M5 J12
A4173 Corridor (Stroud to Gloucester)	Bus stop and bus advantage improvements
Merrywalks	Stroud town centre improvements
Chalford to Cirencester Active Travel Route	Access improvements.
Chalford to Stroud Active Travel Route	Access improvements.
Eastington to Nailsworth Active Travel Route	Access improvements.
Stroud to Gloucester Active Travel Route	Access improvements.
Wotton-Under-Edge to Charfield Active Travel Route	Unspecified improvements
New Stonehouse Station	New railway station for Stonehouse on Bristol to Birmingham Line.
Charfield Station	New railway station serving strategic site at Charfield (SGS site)

Additional Interventions by Mode

Active Travel

- 4.6 The additional interventions maintain a focus on the importance of incorporating active travel into everyday routines, aiming to keep communities healthy and happy and changing the hierarchy of movement to favour active travel. Creating a more extensive, accessible and inter-connected active travel network remains a key aim of the STS to encourage and support new active travel users to walk and cycle a greater number of journeys.
- 4.7 The GLTP4 includes improvements to the following active travel routes:
- Chalford to Cirencester;
 - Chalford to Stroud;
 - Eastington to Nailsworth;
 - Stroud to Gloucester; and
 - Wotton-Under-Edge to Charfield.
- 4.8 The GLTP4 includes very limited information regarding the specific route details or infrastructure improvements proposed, however it is assumed that these interventions will make use of any existing active travel infrastructure and provide enhancements to the quality and safety of these routes.
- 4.9 For each new / improved active travel route, the infrastructure should follow the hierarchy laid out in the STS (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.
- 4.10 Any improvements will also need to be in accordance with established national guidance (e.g. LTN 1/20 to provide routes which are coherent, direct, safe, comfortable and attractive).

Bus

- 4.11 Bus travel remains an important mode for a rural district like Stroud. Bus travel helps residents to travel distances that are too far by active modes, as well as for those without access to a car or with mobility issues.
- 4.12 Additional bus interventions outlined within the GLTP4 seek to improve the experience of bus travel along the A4173 corridor and intercept existing trips to / from Gloucester, as well as providing new, alternative options for residents and visitors to access urban areas via public transport. Upgrades to infrastructure, both physical and digital, will help to enhance the user experience, reducing many of the existing barriers to sustainable travel.
- 4.13 The UK Government's 'Bus Back Better' Strategy, published in March 2021, sets out its vision for and investment approach to improving the national bus network to return bus patronage levels to pre-covid pandemic levels and improve the attractiveness of bus travel. Additionally, Gloucestershire's BSIP set out four key transport corridors to support expansion of the Express Bus network including between Stroud and Stonehouse in the Stroud District area.
- 4.14 The updated interventions set out below will contribute to the delivery of both of these strategies within the District.

M5 J12 Strategic Park & Interchange Hub

- 4.15 The GLTP4 includes proposals for a strategic park & interchange hub off the M5 at J12. This forms part of GCC's plans to move towards an interchange model, encompassing car share, community transport demand responsive services, bus, rail, and bike interchange facilities. This will enable people to undertake part of their journey by car, before transferring to sustainable modes of transport to their final destination.
- 4.16 The location of the Strategic Interchange Hub at J12 of the M5 aims to target the interception of existing trips into / out of Gloucester from the M5 to the south. It is hoped that such an impact would help to reduce traffic along the A38, and encourage greater uptake of sustainable transport modes to replace existing private vehicular trips.

4.17 The M5 J12 Park & Interchange is not considered likely to have a material bearing on sustainable travel associated with the Local Plan allocation at Javelin Park (which has been allocated with expanded employment allocation in the latest Local Plan draft). The potential location and details of any bus service associated with the Park & Interchange are not known, however it is likely that this will prioritise trips between Gloucester and M5 J12. A Park and Interchange bus service will need to be express in order to be attractive, including direct routes with few stops.

4.18 A bus service for Javelin Park will also need to ensure a high residential catchment. These needs will need to be balanced in bus services which come forward, which may include a need for multiple routes.

A4173 Corridor (Stroud to Gloucester)

4.19 Limited information is available within the GLTP4 regarding the specific measures proposed to improve bus travel along the A4173 Stroud to Gloucester corridor, but such improvements are stated to include upgrades to bus stop infrastructure (including to bus stops) and priority schemes for buses above general traffic.

Rail

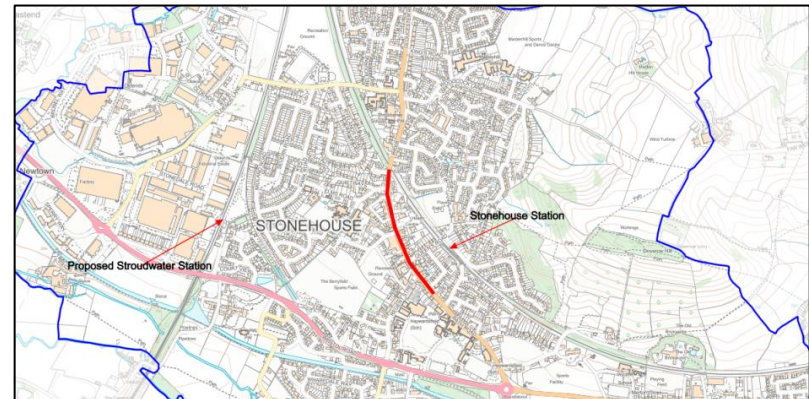
4.20 The STS outlines a range of rail interventions, including accessibility improvements to the existing railway stations in the District as well as improvements to railway infrastructure and a measure in relation to the provision of railway station(s) south of Gloucester on the Bristol to Birmingham Line. The STS stated that the exact location of any station would be determined through future analysis. Since the publication of the STS, more certainty has emerged in relation to potential locations of these stations, as outlined below.

New Stonehouse Station

4.21 DfT has awarded Restoring Your Railway funding to SDC to investigate a new railway station in Stonehouse (Bristol Road) on the Bristol – Birmingham line, which would greatly improve access to destinations including Bristol, Birmingham, Cheltenham from the Stonehouse / Stroud area. The existing Stonehouse station is on the Swindon – Gloucester line and as such the new station will improve railway accessibility. **Figure 4-1** outlines the potential location of the new station on Bristol Road. It is important that the land on which the new station would be built is to be safeguarded for this purpose.

4.22 SDC has commenced with the production of a Strategic Outline Business Case (SOBC) for the new station which will test options and deliverability, with the objective of progressing a scheme towards delivery. The SOBC is being progressed by Stantec on behalf of SDC.

Figure 4-1: Location for Potential Stonehouse Rail Station (Red Dot)

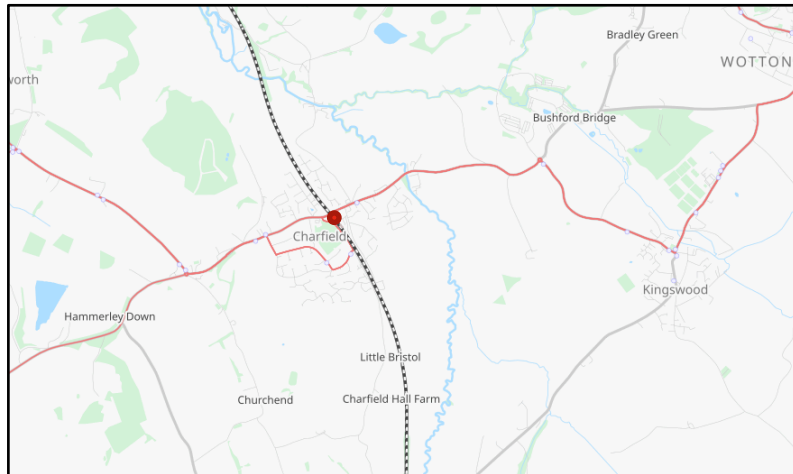


Source: Stonehouse Town Council, 2020

Charfield Station

- 4.23 The reopening of Charfield railway station is proposed to serve the existing village Charfield, surrounding employment and a potential strategic development allocation in the emerging SGC Local Plan.
- 4.24 The station would help to improve capacity and resilience of both the strategic and local highway networks, and also provide a sustainable transport connection between a key employment / residential area at Charfield (following SGC Local Plan development) and locations within Gloucestershire and Stroud District.
- 4.25 It is understood that the station is planned to be a small, modern, unstaffed station comprising two platforms, an accessible pedestrian footbridge and a small waiting area comprising shelters and seating on each platform. Separate proposals to deliver an associated station car park will be brought forward in parallel. **Figure 4-2** outlines the potential location of the new station within Charfield (on the site of the former station). It is important that the land on which the new station would be built is to be safeguarded for this purpose.

Figure 4-2: Potential Location for the Re-opened Charfield Rail Station (Red Dot)



5. Effects of STS Measures

Introduction

- 5.1 This section of the STS addendum considers the additional interventions in relation to the strategic modelling exercise undertaken to inform the SDC Local Plan. The STS is part of the mitigation package to reduce the impact of Local Plan development traffic on the District's highway network. The additional interventions are considered within the assessment framework and evaluates the impact of the schemes, alongside those included in the original STS, in terms of mitigating Local Plan traffic impact.

Strategic Modelling

- 5.2 The SDC Local Plan has been informed by strategic transport modelling to understand the traffic impact associated with the Local Plan allocations across the District's highway network up to 2040. The SATURN modelling has been undertaken by Mott MacDonald, and technical details and results are available in the Traffic Forecasting Report (dated April 2022).
- 5.3 Initial SATURN modelling scenarios included:
- A 2040 'Do Minimum' scenario, which considered background growth across the network and committed highway schemes but did not include Local Plan development; and
 - A 2040 'Do Something: Unmitigated' scenario, which added Local Plan development traffic to the future year baseline to determine the wholesale impact of the Local Plan, without consideration for any interventions outlined in the STS or highway mitigation measures.
- 5.4 The modelling results demonstrated that there are a number of areas across the network that are likely to experience material negative traffic impacts, including delays and congestion, through the implementation of the Local Plan. A package of mitigation measures will be required in order to reduce the impact of strategic growth across the region.

- 5.5 Mitigation has been considered in reference to sustainable travel schemes as identified in the STS which focus on reducing the need to travel and enabling a mode shift from vehicles to sustainable modes of travel. Mitigation has also been considered in relation to highway schemes, focusing on resolving the identified highway capacity issues.

- 5.6 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 therefore as is enabling a mode shift to resolve Local Plan impacts up to 2040. Sustainable travel interventions should be prioritised above purely highway capacity improvement.

Assessment Framework Update

- 5.7 The original STS quantifies the potential contribution of sustainable travel measures towards reducing the identified traffic impact, addressing congestion by enabling a mode shift to sustainable transport modes. This was achieved using an assessment framework which input to a "with STS mitigation" SATURN modelling scenario. The assessment framework has been reviewed and updated as part of the STS Addendum to account for changes to the Local Plan, a greater level of ambition towards sustainable travel across the district and to consider the impacts of new sustainable transport interventions.
- 5.8 The assessment framework considers:
- The likely scale of cost of the intervention,
 - The type and origin-destination of trips likely to be influenced by the intervention. This has been related to SATURN model zones within the Gloucestershire Countywide Traffic Model (GCTM); and

- The percentage reduction in trips likely to be available for each intervention. These have been agreed with the relevant Highway Authorities (including GCC and National Highways – previously Highways England). For some interventions, a two-tier percentage reduction has been defined. A robust, i.e. lower level, assumption has been made for the purposes of the “STS mitigation” modelling scenario to avoid the risk of over-assessing mode shift, and a maximum reduction has been defined which represents a higher level mode shift target for the intervention.

5.9 In updating the framework in this STS Addendum, a balance has been sought between the robustness of traffic generation reductions that can be achieved, along with the risks of under-assessing traffic impacts of the Local Plan, and the strong focus on sustainable transport needed to address the Climate Emergency. This iteration updates the levels of reductions which could be achieved from STS measures to reflect the greater level of ambition needed to address the Climate Emergency.

5.10 The framework considers both ‘site-specific’ reductions in traffic (e.g. reductions directly applied to the forecast traffic generation of major Local Plan allocations), and ‘background’ reductions in traffic (e.g. reductions applied to background levels of traffic on the network). The framework also considers reductions in relation to ‘Strategic Sites’, ‘Movement Corridors’, ‘Towns’ and ‘General’. The additional interventions as outlined in this STS addendum, and summarised in **Table 4-1**, have been considered within the assessment framework, with the changes / additions summarised in **Table 5-1**. The updated framework included at **Appendix A**.

Table 5-1: Summary of Framework Changes / Additions

Framework Item	Type of Change	STS Measure	Trip Effect
All strategic sites	Change in intervention	Combination of travel planning internalisation, reducing the need to travel and facilitating home working.	<ul style="list-style-type: none"> Increased reduction to 10% (increased from 6%) in revised STS scenario.
Land at Whaddon	Change in Intervention	Multi-modal transport hub adjacent to the A4173	<ul style="list-style-type: none"> Background traffic reduction increased to 10% (from 5%) for background trips past Whaddon to / from Gloucester.
	Additional Intervention	Stroud to Gloucester Active Travel Route – access improvements	<ul style="list-style-type: none"> Further 2.5% reduction to development traffic between site and Gloucester / Stroud. Further 2.5% reduction to background traffic on the A4173 travelling past Whaddon.
South Of Hardwicke	Change in Intervention	Contributions to sustainable transport measures on the A38 corridor.	<ul style="list-style-type: none"> Increase to the percentage reduction in trips – increase to 15% reduction to Gloucester City Centre, 7.5% on trips elsewhere
Eco Park M5 Junction 13	Change in intervention	Shuttle bus service to railway stations – no longer a requirement to Cam and Dursley owing to new Stonehouse Station.	<ul style="list-style-type: none"> Change from 8% for trips to / from railway destinations (including Cam and Dursley). Shorter shuttle bus service requirements reduce cost and improve attractiveness.
		Improvements to bus services to connect the site with Stonehouse, Stroud, Gloucester and other destinations	<ul style="list-style-type: none"> Increase in reduction to 15%, and then 7.5% for partial zones.
Stonehouse North West	Change in Intervention	Contributions to enhance bus service frequencies to key destinations	<ul style="list-style-type: none"> Increase to 10%, and 5% for partial zones.
	Additional Intervention	Dedicated bus service between site and new Stonehouse Station.	<ul style="list-style-type: none"> No change proposed owing to insufficient certainty over delivery of Stonehouse Station.
New Settlement at Wisloe	Change in Intervention	Contributions and support to public transport measures on the A38	<ul style="list-style-type: none"> Increase in reduction from 10% to 15%.
		Pedestrian/cycle connections to Cam and Dursley Railway Station	<ul style="list-style-type: none"> Increase in reduction from 10% to 15%. STS has a target of 20%.
Cam North West	Change in Intervention	Contributions and support to sustainable transport measures on the A38	<ul style="list-style-type: none"> Increase in reduction to 8%, and then 4% for partial zones.
Javelin Park	Indicative Intervention	Public Transport Connection to / from Gloucester.	<ul style="list-style-type: none"> 10% reduction for trips to / from Gloucester.
Charfield / Renishaw	Additional Intervention	New railway station at Charfield associated with SGC site allocation.	<ul style="list-style-type: none"> 7.5% reduction in background trips between destinations on the Bristol – Birmingham Line.

- 5.11 The size of the employment allocation at Javelin Park has increased from 9ha to 27ha for the new Local Plan, resulting in a material increase in the impact of the scheme. Therefore, whilst this site was not considered in the original STS framework, it has now been included. No sustainable travel schemes have been identified at this location within the original STS or in the additional interventions outlined in this addendum, and site specific plans will need to come forwards to make the planning application acceptable. Whilst the M5 J12 P&R scheme is potentially located nearby to the site, it is unclear to what extent this scheme would enable an increase in public transport to / from Javelin Park as details of the scheme are currently unknown. This may be delivered as a direct service to / from Gloucester City Centre without intermediate stops. A Park and Interchange bus service will need to be express in order to be attractive, including direct routes with few stops. A bus service for Javelin Park will also need to ensure a high residential catchment. These needs will need to be balanced in bus services which come forward, which may include a need for multiple routes. Therefore, an indicative 10% reduction in development trips to account for a public transport connection to / from Gloucester has been assumed in the framework. As the Javelin Park site is brought forward, SDC will welcome the provision of additional sustainable transport interventions to achieve this target.
- 5.12 The additional interventions include a new railway station at Charfield which is expected to come forward alongside a strategic development site in the SGC Local Plan. This would also benefit sustainable travel to existing residential / employment land uses nearby including Charfield village and the Renishaw premises. The new station would have limited impact on background traffic on the SDC network and as such Charfield / Renishaw has been included in the framework.
- 5.13 The revised framework does not propose any changes to background traffic on the Movement Corridors which have been retained with an assumed reduction of 15% (High Investment).
- 5.14 A number of the additional interventions identified in **Table 4-1** have not been included in the traffic reductions from STS schemes. These have been omitted for a number of reasons, including a lack of detail available from the scheme source (e.g. GLTP4) which precludes quantifying a level of reduction or because the intervention is focused on the wider district, rather than the

site allocations, movement corridors, or existing towns / villages within the assessment framework.

Updated Modelling

- 5.15 The strategic SATURN modelling has been updated to reflect changes in the Local Plan allocations, as outlined in **Table 3-1**. This includes the 'Do Something with preferred highway & STS Mitigation' scenario which assesses the impact of the updated Local Plan allocations with the same level of mode shift as identified in the original STS, as well as highway capacity mitigation.
- 5.16 The Traffic Forecasting Report Addendum (dated April 2022) outlines the results of this scenario, demonstrating that the impacts of the revised Local Plan can be largely mitigated, and that the highway network can operate at similar levels of performance to the 2040 Baseline (Do Minimum) situation. The exception is the B4008 at Javelin Park which requires additional mitigation owing to the significant increase in the size of the employment allocation. The Traffic Forecasting Report Addendum recommends a highway capacity improvement scheme for the B4008 connecting to M5 J12.
- 5.17 At this stage, the SATURN modelling scenario including the revised STS scenario has not been updated to include the changes to the assessment framework summarised in **Table 5-1**.
- 5.18 The additional interventions discussed throughout this addendum will contribute to further reduction in traffic flows across the District highway network however it is unlikely that updating the modelling of the 'Do Something with preferred highway & STS Mitigation' scenario would materially influence the overall conclusions that the Local Plan traffic impact can be successfully mitigated. However, this is likely to reduce the reliance on highway capacity enhancements within the mitigation strategy, in accordance with SDC's Climate Emergency agenda. These principles will be taken forwards into the assessment of planning applications as the Local Plan is delivered.

Appendix A

SDC Sustainable Transport Strategy

Updated STS Modelling Reductions for STS Addendum 2022

xxx STS Addendum updates.

Location	Ref.	Proposed Sustainable Travel Interventions	Scale of Cost (1 = Lowest to 5 = Highest)	Development				Background					
				Trip Type	Percentage Reduction in Car Trips Minimum (For Modelling)	Maximum (Target, where different)	Revised for STS Addendum (For Modelling)	Notes	Trip Type	Percentage Reduction in Car Trips Minimum (For Modelling)	Maximum (Target, where different)	Revised for STS Addendum (For Modelling)	Notes
Strategic Sites													
All Strategic Sites	A	Travel Planning, internalisation, reducing the need to travel and facilitating home working. The combination of these measures will differ between sites, with each site expected to demonstrate how they will achieve a blanket mode shift/traffic reduction in addition to targeted measures as below.	1	All Development Trips	6%	10%	10%	To be applied to trip matrices before the targeted measures set out below.	-	-	-	Some measures will benefit surrounding residential areas such as reducing distances to facilities, which could increase propensity for active travel. However no reduction has specifically been applied to background trips.	
Land at Whaddon - 2,500 dwellings 3,000 dwellings (Gloucester Fringe)	1	Provision of a multi-modal transport hub adjacent to the A4173 to allow interchange between sustainable modes	4	Trips to/from Gloucester City Centre. E.g. 2km from Westgate St.	15%	-	15%	Improved opportunities for sustainable travel to / from Gloucester.	Trips past Whaddon to / from Gloucester (A4173)	5%	-	10%	This would be reliant on a disincentive for driving in Gloucester.
	2	Local Measures: Modal filter on Naas Lane, pedestrian/cycle connection improvements, bus route through site.	2	Local trips to/from Waterwells area.	10%	-	10%	Priority for sustainable modes over car trips for local journeys.	-	-	-	-	Whilst there may be some local benefits it is not considered robust to apply background trip reductions.
	40	Bus stop improvement and bus priority / advantage measurements on A4173 Stroud - Gloucester	3	Trips to/from Gloucester City Centre and Stroud Town Centre.	-	-	0%	Improved public transport access to Gloucester and Stroud.	Trips past Whaddon to / from Gloucester and Stroud (A4173)	-	-	0%	Improved public transport access to Gloucester and Stroud.
	41	Active Travel access improvements for A4173 Stroud to Gloucester	2	Trips to/from Gloucester City Centre.	-	-	2.5%	Improved active travel access to Gloucester (and to a lesser extent, Stroud).	Trips past Whaddon to / from Gloucester and Stroud (A4173)	-	-	2.5%	Improved active travel access to Gloucester (and to a lesser extent, Stroud).
South of Hardwicke - 4,200 dwellings 1,350 dwellings (Gloucester Fringe)	3	Contributions to sustainable transport measures on the A38 corridor, including improvements to strategic bus services.	2	Trips to/from Gloucester city centre, and to/from destinations along the A38 and A419 within Stroud District. Include buffer 800m and city centre definition.	5% / 10%	-	7.5% / 15%	Higher percentage reduction in trips to/from Gloucester than south on A38. 10% reduction to Gloucester City Centre, 5% on trips elsewhere	-	-	-	See A38 corridor package - not stated here to avoid double counting.	
Eco Park M5 Junction 13 - 10ha employment (Stonehouse Cluster) <i>Measures need to be accompanied with robust approach to parking management which limits access to parking for those who do not "need" to drive.</i>	4	Contributions and support to sustainable transport measures on the A38 and A419 sustainable transport corridors	2	Included in "bus services" below	Included in ID 6 below	-	-	Included below.	-	-	-	See corridor packages - not stated here to avoid double counting.	
	5	Dedicated shuttle bus service between site and Cam and Dursley and Stonehouse rail stations. Improved public transport connections to rail and/or intercity connections. Likely to include a dedicated shuttle bus service between site and a station, potentially Stonehouse railway stations, including new Stonehouse station on Bristol to Birmingham Line (or Cam and Dursley station if new station doesn't come forward). Also potentially includes interchange with express intercity coaches.	3	Trips to/from Gloucester, Cheltenham, Bristol, Yate and Swindon. Whilst Cam & Dursley will also be accessible, it has not been included due to limited travel demand and much greater travel time for bus and rail than a short car journey. Reduction applied to zones within 2km buffer from rail stations.	5%	-	8%	Mode shift from car to rail for longer distance trips. 5% applied due to number of interchanges. Reduction increased for STS Addendum given the shorter shuttle bus journey times to new Stonehouse station compared to Cam & Dursley.	-	-	-	Minimal potential to pick up background trips.	
	6	Improvements to bus services to connect the site with Stonehouse, Stroud, Gloucester and other destinations	2	Commuter trips from Stonehouse, Stroud and Gloucester, and intermediary locations along the A38 and A419. Buffers and define destinations	10%, with 5% for agreed partial zones ("Yellow")	-	15%, with 7.5% for agreed partial zones ("Yellow")	Mode shift from car to sustainable modes on these corridors.	-	-	-	See corridor packages - not stated here to avoid double counting.	
Stonehouse North West (Standish within Stonehouse Cluster) - 650 dwellings 700 dwellings	7	Contributions and support to sustainable transport measures on the A38 and A419 sustainable transport corridors	2	Included in ID8 below	-	-	-	-	-	-	-	See corridor packages - not stated here to avoid double counting.	
	8	Contributions to enhance bus service frequencies to key destinations including Stroud, Stonehouse, Gloucester, and Cam and Dursley Station	2	Trips to/from Stonehouse, Stroud and Gloucester, and intermediary locations along the A38 and A419	8%, 4% for "Yellow" zones.	-	10%, 5% for "Yellow" zones.	Slightly lower than other corridor sites due to distance from the corridor and split of provision between LWoS spine road and A419	-	-	-	See corridor packages - not stated here to avoid double counting.	
	42	Dedicated bus service / active travel connection between site and new Stonehouse station on Bristol to Birmingham Line.	3	Trips to / from Bristol, Birmingham, Gloucester, Cheltenham	-	-	-	Noted but no model reduction applied as insufficient certainty over Stonehouse Station at this stage	-	-	-	Minimal potential to pick up background trips.	
New settlement at Wisloe, Slimbridge - 1,500 dwellings & 5ha (Berkley cluster)	9	Contributions and support to public transport measures on the A38, potentially including diversion into the site.	2	Trips along the A38 including to/from Gloucester City Centre	10%	-	15%	Intended to support high frequency express services.	-	-	-	See corridor packages - not stated here to avoid double counting.	
	10	Pedestrian/cycle connections to Cam and Dursley Railway Station	3	Trips to/from Gloucester, Cheltenham, Bristol, Yate. 2km buffer from rail stations.	10%	20%	15%	Supports access to rail for longer distance trips. Max target would depend on significant improvement to provision.	Trips between local area west of M5 e.g. Cambridge/Slimbridge and Gloucester, Cheltenham, Bristol, Yate and Swindon	5%	-	5%	Likely to benefit a relatively low number of trips due to sparsely populated origin.
	11	Sustainable 'spine' through Wisloe - Cam - Dursley i.e. A4135 corridor measures	2	Local Trips to/from Cam and Dursley	10%, 5% for "Yellow" zones.	-	10%, 5% for "Yellow" zones.	Opportunity to capture local leisure/employment trips.	-	-	-	-	
Cam North West / West of Draycott - 700 dwellings 900 dwellings (Cam & Dursley cluster)	12	Contributions and support to sustainable transport measures on the A38, notably bus services. This should also include active travel measures.	2	Trips along the A38 including to/from Gloucester City Centre	6%, 3% for "yellow" zones	-	8%, 4% for "Yellow" zones.	Intended to support high frequency express services. Less %reduction than Wisloe due to distance from A38	-	-	-	-	
	13	Contributions towards A4135 corridor measures	2	Local Trips to/from Cam and Dursley	10%	-	10%	Opportunity to capture local leisure/employment trips.	-	-	-	-	
New settlement at Sharpness - 2,400 dwellings & 10ha (Berkley Cluster)	14	Direct public transport services to key destinations, including Bristol, Gloucester and employment nodes	3	Trips to/from central Bristol, and central Gloucester.	20%	30%	20%	Service would need to be established early and be direct. This would need to be an exemplary service and the modelled value incorporates potential for the rail service to be delivered	Trips between Sharpness and Bristol / Gloucester	15%	20%	15%	Lower proportion as trip patterns established and home locations further from central pick up point.
	15	Potential re-opening of the Sharpness railway branch line for passenger services (including to Gloucester)	5	Trips to/from central Gloucester	Not to be included in model - feasibility.	40%	-	This would supersede the direct public transport services measure above.	Trips between Sharpness and Gloucester	Not to be included in model - feasibility.	30%	-	Lower proportion as trip patterns established and home locations further from central pick up point.
	16			Trips to/from Bristol, Stroud, Cheltenham, and longer distance cities	Not to be included in model - feasibility.	30%	-	Creates direct access to longer distance rail services, likely with a need to interchange.	Trips to/from Bristol, Stroud, Cheltenham, and longer distance cities	Not to be included in model - feasibility.	20%	-	Lower proportion as trip patterns established and home locations further from central pick up point.
	17	Cycle route to Stroud from Sharpness development	3	Trips to/from Stroud and intermediary destinations e.g. Stonehouse	0%	5%	0%	Distance is likely to be a barrier, although ebikes have the potential to be an enabler	Trips between Stroud and Sharpness	0%	5%	0%	Distance is likely to be a barrier, although ebikes have the potential to be an enable.
Javelin Park - 27ha Employment	43	Public transport connection to / from Gloucester.	3	Trips to/from Gloucester.	-	-	10%	Reduction is indicative of future sustainable travel package. Precise nature of proposals to be confirmed.	-	-	-	-	

Movement Corridors														
A38	Modal filters.	4	-	-	-	-	-	-	-	-	-	-		
	Rapid bus / coach services to key destinations such as Bristol.	3	-	-	-	-	-	-	-	-	-	-		
	Improved bus frequency, bus stop infrastructure and bus priority.	3	-	-	-	-	-	-	-	-	-	-		
	Northern MetroBus extension.	5	-	-	-	-	-	-	-	-	-	-		
	18 Low Investment	2	-	-	-	-	-	-	-	Trips using the A38	5%	-	-	
19 Medium Investment	3	-	-	-	-	-	-	-	Trips using the A38	10%	-	-		
20 High Investment	4	-	-	-	-	-	-	-	Trips using the A38	15%	15%	Model 15% to reflect High investment scenario and potential interchange with other corridors.		
A419 / B4008	Cycle access improvements between Eastington and Chalford	2	-	-	-	-	-	-	-	Trips between Eastington and Chalford using A419	-	-	-	
	Cycle access improvements to NCR 45, Stroud	2	-	-	-	-	-	-	-	Trips to Stroud (and Nailsworth) using A419 and A46	-	-	-	
	Cycle access improvements for Cainscross roundabout, Stroud	2	-	-	-	-	-	-	-	Trips through Cainscross Roundabout	-	-	-	
	Improved provision for pedestrians and cyclists on the A419 Ebley Rd corridor	2	-	-	-	-	-	-	-	Trips using Ebley Road (through Ebley)	-	-	-	
	Improved bus frequency on A419 / B4008 between Stroud, Stonehouse and Gloucester (and, where appropriate, bus stop improvements and bus priority)	3	-	-	-	-	-	-	-	Trips between Stroud, Stonehouse and Gloucester (using A419 and B4008)	-	-	-	
	21 Low Investment	2	-	-	-	-	-	-	-	Trips using the A419	5%	-	-	
	22 Medium Investment	3	-	-	-	-	-	-	-	Trips using the A419	10%	-	-	
23 High Investment	4	-	-	-	-	-	-	-	Trips using the A419	15%	15%	Model 15% to reflect High investment scenario and potential interchange with other corridors.		
A4135	Completion of Cam - Dursley - Uley Greenway	2	-	-	-	-	-	-	-	Trips between Cam, Dursley and Uley using A4135	-	-	-	
	Removing pedestrian and cycle pinch points along full-length of corridor	2	-	-	-	-	-	-	-	Trips on A4135	-	-	-	
	Increase in bus frequency and improved stop infrastructure, including improved connections to Cam and Dursley railway station	3	-	-	-	-	-	-	-	Trips on A4135 between Cam, Dursley and Railway Station	-	-	-	
	Bus priority measures along the corridor	3	-	-	-	-	-	-	-	Trips on A4135 between Cam, Dursley and Railway Station	-	-	-	
	Multi-modal interchange facilities at the A38 and Cam and Dursley Station	3	-	-	-	-	-	-	-	Trips on A38 and towards Cam and Dursley Railway Station	-	-	-	
	24 Low Investment	2	-	-	-	-	-	-	-	Trips using A4135	5%	-	-	
	25 Medium Investment	3	-	-	-	-	-	-	-	Trips using A4135	10%	-	-	
26 High Investment	4	-	-	-	-	-	-	-	Trips using A4135	15%	15%	Model 15% to reflect High investment scenario and potential interchange with other corridors.		
Stroud / Stonehouse - Bristol.	27 Improved public transport services between Stroud, Stonehouse and Cam and Dursley Station	3	-	-	-	-	-	-	-	Trips between Stroud/Stonehouse and Bristol, Gloucester, Yate and Cam and Dursley	5%	-	-	2 stage journey with bus and rail. This option has been modelled in STS Scenario. This option is not to be modelled in the revised STS scenario.
	28 Express bus services between Stroud and Bristol (with a potential interchange in the vicinity of M5 Junction 13)	3	-	-	-	-	-	-	-	Trips between Stroud/Stonehouse and Bristol	10%	-	-	No interchange but limited catchment. This option is not to be modelled in the revised STS scenario.
	29 New rail station south of at Stonehouse on the Bristol to Birmingham line (note: a number of options are being considered as part of a wider aspiration to provide such a station between Bristol and Gloucester)	5	-	-	-	-	-	-	-	Trips between Stroud/Stonehouse and destinations on Bristol to Birmingham line including Bristol, Cheltenham, Bristol Parkway, Birmingham.	10%	10%	Potential to include destinations further afield, e.g. Exeter and Manchester, but likely to be limited numbers Whilst there is increased certainty over the station location, this does not change level of background trip reduction assumed in the original STS. This option is to be modelled in the revised STS Scenario.	

Towns														
Stroud	30	Improvements to Stroud station, including potential for an integrated transport hub	4	-	-	-	-	-	-	Trips to / from Stroud to existing rail destinations e.g. Swindon, Gloucester, Reading, London.	5%	-	5%	Improved access to rail.
	31	Walking and cycling improvements in Stroud Town Centre	3	-	-	-	-	-	-	Local trips in Stroud	5%	-	5%	Mode shift for local trips. No further details provided in GLTP so no proposed change to the reduction.
Cam and Dursley	32	M5 pedestrian / cycle overbridge to Cam and Dursley Station	4	-	-	-	-	-	Included in Measures above	Trips to / from Cam and Dursley Station	-	-	-	Included in A4135 corridor measures
	33	Extension and improvement to Cam and Dursley greenway	2	-	-	-	-	-	Included in Measures above	Trips between Cam, Dursley and Uley using A4135	-	-	-	Included in A4135 corridor measures
	34	Improved walking and cycling links connecting with Cam and Uley	2	-	-	-	-	-	Included in Measures above	Trips between Cam and Uley	-	-	-	Included in A4135 corridor measures
Charfield / Renishaw	44	New railway station at Charfield associated with SGC site allocation.	5	-	-	-	-	-	-	Trips between Charfield and destinations on Bristol to Birmingham line including Bristol, Cheltenham, Bristol Parkway, Birmingham	-	-	7.5%	Potential to include destinations further afield, e.g. Exeter and Manchester, but likely to be limited numbers
General														
	35	Policy Interventions Package	2	All Development	0%	2%	-	-	In addition to measures above	Trips within Stroud DC	-	0%	-	Limited potential to influence existing trips
	36	Mobility Behaviours	2	All Development	0%	2%	-	-	In addition to measures above	Trips within Stroud DC	-	1%	-	-
	37	Public Transport packages, e.g. RTI, smart ticketing	3	All Development	0%	1%	-	-	In addition to measures above	Inter and intra-urban trips within Stroud and to/from Bristol/Gloucester	-	1%	-	-
	38	Rail service improvements	4	-	-	-	-	-	-	Long distance trips	-	1%	-	-
	39	Cycle access improvements to Gloucester & Sharpness Canal towpath, Gloucester	2	-	-	-	-	-	Potential to benefit Sharpness and Hardwicke residents but arguably could be included in the PT mode shift.	Trips between Sharpness and Gloucester (including destinations along the canal route)	-	2%	-	-

Additional Notes

Trip rates used for each development have accounted for internalisation due to complementary land uses and sustainability benefits relating to location.

No additional reductions are proposed for "standard" measures such as Travel Planning and masterplans laid out to encourage sustainable travel.

This is not an exhaustive list of measures included in the STS but is designed as an exercise to reasonably identify the potential for mode shift to occur as a result of key measures or packages of measures. Includes additional measures intensified in 2022 following publication of GLTP4 and progression towards other regional transport schemes.

This framework has been developed iteratively and been compared against the actual numbers of trips that these would relate to, through the SATURN exercise.

Measures need to be considered in combination with disincentive for driving, e.g. parking charges, congestion, parking availability etc

Two rates of percentage reduction have been defined. The minimum reduction represents a robust assumption and should be used for modelling purposes. The maximum reduction represents the potential mode shift that could be achieved by an intervention and can be considered a target if implemented.

Percentage reductions have been agreed with MM, SDC, HE, & GCC.

Trip types have been defined with reference to Mott MacDonalds SATURN model zones.

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