AtkinsRéalis



M5 Junction 9 and A46 (Ashchurch) Transport Scheme

Development of scheme objectives

Gloucestershire County Council

For public engagement (7 October – 2 December 2024)



Contents

Chap	ter Pa	age		
1.	Introduction	3		
1.1.	Overview	3		
1.2.	Introduction to the scheme	3		
2 .	Problems to be addressed by the scheme	5		
2.1.	Summary of key issues and problems	5		
2.2.	Supporting evidence for problems identified	6		
3 .	Impact of not changing	13		
3.1.	Impact on transport users	13		
3.2.	Impact on communities	13		
3.3.	Impact on future housing and employment provision	14		
4.	Objectives and outcomes	15		
4.1.	Scheme objectives	15		
4.2.	Supporting outcomes and measures	15		
Table		5		
	Table 2-1 - Summary of issues and problems to be addressed by the scheme			
	Table 2-2 - Summary of supporting evidence for key problems to be addressed by the scheme			
Table	Table 4-1 - Summary of objectives and supporting outcomes / measures 1			



1. Introduction

1.1. Overview

This document provides additional background information to support the 7 October – 2 December 2024 public engagement for the M5 Junction 9 and A46 (Ashchurch) Transport Scheme. It forms part of the public engagement materials which can be found on the Have Your Say website: https://haveyoursaygloucestershire.uk.engagementhq.com/junction-9.

Sections 2 and 3 describe the problems that the scheme is seeking to address and outline what the future situation would look like without intervention with respect to impact on transport users, communities and future housing and employment opportunities.

Section 4 then presents the scheme objectives and a summary of outcomes expected from the scheme. These set out what the scheme is seeking to achieve and how success will be measured.

Other documents in the series cover:

- Scheme context and existing conditions
- Option generation and sifting
- Summary of shortlisted options
- Analysis of shortlisted options
- Summary of walking, cycling and horse riding opportunities.

1.2. Introduction to the scheme

The M5 Junction 9 and A46 (Ashchurch) Transport Scheme (referred to throughout as 'the scheme') is a proposal to develop a new M5 junction 9a to the south of Tewkesbury and reroute a section of the A46 between the M5 and Teddington Hands roundabout. The scheme aims to help solve long standing traffic issues and provide vital infrastructure to meet existing and future needs, including improving journey times and reliability for journeys between the M5 Junction 9 and Teddington Hands roundabout.

Gloucestershire County Council (GCC) is the promoter for the scheme. However, the A46 and M5 Junction 9 are part of National Highways' Strategic Road Network (SRN). Consequently, it has been agreed to progress the scheme through the National Highways Project Control Framework (PCF) to align the delivery of the project and the production of documentation with National Highways' processes. The scheme is currently at PCF Stage 1 (Option Identification) in the National Highways project lifecycle.

The scheme will rely on securing funding from Government to be delivered. At this early stage, no commitment can therefore be given to funding being secured for the scheme delivery.

The case for improvements to the M5 Junction 9 and A46 through Ashchurch has become more compelling in recent years and would address the following issues:



- Congestion on this section of the A46 and at M5 Junction 9 means that both local and long-distance journeys are unreliable and take longer than they should
- At peak times, queuing from M5 Junction 9 can reach back to the M5 motorway with queuing vehicles on the hard shoulder creating a safety hazard
- Developments which already have planning permission are increasing traffic in this location
- Provision for walking and cycling at M5 Junction 9 and along the A46 is inadequate and does not meet current design standards. Along with the level of traffic on the A46 including Heavy Goods Vehicles (HGVs), this makes the road difficult to cross and discourages travel by bike or foot
- Further significant development in the Ashchurch area cannot be delivered without additional capacity on the road network.

Without intervention, the existing traffic problems at M5 Junction 9 and on the A46 through Ashchurch will continue to get worse. The Cotswold Designer Outlet is due to open in 2025 and over 1,400 new homes have been consented at Fiddington Fields to the east of the M5 and accessed via the A46.

Tewkesbury Borough Council is also advancing its Garden Communities programme. The programme's aim is to ensure that housing and employment opportunities are managed in the best possible way by enabling comprehensively planned, connected communities designed to encourage good growth, helping new and existing residents to enjoy the best possible quality of life.

Diverting long-distance traffic - including HGVs - from the A46 through Ashchurch onto a new road will be key to the successful development of the Tewkesbury Garden Communities. This will provide capacity for additional housing and employment opportunities, and crucially provide benefits to the existing communities, offering a more pleasant environment for residents and greater opportunities for walking, cycling and sustainable travel along the existing road.



2. Problems to be addressed by the scheme

2.1. Summary of key issues and problems

Five key issues along with ten related problems have been identified that the scheme is seeking to address as set out in Table 2-1 below.

Issues 1 to 4 and Problems 1 to 8 relate to existing problems experienced at M5 Junction 9 and on the A46 through Ashchurch for drivers, cyclists and pedestrians. While they are existing problems, most are also expected to worsen in future due to additional traffic generated by consented developments and background growth in long distance traffic.

Issue 5 and Problems 9 to 10 relate to future transport problems that will be encountered (with respect to M5 Junction 9 and the A46) in progressing Garden Community developments to meet future housing and employment needs in the Tewkesbury / Ashchurch area.

Supporting evidence for the problems identified is presented in Section 2.2.

Table 2-1 - Summary of issues and problems to be addressed by the scheme

Issue 1: Journey times, reliability and queuing at M5 Junction 9 and on the A46 between M5 Junction 9 and Teddington Hands roundabout, during peak periods

- Problem 1) Congestion and delays at M5 Junction 9 and on the A46 between M5 Junction 9 and Teddington Hands roundabout during peak periods
- Problem 2) Poor journey time reliability at M5 Junction 9 and on the A46 between M5 Junction 9 and Teddington Hands roundabout during peak periods
- Problem 3) Persistent and high queue lengths at M5 Junction 9 and A46 Aston Cross junction during peak periods

Issue 2: Supporting national connectivity between the Midlands and the South West

 Problem 4) The A46 is unable to fulfil its role as a strategic route due to congestion and reliability issues in the Ashchurch area (both under business-as-usual conditions and in providing network resilience to incidents on the M5 / M42 / M40)

Issue 3: Safety risks at M5 Junction 9 and along the A46 between Tewkesbury and Ashchurch

- Problem 5) Mainline queuing on the northbound off-slip at M5 Junction 9 presents a safety risk, with queuing on the hard shoulder
- Problem 6) General risk of collisions including with cyclists and pedestrians along the A46 between Tewkesbury and Ashchurch including M5 Junction 9



Issue 4: Sustainable travel and severance

- Problem 7) Inadequate provision for cyclists and pedestrians at M5 Junction 9 and along the A46 and A438 between Shannon Way and Aston Cross
- Problem 8) Severance caused by M5 Junction 9 and A438 / A46 impacting on active travel for journeys

Issue 5: Enabling Tewkesbury Borough Council to meet future housing and employment land needs (beyond current consents)

- Problem 9) Strategic housing and employment growth in the Ashchurch area cannot be delivered without additional capacity on the road network and improved transport access to potential development areas
- Problem 10) Strategic housing and employment growth in the Ashchurch area cannot be delivered without improved provision for active travel.

2.2. Supporting evidence for problems identified

Table 2-2 summarises the evidence for the problems identified above. Evidence regarding problems relating to current conditions (including traffic levels, journeys times, delays and provision for walking and cycling is presented in more detail in the 'Scheme context and existing conditions' document.

Some additional data sources and measures are referred to and are explained below:

- GCTM model the Gloucestershire Countywide Transport Model is a strategic highway assignment model developed using the SATURN software programme covering the whole of Gloucestershire and M5 and A46 corridors extending through Worcestershire
- Paramics model this a 'microsimulation' model which is limited to just the Tewkesbury and Ashchurch area including the M5 and A46 but is able to model peak period traffic conditions in greater detail than the GCTM
- Average delay this is measured as the difference between the average journey time for vehicles during the AM / PM peak period compared to the off-peak average journey time between two locations
- 95th percentile journey time alongside the average journey time, this provides an indication of the reliability or variability of journey times. It is the journey time below which 95% of all observed vehicle journey times between two locations are measured, i.e. 95% of journey times are faster than this
- Peak periods the AM Peak covers the period between 0700 and 1000 hours, and the PM Peak between 1600 and 1900 hours. The off-peak used as comparison for deriving average delays is the overnight period between 1900 and 0700 hours.



Table 2-2 - Summary of supporting evidence for key problems to be addressed by the scheme

Problems	Evidence of problems	Data source
Issue 1: Journey times, reliability and queuing at M5 Junction 9 and on the A46 between M5 Junction 9 and Teddington Hands roundabout, during peak periods		
1) Congestion and delays at M5 Junction 9 and on the A46 between M5 Junction 9 and Teddington Hands roundabout during peak periods	As of 2019, the average delay when driving along the A46 between M5 Junction 9 and Teddington Hands roundabout during peak periods are: • More than 4 minutes when travelling eastbound in the AM Peak and PM Peak • More than 5 minutes when travelling westbound in the AM Peak • More than 6 minutes when travelling westbound in the PM Peak By 2031, including traffic generated by consented development, average delays in this section of the A46 during AM and PM peak periods are forecast to increase by 1 to 2 minutes.	Mobile phone dataGCTM Model
2) Poor journey time reliability at M5 Junction 9 and on the A46 between M5 Junction 9 and Teddington Hands roundabout during peak periods	In 2019, when driving along the A46 between M5 Junction 9 and Teddington Hands roundabout, the 95th percentile journey time compared to average journey time took: • Over 13 minutes longer when travelling eastbound in the AM Peak • Over 12 minutes longer when travelling eastbound in the PM Peak • Nearly 14 minutes longer when travelling westbound in the AM Peak • Over 20 minutes longer when travelling westbound in the PM Peak	Mobile phone data



Problems	Evidence of problems	Data source
3) Persistent and high queue lengths at M5	Maximum queue lengths observed during peak periods on 21 st and 22 nd September 2022):	 Queue survey data (September
Junction 9 and A46 Aston Cross junction during peak	M5 Junction 9	2022)
periods	 Up to 40 vehicles at M5 Junction 9 northbound off-slip 	Paramics model
	 Up to 30 vehicles at M5 Junction 9 southbound off-slip 	
	 More than 30 vehicles on the A438 	
	 Up to 20 vehicles on the A46 	
	Aston Cross Junction	
	 Up to 40 vehicles on the A46 in both directions 	
	 Up to 20 vehicles on the B4079 in both directions 	
	Improvements to M5 Junction 9 completed by the developers of the Dobbies Garden Centre and Cotswold Designer Outlet in 2023 include widening of the slip road and A438 leaving the junction towards Tewkesbury which aims to reduce the incidence of queuing back on to the M5.	
	By 2031, maximum queue lengths are expected to increase at both junctions during peak periods due to forecast traffic growth.	



Problems	Evidence of problems	Data source	
Issue 2: Supporting national connectivity between the Midlands and the South West			
4) The A46 is unable to fulfil its role as a strategic route due to congestion and reliability issues in the Ashchurch area (both under business-as-usual conditions and in providing network resilience to incidents on the M5 / M42 / M40)	 Travelling northbound from M5 Junction 10 to A46 south of Evesham: Average delay during peak periods: More than 8 minutes 95th percentile journey time compared to average journey time: More than 25 minutes longer Travelling southbound from A46 south of Evesham to M5 Junction 10: Average delay during peak periods: Up to 7 minutes 95th percentile journey time compared to average journey time: Up to 24 minutes longer By 2031, including effects of traffic generated by consented development, driving between M5 Junction 10 to A46 south of Evesham during peak periods is expected to take: Up to 3 minutes longer when travelling eastbound More than 3 minutes longer when travelling westbound Reliability is also expected to worsen as the result of traffic level increase in both directions. 	Mobile phone data GCTM Model	



Problems	Evidence of problems	Data source
Issue 3: Safety risks at M5 J	unction 9 and along the A46 between Tewkesbury and Ashchurch	
5) Mainline queuing on the northbound off-slip at M5 Junction 9 presents a safety risk, with queuing on the hard shoulder	As discussed in Problem 3, traffic surveys conducted in September 2022 recorded a maximum queue length of 40 vehicles at M5 Junction 9 northbound off-slip during peak periods. In the 2023 Birmingham to Exeter Route Strategy (https://routestrategies.nationalhighways.co.uk/), National Highways also highlighted safety concerns regarding queues at M5 Junction 9 extending back on to the M5. Improvements to the junction completed by the developers of the Dobbies Garden Centre and Cotswold Designer Outlet in 2023 include widening of the slip road and A438 leaving the junction towards Tewkesbury which aims to reduce the incidence of queuing back on to the M5. With future traffic growth, the queue lengths at M5 Junction 9 northbound off-slip are expected to increase again, leading to more frequent queuing on the hard shoulder of the M5 motorway.	 Queue survey data (September 2022) National Highways Route Strategies Paramics Model
6) General risk of collisions including with cyclists and pedestrians along the A46 between Tewkesbury and Ashchurch including M5 Junction 9	Vehicle collision rates on the A46 are below the national average. However, since 2020 five collisions resulting in cyclist or pedestrian injuries have been recorded at M5 Junction 9 and on the A46 between Alexandra Way and the rail bridge. There is a risk of increased collisions in future due to additional traffic, cyclists and pedestrians forecast as a result of the various developments in the area.	 Department for Transport 'STATS 19' vehicle collision data Paramics Model



Problems	Evidence of problems	Data source
Issue 4: Sustainable travel and severance		
7) Inadequate provision for cyclists and pedestrians at M5 Junction 9 and along the A46 and A438 between Shannon Way and Aston Cross	 The shared use path to the north of the A438 from Shannon Way through M5 Junction 9 to the A46 at Aston Cross is narrow with frequent obstructions. Crossings at signalised junctions and other side roads do not meet current design standards for walking and cycling Crossings of the A46 between M5 Junction 9 and Aston Cross do not give sufficient priority to pedestrians / cyclists with gaps in provision (e.g. no 	Direct observation / site visit
	 controlled crossings between Ashchurch View Care Home and Aston Cross) Footpath between the A46 and Ashchurch for Tewkesbury rail station is substandard - narrow with no separate facilities for cyclists 	
	 Demand for walking and cycling along the A438/A46 including through M5 Junction 9 is expected to increase as the Fiddington retail and housing developments are completed. 	
8) Severance caused by M5 Junction 9 and A438 / A46 impacting on active travel	 Physical severance caused by M5 Junction 9 affects walking and cycling journeys between Ashchurch / Northway and Tewkesbury, including journeys between housing to the east of the M5 and Tewkesbury Academy 	Direct observation / site visit
for journeys	 Alternative routes such as Northway Lane do not meet the needs of users along the A46 / A438 corridor 	
	 Volume of traffic on the A46 and limited controlled crossing points between M5 Junction 9 and Aston Cross affecting walking and cycling journeys along and across the A46 (with traffic volumes forecast to increase in future). 	
Issue 5: Enabling Tewkesbury Borough Council to meet future housing and employment land needs (beyond current consents)		

Problems	Evidence of problems	Data source
9) Strategic housing and employment growth in the Ashchurch area cannot be delivered without additional capacity on the road network and improved transport access to potential development areas	 Limited capacity at the following locations to accommodate further growth beyond current approved development: M5 Junction 9 due to the proximity of junctions either side on the A438 and A46, creating risk of traffic blocking back onto M5 slip roads which would increase risk of collisions on the M5 mainline A438 / A46 corridor at main pinch-points: signalised junctions at Shannon Way, Alexandra Way / Diamond Road, Moog access, Northway Lane / Loverose Way and Aston Cross Access from the M5 to potential development sites to the south of the A46 is not adequate to support the potential scale of development envisaged as part of the Garden Community proposals 	GCTM Model Paramics model
10) Strategic housing and employment growth in the Ashchurch area cannot be delivered without improved provision for active travel	 The following factors will negatively affect walking and cycling experience and limit active travel uptake among future residents of the Garden Communities: The substandard existing shared use path to the north of the A46 between M5 Junction 9 and Aston Cross High traffic volumes (including HGVs) and congestion along A46 	Direct observation / site visit



3. Impact of not changing

Following the presentation of the problems to be addressed by the scheme in Section 2, this section outlines what the future situation would look like without intervention with respect to impact on transport users, communities and future housing and employment growth.

3.1. Impact on transport users

With significant consented development still to be completed including the new Cotswold Designer Outlet and over 1,400 new homes at the Fiddington Fields site, it is evident that traffic volumes on the A46 at Ashchurch will increase over the next 10 years even if no further development is approved. Modelling has demonstrated that this will result in further increases in journey times and gueuing on the A46 during the AM and PM Peak periods, affecting both local and long-distance journeys.

Recent improvements to M5 Junction 9 have reduced the incidence of queuing on the northbound off-slip extending back to the M5 hard shoulder and mainline. However, transport modelling indicates this is expected to become problematic again in future due to a combination of local and long-distance traffic growth.

If no improvements are made to the walking and cycling provision at M5 Junction 9 and along the A46, this is likely to discourage new residents from using these modes for short journeys (for example between Ashchurch and Tewkesbury, including for trips to Tewkesbury Academy, the new Cotswold Designer Outlet and Ashchurch for Tewkesbury rail station). In turn this will reinforce high car dependency for local journeys along the A46 and through M5 Junction 9 and exacerbate the congestion problems experienced on the network.

Safety concerns have also been highlighted for cyclists and pedestrians with a risk of increased collisions in future due to additional traffic, cyclists and pedestrians forecast as a result of the various developments in the area.

Impact on communities 3.2.

Without intervention to address the transport problems described above, increased traffic flows and worsening congestion at M5 Junction 9 and along the A46 will impact on residents and businesses through severance, traffic noise and air quality impacts.

Existing residential areas along the A46 at St Davids Road, Fitzhamon Park, Tirle Brook Road, Ashton Crescent and Aston Cross would be most affected, along with residents of the wider Ashchurch and Northway area that need to use or cross the A46 to access local amenities and employment.

Ashchurch Primary School is located on the southern side of the A46 and with Tewkesbury Academy (plus the Alderman Knight Special Educational Needs School) located adjacent to M5 Junction 9, severance, traffic noise and air quality impacts will particularly affect the area's schoolchildren.



Transport modelling also indicates that without intervention there is potential for adverse impacts on communities at Bishops Cleeve and Stoke Orchard and in the Cotswolds National Landscape (formerly Area of Outstanding Natural Beauty) due to traffic re-routing to avoid congestion at Ashchurch.

Impact on future housing and employment provision 3.3.

The overall vision for Tewkesbury Garden Communities comprising around 10,000 new homes and 100 hectares of employment land would clearly require a strategic approach to meeting the transport needs of both current and future residents, including a plan to address the problems identified with respect to M5 Junction 9 and the A46. Without this, it is likely that the impacts at M5 Junction 9 and along the A46 would become severe / unacceptable. reaching a point where further development would not be permitted.

In turn, this would result in greater pressure from developers to build on other sites in the Borough of Tewkesbury (and in Wychavon to the north of Tewkesbury) to meet future housing needs, in a manner that is less likely to be supported by strategic investment in infrastructure and could result in greater adverse impacts on communities.



Objectives and outcomes

4.1. Scheme objectives

The problems identified at M5 Junction 9 and along the A46 presented above are the key drivers for the scheme. They have therefore formed the basis for the scheme objectives and associated outcomes.

The scheme objectives are listed below:

- Improve local journey times and reliability during peak periods at M5 Junction 9 and on the existing A46 corridor between M5 Junction 9 and Teddington Hands roundabout
- Improve the overall performance of the A46 strategic corridor between the M5 to the south and the A46 to the north of Evesham, ensuring the route provides a reliable connection between the Midlands and the South West
- Improve safety performance at M5 Junction 9 and the A46 between M5 Junction 9 and Aston Cross for all users
- Reduce severance and improve the experience for walking and cycling journeys at M5 Junction 9 and along/across the A438 and A46 between Tewkesbury Academy and Aston Cross.
- Ensure the Strategic Road Network meets likely future development needs in the Ashchurch area considering potential for long-term growth

Note the order of the objectives does not imply any ranking or preference and all must be addressed for the scheme to be a success. While the final objective listed above highlights the importance of meeting future development needs in the Ashchurch area, addressing the other objectives will be essential to both resolving existing problems and meeting future development needs.

Supporting outcomes and measures 4.2.

For each objective, supporting outcomes and measures have been identified. These set out in more detail what the scheme is seeking to achieve and how success will be measured.

Table 4-1 summarises the supporting outcomes and measures which have been used to assess the performance of options as part of the options sifting and assessment.



Table 4-1 - Summary of objectives and supporting outcomes / measures

Issue	Objective	Supporting outcomes / measures
Issue 1: Journey times, reliability and queuing at M5 Junction 9 and on the A46 between M5 Junction 9 and Teddington Hands roundabout, during peak periods	Improve local journey times and reliability during peak periods at M5 Junction 9 and on the existing A46 corridor between M5 Junction 9 and Teddington Hands roundabout	 Perceivable reduction in average peak period congestion and improved dayto-day journey reliability for: The existing A46 corridor between M5 Junction 9 and Teddington Hands roundabout M5 Junction 9 northbound off-slip to the A438 M5 Junction 9 northbound off-slip to the A46 Removal of persistent peak period queuing issues at M5 Junction 9 and the Aston Cross junction.
Issue 2: Supporting national connectivity between the Midlands and the South West	Improve the overall performance of the A46 strategic corridor between the M5 to the south and the A46 to the north of Evesham, ensuring the route provides a reliable connection between the Midlands and the South West	Improved average journey times and day-to-day reliability at all times of day between the M5 at Junction 10 and the A46 at Evesham.
Issue 3: Safety risks at M5 Junction 9 and along the A46 between Tewkesbury and Ashchurch	Improve safety performance at M5 Junction 9 and the A46 between M5 Junction 9 and Aston Cross for all users	Traffic queues on northbound off-slip at M5 Junction 9 are contained within the slip road and do not extend on to the hard shoulder or impact mainline flows. Reduced incidence of vehicle collisions (including with cyclists and pedestrians) at M5 Junction 9 (including slip-roads and M5 mainline) and along the A46 between M5 Junction 9 and Aston Cross.
Issue 4: Sustainable travel and severance	Reduce severance and improve the experience for walking and cycling journeys at M5 Junction 9 and along/across the A438 and A46 between Tewkesbury Academy and Aston Cross	Improved level of service for walking and cycling on the A438 and A46 between Shannon Way and Aston Cross, including at M5 Junction 9. Relevant design standards to be met including with respect to minimum space requirements, level of



Issue	Objective	Supporting outcomes / measures
		segregation, continuity and road crossings.
		Reduced severance:
		 At M5 Junction 9 for journeys between Ashchurch / Northway / Fiddington and A438 / Tewkesbury Academy
		 Along the A46 between M5 Junction 9 and Aston Cross.
Issue 5: Enabling Tewkesbury Borough Council to meet future housing and employment land needs (beyond current consents)	Ensure the Strategic Road Network meets likely future development needs in the Ashchurch area considering potential for long-term growth	Sufficient additional road network capacity provided to meet future development needs at M5 Junction 9 and along the A46 between the M5 and Teddington Hands roundabout (including new motorway junction and A46 alignments that are proposed by this scheme).
		Improved access between the M5 and potential housing and employment sites to the south of the existing A46 (i.e., alternative to the B4079 and existing A46 through Ashchurch).