Local Transport Plan Review

Proposed Monitoring Indicators

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Category	Strategic Planning
Owner	Ben Watts
Target Audience	Anyone wishing to know more about the proposals for monitoring the impacts of the LTP

GLOUCESTERSHIRE COUNTY COUNCIL

Local Transport Plan Review

Proposed Monitoring Indicators

Contents Amendment Record

This report has been issued as a working document as follows:

Issue	Revision	Description	Date	Signed
0.1	1	Initial draft	Feb 2016	SW
1.0	1	Final draft	Mar 2016	SW

Contents

Introduction

This document identifies the 14 voluntary performance indicators and targets which will be used to assess the impact of Gloucestershire's Local Transport Plan. The review identifies the policies influenced by each indicator; it outlines what the data is for and why it is important.

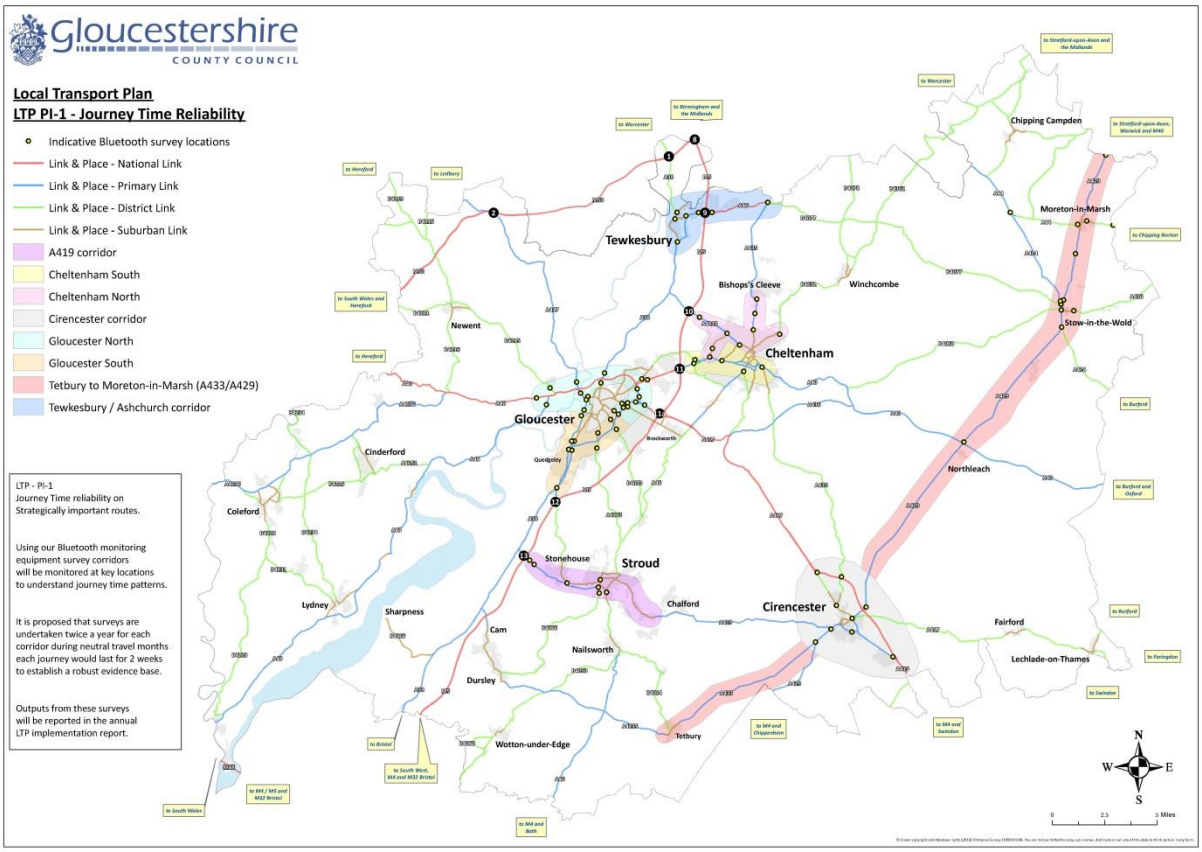
The policy document owner and the monitoring officer are also identified for each indicator with a methodology of how data is collected and collated to ensure consistent results. Historic trend data has been used to inform a target for each indicator, the LTP outcomes it will help to assess are also listed.

LTP Implementation Reports will be produced annually to document performance against the LTP monitoring indicators, scheme delivery and any changes in policies. All documents will be published on the GCC website and a document management system used.

A mix of quantitative and qualitative data will be used from existing data sets to minimise cost, while ensuring reliability. Data is collected via a variety of sources and these are identified with each data set.

LTP PI-1 - Journey time reliability on strategic important routes during the AM peak

Links to monitor impacts of:
• LTP Policy Document 3 - Freight • LTP Policy Document 4 – Highways
Policy Document Owner:
• Scott Tomkins, Lead Commissioner Highways Authority
Monitoring Officer:
• Andy Tonkinson – Senior Asset Data Officer – Highway Assets
What will this indicator show / Why is it important?
Gloucestershire's Link and Place spectrum characterises the highway network within county depending on its role and function. National and primary links have been identified as being strategically critical for the local economy and therefore journey time reliability is an important factor.
Methodology for collecting the data
The average week day total journey time during the AM peak (08:00-09:00hrs) will be captured for 13 strategic trips within the 8 corridors across the county:



Annual average data will be captured using Trafficmaster data accessed via the web tool Highway Analyst. Trafficmaster is a GPS sourced dataset that is centrally purchased by the Department for Transport and contains millions of GPS links. This data is collated from various sources and linked to

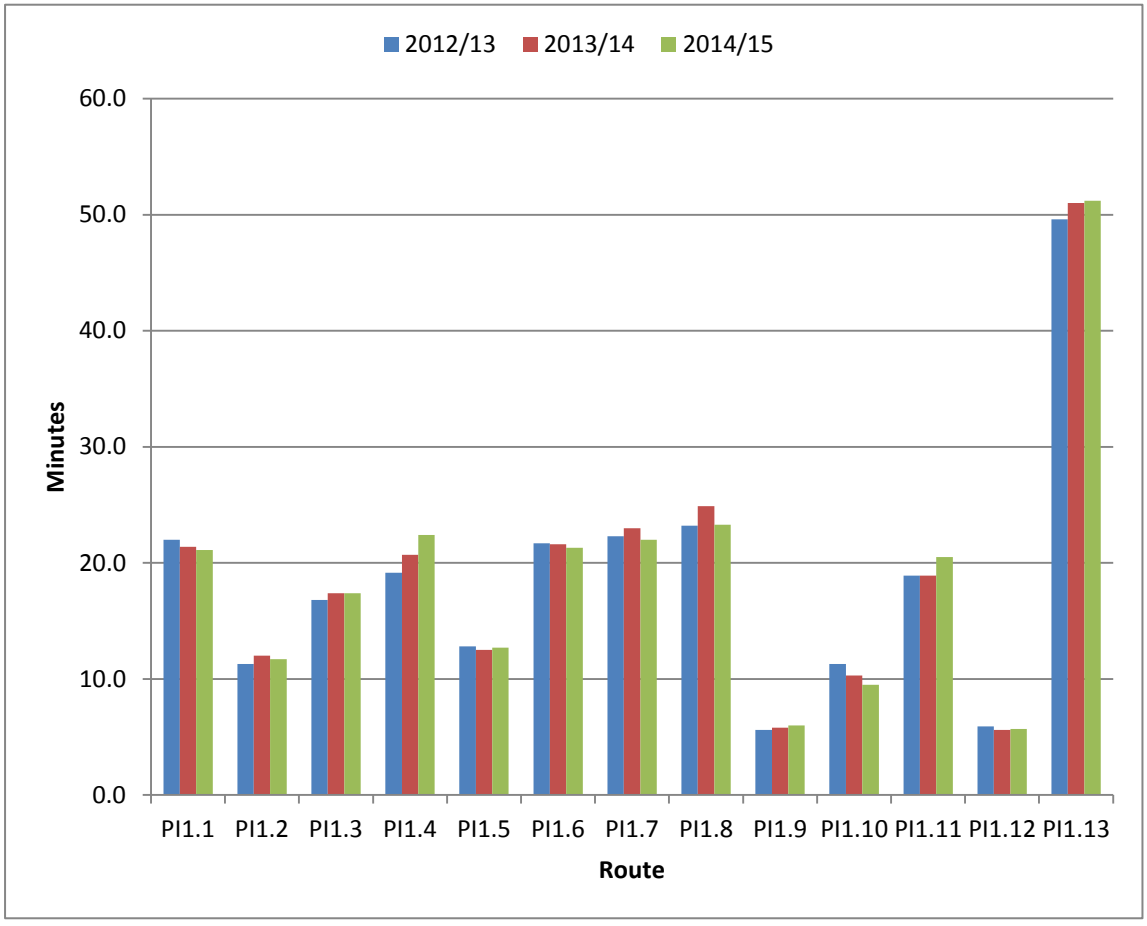
Ordnance Survey's ITN (Integrated Transport Network). Trafficmaster data gives an indication towards congestion by using the GPS speeds to work out the speed of traffic on different days and times.

GCC Strategic trips include:

LTP PI 1.1 - Charlton Kings (using A40) to M5 junction 11
LTP PI 1.2 - Churchdown to Kings ditch Retail park (using B4063)
LTP PI 1.3 - Coombe Hill to Charlton Kings (using A419 / A46 / A435 / A40)
LTP PI 1.4 - Bishop's Cleeve to Shurdington (using A435 / A46)
LTP PI 1.5 - Highnam Court roundabout to Barnwood Business Park (using A40 A417)
LTP PI 1.6 - Highnam Court roundabout to M5 junction 12 (using A430 / A38)
LTP PI 1.7 - M5 junction 12 to Barnwood Business Park (using A38)
LTP PI 1.8 - Gloucester Railway Station to Cheltenham Railway Station (using B4063 / A40 / B44633)
LTP PI 1.9 - Teddington Hands roundabout to M5 junction 9
LTP PI 1.10 - A38 Odessa PH junction to M5 junction 9 (using A38 / A438)
LTP PI 1.11 - Brimscombe to M5 junction 13
LTP PI 1.12 - Stratton to South Cerney junction on A417 (using A435 / A429 / A419)
LTP PI 1.13 -Tetbury to Moreton-Marsh using A433 and A429

Historic trend data

Average weekday journey time 08:00-09:00 M-F (excl. school holidays) in minutes



It is important to maintain journey time reliability. The total journey times will be considered across the 13 routes to provide an average annual journey time variance. This variance will fluctuate across the different routes, but for the purposes of this indicator the average variance across all routes will be recorded.

	2012/13	2013/14	Annual % Change	2014/15	Annual % Change
PI1.1	22.0	21.4	-2.73%	21.1	-1.40%
PI1.2	11.3	12.0	6.19%	11.7	-2.50%
PI1.3	16.8	17.4	3.57%	17.4	0.00%
PI1.4	19.2	20.7	8.04%	22.4	8.21%
PI1.5	12.8	12.5	-2.34%	12.7	1.60%
PI1.6	21.7	21.6	-0.46%	21.3	-1.39%
PI1.7	22.3	23.0	3.14%	22.0	-4.35%
PI1.8	23.2	24.9	7.33%	23.3	-6.43%
PI1.9	5.6	5.8	3.57%	6.0	3.45%
PI1.10	11.3	10.3	-8.85%	9.5	-7.77%
PI1.11	18.9	18.9	0.00%	20.5	8.47%
PI1.12	5.9	5.6	-5.08%	5.7	1.79%
PI1.13	49.6	51	2.82%	51.2	0.39%
Annual Average % change			**1.05%**		**0.13%**

Target details

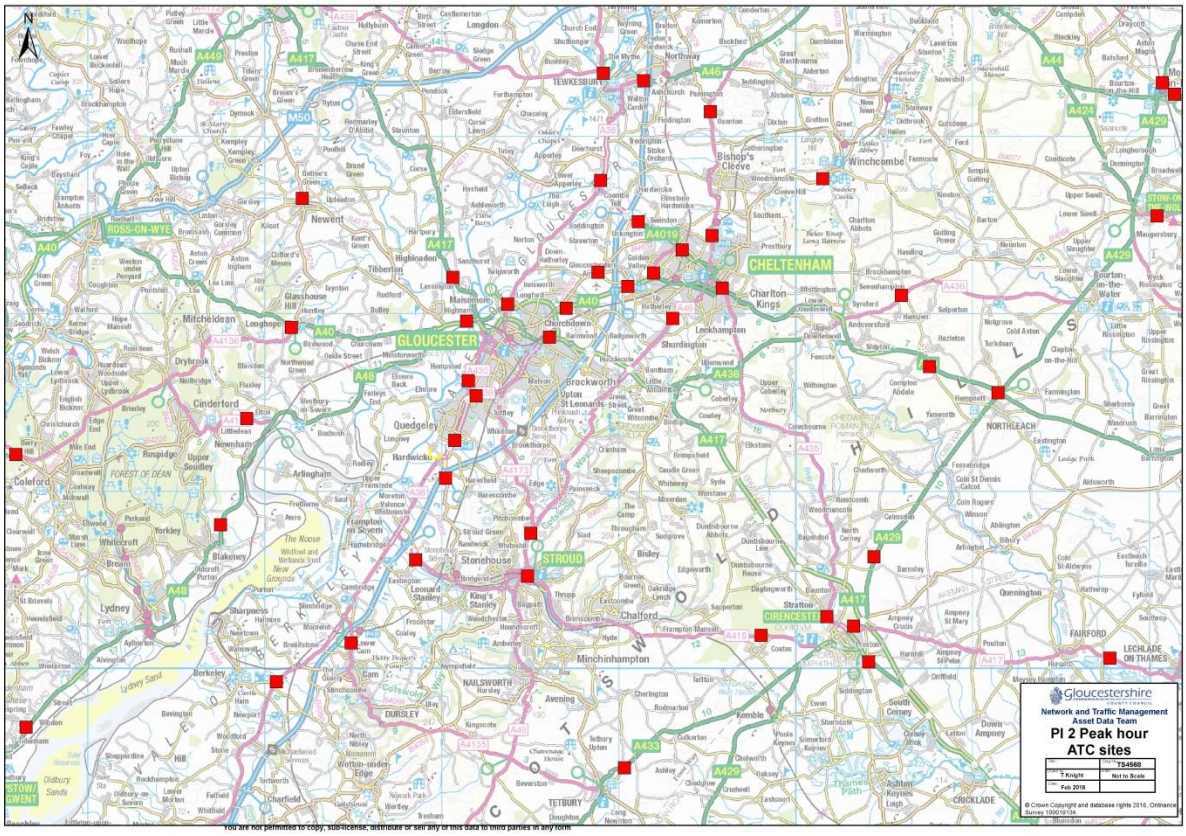
To maintain annual average AM peak hour journey time variance to + or – 1%

Outcomes it will help to assess

Support sustainable economic growth	• Gloucestershire is a place to do business and attract investment • The transport network is reliable, fit for purpose and demonstrates value for money • Increased journey time reliability • Greater economic activity • A transport network resilient to extreme weather events
Enable community connectivity	• A business community which benefits from connectivity with local, national and international markets • Individuals benefit from economic prosperity and social benefits

LTP PI-2 - Number of peak hour vehicle journeys

Links to monitor impacts of:
Outputs from this indicator will assist in understanding the impacts of policies outlined across all policy documents.
Policy Document Owner:
• Scott Tomkins, Lead Commissioner Highways Authority
Monitoring Officer:
• Andy Tonkinson – Senior Asset Data Officer – Highway Assets
What will this indicator show / Why is it important?
Between 2015 and 2031 Gloucestershire will see unprecedented change in terms of population growth, housing development, its economy and technological advancement. This will result in an increase in travel demand, which will impact the operation of the highway network. Some of this increase will be mitigated, but not all. Traditionally peak travel periods are between 08:00 and 09:00 and 17:00 and 18:00, but these peak travel periods are likely to change as people alter their journey times to avoid journey delays. The policies outlined in the LTP seek to manage the transport network to maximise its capacity and it is important to understand how these policies may need to alter during the plan period to maintain a functioning transport network during this time of increased demand.
Methodology for collecting the data



For the purposes of this indicator two-way unclassified vehicle annual average daily traffic (AADT)

flow data will be captured from 46 sites, which have been selected on strategic routes across the county.

The total number of vehicles recorded between 07:00 to 10:00 and 16:00 to 19:00 will be recorded as a total to represent a single countywide figure.

Historic trend data

	2011	2012	2013	2014	2015
AM peak -07:00 to 10:00	123,781	123,847	123,147	126,358	129,241
% Annual change		0.05%	-0.57%	2.61%	2.28%
% Change from 2011		0.05%	-0.51%	2.08%	4.41%

	2011	2012	2013	2014	2015
PM peak – 16:00 to 19:00	125,801	125,555	125,567	128,285	130,546
% Annual change		2.95%	0.40%	2.69%	1.68%
% Change from 2011		2.95%	3.36%	6.13%	7.92%

Target details

To restrict annual growth in the number peak demand vehicle journeys to 1% per annum

Outcomes it will help to assess

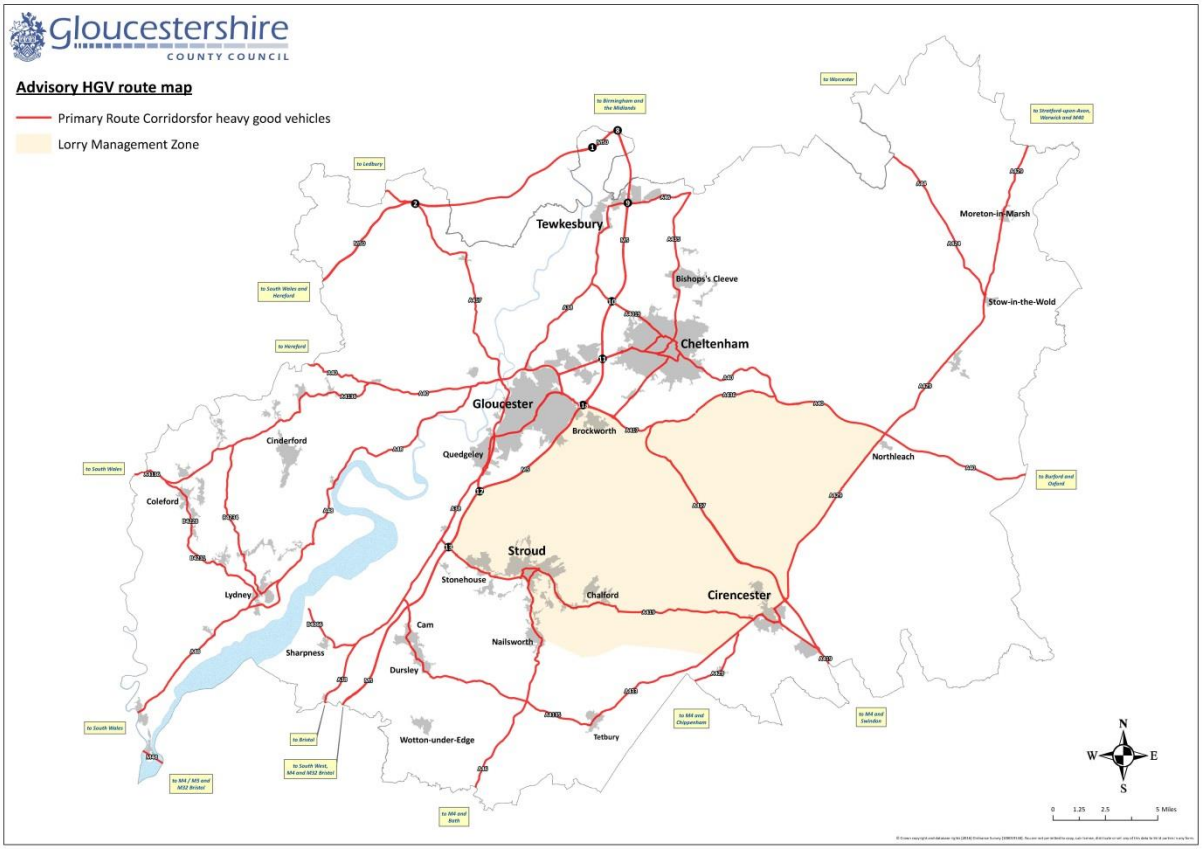
Support sustainable economic growth	• The transport network is reliable, fit for purpose and demonstrates value for money • Increased journey time reliability • Greater economic activity
Enable community connectivity	• A business community which benefits from connectivity with local, national and international markets • Individuals benefit from economic prosperity and social benefits
Conserve the environment	• A reduction in solo car use, and an increased uptake of sustainable transport modes (walking, cycling and public transport)
Improve community health and well being	• Less car trips resulting in fewer journey delays • Increased number of walking and cycling trips • Improved air quality • A healthy more active population (addressing obesity and associated conditions) • Better safety, security and health by reducing the risk of death, injury or illness arising from transport

LTP PI-3 - Reduction in inappropriate freight travel

Links to monitor impacts of:
• LTP Policy Document 3 - Freight • LTP Policy Document 4 – Highways
Policy Document Owner:
• Scott Tomkins, Lead Commissioner Highways Authority
Monitoring Officer:
• Andy Tonkinson – Senior Asset Data Officer – Highway Assets
What will this indicator show / Why is it important?

Goods need to transported on time and at the most efficient cost, but managed in a 'place-sensitive' manner. The efficient movement of highway freight is a key component of a healthy economy, but this needs to be balanced against community concerns regarding inappropriate or unsuitable route choices made by hauliers.

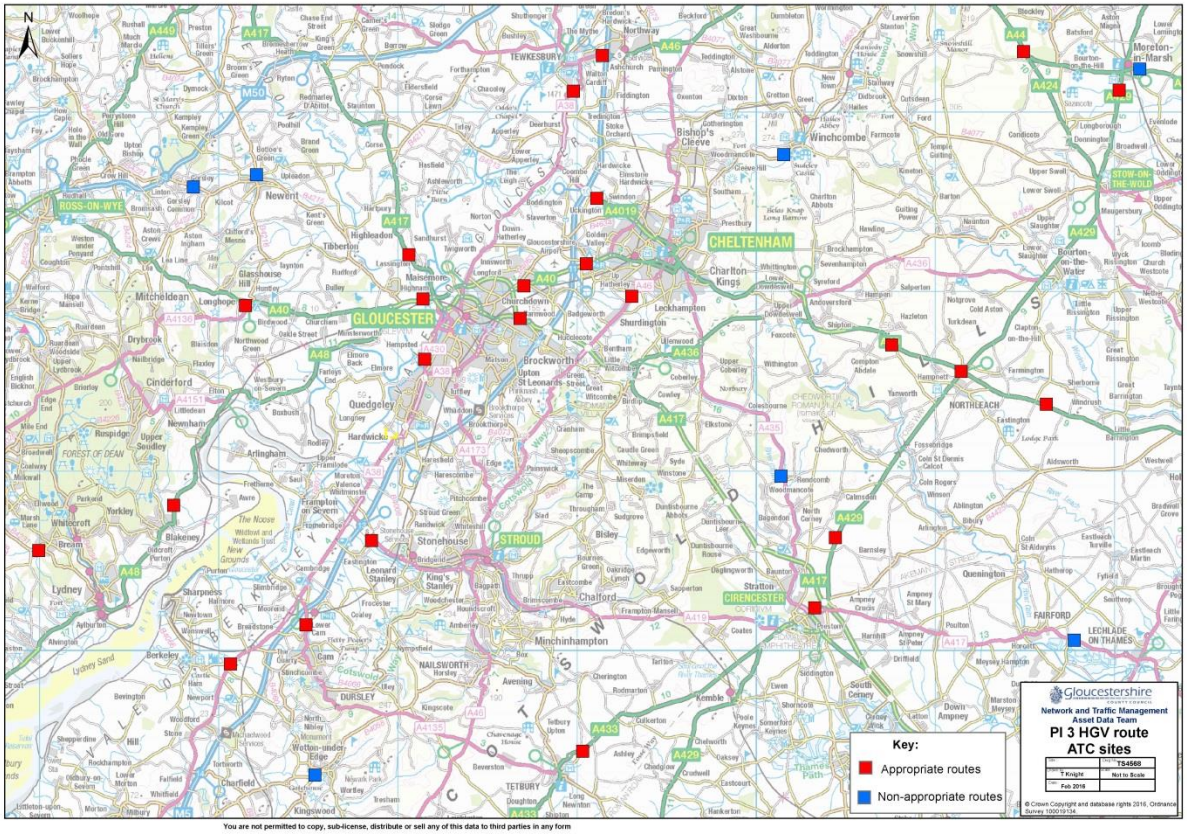
There are a number of freight movements that have historically used lower specification roads. For this reason the Policy LTP PD3.1 outlines the advisory HGV route network whose primary purpose will always be the movement of high traffic volumes.



Monitoring of HGV traffic will take place on and off the advisory freight map to assess how effective the Freight Policy document is. This will test if the advisory freight network is understood by its users. If it is not it will be necessary to review the approach to managing freight travel.

Methodology for collecting the data

Annual average daily classified vehicle flow data will be collected at 31 sites across the county. The map provided identifies the location of these monitoring sites. 24 of the sites are classified as being 'appropriate' (red sites) as they are located on the advisory GHV network and 7 sites are classified as being 'non appropriate' (blue sites) as they do not feature on the advisory route map and are known to have issues with HGV traffic.



Historic trend data

Data from the individual sites will be provided within our Annual Implementation Plan, but for the purposes of this document only the annual average figure will be provided.

% of HGV traffic as a total of annual average vehicle movements

	2011	2012	2013	2014	2015
Using HGV appropriate routes	6.4%	6.3%	6.2%	5.9%	5.8%
Using HGV non-appropriate routes	6.2%	6.8%	7.1%	7.4%	7.3%

It should be noted that at the time of writing two of the non-appropriate monitoring sites require upgrading to enable full classified vehicle data to be extracted.

Target details

To maintain the % of HGV traffic on inappropriate roads to less than 5%

Outcomes it will help to assess

Support sustainable economic growth	• Gloucestershire is a place to do business and attract investment • The transport network is reliable, fit for purpose and demonstrates value for money

	• Increased journey time reliability • A transport network resilient to extreme weather events • Heavy Goods Vehicle movements are balanced between the needs of business and local communities
Enable community connectivity	• A business community which benefits from connectivity with local, national and international markets
Conserve the environment	• Transport scheme are designed to reduce the adverse impact of transport on Gloucestershire's high quality natural, built and historic environments
Improve community health and well being	• Improved air quality • Better safety, security and health by reducing the risk of death, injury or illness arising from transport

LTP PI-4 - Principal road network condition

Links to monitor impacts of:

- PD3 – Freight
- PD4 – Highways

Policy Document Owner:

- Scott Tomkins, Lead Commissioner Highways Authority

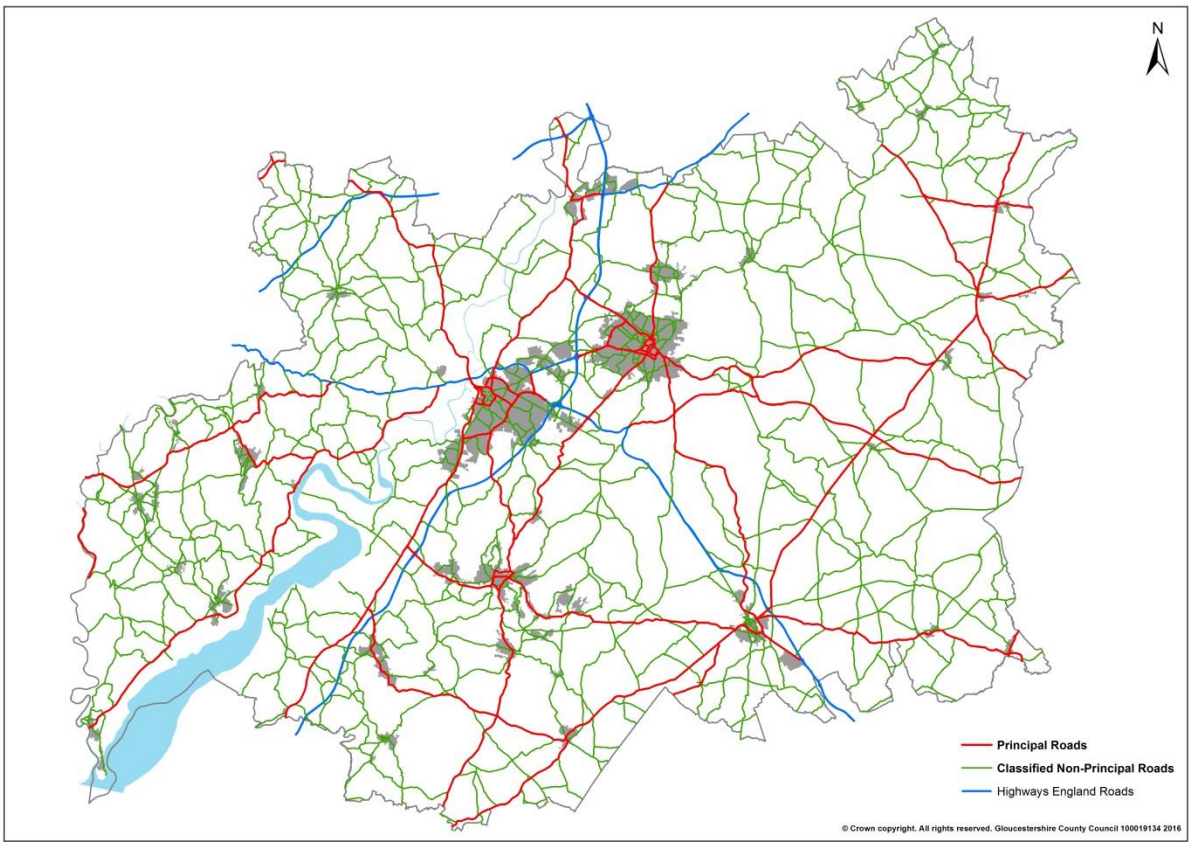
Monitoring Officer:

- Andy Tonkinson – Senior Asset Data Officer – Highway Assets

What will this indicator show / Why is it important?

The principal road network (PRN) is designated as A roads and provides regional and district distributor routes. There are currently 582 km of principal road network in Gloucestershire. The PRN is very important economically, and its condition impacts on network resilience and safety.

The map below illustrates the classified roads within the county.



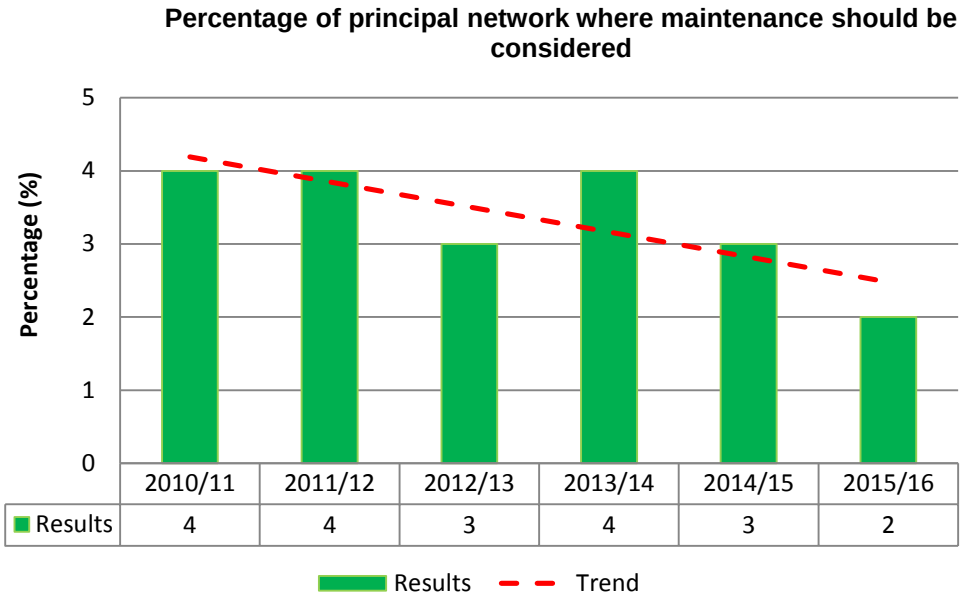
To efficiently manage our highway maintenance budgets and to get the best value and customer satisfaction, safety defect data is used to tackle areas of repeat issues. Reconstruction and resurfacing works can then be prioritised using a combination of road condition and defect data as well as engineer assessments and local stakeholder manager input to ensure a safe and resilient network for Gloucestershire.

Methodology for collecting the data

The road condition data required to calculate this indicator is provided by SCANNER (Surface Condition Assessment for the National Network of Roads) machine surveys and reported to the LTP

by Network and Traffic Management. In line with DfT guidance, 50% of the principal road network is surveyed in both directions, every year. The indicator is calculated on data collected over a two year period to ensure the whole network is considered. This indicator forms part of the single line data listing submission to central government (130-01) and is reported to the nearest whole number. The current structural maintenance strategy is to allocate sufficient capital funding to principal roads in order to maintain the current condition. Recent investment levels have managed to achieve this objective and even realise a slight improvement.

Historic trend data



Target details

Maintain the percentage of principal road network requiring maintenance at or below 4%

Outcomes it will help to assess

Support sustainable economic growth	• A transport network resilient to extreme weather events • Heavy Goods Vehicle movements are balanced between the needs of business and local communities • A thriving tourist industry which benefits from ease of access to the county's natural, built and historic environmental assets
Enable community connectivity	• A business community which benefits from connectivity with local, national and international markets
Improve community health and well being	• Better safety, security and health by reducing the risk of death, injury or illness arising from transport

LTP PI-5 - Non-Principal road network condition

Links to monitor impacts of:

- PD3 – Freight
- PD4 – Highways

Policy Document Owner:

- Scott Tomkins, Lead Commissioner Highways Authority

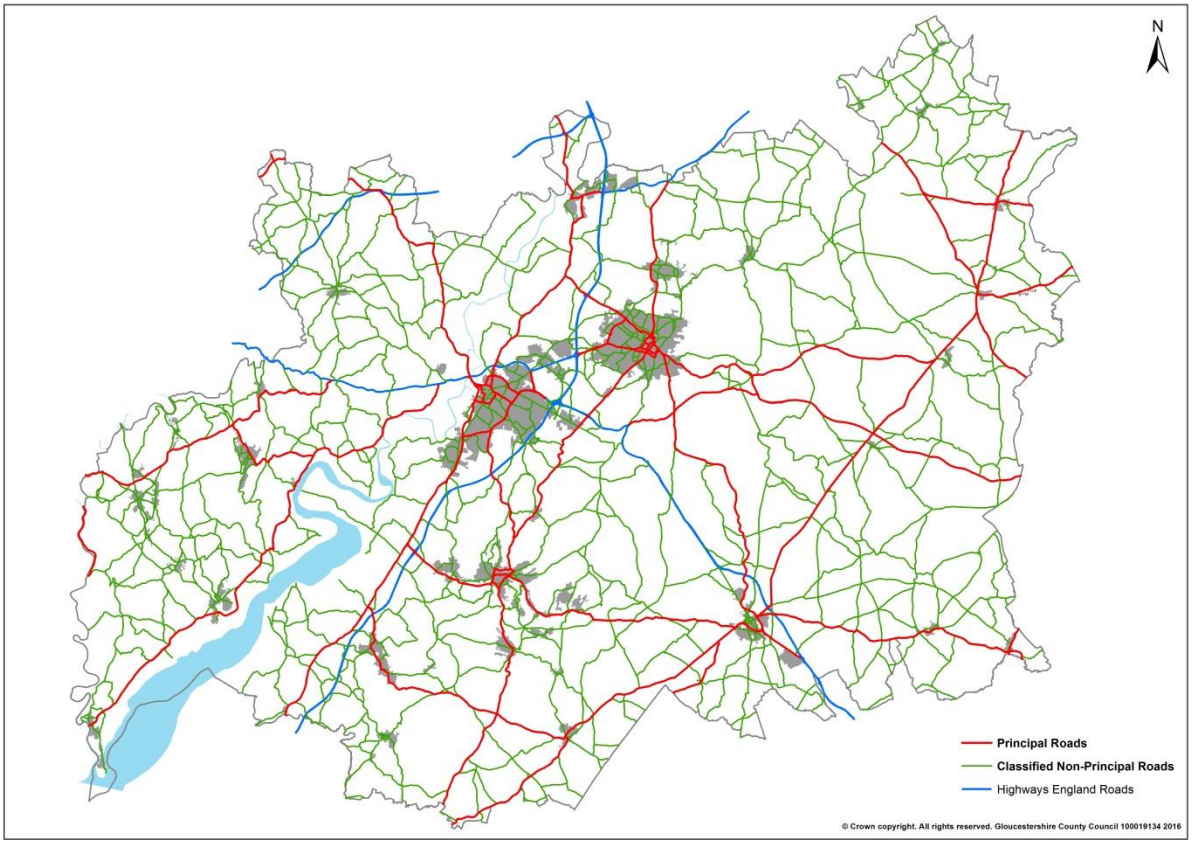
Monitoring Officer:

- Andy Tonkinson – Senior Asset Data Officer – Highway Assets

What will this indicator show / Why is it important?

This indicator shows the condition of the non-principal, classified road network. Non-principal roads are designated as B and C roads. In Gloucestershire there are 1966 km of classified non-principal road - B roads account for 407 km and 1559 km are C roads. These are main and secondary distributor routes, linking urban centres, larger villages and HGV generators to the strategic network. Preserving the condition of these routes ensures access and journey times are maintained to into key service areas for health, education, retail and employment.

The map below illustrates the classified roads within the county.

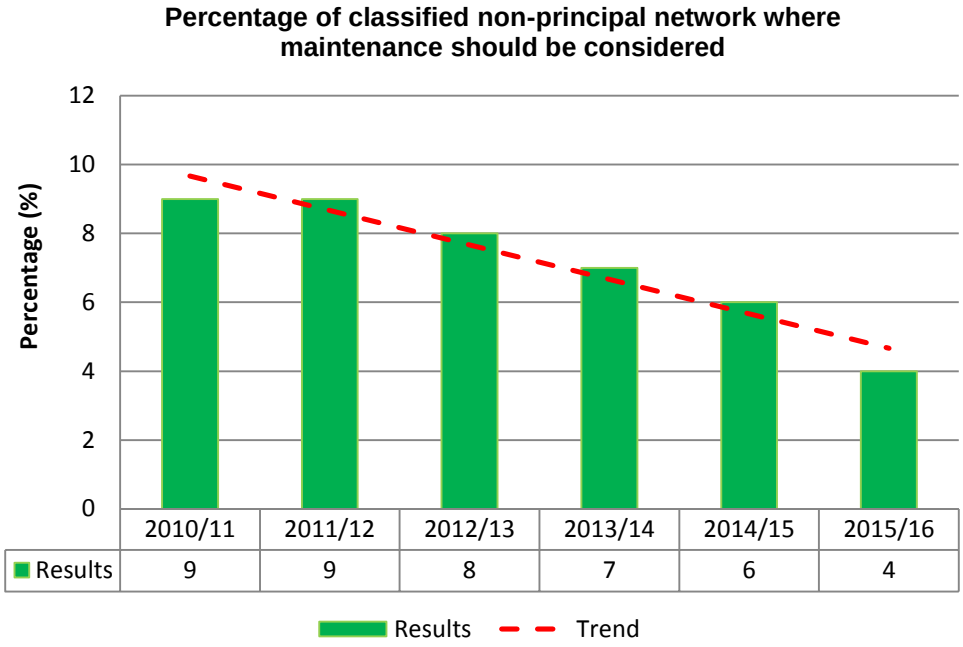


Methodology for collecting the data

The road condition data required to calculate this indicator is provided by SCANNER (Surface Condition Assessment for the National Network of Roads) machine surveys and reported to the LTP by Network and Traffic Management. The indicator is calculated on data collected over a two year period. In line with DfT guidance, half of the B road network is surveyed in both directions, every

year. Half of the C road network is also surveyed in both directions and though this is more than the national requirement, it ensures the whole network is considered in the calculation. This indicator forms part of the single line data listing submission to central government (130-02) and is reported to the nearest whole number. The current structural maintenance strategy is to allocate sufficient capital funding to classified non-principal roads in order to maintain the current condition. Recent investment levels have managed to achieve this objective and even realise a slight improvement. (Ref M7)

Historic trend data



Target details

Maintain the percentage of non-principal classified road network where maintenance should be considered at or below 9%

Outcomes it will help to assess

Support sustainable economic growth	• A transport network resilient to extreme weather events • Heavy Goods Vehicle movements are balanced between the needs of business and local communities • A thriving tourist industry which benefits from ease of access to the county's natural, built and historic environmental assets
Enable community connectivity	• A business community which benefits from connectivity with local, national and international markets
Improve community health and well being	• Better safety, security and health by reducing the risk of death, injury or illness arising from transport

LTP PI-6 - Unclassified road network condition

Links to monitor impacts of:

- PD3 – Freight
- PD4 – Highways

Policy Document Owner:

- Scott Tomkins, Lead Commissioner Highways Authority

Monitoring Officer:

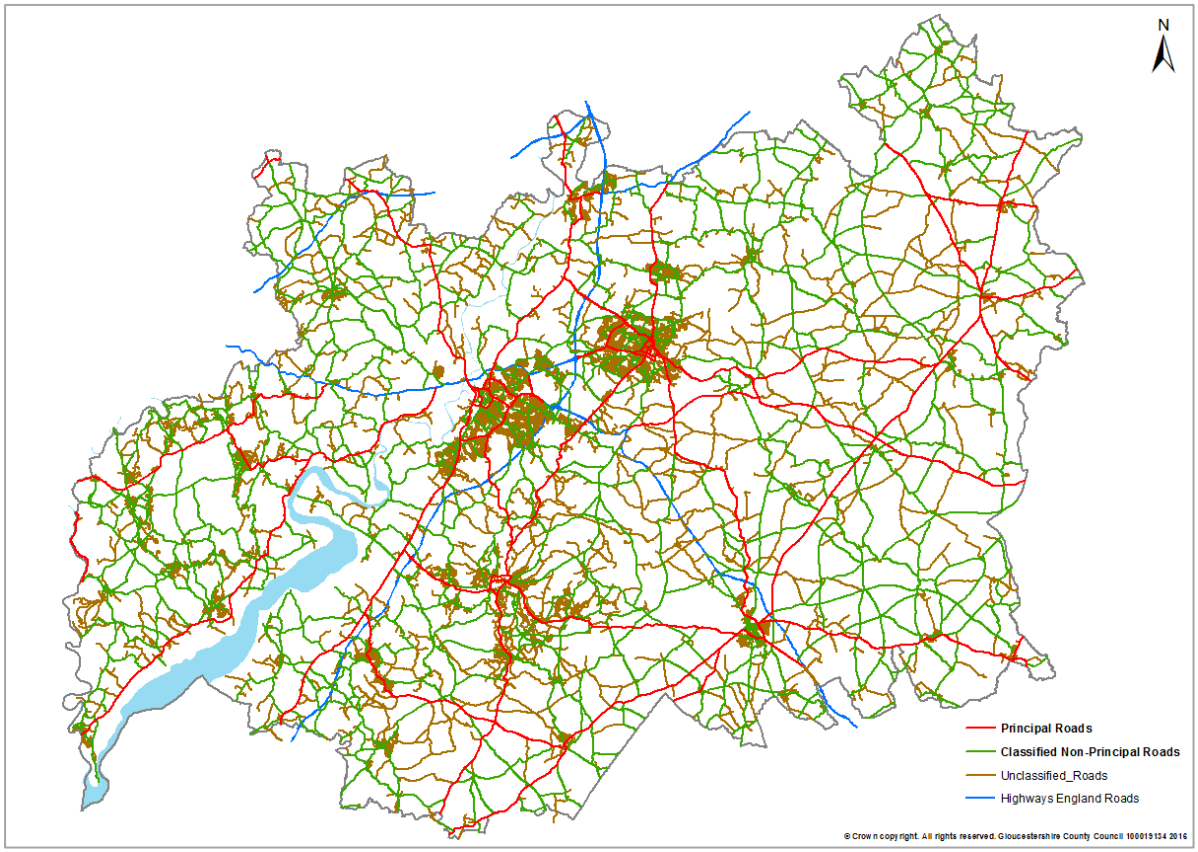
- Andy Tonkinson – Senior Asset Data Officer – Highway Assets

What will this indicator show / Why is it important?

The majority of the adopted highway network is comprised of unclassified roads. In Gloucestershire this amounts to 2935 km of network.

This indicator will monitor the condition of these roads, which in rural areas can link smaller villages to the distributor roads, serve small settlements and provide access to individual properties and land. In urban areas they are residential or industrial interconnecting roads, residential loop roads or cul-de-sacs. These are fundamental to any business or resident accessing the transport network for any means.

The map below illustrates the classified and unclassified roads within the county.



Methodology for collecting the data

There is no longer a national requirement to declare the condition of unclassified roads however this part of the network still serves an important function and amounts to over 50% of all roads in

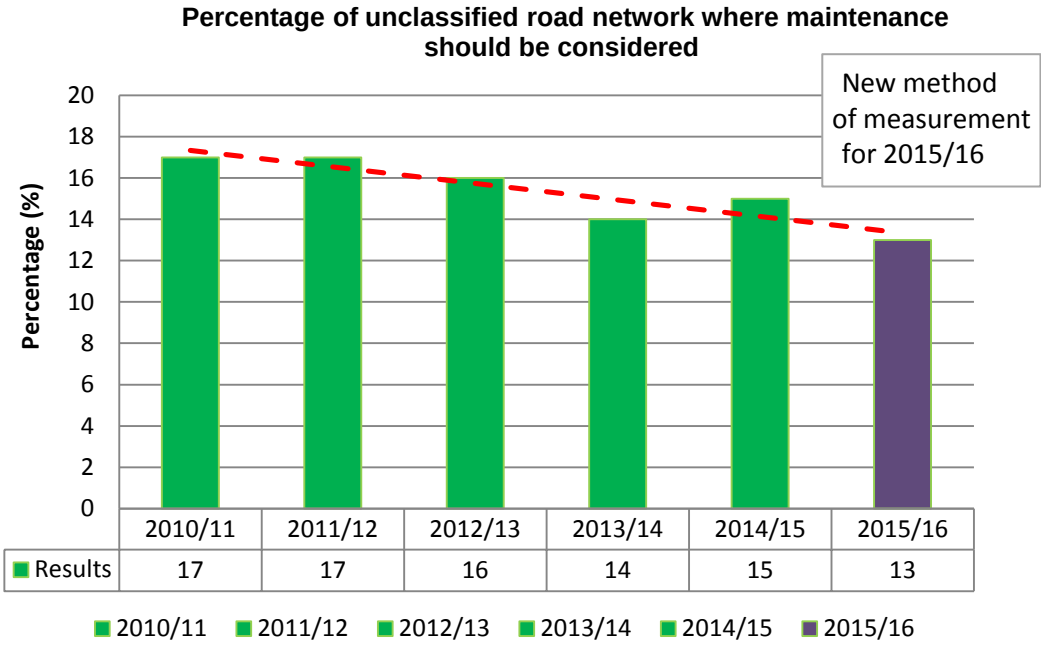
Gloucestershire.

Up until 2014/15, unclassified road condition was determined by processing coarse visual inspection data (CVI) to calculate the old BVPI national indicator - 224b. We are now undertaking surveys on this network by using an MRM vehicle (Multifunction Road Monitor) which uses technologies developed for the SCANNER vehicles.

The County has been split into three geographical areas, and one of these areas will be surveyed every year. An indicator has been developed in conjunction with other South West highway authority's that uses defect threshold values which are more appropriate to roads of this type. This indicator is calculated on data collected over a three year period to ensure the condition of the whole network is considered.

Due to the nature of this network some very minor roads will not be able to be surveyed by this method. Roads such as this will have their serviceability and condition monitored by routine highway safety inspections. We have currently surveyed ⅔ of this network so a figure assessing the whole of the surveyed network will not be declared until 2016/17.

Historic trend data



Target details

Maintain the percentage of unclassified road network where maintenance should be considered at or below 18% (BVPI 224B Ref M7)

Outcomes it will help to assess

Support sustainable economic growth	• A transport network resilient to extreme weather events • A thriving tourist industry which benefits from ease of access to the county's natural, built and historic environmental assets
Enable community connectivity	• A business community which benefits from connectivity with local, national and international markets
Improve community health and well being	• Better safety, security and health by reducing the risk of death, injury or illness arising from transport

LTP PI-7 - Increase use of rail

Links to monitor impacts of:

- PD5 – Rail
- PD6 – Thinktravel

Policy Document Owner:

- Simon Excell, Lead Commissioner Strategic Infrastructure

Monitoring Officer:

- Ben Watts – Senior Planning Officer

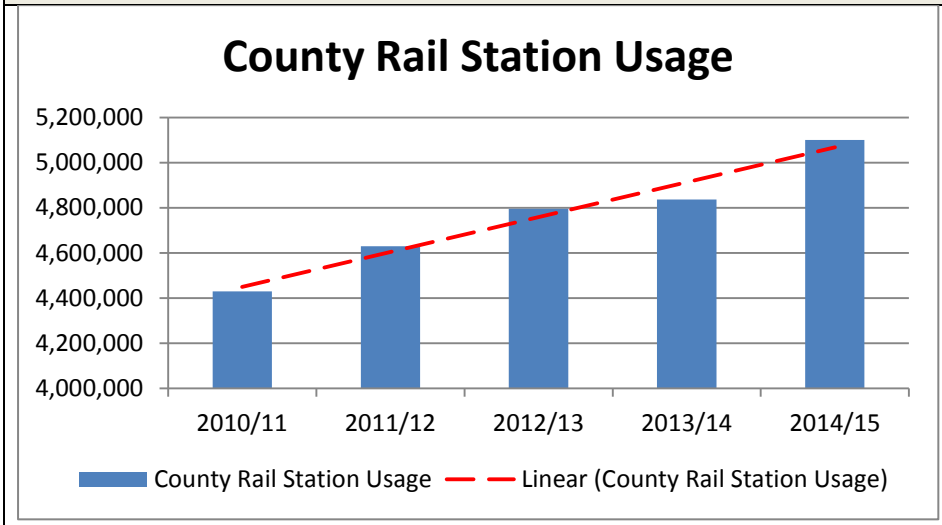
What will this indicator show / Why is it important?

This indicator shows rail station usage across the county. Rail use is important to economic sustainability by ensuring connectivity and reliable travel times to access employment and services. Rail is also a low emission active travel alternative to car use.

Methodology for collecting the data

This target is informed by data collected for the Office of Rail Regulation (www.orr.gov.uk). This data is released annually around December. Based on ticket sales, rail station entry and exit data has been used to create an estimate of the number of journeys at each rail station in Gloucestershire over 12 month periods.

Historic trend data



Station Name	Entry / exit data				
	2010/11	2011/12	2012/13	2013/14	2014/15
Ashchurch	68,964	74,168	76,386	83,840	87,384
Cam & Dursley	153,102	162,992	166,870	177,094	185,504
Cheltenham Spa	1,727,246	1,816,020	1,891,974	1,924,750	2,038,404
Gloucester	1,216,730	1,251,678	1,303,750	1,314,800	1,364,142
Kemble	340,536	361,568	356,268	340,766	356,078
Lydney	149,860	156,648	158,702	172,260	192,032
Moreton-In-Marsh	195,878	203,082	209,238	217,032	237,198

Stonehouse	129,498	137,104	146,856	140,848	148,380
Stroud	448,272	465,698	485,428	464,842	490,546
Gloucestershire	**4,430,086**	**4,628,958**	**4,795,472**	**4,836,232**	**5,099,668**

Target details

To increase rail use within the county by 30% from 2015 to 2031.

Outcomes it will help to assess

Support sustainable economic growth	• Gloucestershire is a place to do business and attract investment • The transport network is reliable, fit for purpose and demonstrates value for money • Greater economic activity • Increased footfall in retail areas • A transport network resilient to extreme weather events • A thriving tourist industry which benefits from ease of access to the county's natural, built and historic environmental assets
Enable community connectivity	• A business community which benefits from connectivity with local, national and international markets • Individuals benefit from economic prosperity and social benefits • A financially sustainable passenger transport network. • An integrated transport network which provides genuine transport choices • A transport network which provides individuals with the confidence to consider all travel choices
Conserve the environment	• Reduced transport derived carbon emissions • A reduction in solo car use, and an increased uptake of sustainable transport modes (walking, cycling and public transport) • Transport scheme are designed to reduce the adverse impact of transport on Gloucestershire's high quality natural, built and historic environments
Improve community health and well being	• Less car trips resulting in fewer journey delays

LTP PI-8 - Increase use of cycling

Links to monitor impacts of:

- PD2 – Cycle
- PD6 – Thinktravel

Policy Document Owner:

- Simon Excell, Lead Commissioner Strategic Infrastructure

Monitoring Officer:

- Andy Tonkinson – Senior Asset Data Officer – Highway Assets

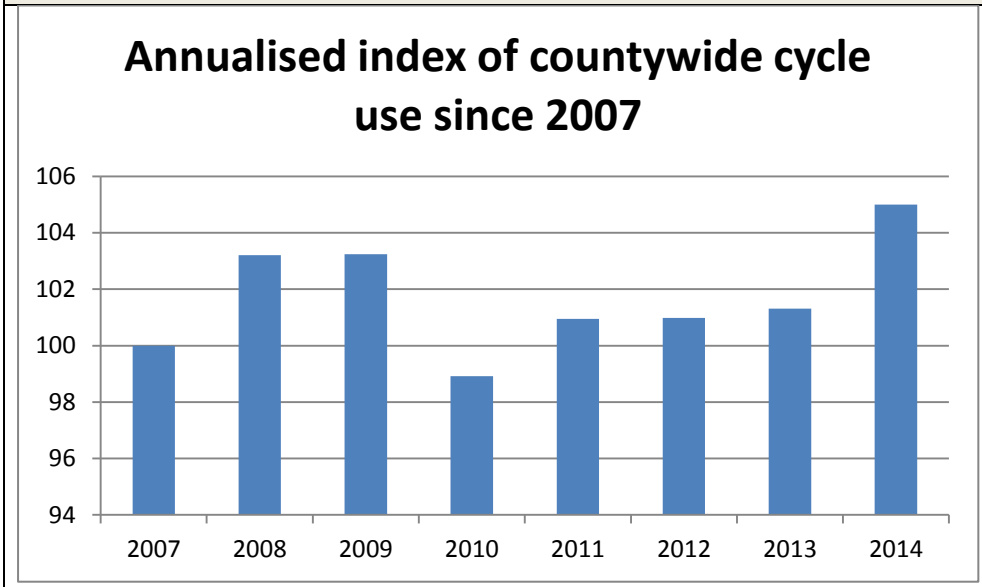
What will this indicator show / Why is it important?

This indicator shows 24 hour 7 day average daily flow, based on all months of the year across Gloucestershire. Cycling levels are important indicators of active and sustainable travel which benefit the local environment, health and the economy.

Methodology for collecting the data

Gloucestershire currently has 15 automatic cycle counters installed on various cycle routes (shown overleaf). Investment has been made to allow data to be collected continuously since 2010, to allow the calculation of more robust figures.

Historic trend data



Location	2007	2008	2009	2010	2011	2012	2013	2014
Nr Stn Rd Milkwall (Cyc)	24	20	30	24	25	19	23	22
Cannop (Cyc)	72	48	84	87	84	97	148	197
Cheltenham Rd East (Cyc)	227	239	272	286	292	236	239	264
Metz Way West (Cyc)	211	209	201	181	212	223	233	239
St Catherine St (Cyc)	72	91	115	117	99	92	83	74
Trier Way Glos (Cyc)	181	166	174	167	174	168	170	176
Nailsworth Cyc Trk (Cyc)	94	81	88	78	75	75	63	59
Ebley Bypass Strd (Cyc)	41	42	70	70	56	60	62	60

Lansdown Rd Chelt (Cyc)	175	282	279	277	287	288	281	284
P.E. Way Chelt (Cyc) (Bc)	146	138	125	125	130	130	134	151
Henrietta St (Cyc) (Bc)	83	63	90	97	100	113	90	83
Sandford Park (Cyc) (Bc)	227	217	194	190	223	246	241	247
Ashchurch Rd, Twks (Cyc)	426	413	384	302	319	331	298	302
Honeybourne Line Ne Malvern Rd (Cyc) (Bc)	359	485	385	305	356	375	388	456
Glos Rd, Ciren	116	102	110	95	60	40	54	59
Total	**4461**	**4604**	**4610**	**4411**	**4503**	**4505**	**4520**	**4687**
Percentage change from 2007		3.21%	3.24%	-1.08%	0.95%	0.98%	1.31%	5.00%
Annualised index from 2007 base year	100	103.2	103.24	98.92	100.95	100.98	101.31	105

Target details

To increase cycle use within the county by 50% from 2015 to 2031.

Outcomes it will help to assess

Objective	Expected Outcomes
Support sustainable economic growth	• The transport network is reliable, fit for purpose and demonstrates value for money • A transport network resilient to extreme weather events • A thriving tourist industry which benefits from ease of access to the county's natural, built and historic environmental assets
Enable community connectivity	• Individuals benefit from economic prosperity and social benefits • Reduced risk of social isolation • An integrated transport network which provides genuine transport choices • A transport network which provides individuals with the confidence to consider all travel choices
Conserve the environment	• Reduced transport derived carbon emissions • A reduction in solo car use, and an increased uptake of sustainable transport modes (walking, cycling and public transport) • Transport scheme are designed to reduce the adverse impact of transport on Gloucestershire's high quality natural, built and historic environments
Improve community health and well being	• Less car trips resulting in fewer journey delays • Increased number of walking and cycling trips • Improved air quality • A healthy more active population (addressing obesity and associated conditions) • Better safety, security and health by reducing the risk of death, injury or illness arising from transport

LTP PI-9 - Increase use of bus

Links to monitor impacts of:

- PD1 – Bus
- PD6 – Thinktravel

Policy Document Owner:

- Philip Williams, Lead Commissioner Community Infrastructure

Monitoring Officer:

- Passenger Transport Manager

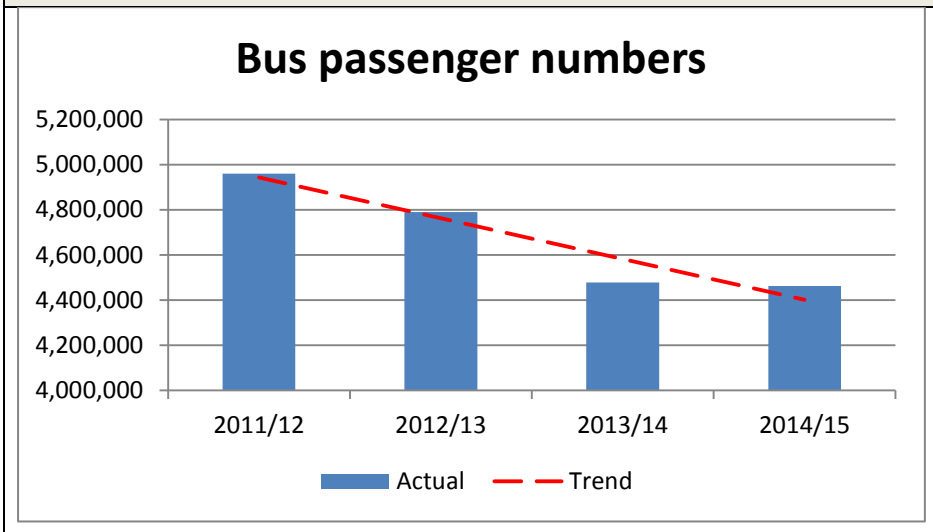
What will this indicator show / Why is it important?

This indicator shows the actual number of journeys made on bus services running throughout the county. It covers both commercially provided and subsidised bus services and is therefore vulnerable to both economic trading conditions and the Council policy towards accessibility when considering whether or not to provide financial support for transport services that bus companies can no longer afford to run.

Methodology for collecting the data

Transport providers collect passenger data recorded predominantly via electronic ticket machines and smart readers which inform this report.

Historic trend data



	2011/12	2012/13	2013/14	2014/15
Bus Passenger numbers	4,959,876	4,790,389	4,477,953	4,462,493
Target	4,687,387	4,959,876	4,220,000	4,500,000

Target details

Maintain number of bus passenger journeys (PUT 01)

Outcomes it will help to assess

Objective	Expected Outcomes
Support sustainable economic growth	• The transport network is reliable, fit for purpose and demonstrates value for money • Increased journey time reliability • Greater economic activity • Increased footfall in retail areas • A transport network resilient to extreme weather events • A thriving tourist industry which benefits from ease of access to the county's natural, built and historic environmental assets
Enable community connectivity	• A business community which benefits from connectivity with local, national and international markets • Individuals benefit from economic prosperity and social benefits • A financially sustainable passenger transport network. • Reduced risk of social isolation • An integrated transport network which provides genuine transport choices • A transport network which provides individuals with the confidence to consider all travel choices
Conserve the environment	• Reduced transport derived carbon emissions • A reduction in solo car use, and an increased uptake of sustainable transport modes (walking, cycling and public transport) • Transport scheme are designed to reduce the adverse impact of transport on Gloucestershire's high quality natural, built and historic environments
Improve community health and well being	• Less car trips resulting in fewer journey delays • Increased number of walking and cycling trips • Improved air quality • A healthy more active population (addressing obesity and associated conditions) • Better safety, security and health by reducing the risk of death, injury or illness arising from transport

LTP PI-10 - Maintain bus passenger access

Links to monitor impacts of:

- PD1 – Bus
- PD6 – Thinktravel

Policy Document Owner:

- Philip Williams, Lead Commissioner Community Infrastructure

Monitoring Officer:

- Passenger Transport Manager

What will this indicator show / Why is it important?

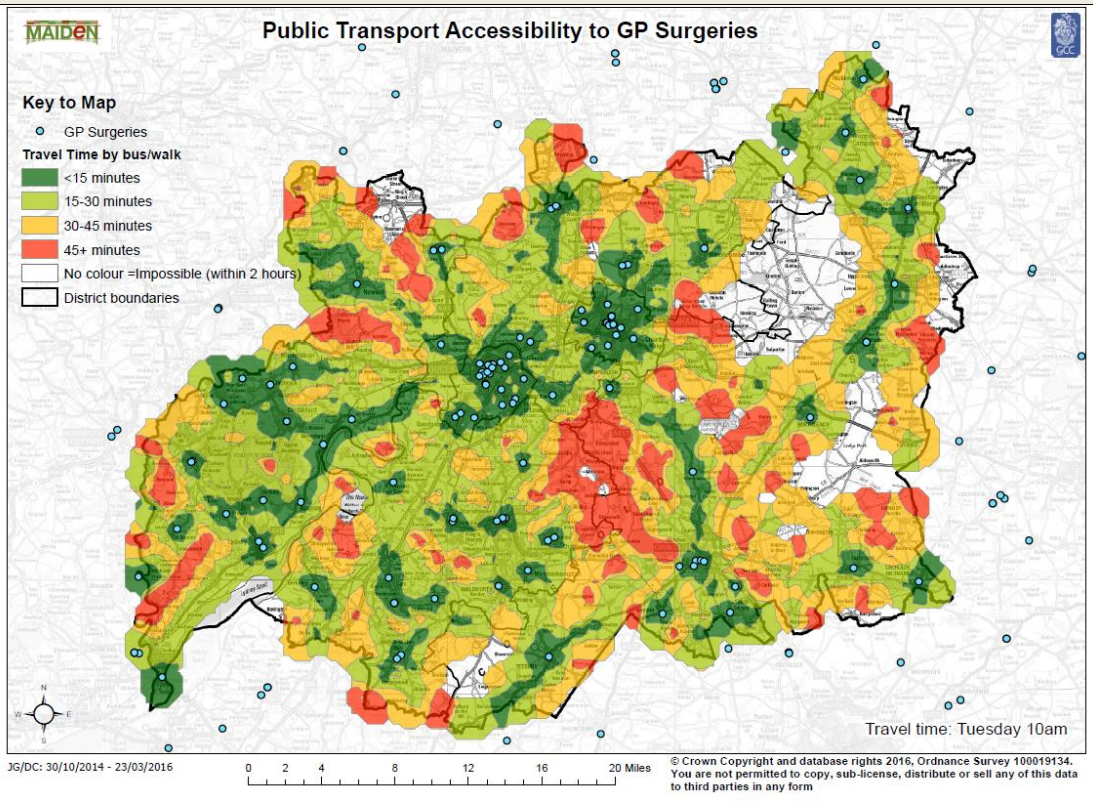
This indicator reports access by public transport within 45 minutes to GP surgeries it provides a good proxy for network coverage as GP surgeries are tend to be located close to other local services.

Methodology for collecting the data

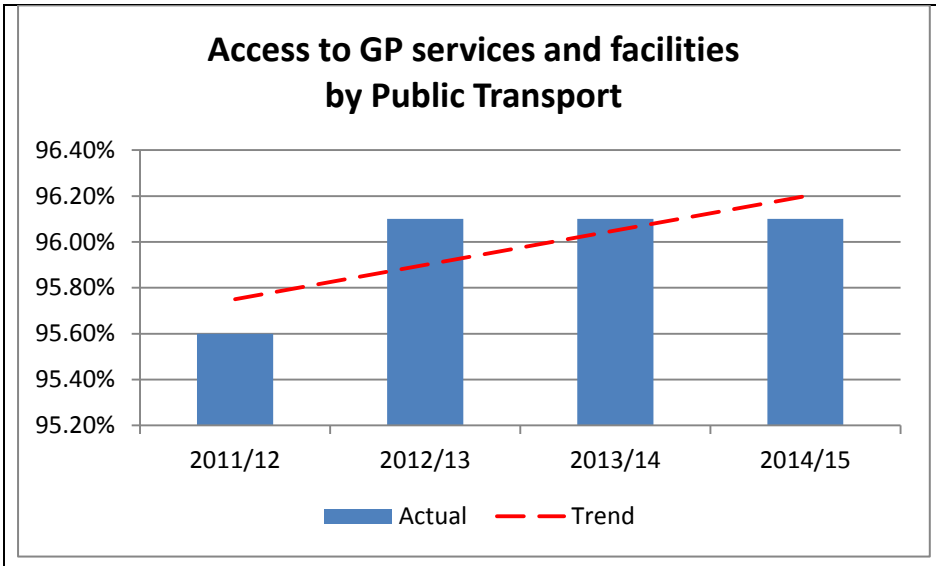
Bus timetables are extracted from Traveline (the national passenger transport information service) and used within the public transport accessibility mapping tool

TRACC, is a transport accessibility tool which was developed in conjunction with the Department for Transport, local authorities and transport planners. It is designed to quickly and accurately calculate travel time using a multitude of public transport and road travel modes to give accurate journey times from many origins to many destinations in one calculation. .

Historic trend data



Data correct as of July 2014



	2011/12	2012/13	2013/14	2014/15
Access	95.60%	96.10%	96.10%	96.10%
Target	92.00%	94.00%	94.00%	95.50%

Target details

Maintain level of Access to GP services and facilities by public transport within 45 minutes (PUT 08a)

Outcomes it will help to assess

Objective	Expected Outcomes
Support sustainable economic growth	• Increased footfall in retail areas
Enable community connectivity	• A financially sustainable passenger transport network. • Reduced risk of social isolation • An integrated transport network which provides genuine transport choices • A transport network which provides individuals with the confidence to consider all travel choices
Conserve the environment	• Reduced transport derived carbon emissions • A reduction in solo car use, and an increased uptake of sustainable transport modes (walking, cycling and public transport)
Improve community health and well being	• Less car trips resulting in fewer journey delays • Increased number of walking and cycling trips • Improved air quality • A healthy more active population (addressing obesity and associated conditions)

LTP PI-11 - Reduce the number of highway casualties

Links to monitor impacts of:

- PD4 – Highways

Policy Document Owner:

- Scott Tomkins, Lead Commissioner Highways Authority

Monitoring Officer:

- Andrew Parker-Mowbray – Accident Investigation and Prevention

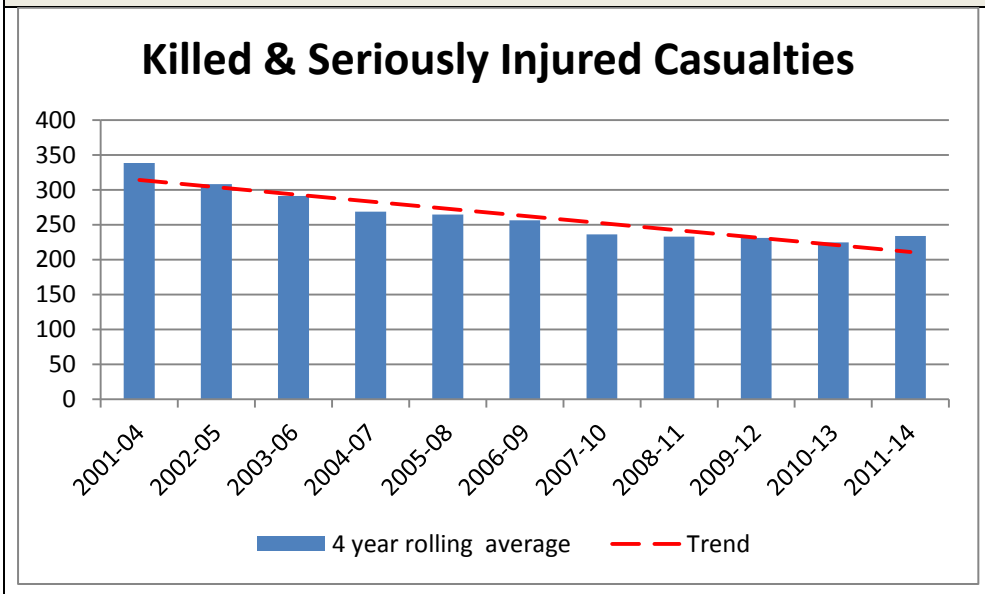
What will this indicator show / Why is it important?

Gloucestershire has adopted the national aspiration for a 40% reduction (from the 2005-2009 average) in the number of Killed or Serious injuries (KSI) in the 10 year period to 2020. This would aim to reduce annual casualties from an average of 259 to 104. Local reporting will remain focussed on the actual numbers of KSI casualties rather than introducing rates.

Methodology for collecting the data

This data is collated by the Road Safety Partnership. The multi-agency Partnership brings together officers from Gloucestershire County Council's Road Safety Team, Fire and Rescue Service, Gloucestershire Constabulary, as well as officers from Gloucestershire Highways

Historic trend data



	2001-04	2002-05	2003-06	2004-07	2005-08	2006-09	2007-10	2008-11	2009-12	2010-13	2011-14
4 year rolling average	339	308	291	269	265	257	236	233	231	225	234

Target details

40% reduction (from the 2005-2009 average) in the number of Killed or Serious injuries (KSI) on the highway by 2020

Outcomes it will help to assess

Objective	Expected Outcomes

Support sustainable economic growth	• The transport network is reliable, fit for purpose and demonstrates value for money • A transport network resilient to extreme weather events • Heavy Goods Vehicle movements are balanced between the needs of business and local communities • A thriving tourist industry which benefits from ease of access to the county's natural, built and historic environmental assets
Conserve the environment	• Transport scheme are designed to reduce the adverse impact of transport on Gloucestershire's high quality natural, built and historic environments
Improve community health and well being	• Better safety, security and health by reducing the risk of death, injury or illness arising from transport

LTP PI-12 - Reduce the number of child highway casualties

Links to monitor impacts of:

- PD4 – Highways

Policy Document Owner:

- Scott Tomkins, Lead Commissioner Highways Authority

Monitoring Officer:

- Andrew Parker-Mowbray – Accident Investigation and Prevention Team

What will this indicator show / Why is it important?

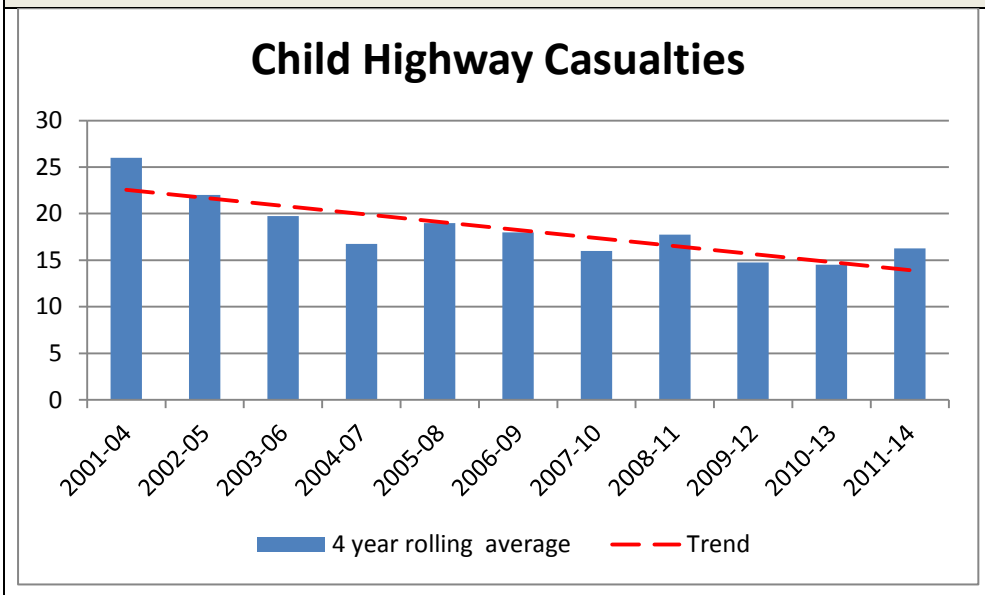
Gloucestershire has adopted the national aspiration for a 40% reduction (from the 2005-2009 average) in the number of Killed or Serious injuries (KSI) in the 10 year period to 2020. This would aim to reduce annual child casualties from an average of 19 to 8. Local reporting will remain focussed on the actual numbers of KSI casualties rather than introducing rates.

Research since the formation of the Partnership shows that young car occupants and vulnerable road users remain key target groups. Data is used to drive and focus work and maximise opportunities for casualty reduction.

Methodology for collecting the data

This data is collated by the Road Safety Partnership. The multi-agency Partnership brings together officers from Gloucestershire County Council's Road Safety Team, Fire and Rescue Service, Gloucestershire Constabulary, as well as officers from Gloucestershire Highways

Historic trend data



	2001-04	2002-05	2003-06	2004-07	2005-08	2006-09	2007-10	2008-11	2009-12	2010-13	2011-14
4 year rolling average	26	22	20	17	19	18	16	18	15	15	16

Target details

40% reduction (from the 2005-2009 average) in the number of children Killed or Serious injuries (KSI) on the highway by 2020

Outcomes it will help to assess

Objective	Expected Outcomes
Support sustainable economic growth	• The transport network is reliable, fit for purpose and demonstrates value for money • A transport network resilient to extreme weather events • Heavy Goods Vehicle movements are balanced between the needs of business and local communities • A thriving tourist industry which benefits from ease of access to the county's natural, built and historic environmental assets
Conserve the environment	• Transport scheme are designed to reduce the adverse impact of transport on Gloucestershire's high quality natural, built and historic environments
Improve community health and well being	• Better safety, security and health by reducing the risk of death, injury or illness arising from transport

LTP PI-13 - Reduce levels of traffic derived Nitrogen Dioxide

Links to monitor impacts of:

Outputs from this indicator will assist in understanding the impacts of policies outlined across all policy documents.

Policy Document Owner:

- Simon Excell, Lead Commissioner Strategic Infrastructure

Monitoring Officer:

- Ben Watts – Senior Planning Officer

What will this indicator show / Why is it important?

This indicator shows the number of declared Air Quality management Areas across the county.

Air quality in Gloucestershire is good. However, currently the county has seven areas declared under Section 83 of the Environment Act 1995 by district councils as Air Quality Management Areas (AQMAs).

These seven AQMAs test above the target objective levels for nitrogen dioxide (NO^2) that have relevant exposure to Gloucestershire residents. In each case traffic is the main source of air pollution. Under The Air Quality (England) Regulations 2002 the highway authority has a duty to work in partnership with the district with the aim of reducing AQMAs.

Methodology for collecting the data

Data is collected through tubes at monitored test sites and reported annually by District Councils, these reports inform the data presented here.

The primary pollutant of concern is traffic derived and in particular Nitrogen Dioxide (NO2) where the annual mean NO2 measure is measured greater than 40 µg/m3. The following information has been collated from the most recently published version of the district authorities Air Quality Progress reports. It identified all sites where annual mean concentration exceeds 40 µg/m3.

It identified all sites where annual mean concentration exceeds 40 µg/m3

Historic trend data

Local Authority	AQMA name	AQMA Declared	Year	Monitoring site	Annual Mean Concentration (µg/m3)
Forest of Dean	Lydney	2010	2013	Lydney – Top High S	41.4
				Lydney – Bream Junction (Triplicate 1of 3)	40.8
				Lydney – Bream Junction (Triplicate 2of 3)	40.5
				Lydney – Bream Junction (Triplicate 3of 3)	40.3
Tewkesbury Borough	Tewkesbury Town Centre		2013	Tewkesbury - Tackle shop, 31 Barton Street	41.8
Cheltenham Borough	Cheltenham Borough wide	2011	2013	81 London Road	42.1
				104 London Road	41.7
				2 Gloucester Rd	40.4
				Opposite White Hart Street	43.2
				452 High Street	45.6
				422 High Street	50.9
				New Rutland -Swindon Rd	41.2

				1 Hewlett Road	41.4
				The Restoration	40.2
				8a Bath Road	41.8
Gloucester City	Priory Road	2005	2010	58 Priory Road	48.6
				46 Priory Road	43.2
				66 Priory Road	55.8
	Barton Street	2005	2010	316 Barton Street	40.1
				219a Barton Street	43.3
				196 Barton Street	40.7
				99 Barton Street	41.3
				124 Barton Street	48.2
	Painswick Road	2007	2010	106 Painswick Road	41
	Undeclared		2010	61 Barnwood Road	43
Stroud District	Undeclared		2012	Stroud - Bowbridge	44.3
				Stroud – Signal House - Dudbridge Hill	49.8
				Stroud – Signal House 1 - Dudbridge Hill	48.8
				Stroud – Signal House 2 - Dudbridge Hill	46.3
				Stroud – Signal House 3 - Dudbridge Hill	46
Cotswold District	Air Balloon	2008	2006	Birdlip - Air Balloon	68
				Birdlip - coordinated site 1	61.2
				Birdlip - coordinated site 2	61.6

Target details

To reduce the annual mean concentration level of transport derived NO2 at each of the county's Air Quality Management Areas

Outcomes it will help to assess

Objective	Expected Outcomes
Enable community connectivity	• An integrated transport network which provides genuine transport choices • A transport network which provides individuals with the confidence to consider all travel choices
Conserve the environment	• Reduced transport derived carbon emissions • A reduction in solo car use, and an increased uptake of sustainable transport modes (walking, cycling and public transport)
Improve community health and well being	• Less car trips resulting in fewer journey delays • Increased number of walking and cycling trips • Improved air quality • A healthy more active population (addressing obesity and associated conditions)

LTP PI-14 - Reduce per capita transport carbon emissions

Links to policy documents
Outputs from this indicator will assist in understanding the impacts of policies outlined across all policy documents.
Policy Document Owner:
• Simon Excell, Lead Commissioner Strategic Infrastructure
Monitoring Officer:
• Ben Watts – Senior Planning Officer
What will this indicator show / Why is it important?
Carbon dioxide (CO2) is the main greenhouse gas, accounting for about 82 percent of the UK greenhouse gas emissions in 2013. The UK compiles an annual inventory of its greenhouse gas (GHG) emissions in order to monitor progress against domestic and international targets such as the Kyoto Protocol. The statistics show emissions allocated on an "end-user" basis where emissions are distributed according to the point of energy consumption (or point of emission if not energy related). On the 12th December 2015 a historic new global climate agreement has been struck at the United Nations conference on climate change in Paris. The deal sets out a clear long-term goal of net zero emissions by the end of the century, showing that the world is committed to decarbonising. Progress against this goal will be independently assessed in 2018 and every five years thereafter. To reflect this, in 2020, countries will be expected to update their plans to cut emissions by 2030. Countries will also be legally obliged to make new post-2030 commitments to reduce emissions every 5 years, from 2025. For the first time, all countries will be held accountable by independent review for acting according to their pledges.
Methodology for collecting the data
Statistics are produced by government on an annual basis. Transport emission estimates rely on national traffic statistics, and distribution of traffic on minor roads has had to be imputed at local level from regional level data Transport emissions include freight and passenger transport, both private and for business purposes. The estimates are made on the basis of the distribution of traffic, therefore some of the emissions within an authority represent through traffic, or part of trips into or out of the area, whether by residents or non-residents. In some authorities this can be particularly significant, and the issue has to be borne in mind when looking at either totals or per capita estimates.
Historic trend data
For the purposes of this indicator the historic data was accessed using the following link: https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-2013

The following data represents tonnes of CO2 per person in the county –

Year	Industry and Commercial	Domestic	Transport	Total	Transport as A % of Total
2005	3.0	2.6	1.9	7.5	25.7%
2006	3.1	2.6	1.9	7.5	25.0%
2007	2.9	2.5	1.9	7.3	25.9%
2008	2.9	2.5	1.8	7.2	25.5%
2009	2.5	2.2	1.7	6.5	27.1%
2010	2.7	2.4	1.7	6.8	25.4%
2011	2.5	2.0	1.7	6.2	26.8%
2012	2.6	2.2	1.6	6.5	25.4%
2013	2.5	2.1	1.6	6.3	25.8%

Target details

To reduce per capita transport carbon emissions, in order to contribute to achieving the government's climate change commitments as part of COP21

Outcomes it will help to assess

Enable community connectivity	• An integrated transport network which provides genuine transport choices • A transport network which provides individuals with the confidence to consider all travel choices
Conserve the environment	• Reduced transport derived carbon emissions • A reduction in solo car use, and an increased uptake of sustainable transport modes (walking, cycling and public transport)
Improve community health and well being	• Less car trips resulting in fewer journey delays • Increased number of walking and cycling trips • Improved air quality • A healthy more active population (addressing obesity and associated conditions)

Indicator Summary Table

Reference	Indicator name	Unit	2010/11	2011/12	2012/13	2013/14	2014/15	Target
LTP PI-1	Journey time reliability on strategic important routes during the AM peak	%				1.05	0.13	Maintain annual average variance to + or – 1%
LTP PI-2	Number of peak hour vehicle journeys	% (AM)		0.1	-0.6	2.6	2.3	Restrict annual growth to 1% per annum
		% (PM)		-0.2	0.0	2.2	1.8	
LTP PI-3	Reduction in the inappropriate freight travel	%	6.2	6.8	7.1	7.4	7.3	To maintain the % of HGV traffic on inappropriate roads use to less than 5%
LTP PI-4	Principal road network condition	%	3.6	3.6	3	4	3	Maintain at or below 4%
LTP PI-5	Non-Principal road network condition	%	9.4	8.9	8	7	6	Maintain at or below 9%
LTP PI-6	Unclassified road network condition	%	4	4	3	4	3	Maintain at or below 18%
LTP PI-7	Increase use of rail	Journeys		4,614,000	4,795,472	4,836,232	5,099,668	Increase by 30% from 2015 to 2031
LTP PI-8	Increase use of cycling	Journeys	4411	4503	4505	4520	4687	Increase by 50% from 2015 to 2031
LTP PI-9	Increase use of bus	Journeys		4,959,876	4,790,389	4,477,953	4,462,493	Maintain bus passenger numbers in line with reviews
LTP PI-10	Maintain bus passenger access	%		95.60%	96.10%	96.10%	96.10%	Maintain access within 45 minutes
LTP PI-11	Reduce the number of highway casualties	Rolling 4 year average	236	233	231	225	234	40% reduction (from the 2005-2009 average) by 2020
LTP PI-12	Reduce the number of child highway casualties	Rolling 4 year average	16	18	15	15	16	40% reduction (from the 2005-2009 average) by 2020
LTP PI-13	Reduce levels of traffic derived Nitrogen Dioxide	Annual Mean Concentration (µg/m3) – see page 29-30						To reduce transport derived NO2 at each Air Quality Management Areas
LTP PI-14	Reduce per capita transport carbon emissions	Tonnes per capita	1.7	1.7	1.6	1.6		0 tonnes per capita by 2099