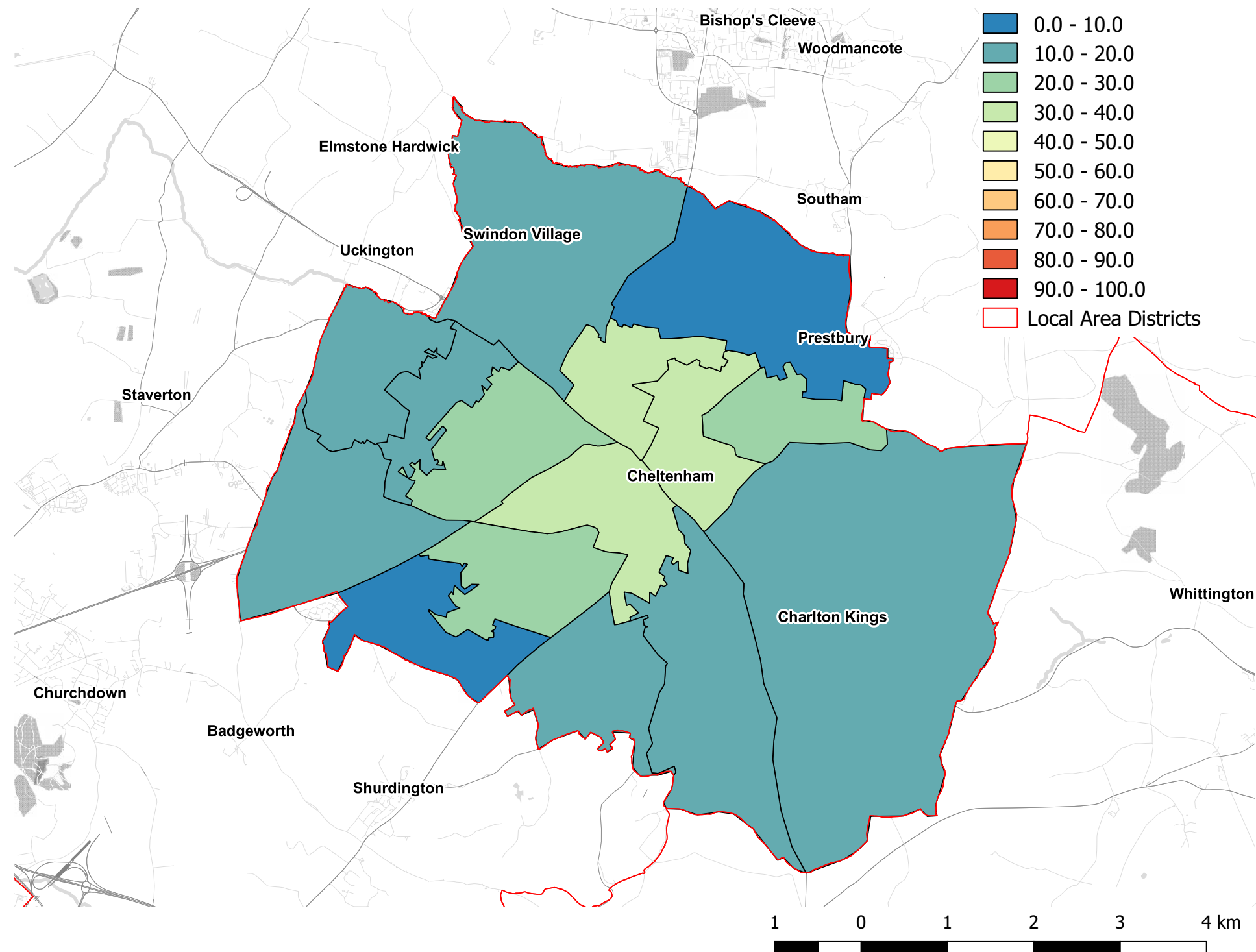
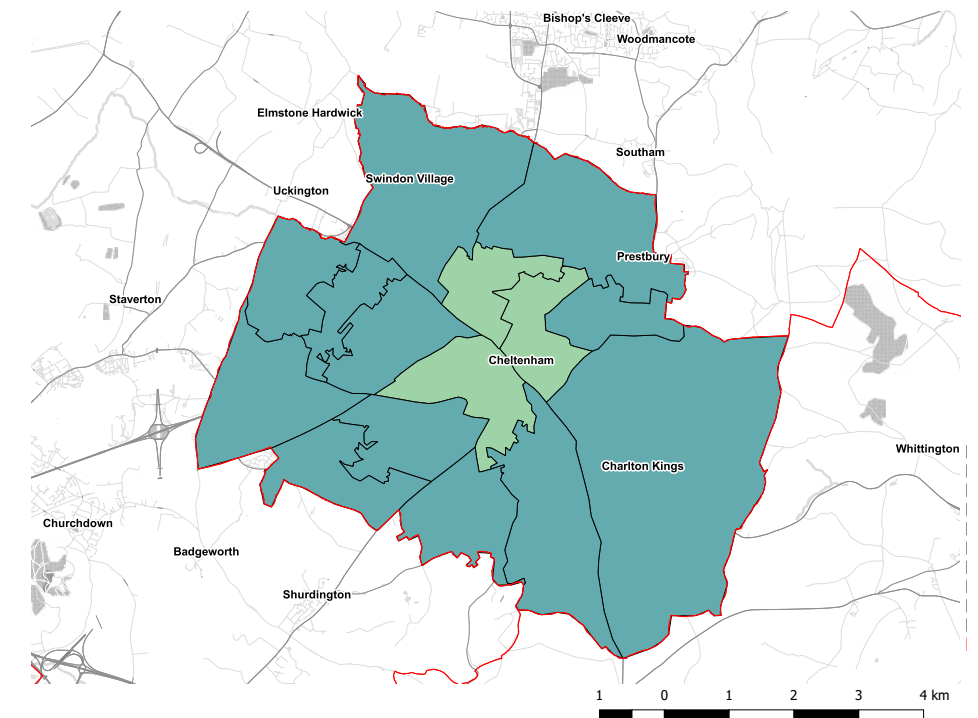


TRAVEL TO WORK BY WALKING

MSOA of Residence



MSOA of Workplace



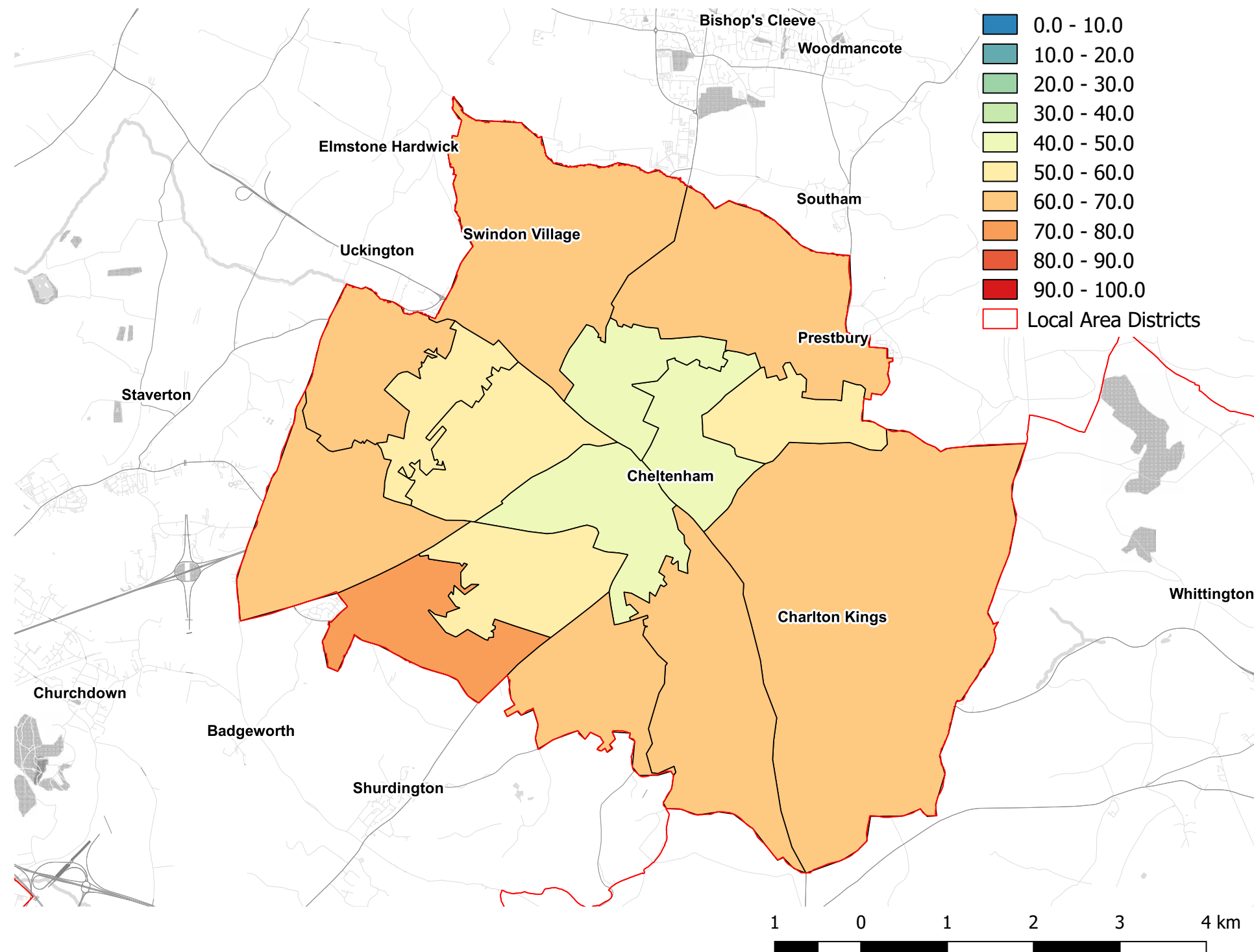
For all TTW 18% of trips are on foot, which puts Cheltenham in the 95th percentile across all England and Wales districts. However, in Oxford and Cambridge walking mode share is between 2.1x and 2.8x the level in Cheltenham.

The Travel to Work by walking mode share varies across Cheltenham's MSOAs in a manner that seems to reflect distance from the town centre. This is true looking both at MSOAs of residence and workplace.

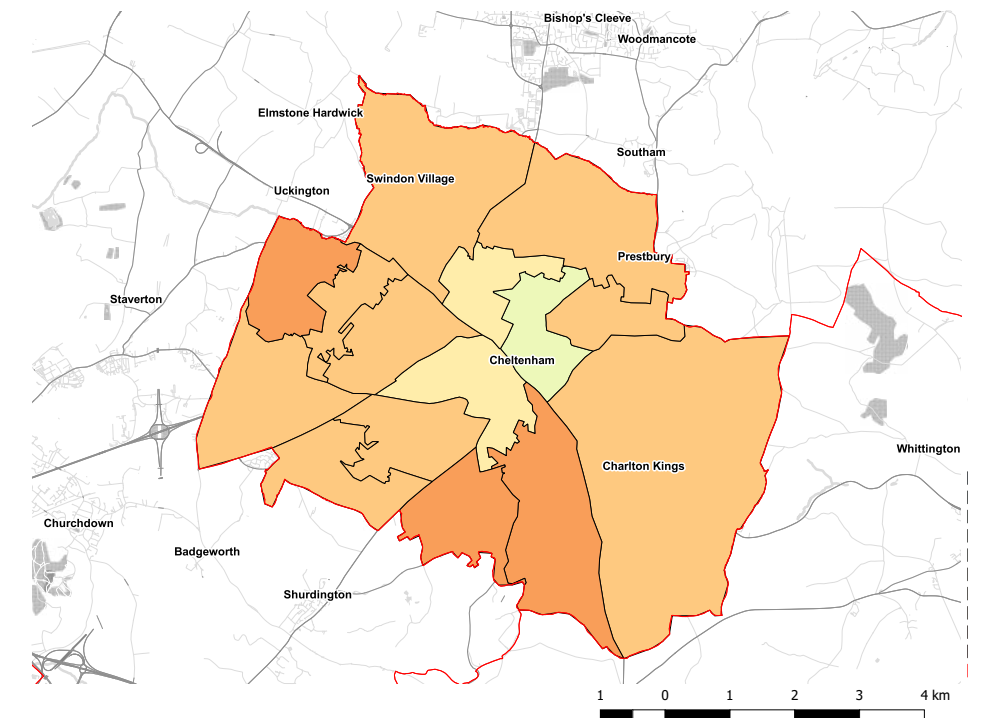
However, employment is not concentrated solely in the town centre, with significant employment in Kingsditch to the north-west and Benhall to the west, and it is surprising that walking levels for MSOAs of residence adjacent to each of these areas is so low.

TRAVEL TO WORK BY CAR OR VAN DRIVER

MSOA of Residence



MSOA of Workplace



Travel to work mode share by car is lower in the town centre for MSOAs of both residence and workplace.

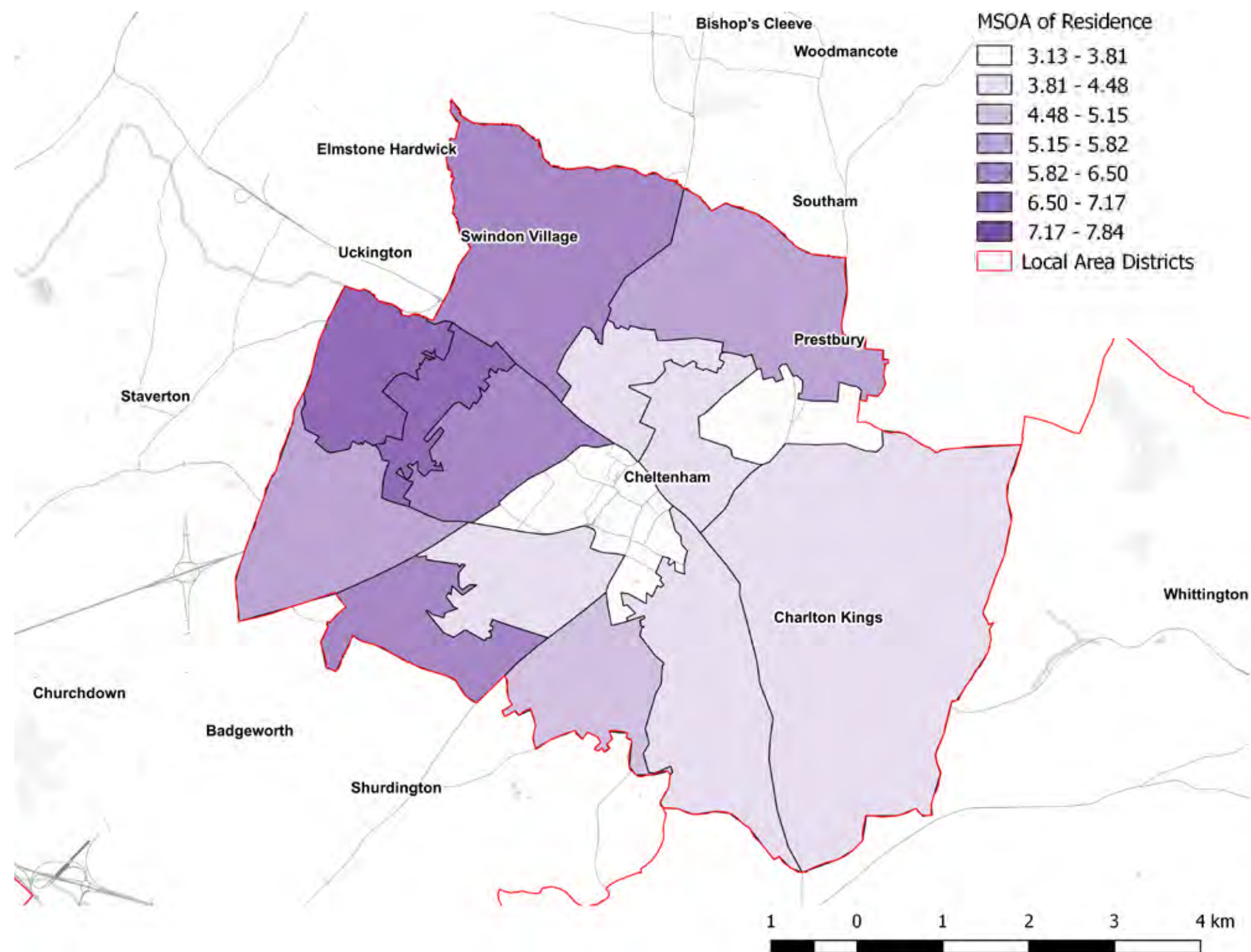
This may imply that there is a degree of self-containment within the town centre - with workers living locally. This view is partly supported by the observed pattern of walk to work mode share, presented on the previous page.

Other factors that may account for this pattern include:

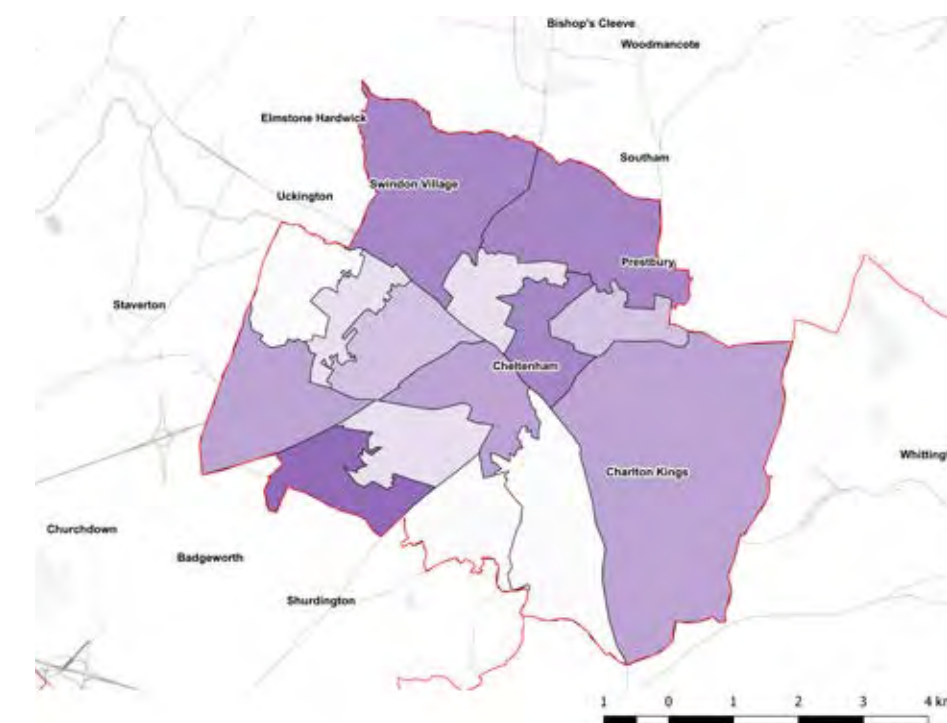
- The town centre is more accessible by bus than other parts of the town, and therefore there is less perceived need to drive. This is consistent with the bus mode share plot for MSOAs of workplace.
- Parking is more constrained or less affordable in the town centre than in other areas.

TRAVEL TO WORK BY CAR OR VAN PASSENGER

MSOA of Residence



MSOA of Workplace

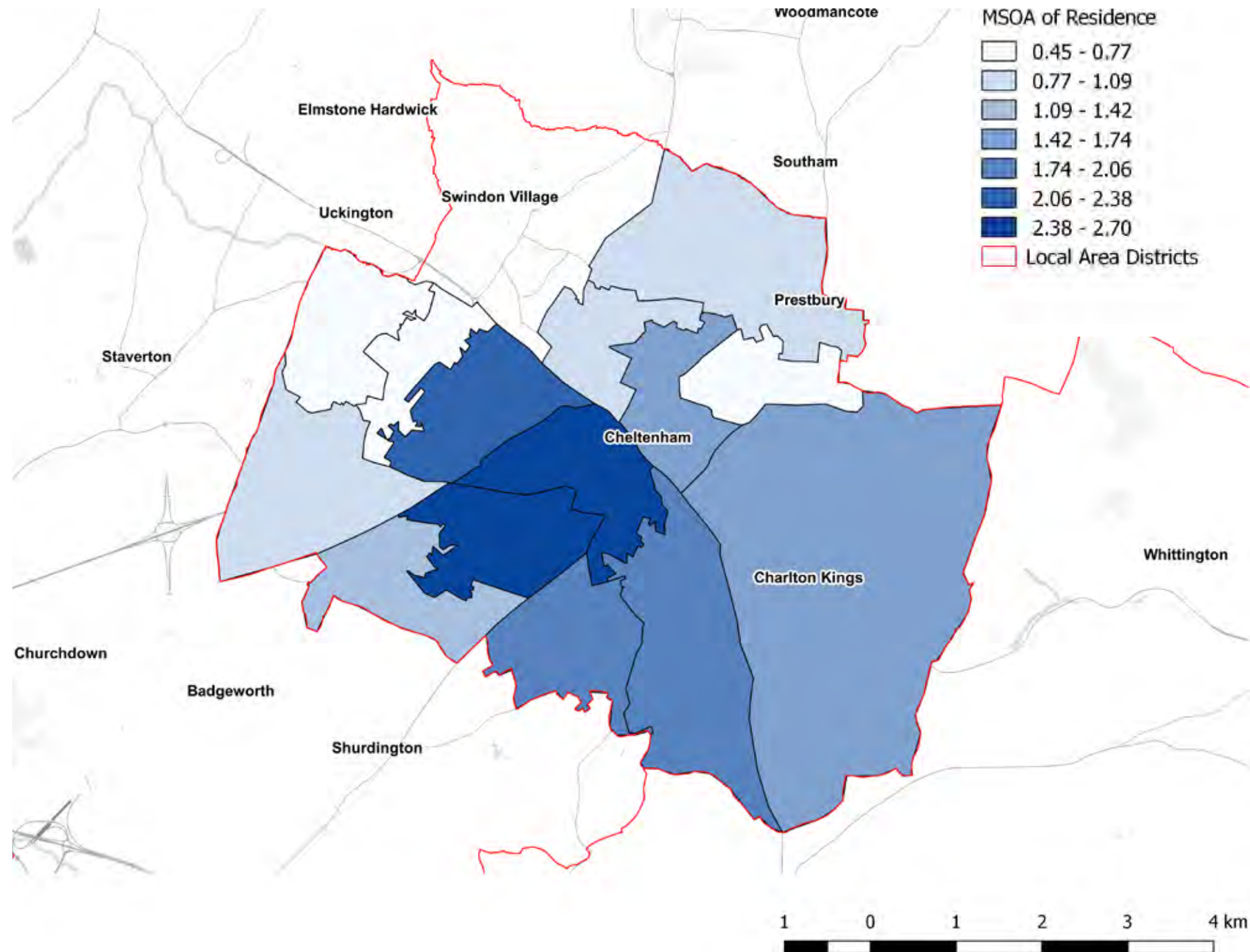


Car sharing is more prevalent for people travelling to work from the west of Cheltenham, and less so from the east.

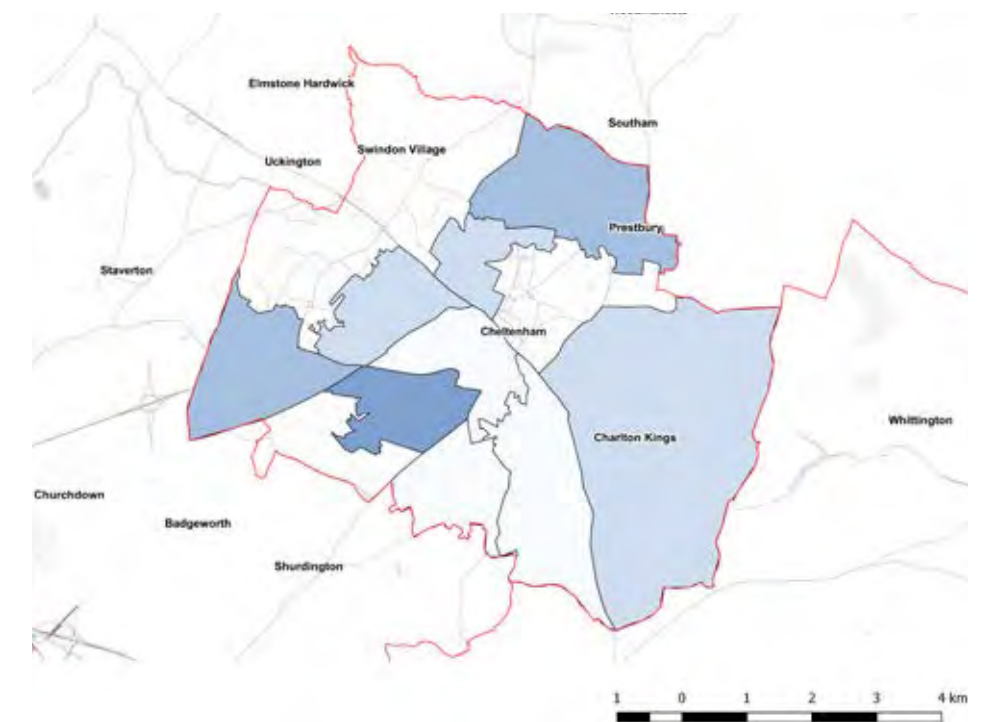
In terms of the workplace of car sharers, retail-dominated employment areas tend to have higher car sharing than, for example Benhall, home to GCHQ. However, the picture is more nuanced, with the highest rate of car sharing registered for workplace in Up Hatherly.

TRAVEL TO WORK BY RAIL

MSOA of Residence



MSOA of Workplace



Travel to work by train enjoys a very low mode share in Cheltenham, with a mode share that is only in the 11th percentile of all districts in England and Wales.

Given this, the borough's geographical distribution of TTW by train reveals a strong association between train mode share and proximity of MSOA of residence to Cheltenham Spa station.

A secondary pattern appears to be that residential areas which score high on the Index of Multiple Deprivation (i.e. more deprived areas) tend to have lower TTW by rail mode share.

The pattern in terms of rail mode share and MSOA of workplace is less clear, though proximity to the station may still be a factor. The "knowledge economy" employment area of Benhall is the major employment area that stands out as having comparatively high (though still low) rail mode share.

SHORT JOURNEY - CAR MODE SHARE

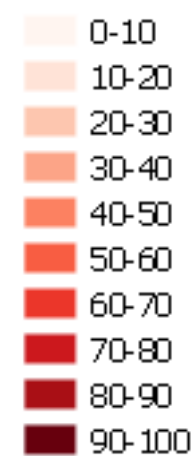
Census data provides an opportunity to explore TTW patterns in more detail. The main figure opposite provides an indicative illustration of the proportion of TTW trips by car that are less than 2km (or 1.25 miles) in length. The map shows the variation in these data across Cheltenham Middle Super Output Area (MSOA) geographic areas.

2km is a useful metric because it is easily within the range of comfortable cycling, and should also be walkable for most people, especially given the topography of Cheltenham. That is to say, these are the trips that ideally would rarely be undertaken by car.

The overall pattern, that more suburban areas are more reliant on short trips by car than central areas, is not unexpected. However, the level of short TTW trips by car is very high in parts, and in particular to the north west and the south west of the town, both of which are areas of major employment.

Legend

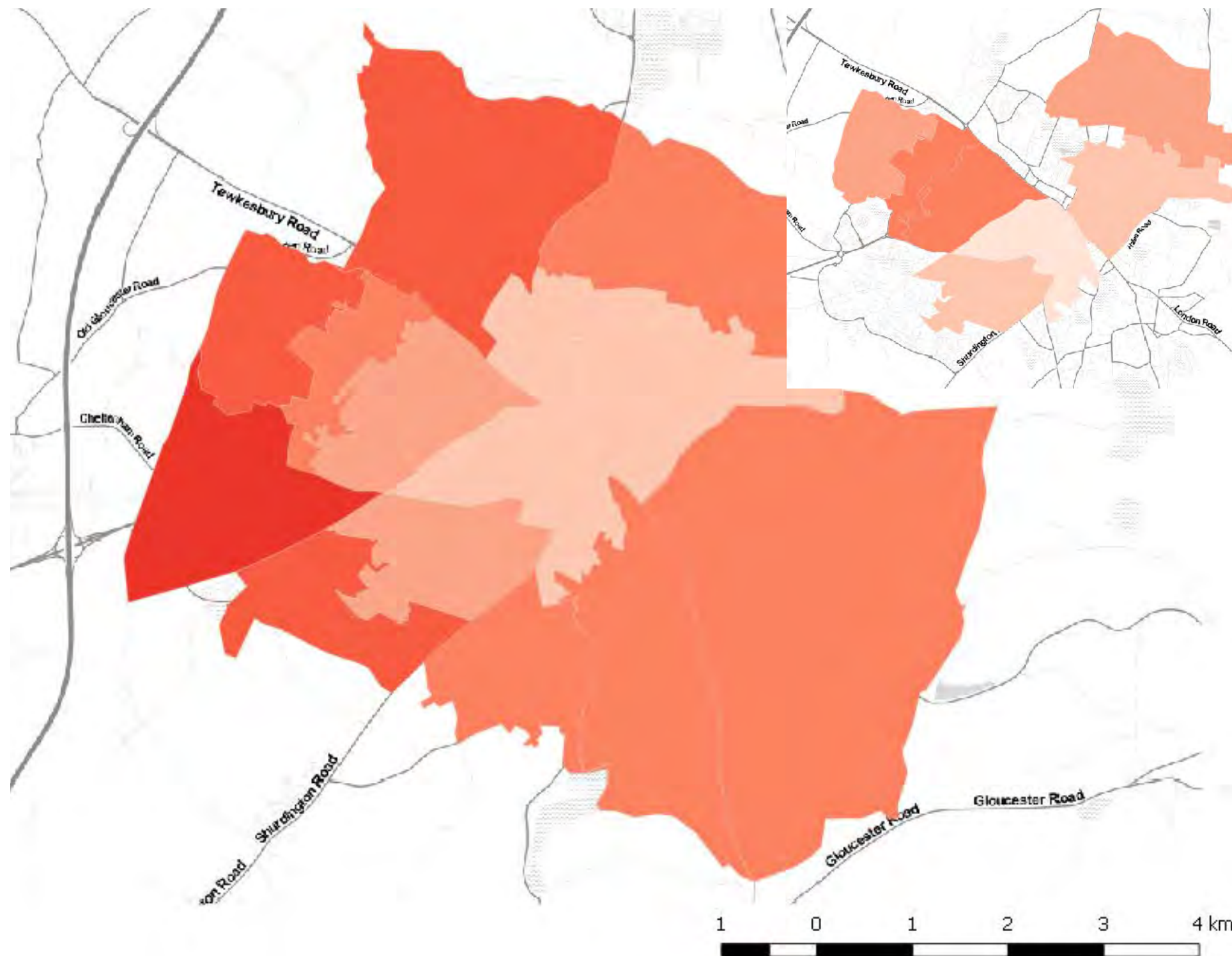
Car Driver Trips for Journeys <2km



The inset (top right) shows the same analysis for trips shorter than 1km in length.

It is noteworthy that in the area around Princess Elizabeth way, 30-40% of car trips to work are less than 1km in length.

This area is one that has been identified earlier as falling the wrong side of the national average metrics for childhood obesity and the Index of Multiple Deprivation.



TRAVEL TO WORK BY MODE SUMMARY

Travel to Work by mode share data can be analysed to provide an understanding of how sustainable (or unsustainable) commuting within Cheltenham is.

Walking, cycling, public transport and being passenger are considered to be sustainable modes of transport. Conversely, driving and car, van, motorbike or hiring a taxi are considered to be unsustainable modes of travel.

The data and figures indicate that commuting to and from peripheral areas of Cheltenham most notably incurs high absolute levels of unsustainable travel; up to 70-80% in peripheral MSOA's.

The town centre benefits from higher levels of sustainable travel, with the worst MSOA's having 40+% car, van or taxi use for commuting. It can be seen there are considerably more people walking to work within the vicinity of the town centre.

Compared to other districts across England and Wales, Cheltenham benefits from comparatively high sustainable travel, particularly in terms of walking and cycling - public transport levels are low for train and only average for bus.

Overall these data suggest there is already a walking and cycling culture in Cheltenham. However, this is significantly lower than the very best areas of the country, places such as Oxford and Cambridge which can be seen as comparator locations in a UK context due, for example, to their population size, compactness and levels of educational attainment.

Levels of car use for very short trips are high in many places and seem to present one opportunity to increase sustainable and active travel modes.

RAIL NETWORK

SUMMARY

- An overview analysis of rail provision has been undertaken, looking into passenger numbers and flows to and from Cheltenham, current and future rail network plans, along with an overview of the station. Headline points are:
- Good links to major centers
 - The two most significant destinations from Cheltenham are Birmingham and Gloucester
 - The two most significant departure points for arrival at Cheltenham are London and Bristol
 - Ineffective local rail services – limited in frequency and capacity
 - Location of station makes achieving effective access challenging, especially from the town centre
 - Journeys to London and south coast slower than necessary due to service pattern serving Gloucester
 - Cheltenham has an average level of trips per head of population, but residents in similarly sized Bath and Oxford undertake nearly three times as many trips per head by train.
 - Rail re-franchising on hold pending DfT review

RAIL DEMAND

Rail industry standard forecasting tools and data sets indicate that there is high rail usage between Cheltenham and London, Birmingham, Gloucester, Bath and Bristol.

The top destinations for rail trips starting in Cheltenham are:

- Bristol
- Birmingham
- London
- Gloucester
- Cardiff

The top origins of rail trips to Cheltenham are:

- Bristol
- Birmingham
- London
- Cardiff
- Bath
- Gloucester

The table below indicated rail journeys per head for Cheltenham, compared against other towns and cities.

Town / City	Urban Population 2016	Rail Journeys (Ent and Exit at Stn)	Per head of pop / annum
Gloucester	108,985	1,479,528	13.6
Blackpool	118,145	1,858,794	15.7
Wakefield	147,105	2,540,890	17.3
Swansea	108,325	2,130,154	19.7
Darlington	111,712	2,269,974	20.3
Cheltenham	115,369	2,352,715	20.4
Exeter	113,165	2,642,898	23.4
Northampton	131,308	3,147,010	24.0
Chester	118,298	4,649,800	39.3
Basingstoke	114,308	5,694,954	49.8
Bath	113,776	6,432,344	56.5
Oxford	116,866	6,631,498	56.7

RAIL NETWORK CURRENT PLANS

- Control Periods 5 and 6 (Network Rail's 5 yearly funding blocks which run to 2024) – completion of Filton 4 tracks, IEP in service (both by 2024)
- Service changes medium term – Metro West to Yate (up to 2tph but most probably 1tph) with possible extension to Gloucester using rolling stock cascaded from the Thames Valley
- Extension of Metro West service to Cheltenham would require additional infrastructure at Cheltenham or running to Ashchurch or Worcester

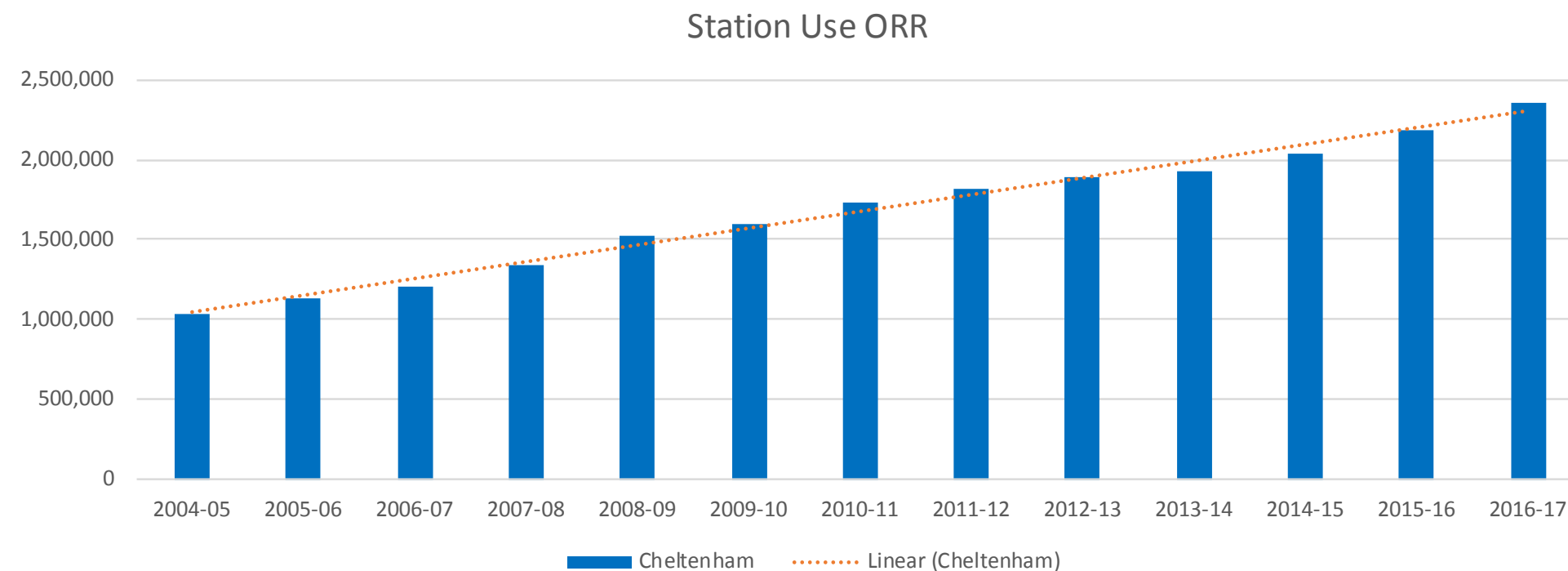
RAIL STATION

- Historically one of three stations in Cheltenham (Malvern Road and St James closed in Jan 1966)
- Located circa 1.5km from the town centre
- Operated by GWR (franchise until at least April 2020)
- Ticket office – 05:45 to 20:15 M-F, reduced hours at weekends
- 178 parking spaces - £5.20 per day charge. Additional 70 parking spaces planned for 2019
- 134 cycle parking stands



RAIL NETWORK FUTURE PLANS

- Network Rail Market Studies shows growth levels to 2043 of between 25 and 95% on the Birmingham – Bristol axis dependent on the UK economic scenario assessed
- Network Rail Western Route Study proposes additional Gloucester trains from Bristol and an hourly London to Worcester via Cheltenham service (not calling at Gloucester)
- Further option for Cheltenham to be served by a new Cardiff – Bristol Parkway – Birmingham service
- Recontrol of Gloucester to Thames Valley SCC at Didcot



TRAVEL TO SCHOOL

TRAVEL TO SCHOOL MODE SHARE DATA

Data on travel patterns for a number of schools in Cheltenham has been gathered through the Modeshift Stars programme which was run across the county in 2016/17. Travel behaviour was surveyed by a hands-up approach, for both pupils and staff.

Local authority-wide results for mode share are presented in the chart opposite.

Five Cheltenham schools were assessed within the project, and travel plans, containing the survey results, have been provided for three of these schools: Dunalley Primary School, situated to the north of the town centre; Lakeside Primary School; and Greatfield Park Primary School, both situated near the south western edge of the town. Local authority wide data has also been provided.

There is significant variation amongst the three schools, both in how pupils and staff travel to school.

In terms of pupil travel, Greatfield Primary has a significantly lower active travel mode share (28%) than the other two schools (45%), or the local authority average of 43%. Correspondingly car mode share is very high at Greatfield Primary with 67% of pupils arriving at school by car. This compares unfavourably with the local authority average of 31%. Dunalley and Lakeside Primary Schools both outperform the local authority average, with car mode share of only 25%.

In terms of staff travel, Dunalley Primary School stands out as an exemplar in terms of low car mode share, with only 7% of staff travelling to school by car. The school has correspondingly high mode shares for car share, park and stride, cycling and walking, significantly outperforming the local authority average, and representing an interesting exemplar in the context of the travel to work mode sharing within the same census geography,

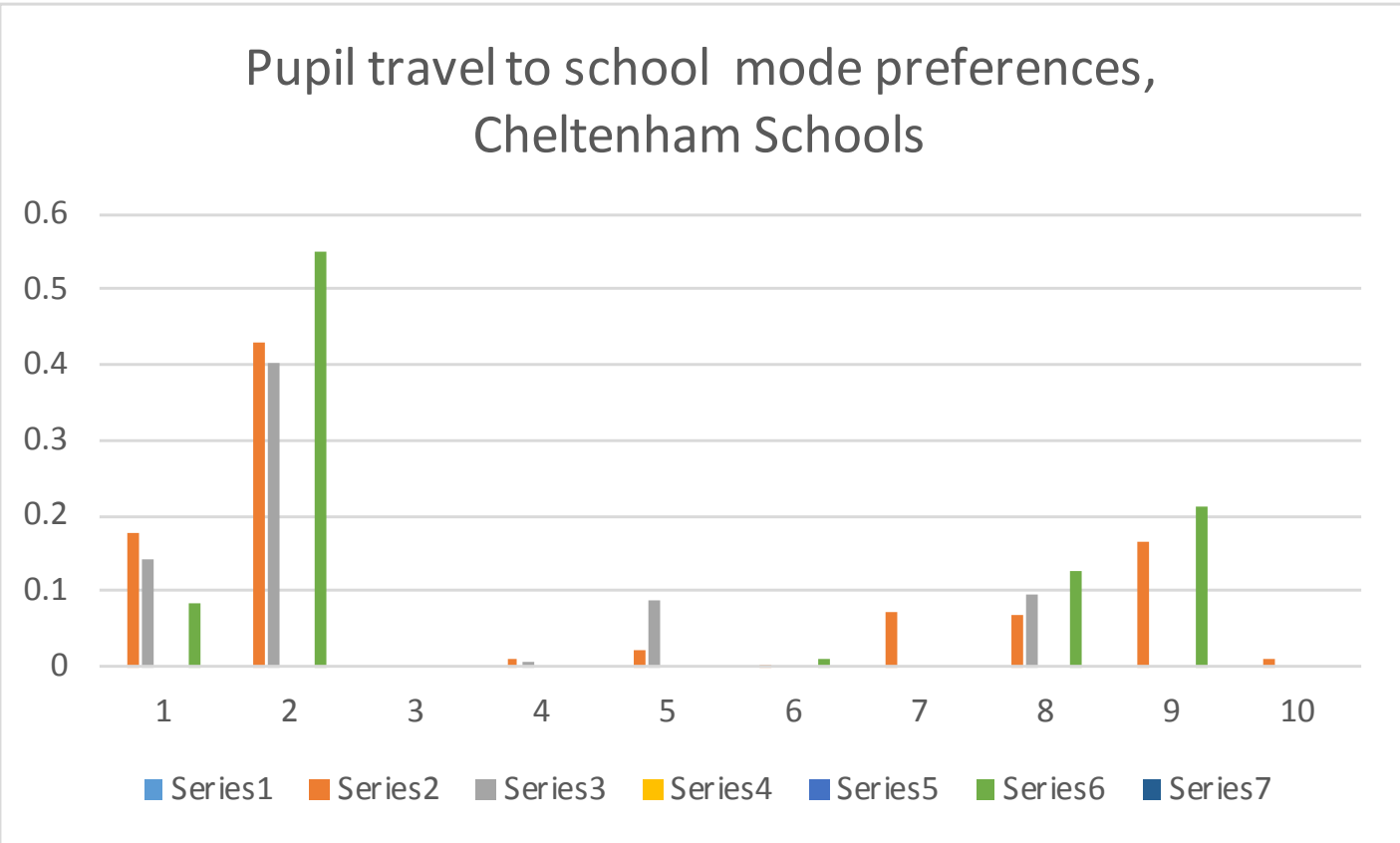
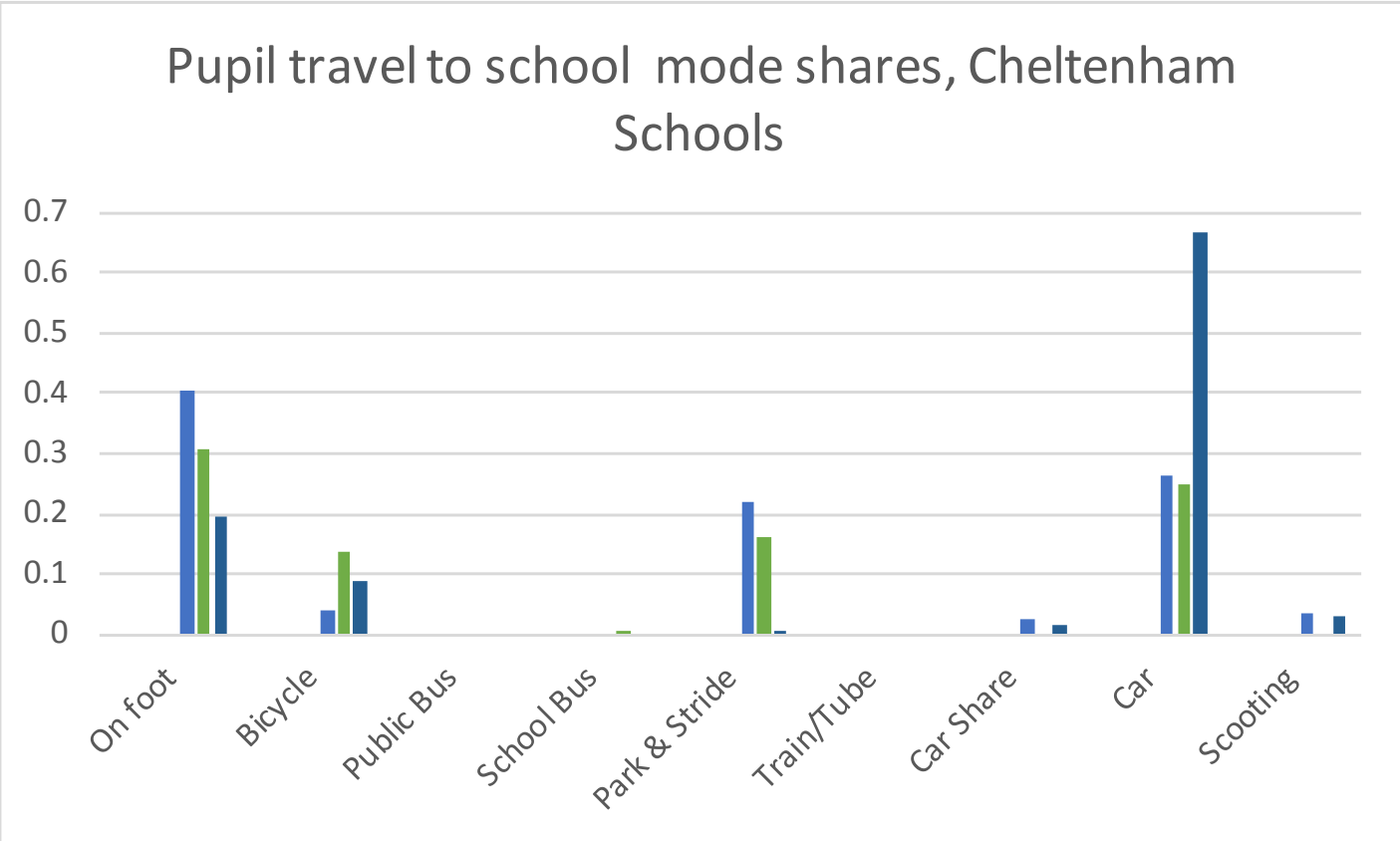
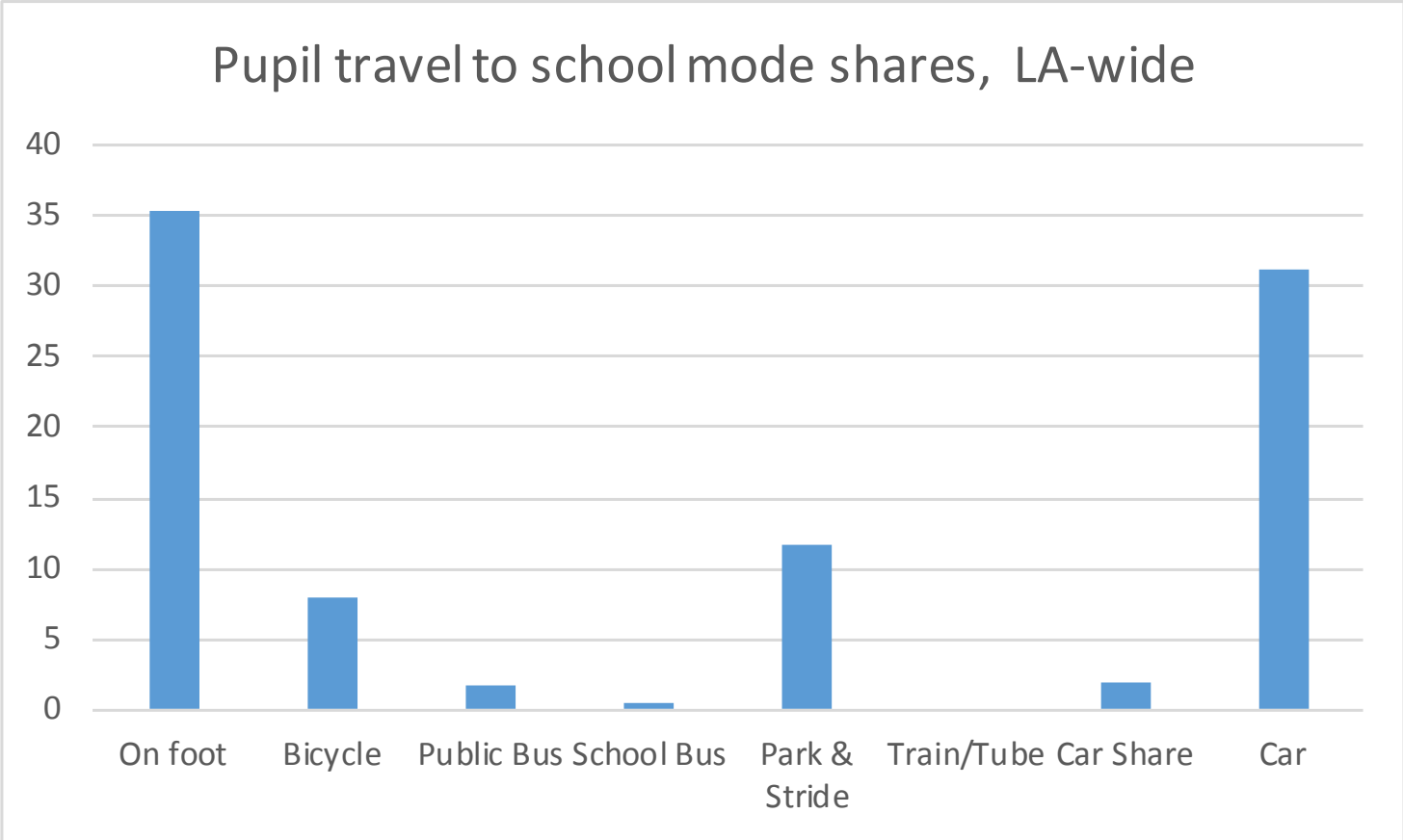
where walking and cycling shares are low, and car share is high.

Differences between Greatfield and Dunalley Primary Schools are particularly striking given that they are near neighbours, and sit within the same census geography (MSOA).

PUPILS AND STAFF MODE PREFERENCES

An interesting pattern that is observed across all three schools is a strong preference for pupils to travel to school by bike, at the expense of both walking and travel by car. It is particularly notable that Greatfield Primary School, has the highest proportion of pupils expressing a preference for cycling (55%).

A consistent, but slightly different pattern in terms of staff travel preference is also observed. Staff, on the whole, would prefer to walk to school and drive less. Greatfield Primary is again notable, in that the 83% of staff travelling by car would almost all prefer to travel by another mode, with significant support (42% preference) for park and stride.



4 | Transport Network Analysis

WALKING REACHABILITY - TOWN CENTRE

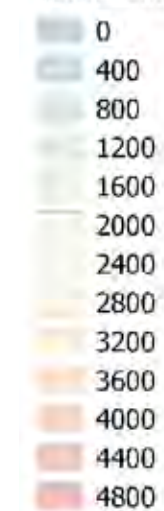
The walking network is composed of the vast majority of the highway network as well as public rights of way and permissive footpaths. Isochrones provide a way to test the connectedness and scale of the walking network, by showing reachability. Distortions in the shape of a reachable zone can indicate barriers (or severances) as well too low a density of connections within the network, which may be a result of too coarse a street grid.

The isochrones on this and the following pages illustrate the 5 minutes (or 400m) zones of reachability from the specific points within Cheltenham. Because Cheltenham is largely flat, distances and timings for the reverse journeys can be treated as being the same.

The 5 minute zones assume a walking pace of 3 miles per hour. Given the flat topography of the town, this isochrone can also represent cycling reachability, in which case at a 10mph ride speed, each 400m becomes an approximately 1.5 minute zone.

Legend

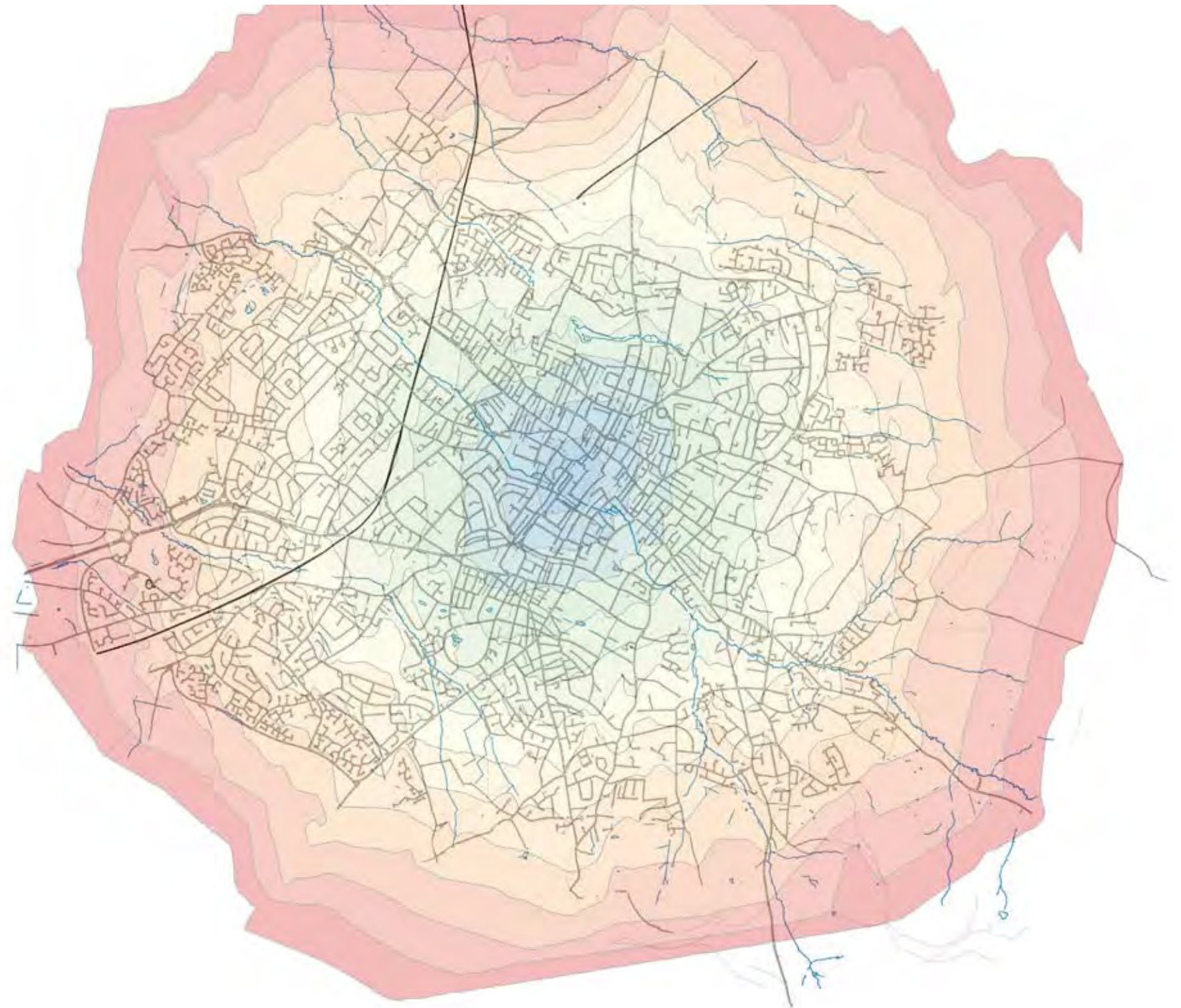
Walking zones
400m/5 minute steps
Town Centre



In this plot, the isochrone is centred on the Municipal Buildings on the Promenade.

It is striking that the majority of the town is within a 45 minutes walk of the town centre, or a 20 minutes cycle ride, which illustrates the compact nature of Cheltenham.

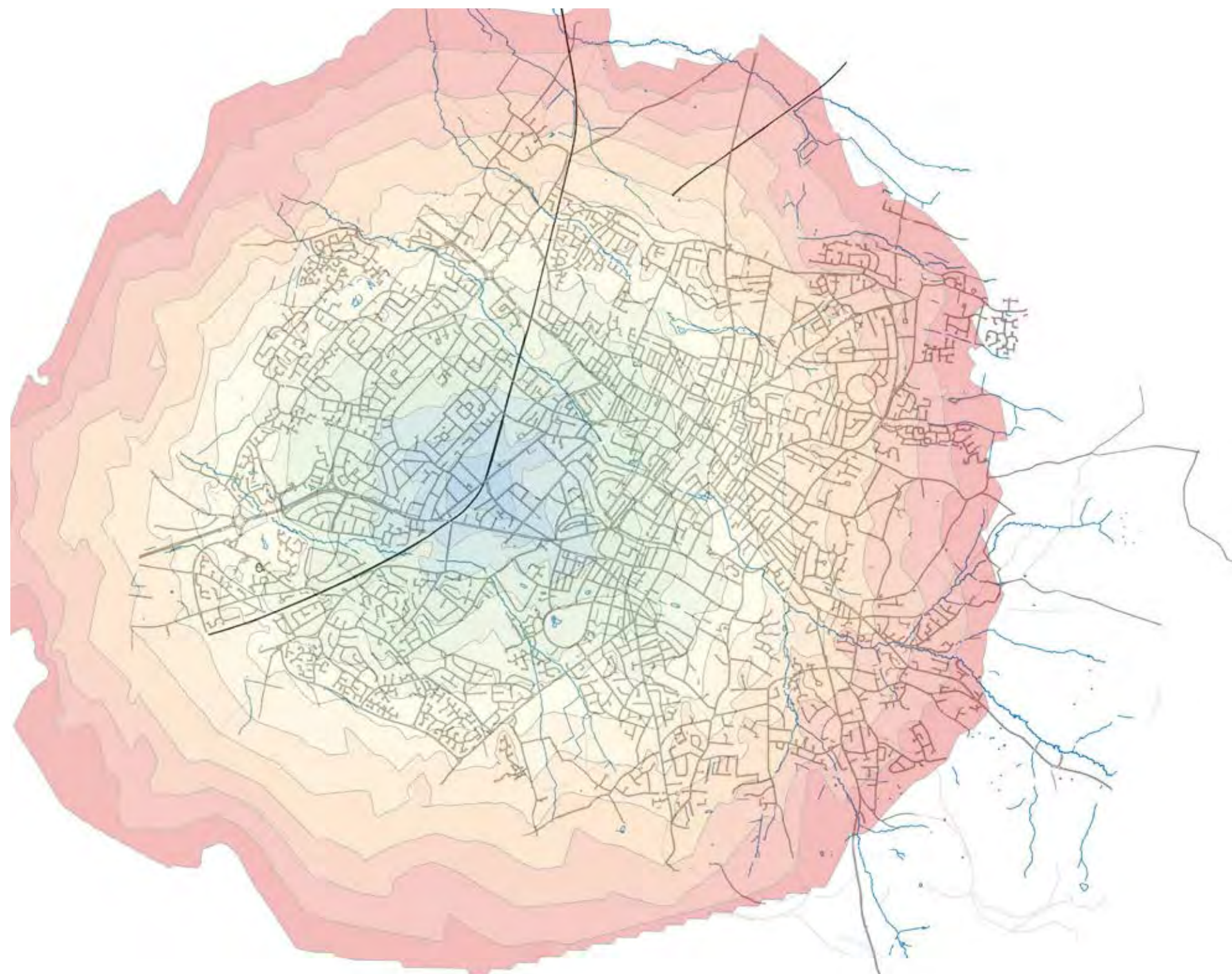
Cheltenham also has a largely well-connected street network, though severances do exist due to the railway line, rivers, major roads and even the built form.



WALKING REACHABILITY - RAIL STATION

The zones in this plot show some strong distortions away from an ideal circular form. These distortions reflect barriers to movement, and indicate that there are a number of severances in the walking network around the station.

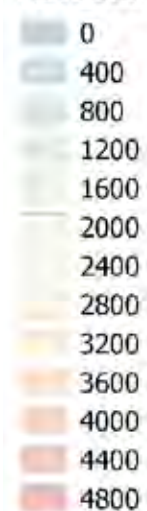
It is noteworthy that a large proportion of the town is reachable on foot within 30 minutes.



Legend

Walking zones
400m/5 minute steps

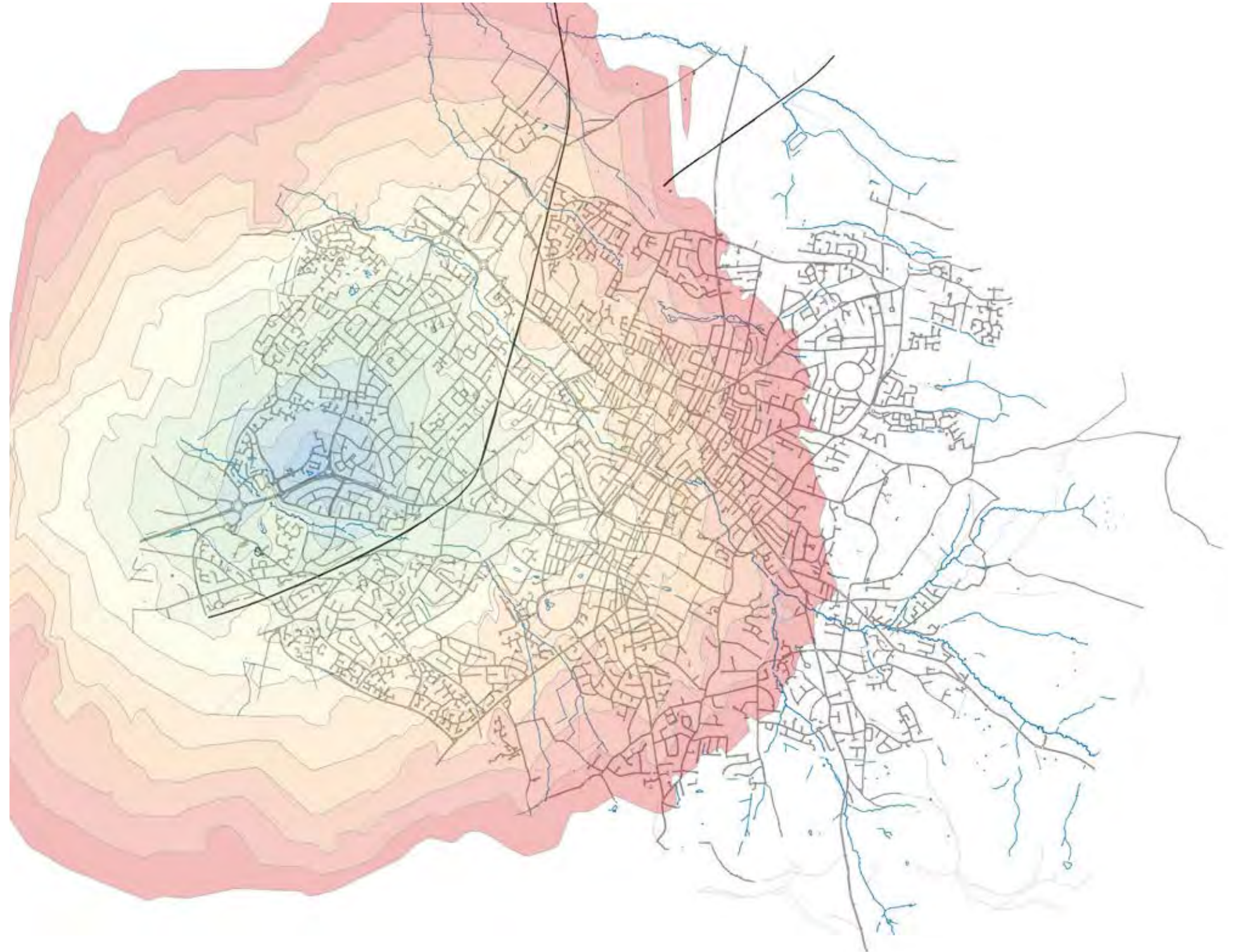
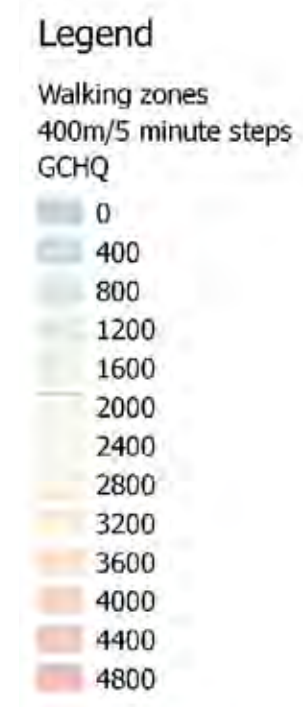
Rail station



WALKING REACHABILITY - GCHQ

The barriers affecting walking movements to the west of the railway station are less obvious here, although the bunching up of zones that is apparent to the south of GCHQ, indicates that there are barriers to movement here.

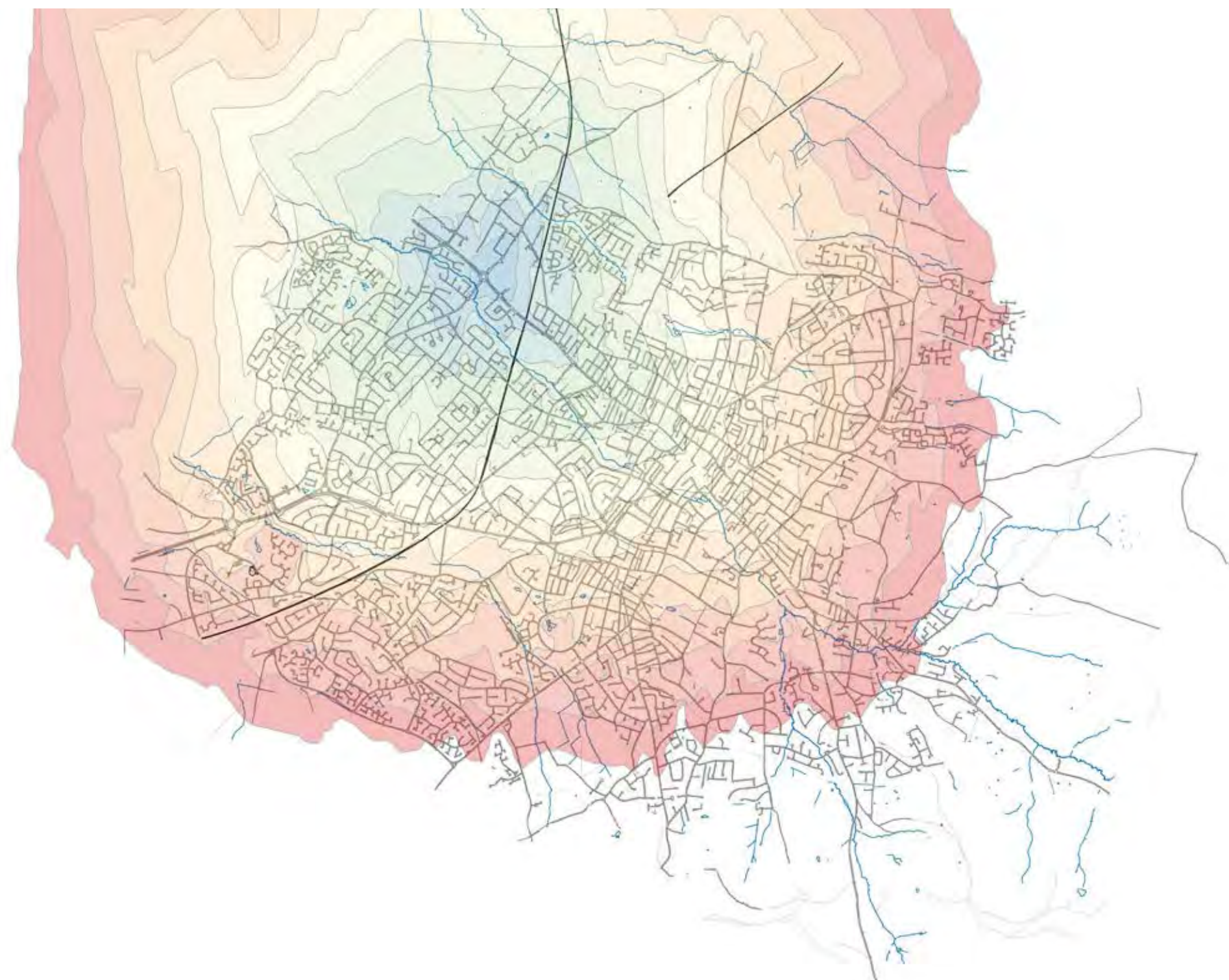
Given that GCHQ is located near the western edge of the town, it is not surprising to find that not all of the Cheltenham is within a 1 hour walk, and even the town centre is 40-45 minutes distant.



WALKING REACHABILITY - KINGSDITCH

Although Kingsditch is also at the town's edge, more of the town is reachable from it, within an hour's walk, than is true from GCHQ.

The walking network here introduces a number of barriers to movement, as illustrated by the contorted, and at times compressed zones near the isochrone centre. The Tewkesbury Road and the rail line are key severance barriers here.



Legend

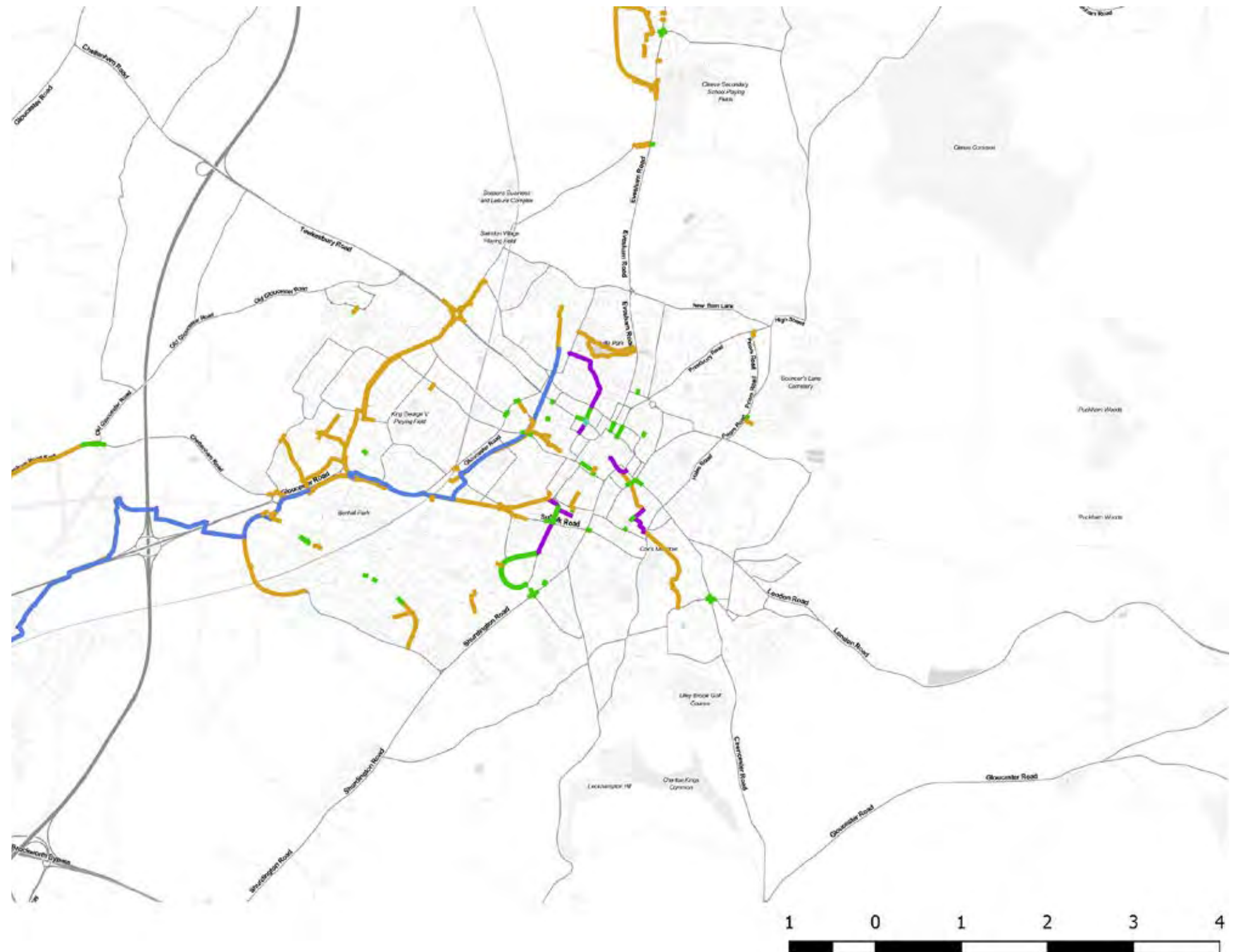
Walking zones
400m/5 minute steps
Kingsditch

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
4400
4800

CYCLE NETWORK

While there are some good examples of cycling infrastructure in Cheltenham, most notably along Princess Elizabeth Way, and the Honeybourne Line, the cycle network in Cheltenham is fragmented and unevenly distributed around the town.

The plan on this page illustrates the Gloucestershire County Council cycle network across Cheltenham.



CYCLE NETWORK PROPOSALS

Gloucestershire County Council has developed a Cycling and Walking Investment Plan (CWIP), which includes detailed plans for new cycle infrastructure running from the north-east of the town centre, across Cheltenham, and linking up to Gloucester.

Proposed Gloucestershire County Council and Sustrans National Cycle Network routes are shown in purple and red dashed lines respectively.

NORTH WEST CHELTENHAM

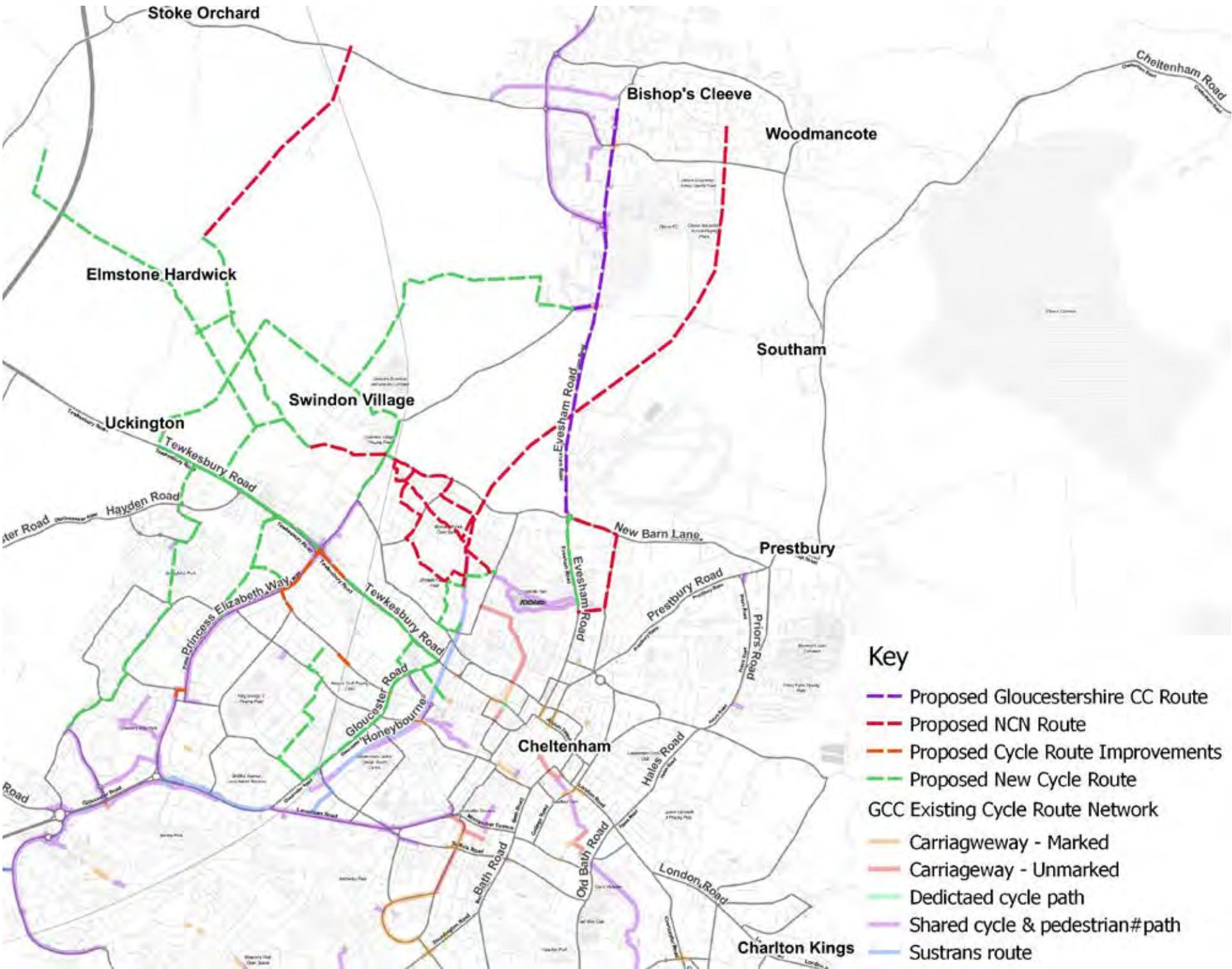
Developers of the North West Cheltenham Strategic Allocation (Elms Park) have developed detailed plans for 15km of new and upgraded cycle infrastructure across a significant part of the north-western quadrant of the borough.

These plans include proposals for a short stretch of 4m wide fully-segregated cycle way along the north of Tewkesbury Road between the development and Hayden Road. To the south a shared-use foot and cycleway is proposed.

After Hayden Road, the proposals are for 3m shared foot and cycleways, 1.0m wide hybrid cycle tracks, and eventually cycle provision on the main carriageway, with the provision of cycle bypasses at certain bus stops.

Proposals also extend to provision of shared foot and cycle ways in a number of other locations, including along part of the Gloucester Road (south from junction with Tewkesbury Road) and along Evesham Road.

These plans are presented in the figure on this page. Facilities proposed to be delivered as part of the North West Cheltenham development are shown as dashed lines, with planned new facilities shown in green, and upgraded infrastructure in amber.



PROPENSITY TO CYCLE - GO DUTCH CYCLING MODE SHARE BY MSOA

The Propensity to Cycle Tool (PCT) provides an insight into current levels of cycling (based on Census 2011 data), and where cycling has the greatest potential to grow, according to various cycling growth scenarios.

The figure on this page, which illustrates how cycling levels across Cheltenham could look in a 'Go Dutch' scenario, should be compared with the data for cycling levels in 2011, as seen on page 35.

'Go Dutch' is an ambitious target for what cycling could look like if Dutch level of cycling were adopted here. People in the Netherlands make 26.7% of trips by bicycle. This is fifteen times higher than the England and Wales average, but only two and a half times higher than the Cheltenham internal travel to work level.

Under the Go Dutch scenario, the PCT recognises that the 'Dutch' effect is higher for shorter trips than for longer ones.

The data presented on this page and the next are sourced from the Propensity to Cycle Tool, and were originally presented in the Gloucestershire County Council "Walking and Cycling Network Report" of 2018.

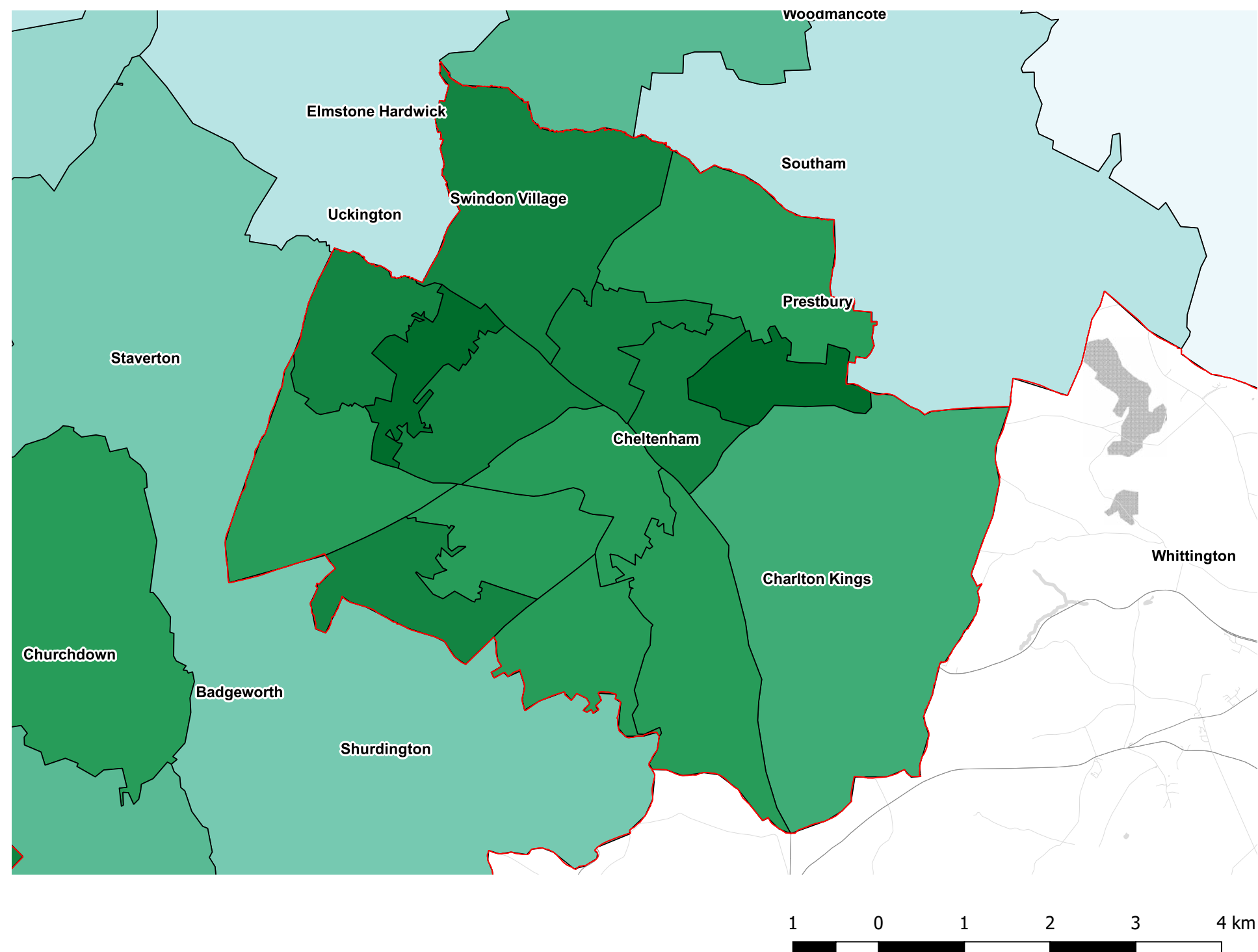
Legend

Rail mode share

Cycling Modes Share (%)
Go Dutch Scenario

- 7.1 - 9.6
- 9.6 - 12.2
- 12.2 - 14.7
- 14.7 - 17.2
- 17.2 - 19.7
- 19.7 - 22.2
- 22.2 - 24.7
- 24.7 - 27.2
- 27.2 - 29.7
- 29.7 - 32.2

Local Area Districts

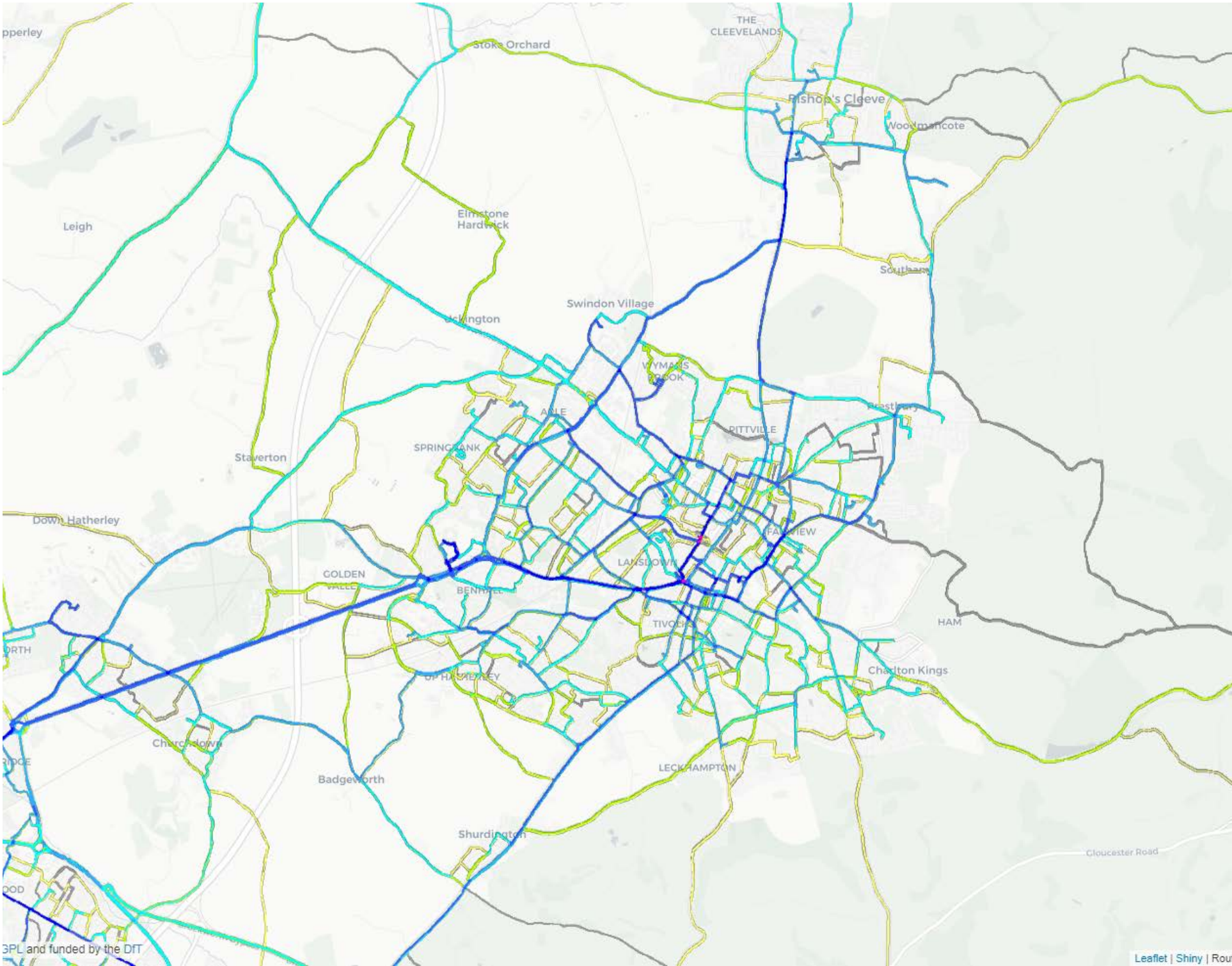
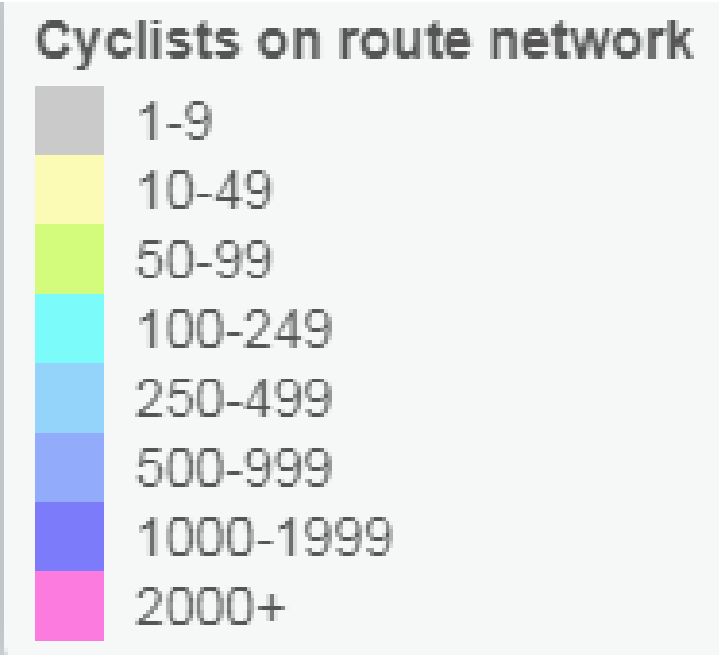


PROPENSITY TO CYCLE - GO DUTCH CYCLISTS ON NETWORK

The flows associated with the PCT analysis for Cheltenham in a ‘Go Dutch’ scenario are shown in this figure. Flows allow an assessment of how busy parts of the (existing) network might be expected to be under a ‘Go Dutch’ scenario.

Using 2011 Census data, the largest existing cycle link flows in Cheltenham and Gloucester are typically between 100 and 250 weekday flows, with the greatest link flows recorded around major employment sites.

This figure highlights the potential increase in cycle flows in the ‘Go Dutch’ scenario. Flows typically increase to between 500 and 999 within the area and typically over 1000 on strategic routes between the main urban areas. The results suggest that there is the potential for between 1,000 and 1,999 daily cycle trips between the urban centres.



SPEED LIMITS

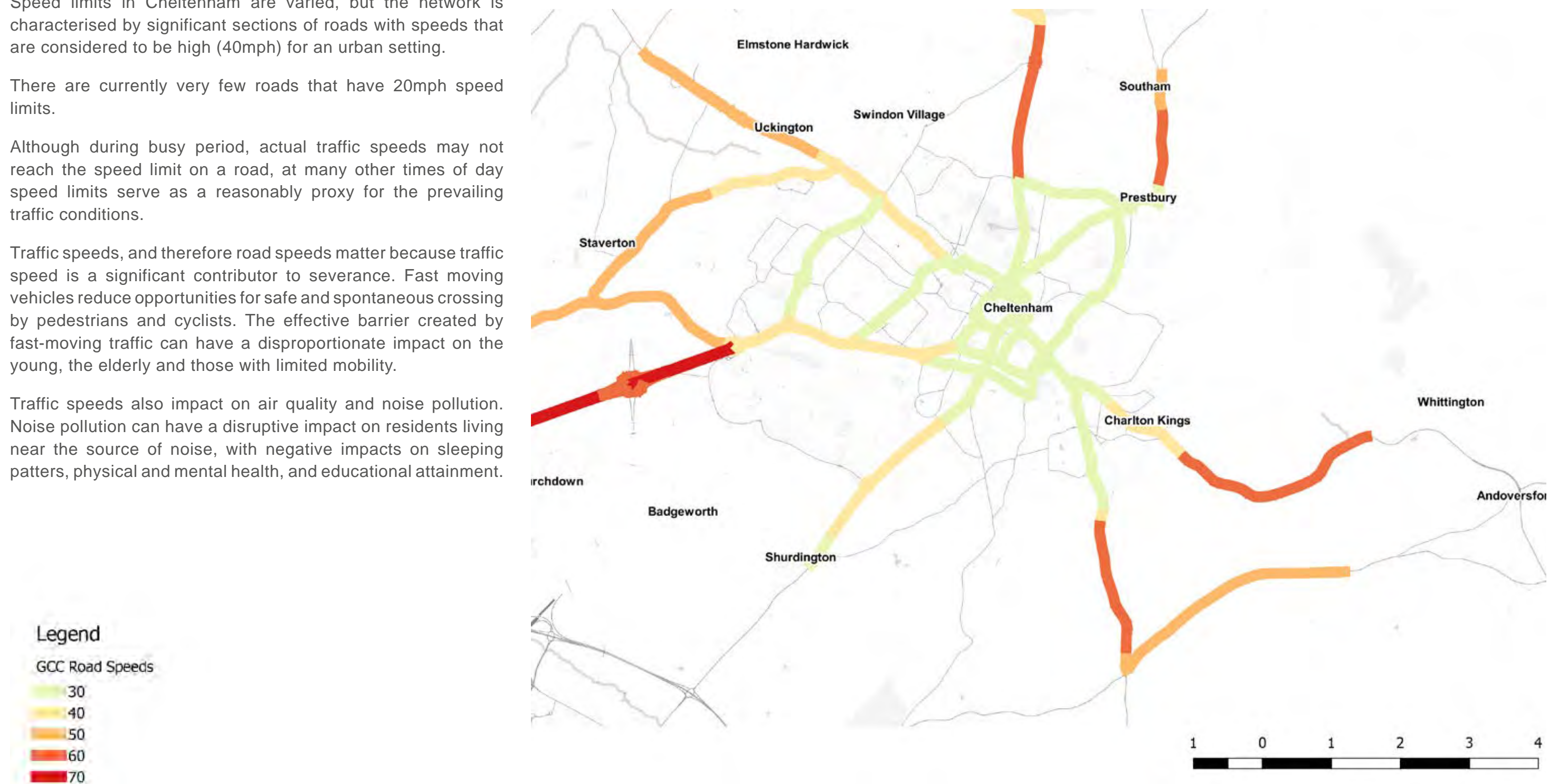
Speed limits in Cheltenham are varied, but the network is characterised by significant sections of roads with speeds that are considered to be high (40mph) for an urban setting.

There are currently very few roads that have 20mph speed limits.

Although during busy period, actual traffic speeds may not reach the speed limit on a road, at many other times of day speed limits serve as a reasonably proxy for the prevailing traffic conditions.

Traffic speeds, and therefore road speeds matter because traffic speed is a significant contributor to severance. Fast moving vehicles reduce opportunities for safe and spontaneous crossing by pedestrians and cyclists. The effective barrier created by fast-moving traffic can have a disproportionate impact on the young, the elderly and those with limited mobility.

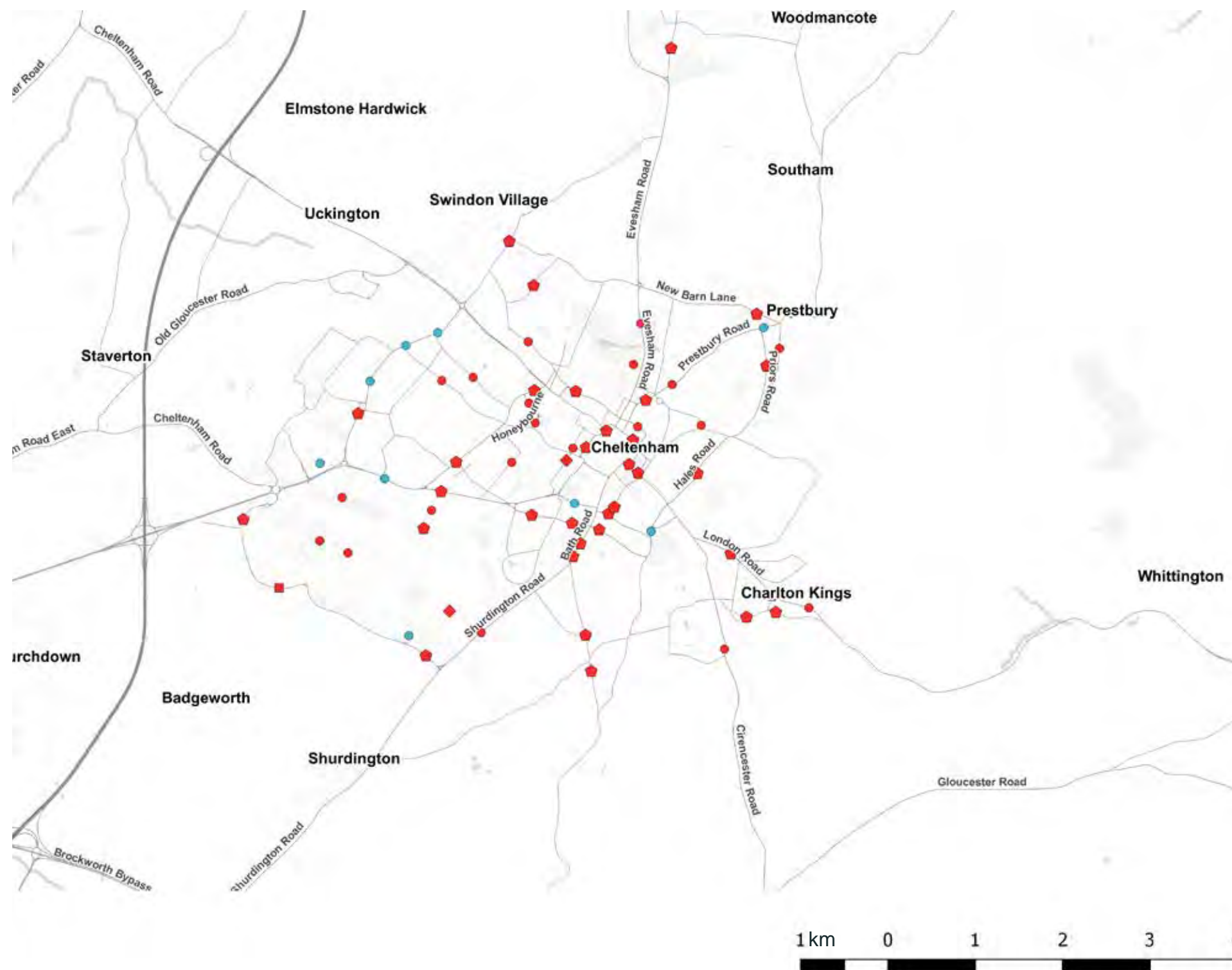
Traffic speeds also impact on air quality and noise pollution. Noise pollution can have a disruptive impact on residents living near the source of noise, with negative impacts on sleeping patterns, physical and mental health, and educational attainment.



CROSSINGS

This plan identifies the locations of the stand-alone crossings within Cheltenham that are not incorporated into wider signalised junctions, including; Pelican, Puffin, Dual Puffin and Toucan crossings.

The plan illustrates that crossing facilities can be quite spread out. The lack of frequent crossing facilities, combined with vehicle speeds and volumes, means that the radial routes in particular can cause severance.

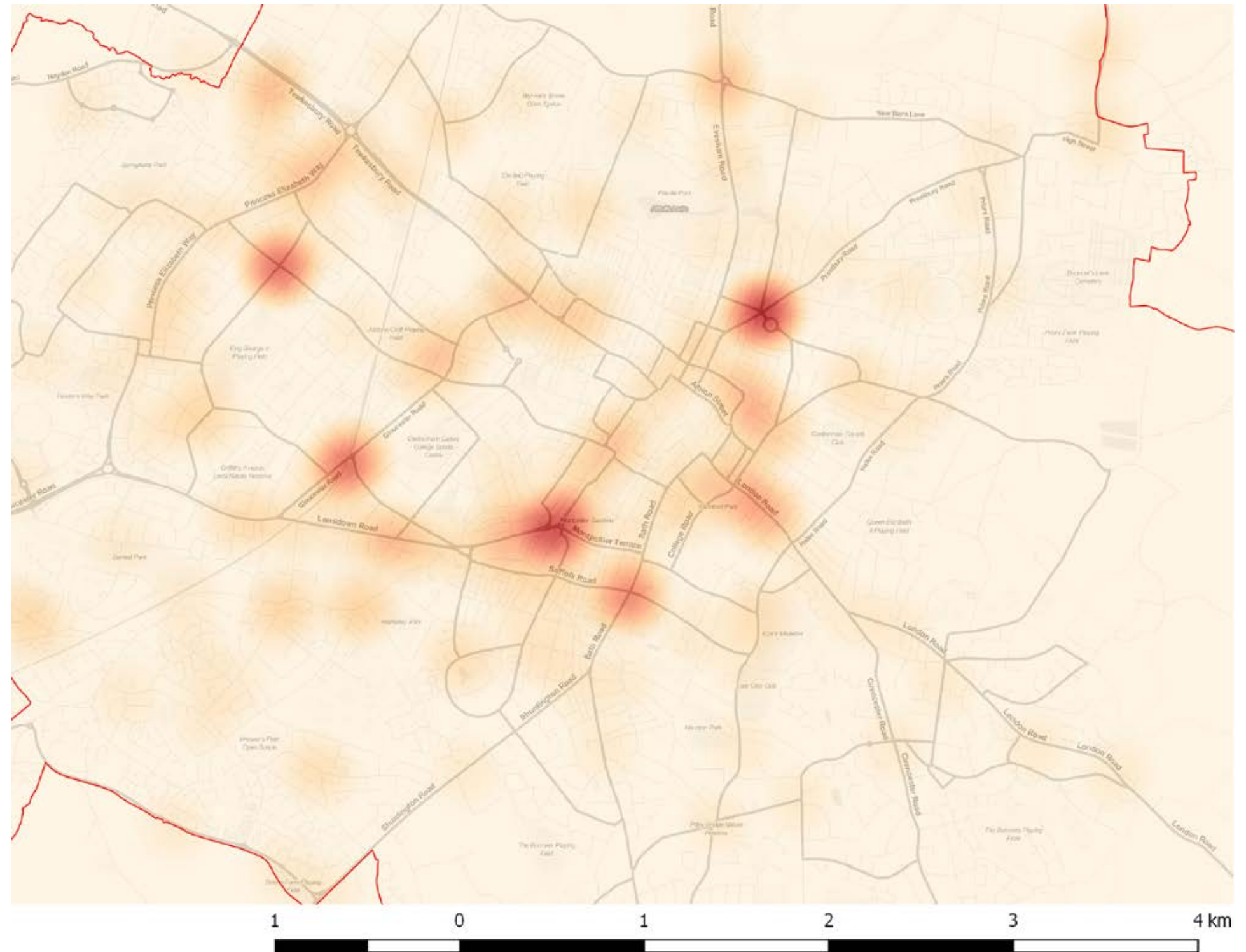


COLLISIONS BETWEEN VEHICLES AND CYCLISTS

This heatmap illustrates collisions between cyclists and other vehicles in and around central Cheltenham.

Hotspots are distributed across a wide area, but there are particular clusters of collisions around a number of complex junctions within the town centre.

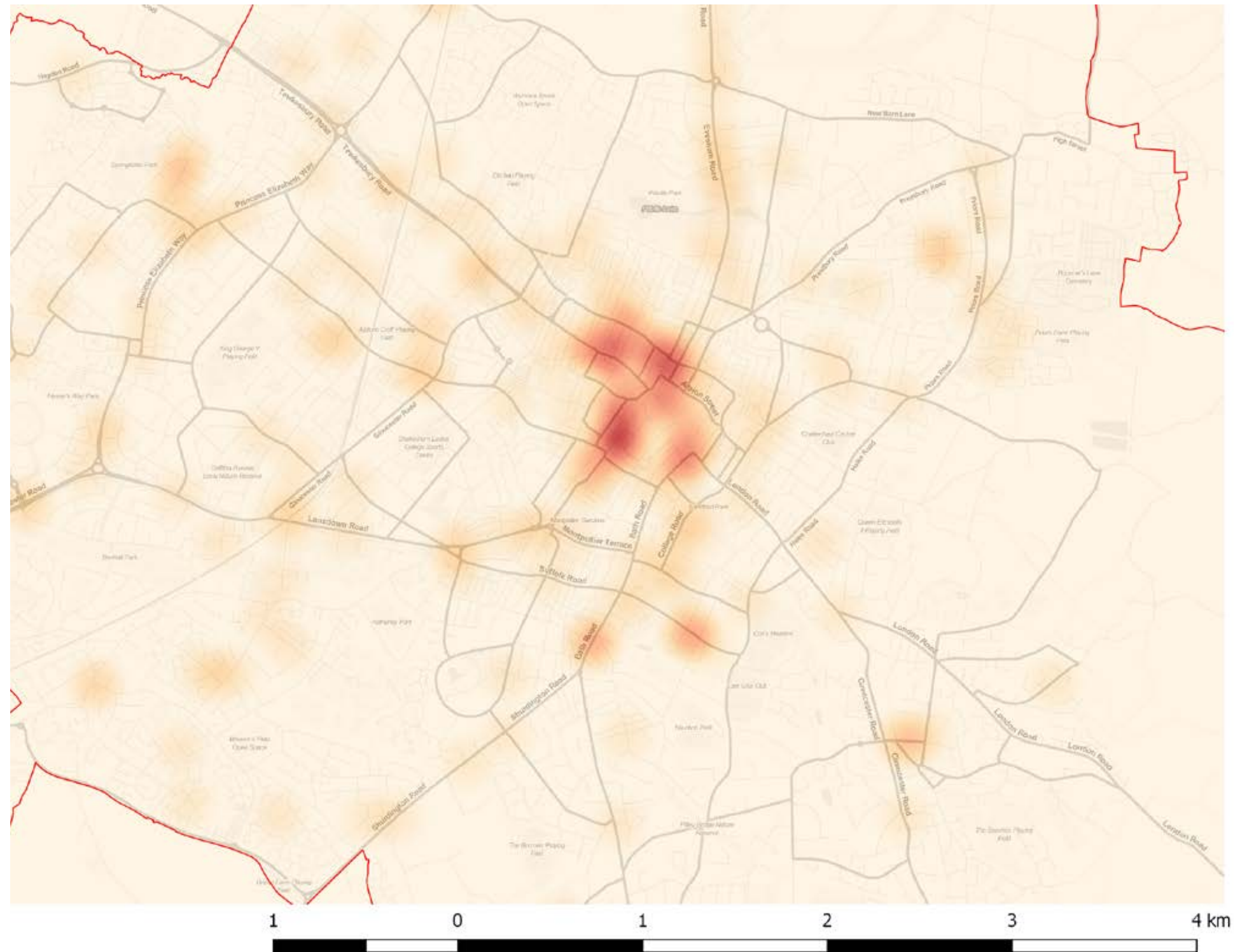
Collisions near the entrance to Cheltenham Spa station are noteworthy, and may in part reflect an issue with conditions that are unfamiliar to visitors to the town.



COLLISIONS BETWEEN VEHICLES AND PEDESTRIANS

This heatmap indicates the density of collisions between vehicles and pedestrians in and around central Cheltenham.

Although there is a broad distribution of collisions, hotspots are particularly concentrated in the very centre of the town, including on the Promenade, outside the Municipal Buildings, and in a cluster around the Brewery Quarter, on High Street, Swindon Street and Albion Street, and finally at the corner of Bath Road and High Street.



ROAD NETWORK

The following pages explore in a little more detail conditions and trends on the roads in and around the town.

For the highways network, Annualised Average Daily Flows and Traffic Master congestion data are indicative of the main vehicular corridors.

Congestion can be a cause of poor air quality. Roads with high volumes of traffic act as barriers to pedestrians and cyclists by reducing opportunities to cross roads, but also by contributing to environments that may not be pleasant to walk or cycle along. Congestion impacts on journey times for all affected road users including users of shared modes such as bus passengers, goods and drivers of commercial vehicles, and of course drivers of private vehicles and their passengers.

Congestion, therefore, has negative implications for physical health of those people who live, work, have businesses or travel along the corridors affected, as well as wider economic impacts.

ANNUAL AVERAGE DAILY FLOW - ALL VEHICLES

The highest Annualised Average Daily Flows (AADF) in the Cheltenham area are observed on the M5 motorway, with 50,000 vehicles/day in each direction. Flows are also high on the A40 Gloucester Road between the M5 and Benhall roundabout where the combined flows are up to 50,000 vehicles/day.

Within the town, the A40 east of Benhall roundabout, Princess Elizabeth Way (PE Way) and the Tewkesbury Road west of PE Way all experience combined AADFs of 24-28,000 veh/day.

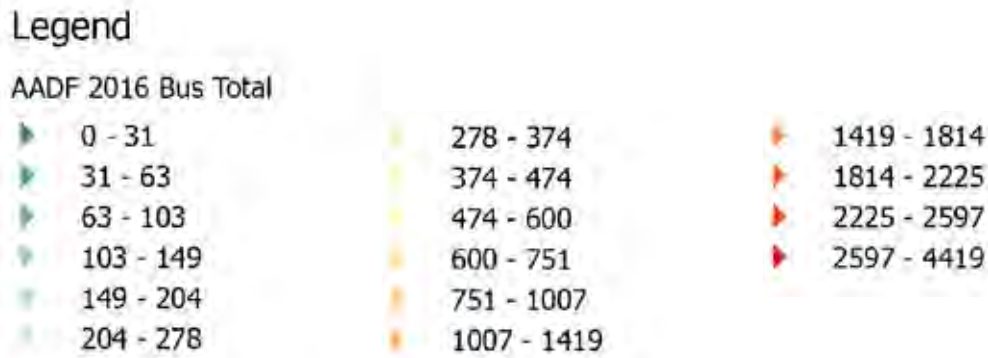
It is notable that while combined flows within the town centre are typically within the range of 9-12,000, flows of up to 18,000 are observed on the A46 Albion Street, and A40 Lansdown Rd.

The A435 to the north, and the A46 to the south each see combined flows of around 18,000 veh/day.

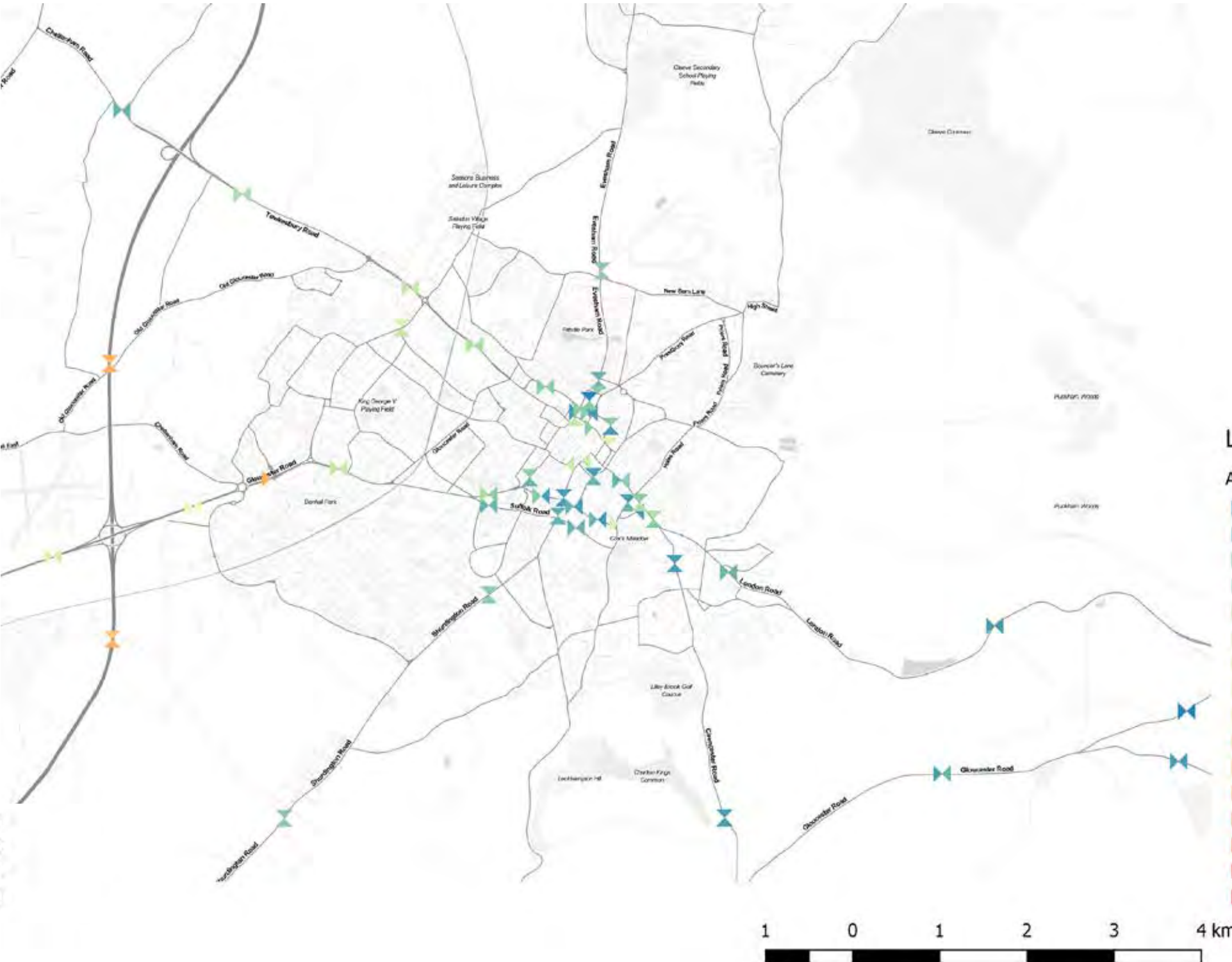
However, traffic flows east and south east are lower, with levels on the A40 London Road at only 12,000 veh/day, and the A435 to the south having low flows of less than 10,000 veh/day.

In summary, the highest traffic flows are on the roads to the west of the centre, lower but still moderately high flows are observed to the north and south, and lower flows to the east.

Separate plots of AADF are presented for individual vehicle classes on the following pages, and on all plots the arrows are indicative of the direction of traffic flow.

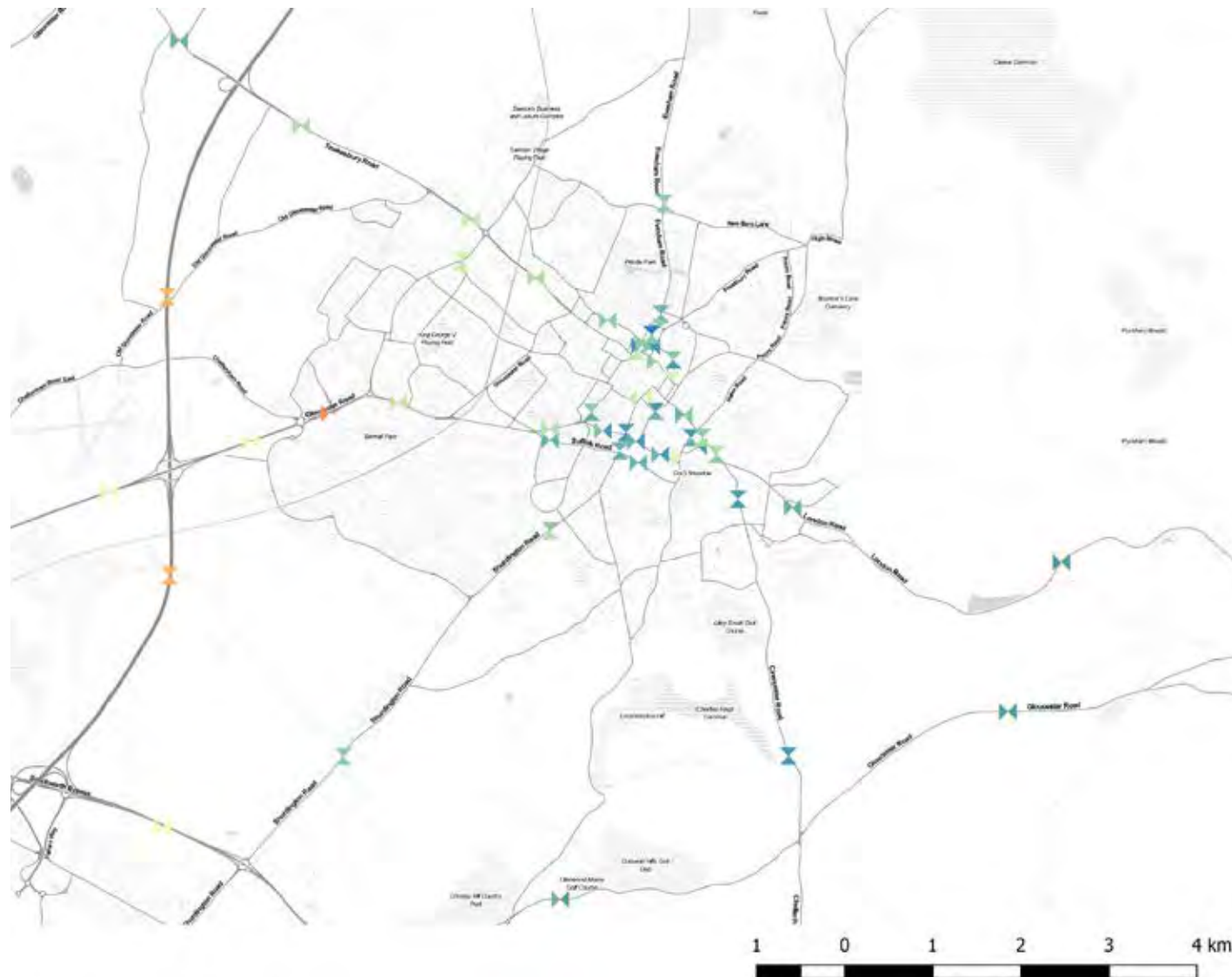


All Vehicles



ANNUAL AVERAGE DAILY FLOW - CARS & TAXIS AND BUSES

Cars & Taxis



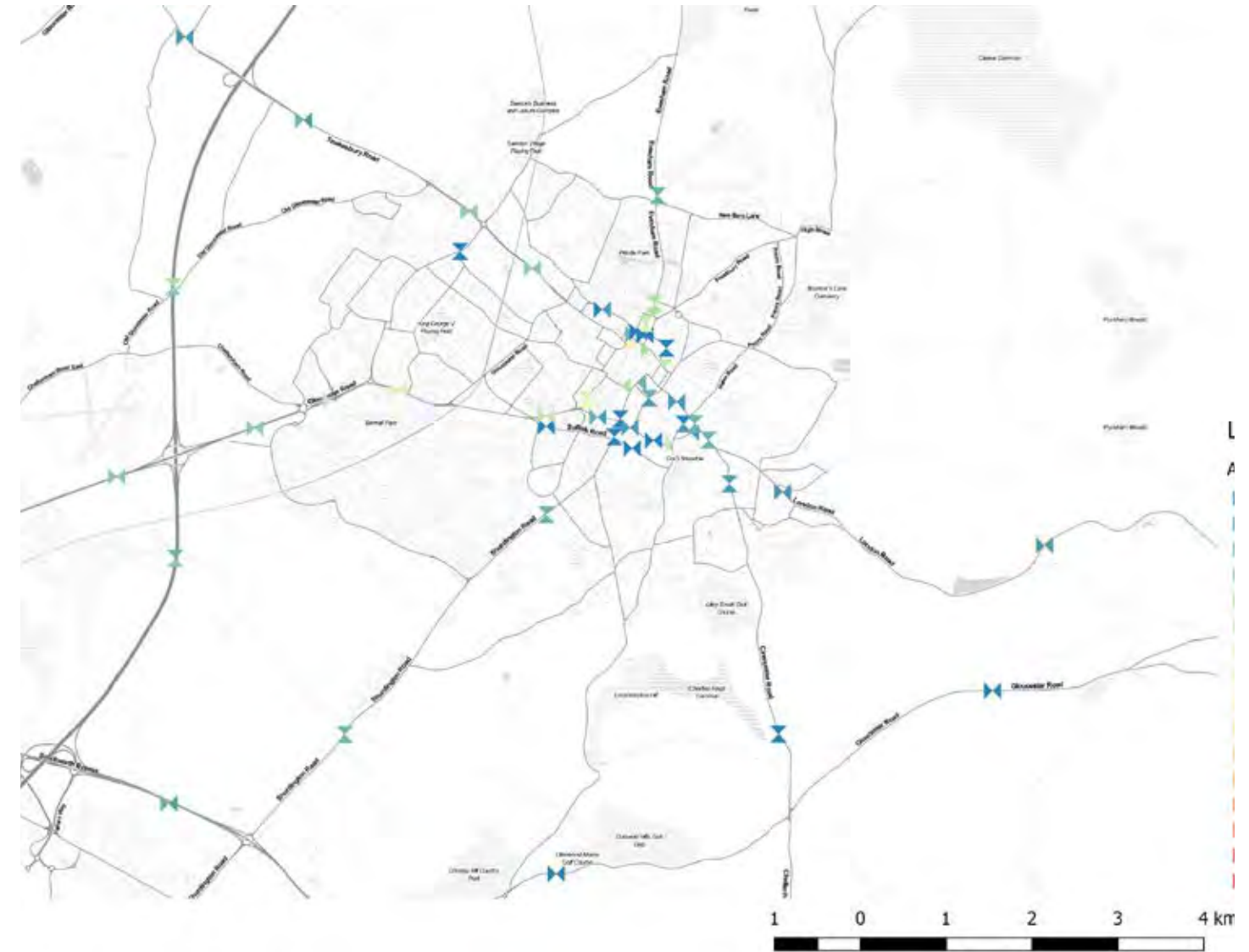
Legend

AADF 2016 Bus Total

0 - 31	278 - 374
31 - 63	374 - 474
63 - 103	474 - 600
103 - 149	600 - 751
149 - 204	751 - 1007
204 - 278	1007 - 1419
	1419 - 1814
	1814 - 2225
	2225 - 2597
	2597 - 4419

Car flows dominate the all-vehicles flows, and the patterns observed for all vehicles hold generally true for cars.

Buses

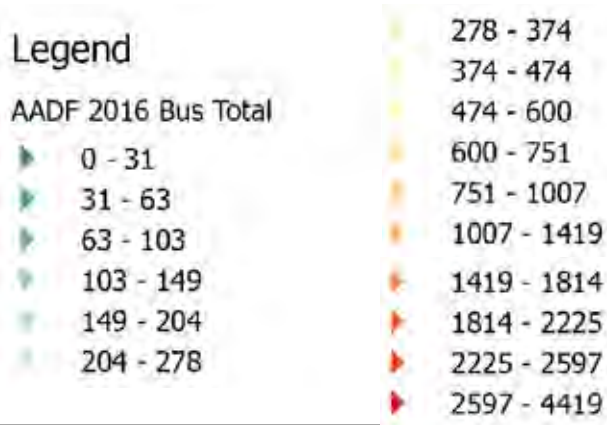
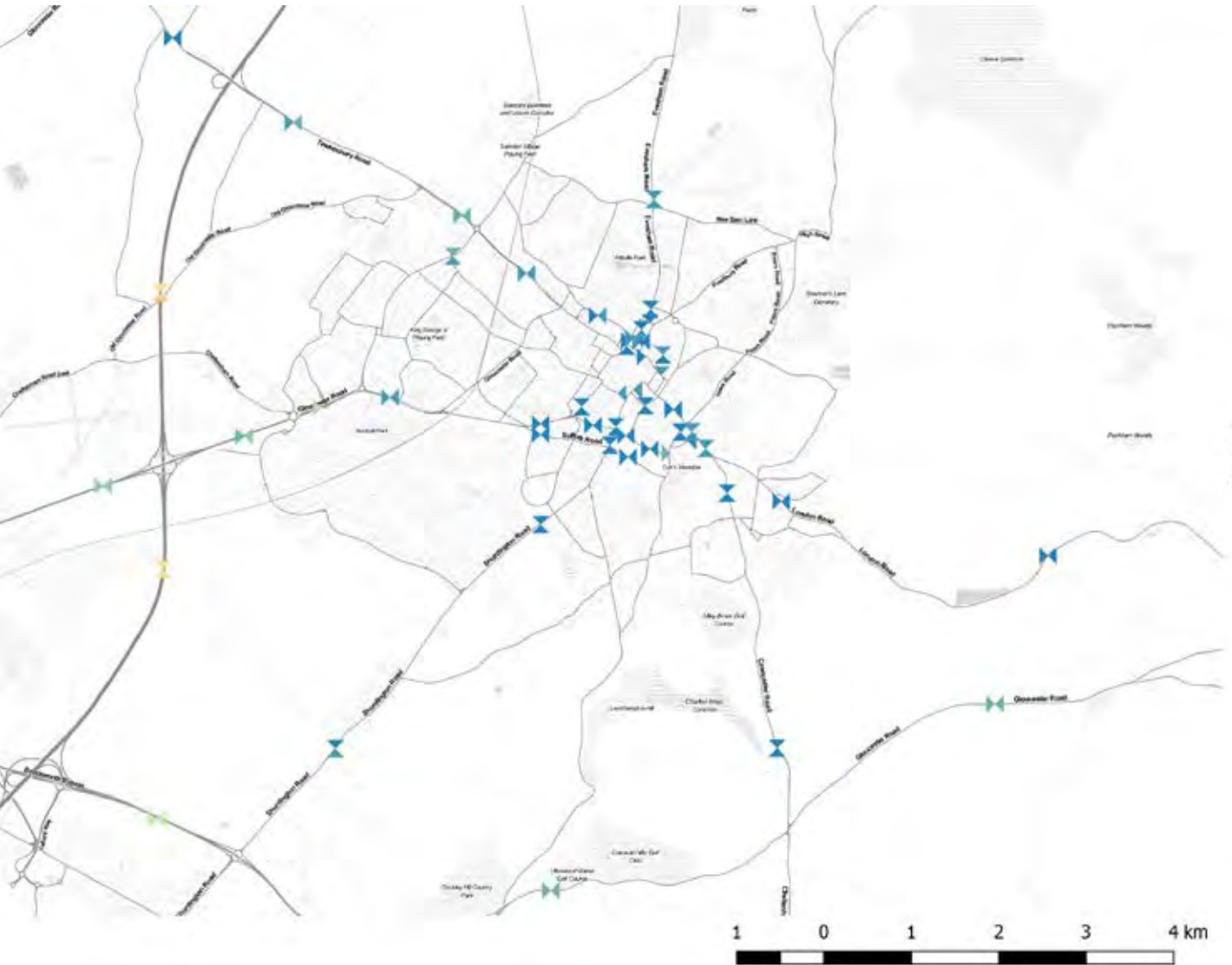


The main corridors for buses according to the AADF data are:

- A46, various town centre including Clarence, Albion and Portland Streets
- A40, Gloucester and Lansdown Roads
- A4019, Tewkesbury Road
- A435, Evesham Road

ANNUAL AVERAGE DAILY FLOW - HGV & LGV

HGV



The largest flows of HGVs are observed to the west of the town, with 1,200 HGVs/day on A40 between M5 and Benhall roundabout, 700 HGVs/day on Tewkesbury Road to the west of Princess Elizabeth Way, and 600 HGVs/day on Princess Elizabeth Way itself.

HGV flows on Tewkesbury and Gloucester Roads drop nearer to the town centre, but are still higher (circa 400 HGVs/day) than any of the other radial routes in and out of the town, where

LGV

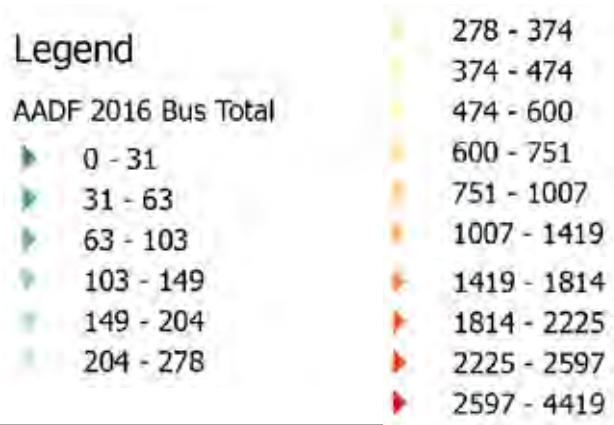
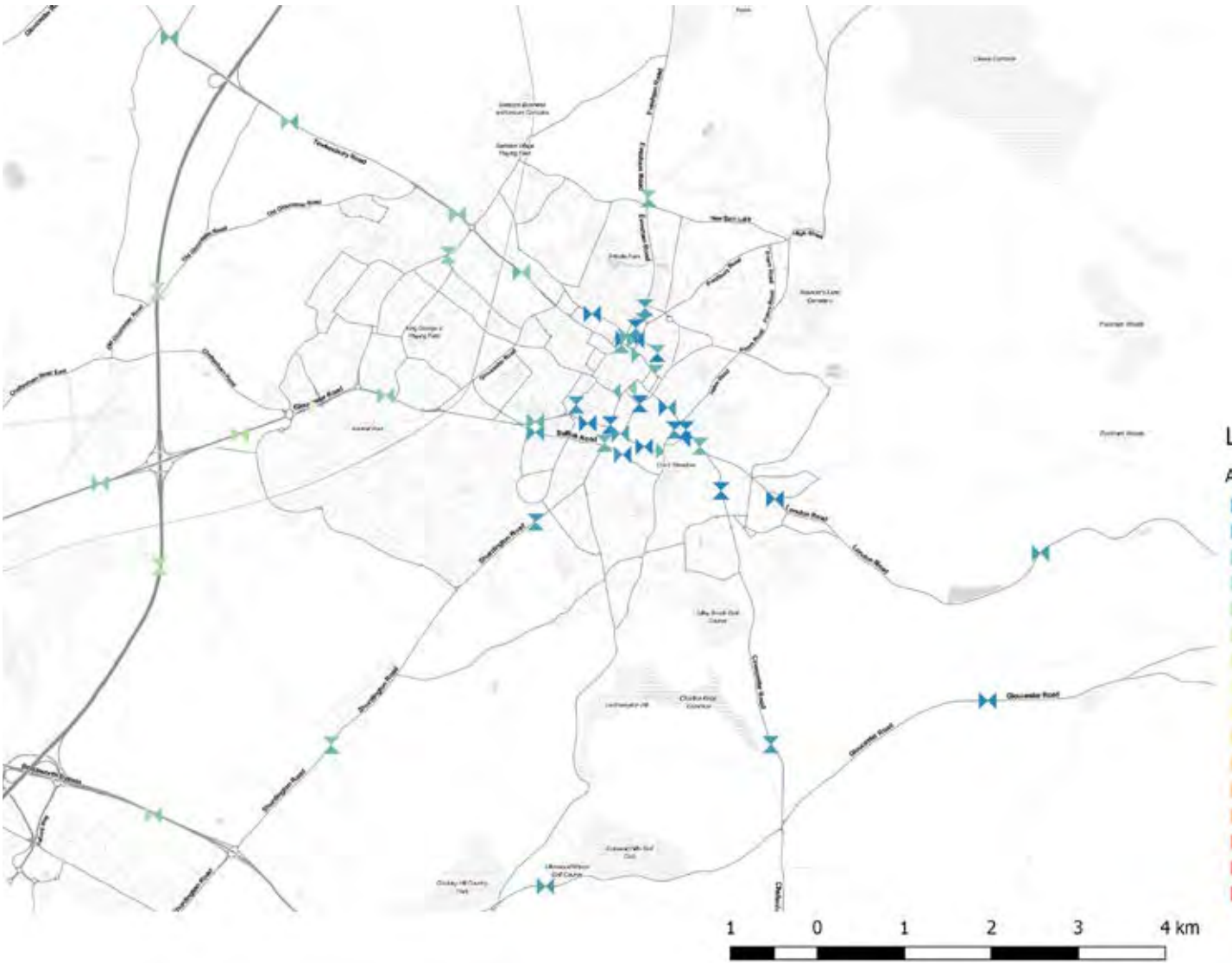


flows range between 150-300 LGVs/day.

Similar patterns are observed for LGVs, but it is notable that there a high numbers of LGVs at various locations in and around the town centre, with one-directional flows being higher here (up to 2,000 LGVs/day) than anywhere else other than the A40 west of Benhall roundabout.

ANNUAL AVERAGE DAILY FLOW - BICYCLE

MOTORCYCLE



AADF only provides flow counts and estimates for trunk roads. As such it cannot provide insight into flows on off-road routes used by cyclists, such as the Honeybourne Line.

However, in terms of the trunk roads, the AADF data is suggestive of a corridor running along the A40 from Benhall roundabout, running on to Lansdown Road, Montpellier Terrace and Sandon Road. The flows are remarkably consistent along its length (circa 3-400 cycles/day).

CYCLE



Flows along Princess Elizabeth Way, Swindon Road (A4019), numerous parts of the town centre and Evesham Road are also at comparable levels, although the flow on Evesham Road drops considerably on the segment of road between the racecourse and Bishops Cleeve.

Tewkesbury Road, in contrast with the patterns observed for other vehicles, has much lower cycling flows of 100-150 cycles/day.

CONGESTION

TrafficMaster indicates levels of congestion on routes around Cheltenham. During the morning peak, very slow traffic is concentrated to the south of the town centre in particular. Both motorway junctions also experience congestion at this time. The most severe congestion is observed on the following roads:

A40

- East of M5 Junction 11
- Junction with B4633 (near Cheltenham Spa Station)
- Junction with A46 Bath Road, south of the town centre
- Junction with A435 and B4075, east of the town centre
- Junction with A435 Cirencester Rd, through Charlton Kings.

A46

- Junction cluster at A40, Montpellier Terrace, Sandford Rd
- Shurdington Road junction with Moorend Park Road (near the University of Gloucestershire Park Campus)

A435

- South of Bishop's Cleeve and at roundabout with Swindon Lane and B4075
- Through Charlton Kings

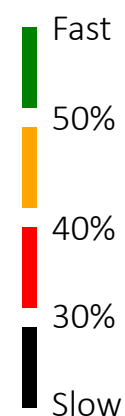
A4019 along the Swindon Road and

- Around the junction with B4633.

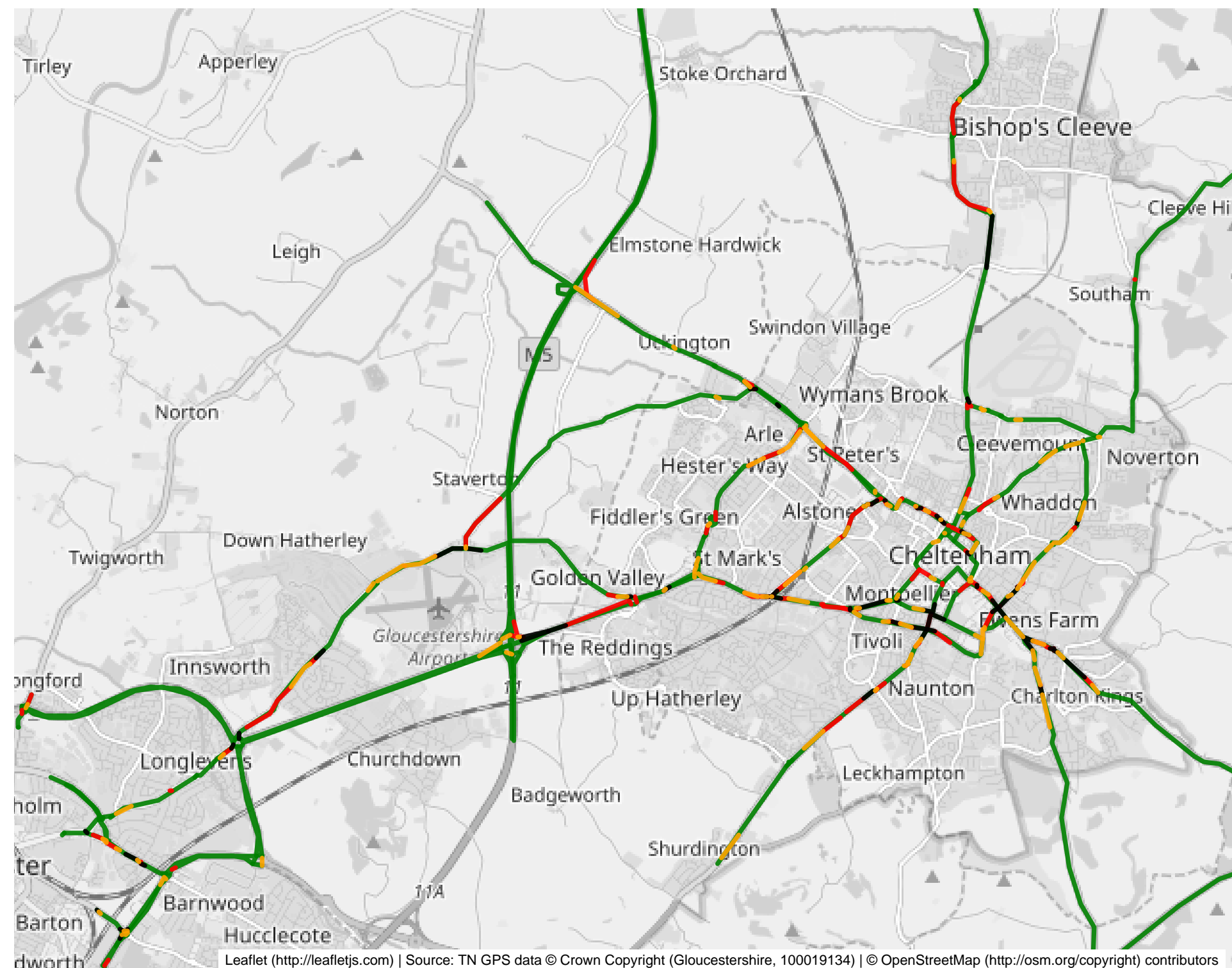
B4063

- Around junction with B463.

Princess Elizabeth Way.



2017 Weekdays AM Peak (07:00-09:00)



CONGESTION

The PM peak is similar to the AM peak in terms of the distribution of congestion, however traffic moves more slowly in general than in the morning, as can be seen in the stretches of road that are red in the PM map but yellow in the AM. Very slow moving traffic is again concentrated to the south of the town centre. However, traffic generally flows freely around the motorway junctions. The most severe congestion is observed along:

A40

- Between Arle Court and Benhall roundabouts.
- Junction with B4633 (near Cheltenham Spa Station)
- Junction with A46 Bath Road, south of the town centre
- Old Bath Road up to and including the junction with A435
- Junction with A435 Cirencester Rd, through Charlton Kings.

A46

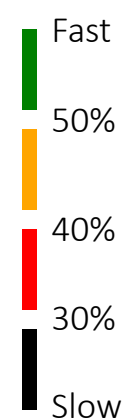
- The cluster of junctions with A40, Montpellier Terrace and Sandford Road
- Shurdington Road junction with Moorend Park Road (though overall less severe than AM)

A435

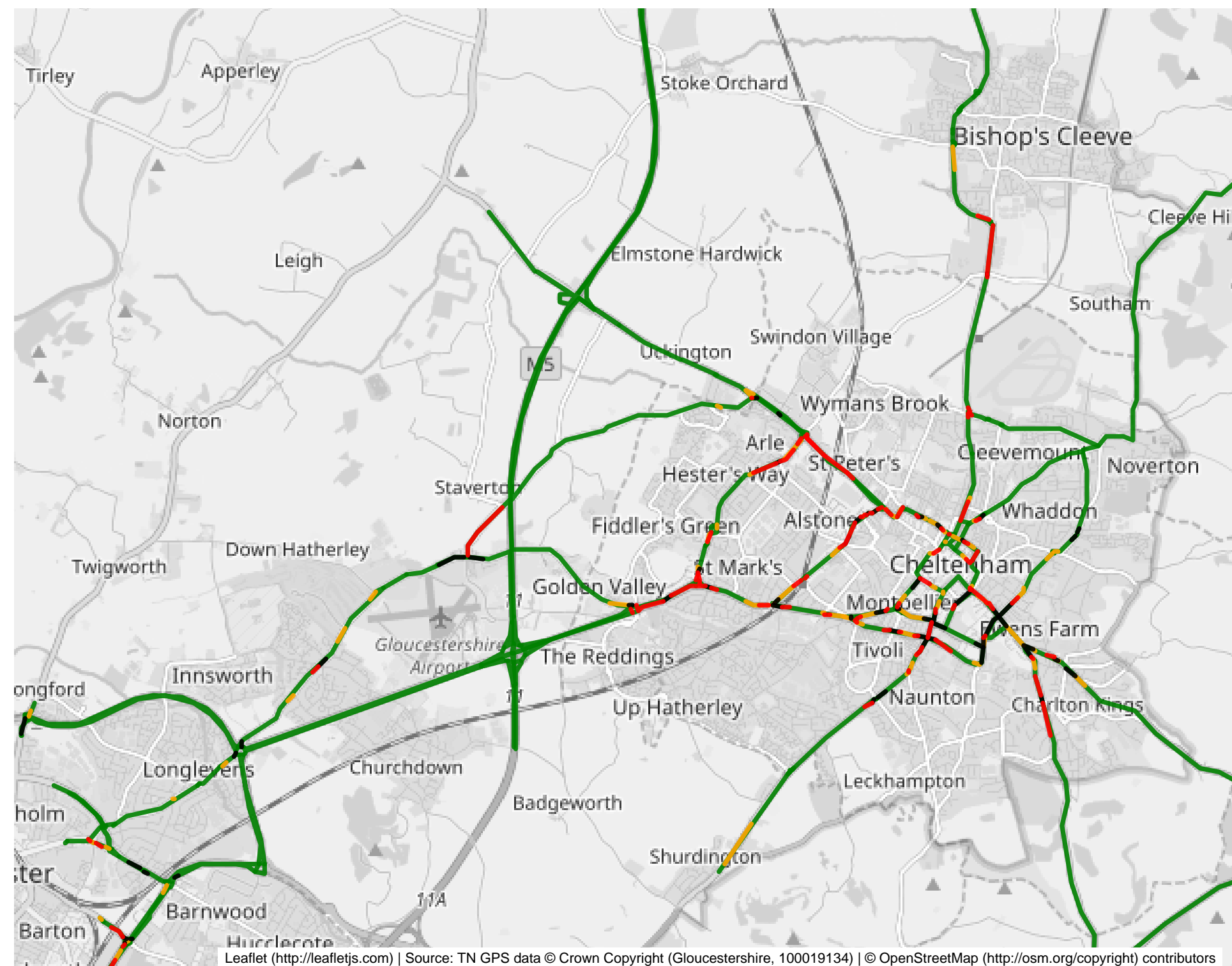
- South of Bishop's Cleeve and at roundabout with Swindon Lane and B4075 (although less severe than AM)
- Through Charlton Kings (more severe than AM)

A4019 along the Tewkesbury and Swindon Roads.

Princess Elizabeth Way.



2017 Weekdays PM Peak (07:00-09:00)



CONGESTION

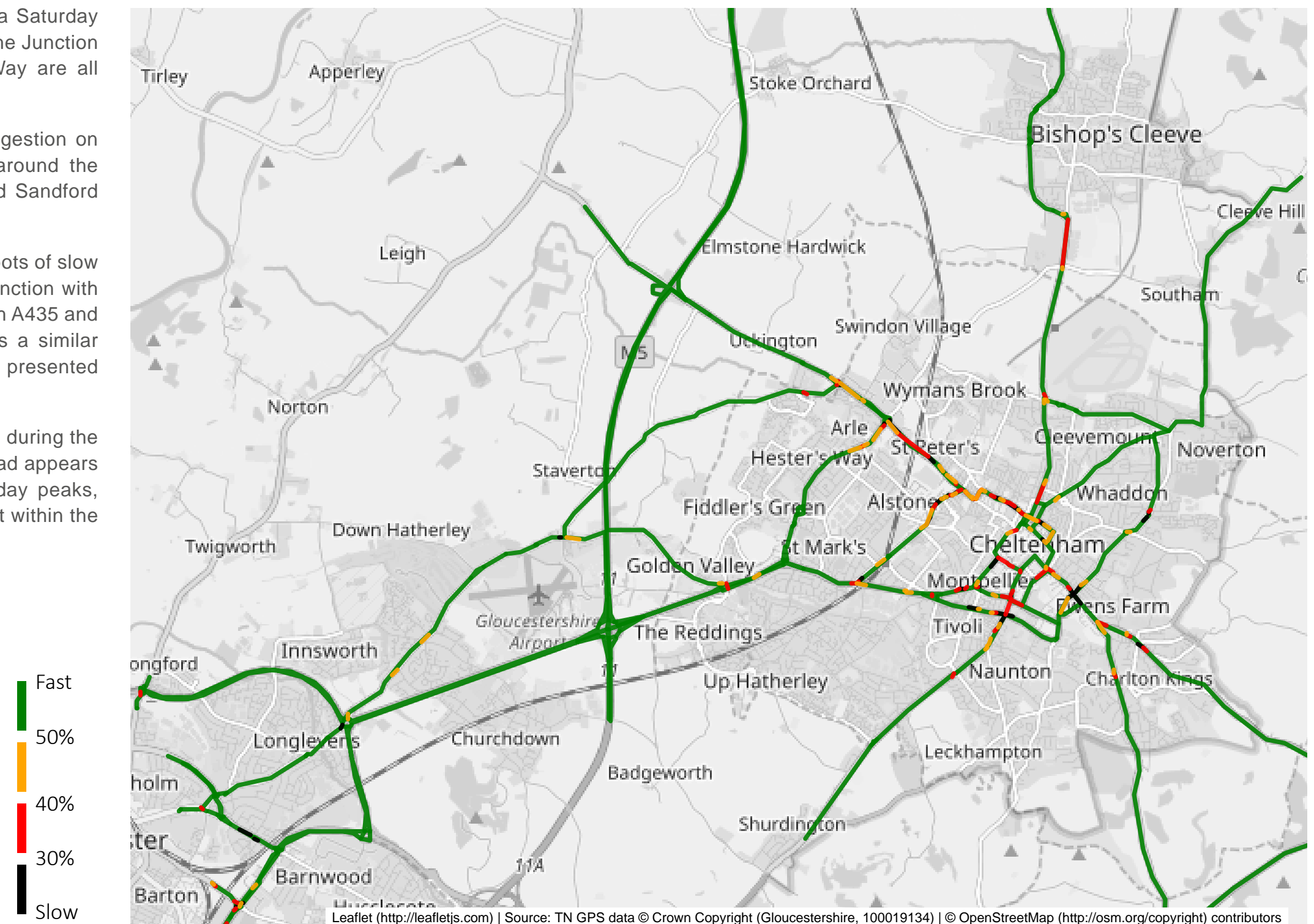
There is much less congestion within the town on a Saturday at 12:30 than during either of the weekday peaks. The Junction 10 and 11, A40, A435 and Princess Elizabeth Way are all significantly more free-flowing at this time.

The A46 experiences a very similar pattern of congestion on Saturdays to the PM peak, with the congestion around the cluster of junctions at A40, Montpellier Terrace and Sandford Road a consistent factor at all peaks.

The A40, while largely clear of congestion, shows spots of slow moving traffic (other than described above) at its junction with B4633 and to the east of the town at the junction with A435 and B4075. This latter junction is another which shows a similar pattern of congestion across all the time windows presented here.

While the A4019 Swindon Road is congested just as during the AM and PM peaks, it is notable that Tewkesbury Road appears more congested on a Saturday than during weekday peaks, with almost no sections of free-flowing traffic evident within the town's boundary.

2017 Saturdays (12:30)



BUS NETWORK

SUMMARY

An overview analysis of the bus network has been undertaken, gauging frequencies, coverage of current and proposed sites, and Park and Ride. Headline points which can be taken are that the:

- Bus network offers good coverage and a strong commercial offer.
- Frequencies are limited on some corridors and rise in some cases during the off-peak.
- Bus network is entirely radial in nature .
- Bus Journey times are uncompetitive and rise by an average of 18% in peak hours.
- Journeys / head of population low for the size of Cheltenham
- Effective P+R is limited to one major corridor.

PARK AND RIDE

- Arle Court Park and Ride currently operated by GCC – expansion planned, bus service up to every 10 minutes, £3.90 return fare. Hospital Park and Ride service every 30 minutes.
- Racecourse Park and Ride, bus service up to every 10 minutes, £3.90 return fare.
- Typical Town Centre parking charges for comparative purposes – 4 hours £5.00, all day £12-£13.

BUS NETWORK RUNNING TIMES

Route	Route Section		Peak	Off Peak	Change	Note
	from	to	Mins	Mins		
A	Benhall GCHQ Hubble Rd	Cheltenham Clarence Street	26	22	15%	
B	Copt Elm Road Lyefield Road	Cheltenham Pittville Street	35	30	14%	
C	Hester's Way Local Shops	Cheltenham High Street	30	25	17%	
D						"Frequent" Service
E						"Frequent" Service
F	Leckhampton Convenience Shop	Cheltenham Pittville Street	28	23	18%	
10	Shurdington Church Lane	Cheltenham Promenade	20	18	10%	
41	Priors Park Gupshill Manor	Cheltenham Clarence Street	30	25	17%	
42/43	Tewkesbury Road Sainsburys	Cheltenham Clarence Street	19	16	16%	
51/52	Charlton Kings Clock Tower	Cheltenham Promenade	20	14	30%	
66	Warden Hill Farmfield Road	Cheltenham Promenade	15	12	20%	
93	Arle Court Park & Ride	Cheltenham Promenade	13	12	8%	
94						"Frequent" Service
94u	GCHQ Benhall Gloucester Road	Cheltenham Clarence Parade	18	13	28%	Uni Term Only Service
97/98	Churchdown, o/s The Old Elm Inn	Cheltenham Promenade	28	22	21%	Sch Days Only
99	Arle Court Park & Ride	Cheltenham Clarence Parade	25	20	20%	
Average					18%	

TOWN CENTRE

- The town centre on street bus stops have adequate capacity (TfL guidance suggests up to 15 departures per hour is possible)
- Some stops (eg. One of the two stops on North Place) have no services calling
- The Royal Wells Bus bus station is underused by local service buses and further thought should be given to its future use
- Stagecoach Travel Shop located on High Street is a positive but needs refurbishment

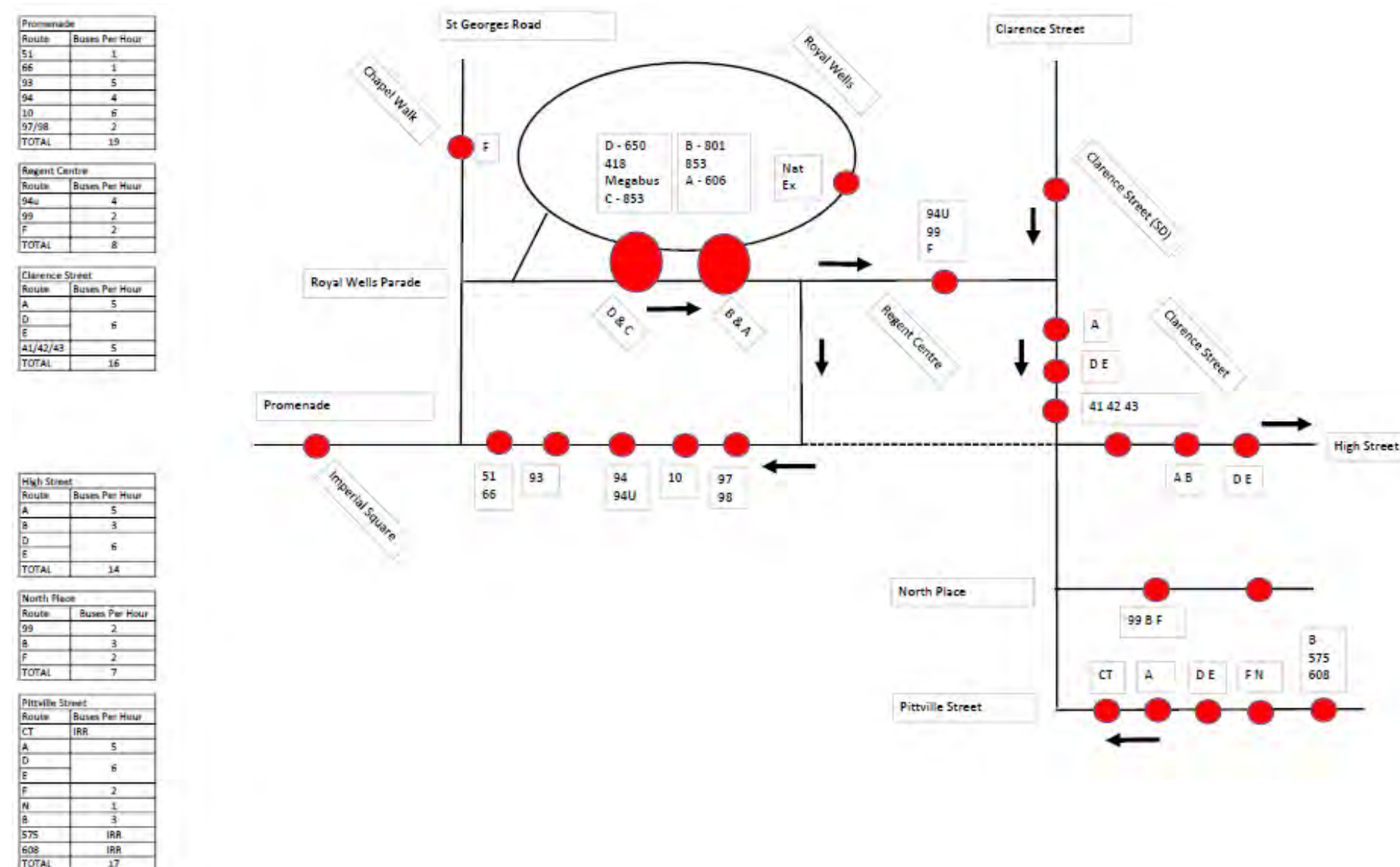
LAND NW OF CHELTENHAM

Land NW of Cheltenham application (number: 16/02000/OUT) is for up to 4115 houses, supporting development including a bus interchange and local Park and Ride site for up to 250 cars.

TA proposed bus services include:

- E (new service) - this would be the main route between residential Phases 2, 3 and 4 and the town centre, and would also serve part of Phase 1; it would also be a key route for those travelling to the Elms Park employment area and the sixth-form college on the site.
- H (revised service) - connection between Elms Park, Hesters Way and Benhall, for access to Gloucestershire College and GCHQ. If resource scheduling permits, this could be extended to the railway station.
- Service 40 (new service) - this would connect the Transport Hub, jointly with service 41/42, and part of residential Phase 1 with the town centre.
- Service 41/42 (revised service) jointly operated with service 40 – this would serve P&R travel to/from the town center and would be a supplementary service for parts of residential Phase 1.

EXISTING TOWN CENTRE BUS NETWORK



ROUTES OF HIGH FREQUENCY BUS SERVICES

The following pages show the routes followed by the higher frequency bus services in Cheltenham.

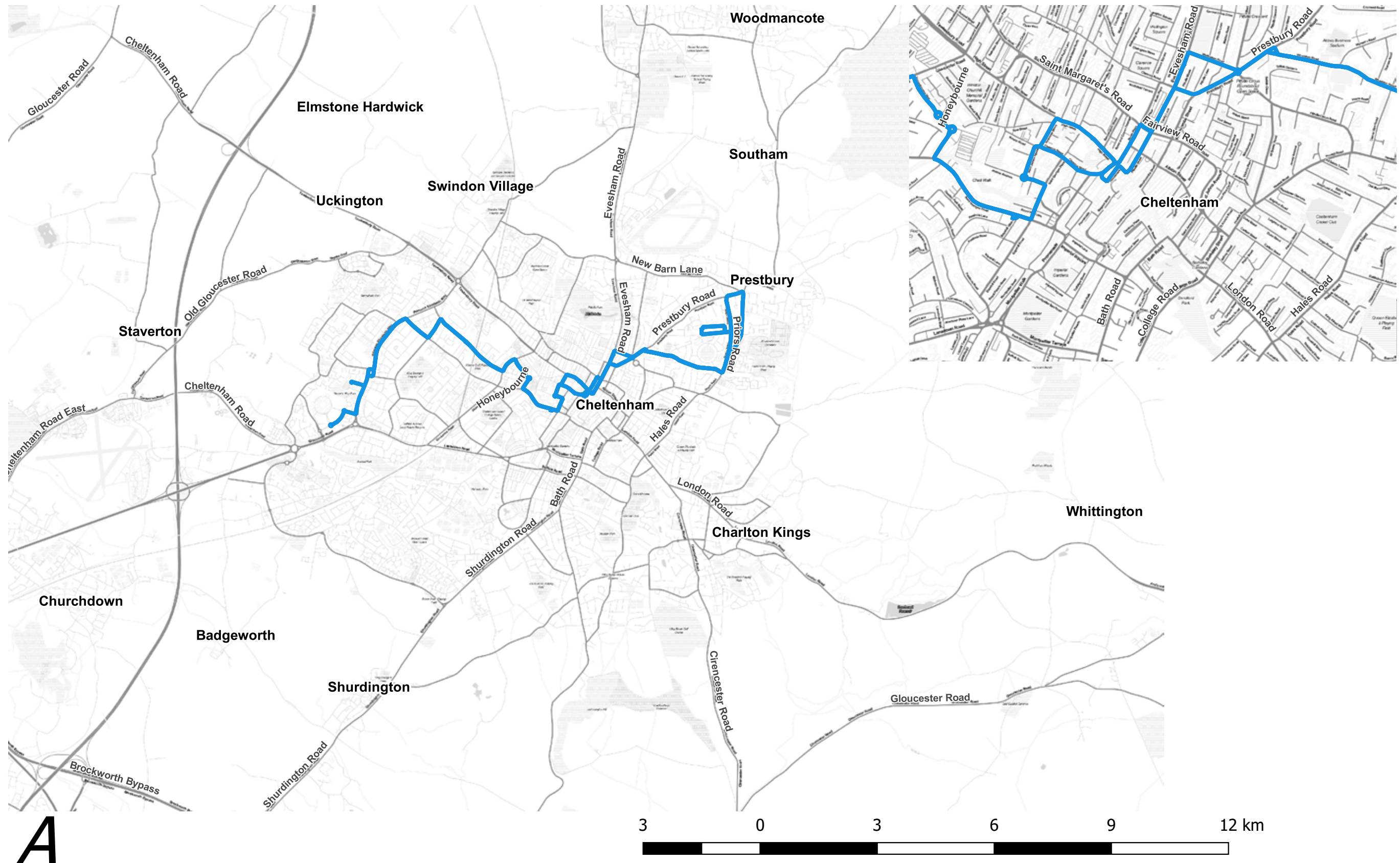
Each page shows the route at a town-wide context, along with an inset showing more detail in the town centre.

The highest frequency corridors are the A40 corridor between the town centre and the west, A435 Evesham Road corridor between Bishop's Cleeve and Up Hatherley via the town centre, A4019 Tewkesbury Road and A46 Shurdington Road.

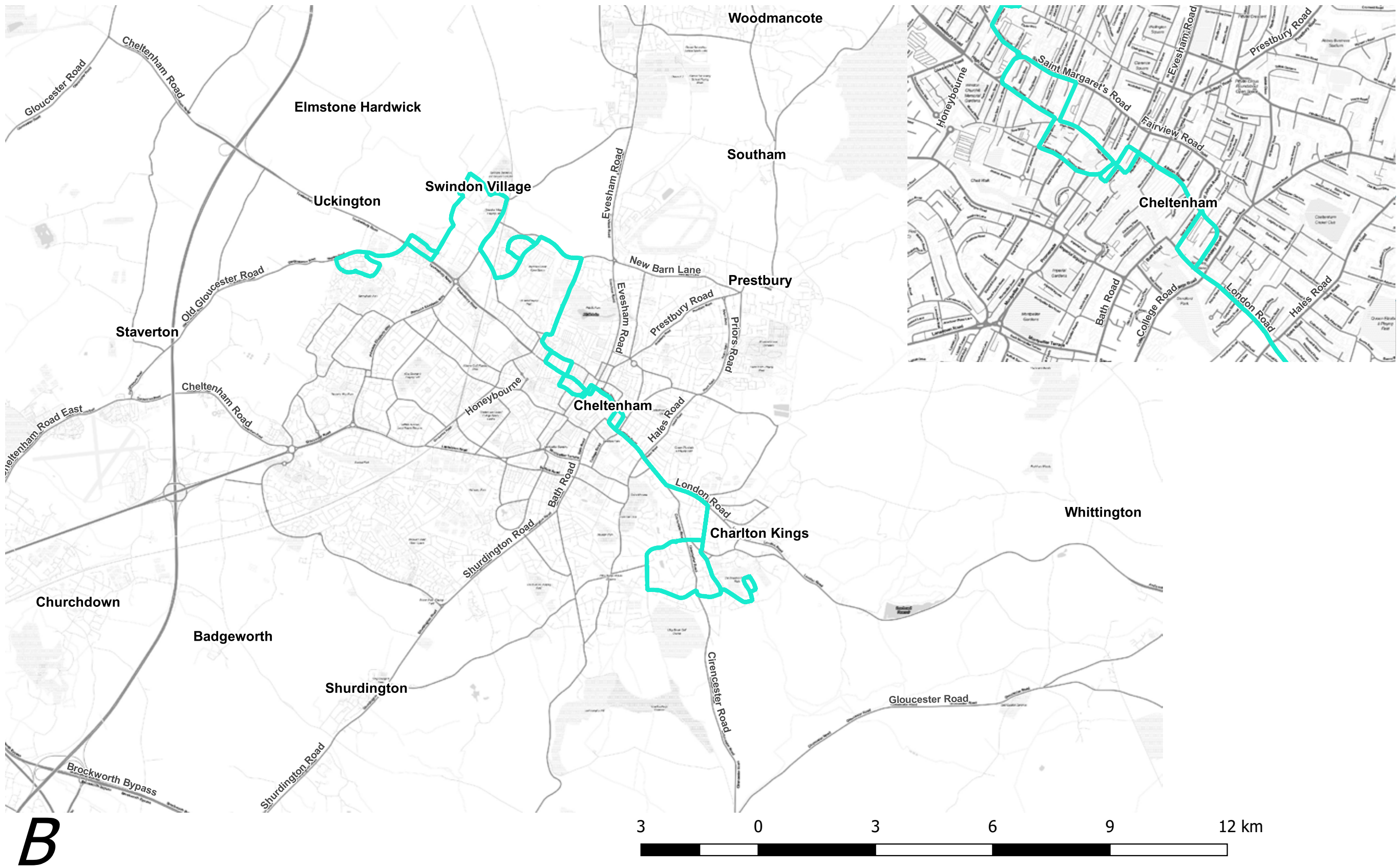
Town centre bus stops are spread widely across the town. The town centre can be viewed as effectively having four distinct interchanges at Clarence Street, Pittville Street, High Street and Promenade. The diffuse nature of town centre interchange acts as a barrier to passenger wishing to change between services that don't share the same interchange.

A further notable feature is that cross-town services suffer indirect with convoluted routing within the town centre itself, as exemplified by services A, B, D, E, F and 94U.

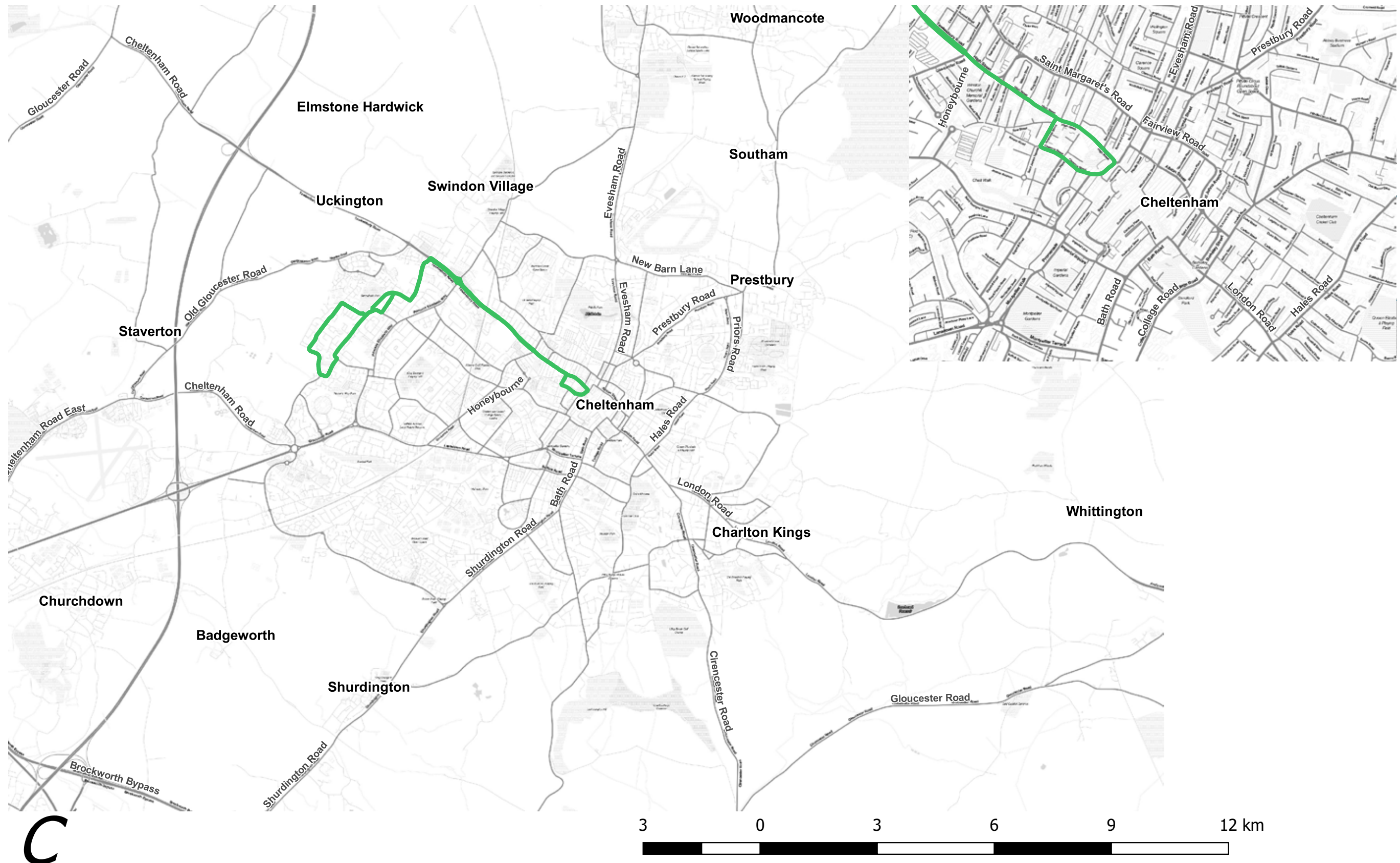
SERVICE A



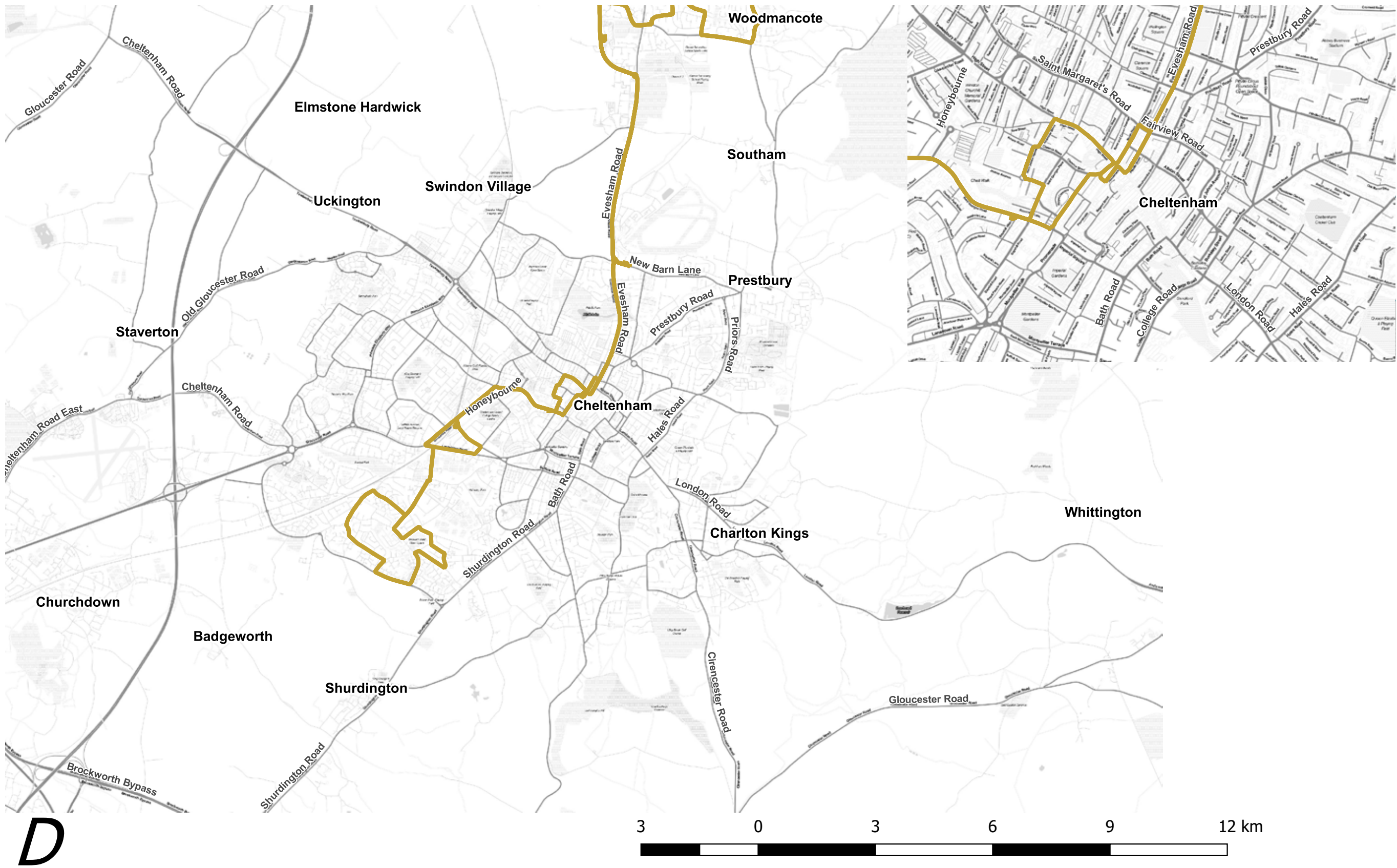
SERVICE B



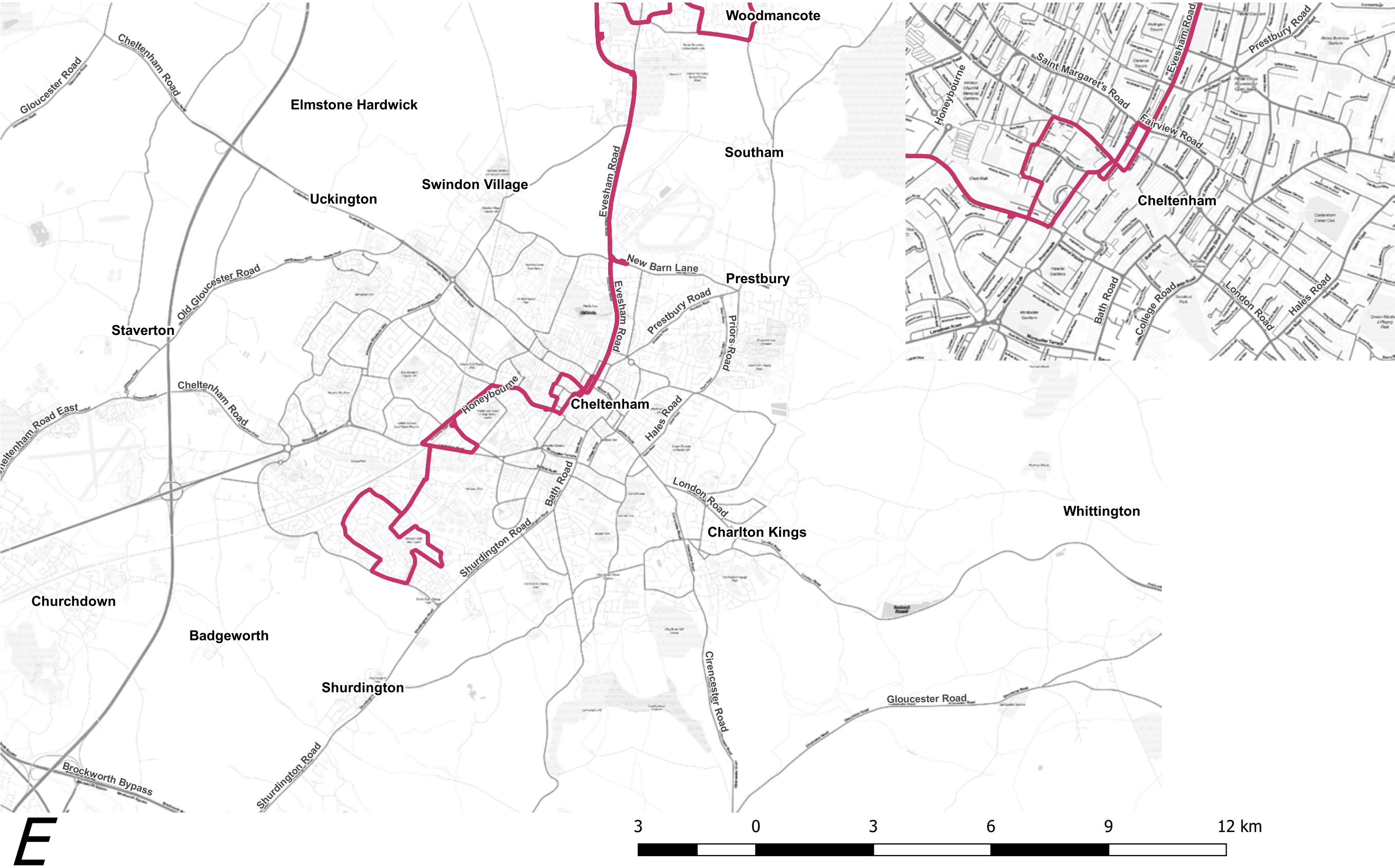
SERVICE C



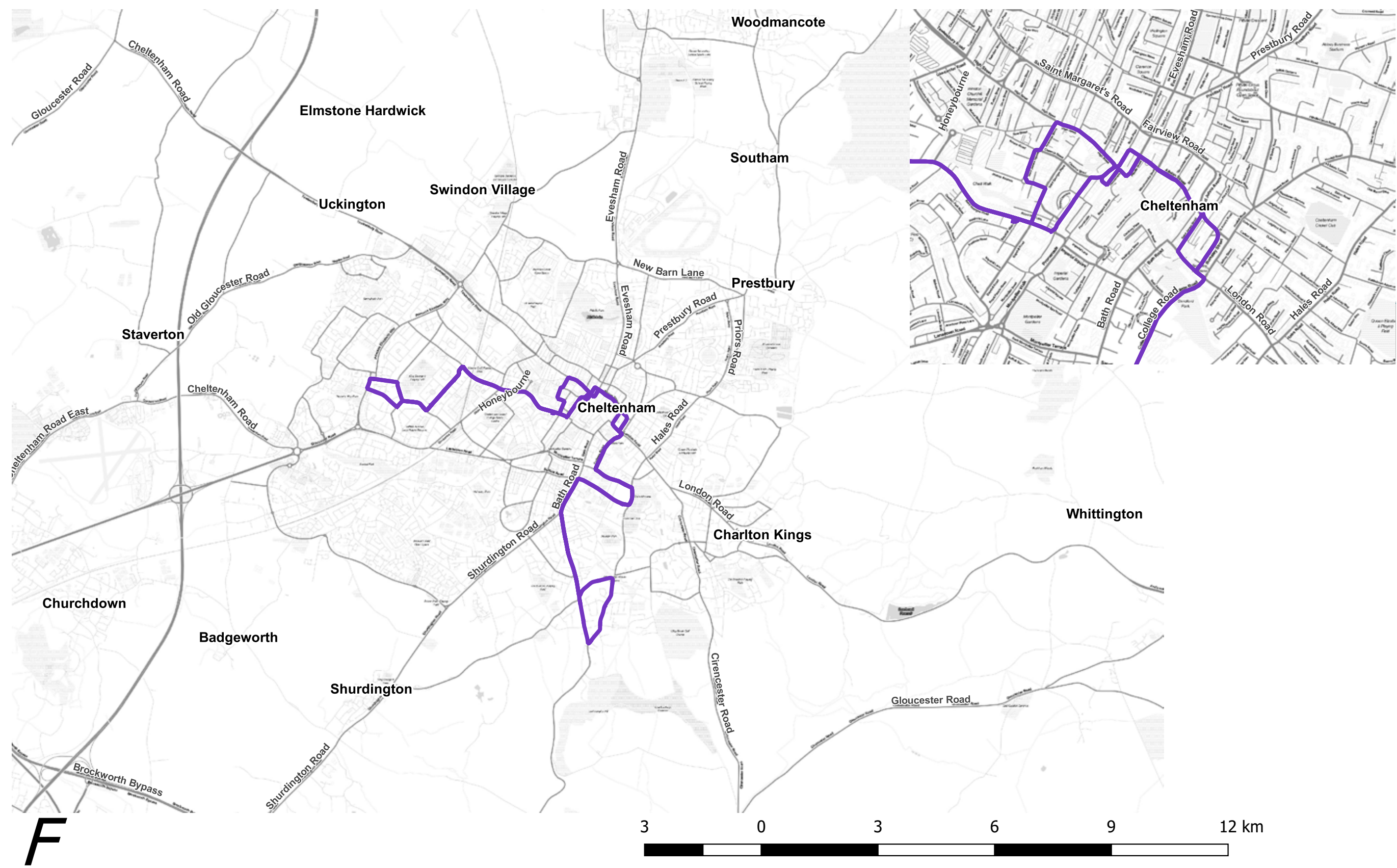
SERVICE D



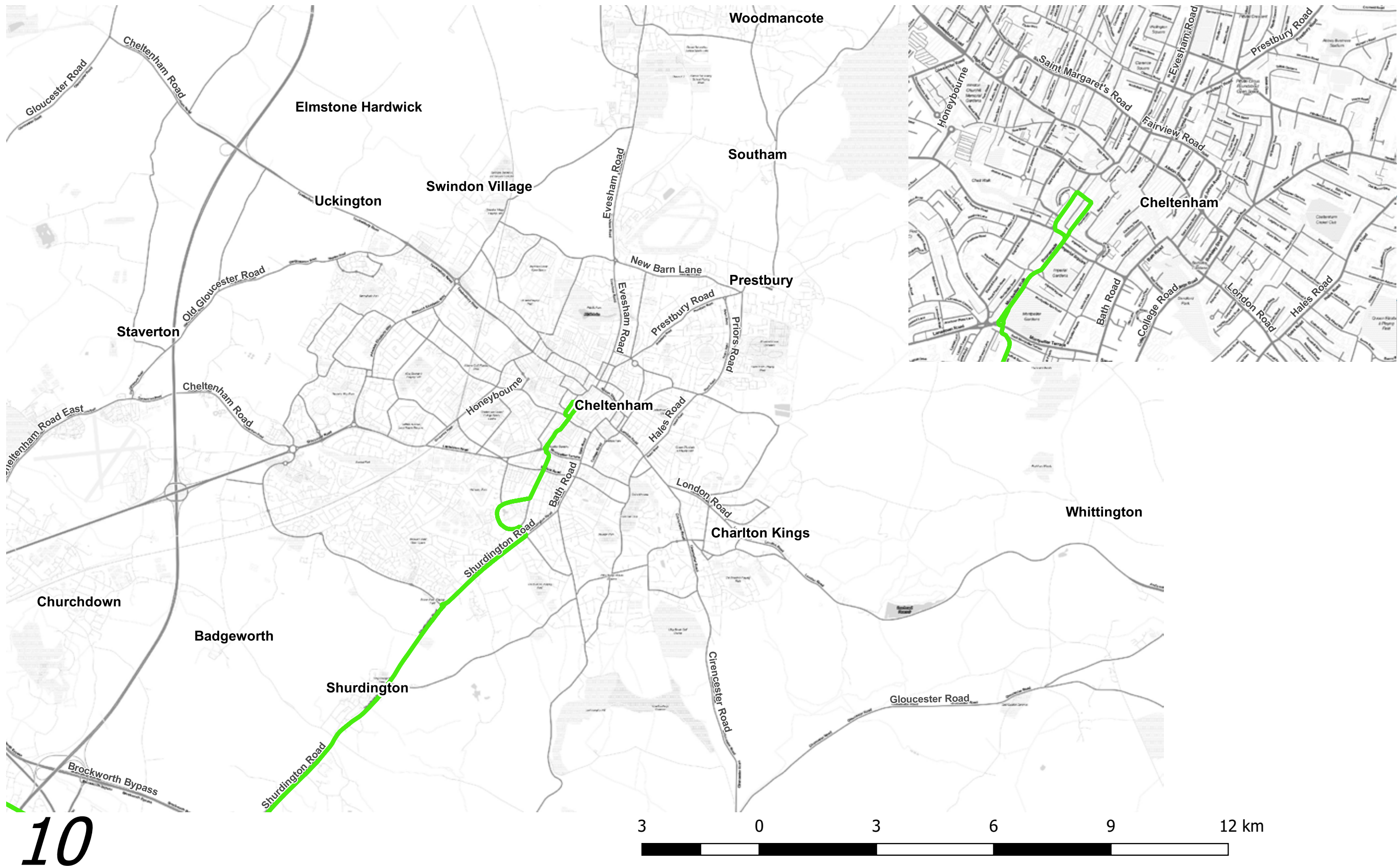
SERVICE E



SERVICE F



SERVICE NUMBER 10



10

SERVICE NUMBER 41

