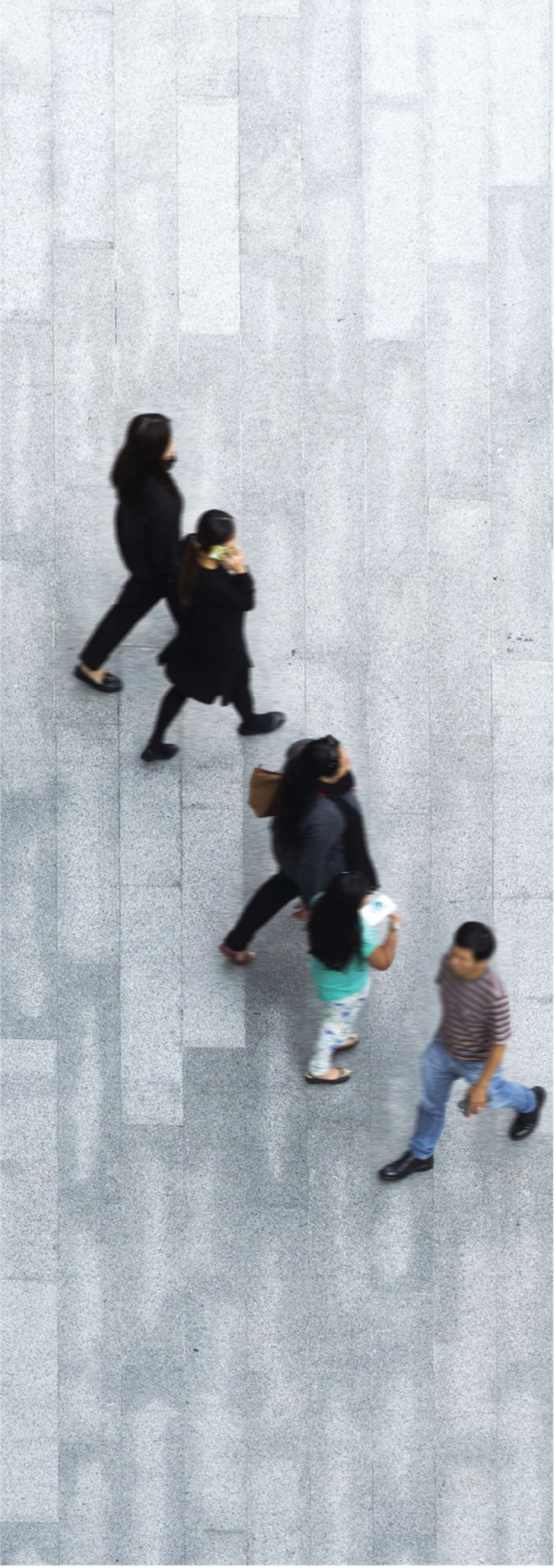

Bromsgrove District Council

District Plan Review

Strategic Transport Assessment

Workstage 3(b) Report

September 2022

a company of Royal HaskoningDHV

District Plan Review

Strategic Transport Assessment

Workstage 3(b) Report

Version 3-0

September 2022

Produced by:

For:

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Project Information Sheet

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Project Code	3578
Project Name	District Plan Review Transport Assessment
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Sub-Consultants	n/a
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V0-1	Box\3578 Bromsgrove DPR Transport Assessment	Draft initial chapters and cluster group 1	JP	SM	NT	29/04/22

Notice

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Appendix

Executive Summary

The Study

Bromsgrove District Council (BDC) and Worcestershire County Council (WCC) jointly commissioned ITP in May 2021, to carry out a Strategic Transport Assessment (STA) to inform the Bromsgrove District Plan Review.

The assessment progress so far is set out below:

- **Workstage 1:** Preparation of a Transport Evidence Base (TEB) which draws together all available evidence on existing transport provision and movements within the District and the transport issues. The TEB has a focused spatial remit, looking at transport connections within the District and to neighbouring settlements to provide a deeper analysis and understanding of the mobility trends, opportunities, and network constraints within the District.
- **Workstage 2:** Define an assessment criterion to assess each option area with regards to current and future transport connectivity.
- **Workstage 3(a):** Apply the assessment criteria to six broad option areas to provide a high-level assessment of transport connectivity.
- **Workstage 3(b):** Refine the assessment criterion and apply to more focused spatial options. It is the findings from Workstage 3(b) that are summarised within this report.

The Assessment Framework

The assessment considers existing and potential provision of transport connections to/from 20 cluster groups (made up from 39 sub-clusters) identified as part of the District Plan review process. It considers metrics including:

- Average commuter travel mode split
- Proximity to current sustainable transport services and infrastructure
- Public transport access to jobs (or workforce)
- Access to healthcare and education
- Planned local sustainable transport improvements
- Access to district centres

It does not directly take into consideration the scale of development that could be located on any of these sites, this will be accounted for at a later stage of the assessment, similarly, it

does not consider the wider influencers such as utilities or land availability; these are part of separate workstreams (to be completed by others).

The Results

Cluster groups near Wythall (Cluster Groups 12 & 13) and along the edge of the conurbation near Frankley (Cluster Group 17) and Druid's Heath (Cluster Group 11) received the most 'green' scores, which means they perform particularly well in terms of proximity to existing sustainable transport connections, future proposed transport investment (particularly Wythall); and public transport accessibility to jobs, healthcare and education. At the other end of the scale, cluster groups around Redditch (Cluster group 14, 15 and 16) received the most 'red' scores, which was due to the poor existing access by public transport connectivity to jobs and education, as well as limited identified future proposed transport investment. Clusters in-between scored predominantly 'amber' ratings which suggests that with some infrastructure and service improvements there could be opportunities for making them more sustainable, but it would be depending on the scale of growth and justification for transport investment.

The Conclusion

Based on the findings from the transport assessment and the review of transport opportunities, those clusters with the most potential for being sustainable, based purely from a transport perspective, are:

- Wythall (Cluster Groups 12 & 13)
- North-east of the District near the conurbation (Cluster Group 17)
- North-west of the District near the conurbation (Cluster Group 11)

There is potential for the transport sustainability for the clusters in Bromsgrove, Barnt Green, Catshill, Alvechurch and Hagley to be improved, depending on the scale of growth.

Sustainable transport connectivity for clusters around the A441 corridor and, Alvechurch could also be improved, but there are potential for long-term challenges to the viability of these improvements in achieving widespread adoption of sustainable transport. Similar issues with viability could apply to clusters around Redditch.

1. Introduction

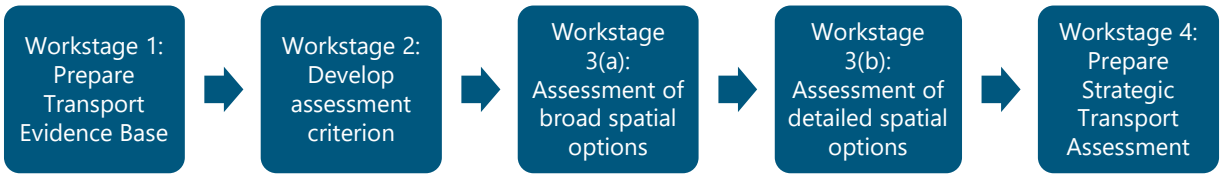
Purpose of the Report

1.1 Bromsgrove District Council (BDC) and Worcestershire County Council (WCC) jointly commissioned ITP in May 2021, to carry out a Strategic Transport Assessment (STA) to help inform the Bromsgrove District Plan Review. The Plan Review is required to:

- Ensure remaining allocations from the Bromsgrove District Plan are delivered and provide land for new identified development needs up to 2040.
- Explore spatial options to assist the Greater Birmingham and Black Country Housing Market Area to meet any identified housing shortfall.
- Extend the Plan period to 2040, whilst considering longer term growth post 2040.

1.2 Figure 1-1 sets out the process for the Strategic Transport Assessment (STA). The first stage of the STA was the development of a Transport Evidence Base (TEB) which brought together all available evidence on existing transport provision and movements within the District, the transport issues, and the infrastructure measures to mitigate the impact. The information in the TEB has been used to inform the second stage of the STA, the development of assessment criteria and scoring metrics to assess the potential of different option areas for accommodating growth across the District in transport terms. This report has been produced to present a review of detailed spatial options for the District in relation to sustainable transport. This will inform further work and ultimately feed into the Local Plan preparation.

Figure 1-1: Strategic transport assessment process



Structure of the Report

1.3 The remainder of this report is structured as follows:

- **Section 2** sets out the 20 identified clusters for potential growth;
- **Section 3** defines the metrics used in the assessment framework and the thresholds used to define a Red, Amber or Green (RAG) rating for each one;
- **Section 4** presents the assessment results for metric and cluster group, providing the rationale for the rating and commentary on any notable differences between clusters within a group;
- **Section 5** summarises the results;
- **Section 6** presents potential opportunities for each cluster group to enhance sustainable travel choices in line with potential development; and
- **Section 7** sets out the main conclusions and key findings from this assessment.

2. Spatial Options

2.1 This section sets out the spatial areas that have been considered within this study. It identifies the BDC defined locations and the rationale for their grouping for analysis. While the potential scale is also included within this table, and has been broadly considered within the grouping of spatial areas, the figures shown indicate a maximum indicative estimate of capacity. The nature of these high level assumptions mean that scale has not fed into the assessment of sites in any greater detail, although it has broadly informed the level of potential interventions set out towards the end of this report.

2.2 The spatial options listed as part of this stage of the study consider the outcomes of the Stage 1 RAG assessment (Workstage 3(a)) with development sites focused on Bromsgrove Town and other larger settlements within the District, the edge of conurbation and edge of Redditch.

Cluster Group Overview

2.3 BDC has identified a total of 39 clusters, as shown in Figure 2-1 where growth could be located within the district which have been assessed in the STA. These clusters have been selected through land availability assessment and the outcomes of Workstage 3(a).

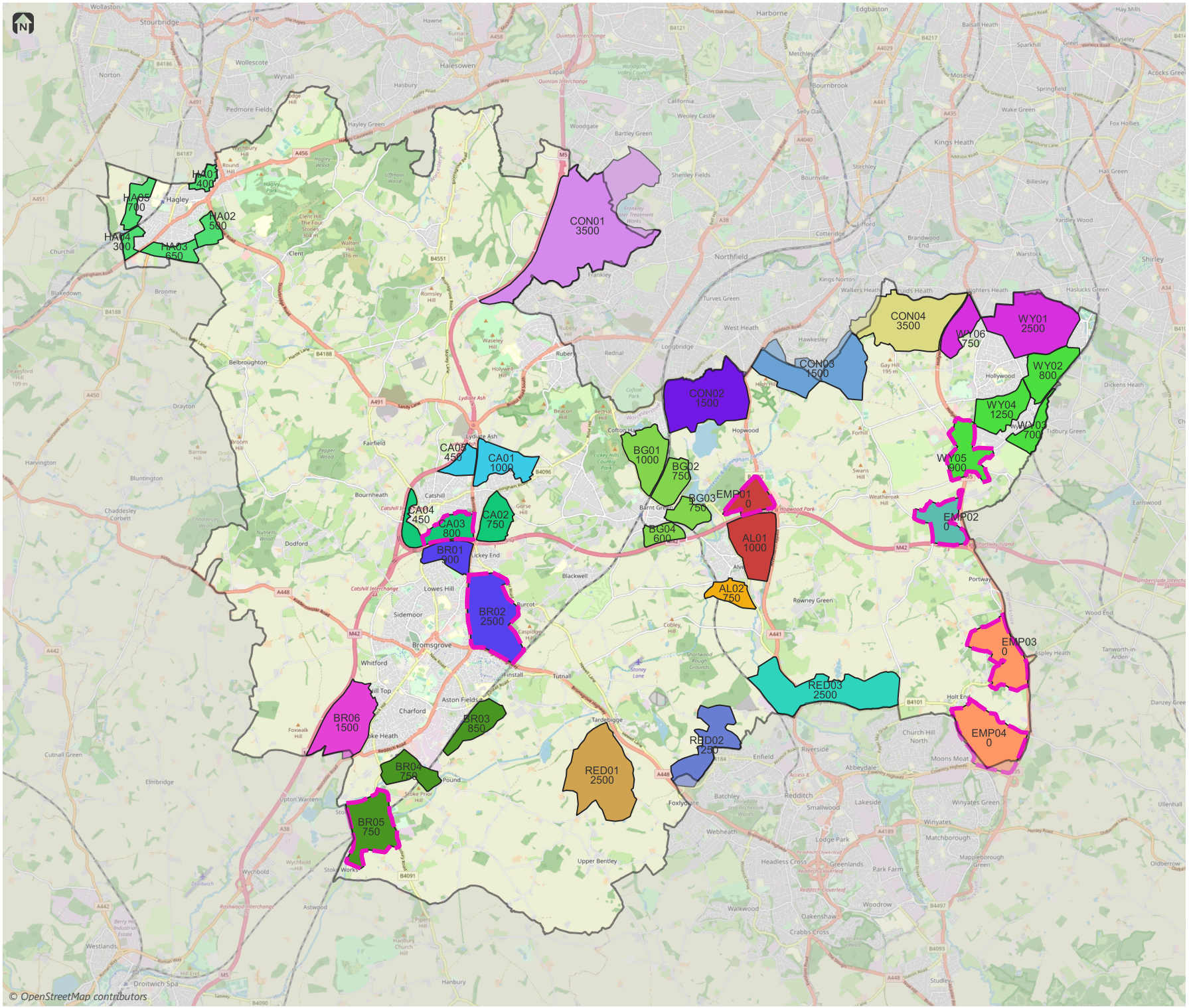
2.4 These clusters do not necessarily represent land that is proposed to be entirely developed, more they offer a general location where land has been identified in the vicinity, to enable a reasonable area for assessment.

2.5 To complete a summarised assessment, some of these clusters have been grouped in the reporting to form cluster groups. The rationale for these groupings is detailed within Table 2-1.

2.6 This has defined 18 residential cluster groups, and two employment-only cluster groups. An additional employment cluster (EMP01) has been separated out from the neighbouring residential site for some of the analysis to enable use of more appropriate datasets for some of the metrics. Figure 2-1 illustrates the location of the clusters and the groupings.

Table 2-1: Cluster Groupings

Cluster Group	Clusters included	Maximum indicative number of dwellings	Rationale
1 - Bromsgrove Station Corridor	BR03, BR04, BR05	2,350	These clusters have been considered collectively as they present opportunity for moderate scale growth to be focused along a corridor to the south-east of Bromsgrove.
2 - Bromsgrove West	BR06	1,500	This cluster is considered separately from other sites in Bromsgrove to distinguish between growth on different sides of the town. This cluster to the south-west of Bromsgrove provides a geographical focus around one cluster.
3 - Bromsgrove North	BR01, BR02	3,400	These two clusters have been considered together due to their collective scale and geographic proximity to each other. They form opportunity for focused large-scale growth to the north of Bromsgrove with likely similar interaction with their existing surroundings, with Bromsgrove Town the main urban / retail area and both bounding the A38.
4 - Catshill South	CA02, CA03, CA04	2,000	These clusters to the south of Catshill have been grouped together due to their proximity and collective scale. They have been separated from the north Catshill clusters to enable analysis to consider their respective relationships with the closest SRN connections.
5 - Catshill North	CA01, CA05	1,450	These clusters to the north of Catshill have been grouped together due to their proximity, collective scale and similarities in likely interaction with their surroundings, with both clusters sharing a boundary with the A38. They have been separated from the south Catshill clusters to enable analysis to consider their respective relationships with the closest SRN connections.
6 - Barnt Green	BG01, BG02, BG03, BG04	3,100	These two clusters have been considered together due to their geographic location and proximity to each other. Further consideration will be given to the potential combination of clusters in Barnt Green, considering the likely level of appropriate development and potential for sustainable transport outcomes.
7 - Alvechurch South	AL02	750	This cluster presents opportunity for growth south of Alvechurch. Although a smaller scale, this cluster has been separated out to enable analysis to distinguish between the opportunities near the rail station and those to the north of Alvechurch which form Cluster Group 8.
8 - Alvechurch North	AL01, EMP01	1,000	This residential cluster has been paired with the employment site due to their proximity to each other and connected relationships with the SRN. They have been separated from the south Alvechurch cluster to allow for distinction in the proximity of rail connections in the analysis. For two of the metrics (1 and 3) it was necessary to conduct slightly distinct analysis to differentiate between residential and workplace datasets. Therefore, in the final reporting these clusters have been assessed separately.
9 - Conurbation West A441	CON02	1,500	This cluster has been considered separately for analysis due to its likely interaction with the existing conurbation and new development, with facilities and connections around Longbridge.
10 - Conurbation East A441	CON03	1,500	This cluster has been considered separately for analysis due to its likely interaction with the existing conurbation, with facilities around Hawkesley and West Heath areas of Birmingham.
11 - Conurbation West A435	CON04	3,500	This cluster has been considered separately for analysis due to its scale and its likely interaction with the existing conurbation, with facilities around Druids Heath.
12 - Wythall North	WY06, WY01	3,250	These two clusters have been considered together due to their geographic proximity, collective scale and likely interaction with their existing surroundings.
13 - Wythall South	WY02, WY03, WY04, WY05	3,650	These clusters present an opportunity for large scale residential development. Therefore, they have not been further split as their collective scale and proximity to each other represents opportunity to develop a scale which would complement sustainable transport outcomes.
14 - Redditch North	RED03	2,500	This cluster has been considered separately for analysis due to its scale and its relationship with its surroundings.
15 - Redditch West	RED02	1,500	This cluster has been considered separately for analysis due to its scale and its likely interaction with surrounding existing residential areas and transport network.
16 - Tardebigge	RED01	2,500	This cluster has been considered separately for analysis due to its scale and its geographical separation from existing built-up areas.
17 - Frankley	CON01	3,500	This cluster has been considered separately due to its likely interaction with the existing conurbation, with facilities around Bartley Green, Frankley and Northfield' as well as its scale and geographical separation from any other clusters.
18 - Hagley	HA01, HA02, HA03, HA04, HA05	2,550	These clusters have been considered collectively and have not been further split as their collective scale and proximity to each other represents opportunity to develop a scale which would complement sustainable transport outcomes.
19 - Employment A435	EMP03, EMP04	-	These employment locations have been considered separately due to their geographic separation from any other clusters and to enable potential for more employment specific considerations in the analysis.
20 - Employment M42 J3	EMP02	-	This employment location has been considered separately due to its geographic separation from other clusters, its relationship with the SRN and to enable potential for more employment specific considerations in the analysis.



Prepared	Reviewed	Date
JP	SN	Feb 22

Key

STA Stage 3b - Proposed Clusters

Includes Employment

STA Stage 3b - Proposed Clusters

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

a company of Royal HaskoningDHV

Client

Bromsgrove District Council

Project

Bromsgrove DPR
Transport Assessment

Figure title

Spatial Options Map

Revision	Project number
A	3578
Figure number	Date
Figure 2-1	February 2022

3. Assessment Methodology

3.1 Table 3-1 sets out the rationale for the inclusion of each of the metrics used in the assessment framework.

3.2 A number of metrics and datasets used are influenced by the public transport provision. The study acknowledges that the provision / supply of these services has altered as a result of the pandemic and continue to face much uncertainty in the market. However the assessment has been based on the most robust an consistent datasets available at the time and does not make any long term assumptions on how the supply and demand for public transport will stabilise over time.

Table 3-1: Assessment framework metrics

	Metric Description	Purpose of metric
% DRIVE TO WORK	**Metric 1.1:** Average commuter travel mode split from within each residential cluster group	This metric was included as it provides a good proxy for the relative sustainability of existing commuter patterns in comparative output areas
	Metric 1.2: Average commuter travel mode split from within each employment cluster group	This metric was included as it provides a good proxy for the relative sustainability of existing commuter patterns in comparative workplace zones
TRANSPORT SERVICES	**Metric 2.1:** Proximity to current sustainable transport services and infrastructure that serve key settlements	This metric uses a qualitative geospatial assessment of how well-connected each option area is to existing sustainable transport infrastructure and services
LABOUR MARKET	**Metric 3.1:** Access to jobs by public transport	This metric provides an estimate of the number of jobs that can be accessed by public transport and/or walking modes from the residential cluster locations.
	Metric 3.2: Access to potential workforce by public transport	This metric provides an estimate of the economically active population that can be accessed by public transport and/or pedestrian modes from the employment cluster locations.
HEATHCARE	**Metric 4.1:** Access to healthcare by public transport	This metric considers the ability to access General Practice and hospital healthcare (both within Bromsgrove District and in neighbouring areas) from within each cluster by public transport.

	Metric Description	Purpose of metric
	Metric 4.2: Access to hospitals (with an emergency department) by public transport	This metric considers the journey time to the nearest hospital with an A&E department from each cluster by public transport.
	Metric 4.3: Access to hospitals (with an emergency department) by driving	This metric considers the journey time to the nearest hospital with an A&E department from each cluster by driving.
EDUCATION	**Metric 5.1:** Access to education by public transport	This metric considers the ability to access primary and secondary (both within Bromsgrove District and in neighbouring areas) from within each cluster by public transport.
	Metric 5.2: Access to secondary and post-16 education by public transport	This metric considers the journey time to the nearest secondary or post-16 education facility from each cluster by public transport.
INVESTMENTS	**Metric 6.1:** Proximity to planned local sustainable transport improvements	While earlier metrics look at the existing transport provision, this metric was included to ensure consideration was given to the locations of planned sustainable transport improvements.
DISTRICT CENTRES	**Metric 7.1:** Access to district centres	This metric considers access to key everyday facilities such as retail and service in district centres by public transport.

Metric Data Sources and Analysis Approach

3.3 This section lists the information sources used and analysis undertaken for each metric. It has been recorded in a way that is sufficiently detailed that it could be recreated by anyone with access to the original datasets.

3.4 It is noted that any growth in development will bring investment in infrastructure. The metrics below have been selected to identify how sustainable transport provision is distributed in relation to specific spatial areas within the district. Those that higher against these metrics will have a better foundation to build on for future transport investment to accommodate more sustainable growth. Those that score lower do not necessarily represent unsustainable locations for growth, however they are considered to have poorer baseline provision. To achieve sustainable outcomes in these locations

will likely require more substantive support for infrastructure and services and / or growth of a sufficient scale to fund such infrastructure and a mix of on-site uses to promote internal trips.

Metric 1.1: Average commuter travel mode split (residential)

3.5 Using the Census 2011 'QS701EW - Method of travel to work' data, the proportion of those driving a car or van to work has been calculated for each Census output area within Bromsgrove District[1]. Those 'not in employment' and those who 'work mainly at or from home' have been removed from the total population (aged 16-74).

3.6 This metric assigns the Census output areas to each option area within the Bromsgrove District Council boundary, based on location of the population weighted centroid, including those within 250m of the cluster group. An average proportion was taken from the combined output areas to determine the overall metric rating for each option area. Please see Appendix A for more detail on Census analysis for this metric. For individual clusters this was defined by a qualitative spatial assessment (Figure 3-1).

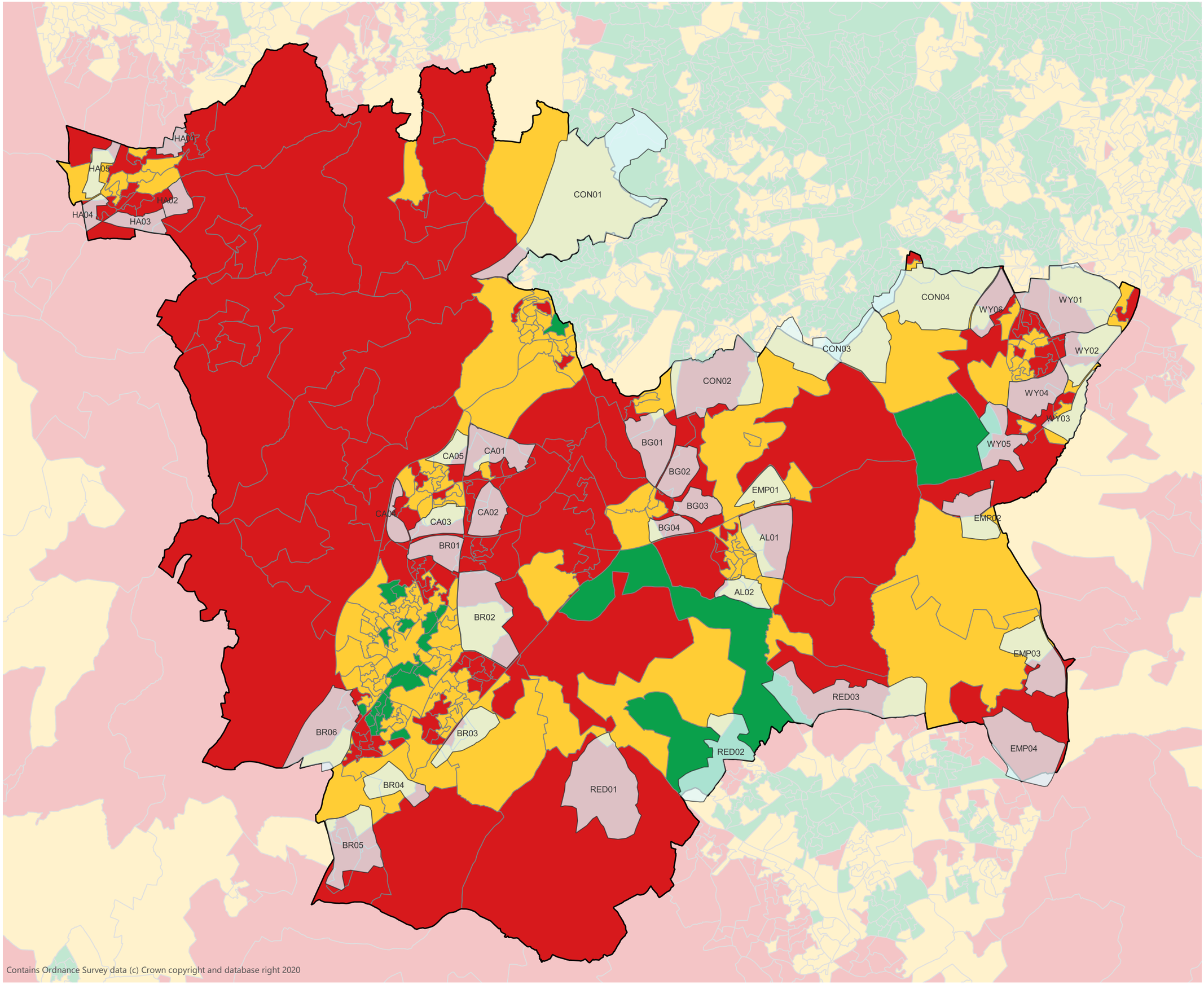
3.7 It is noted that the Census data is now 10 years old, and therefore may not fully reflect current nor future travel patterns. Should more accurate data become available, BDC will consider reassessing the results for this metric. Census 2021 data should be considered in the context of the COVID-19 pandemic, when the survey was undertaken, and thus is unlikely to reflect the longer-term situation accurately. At the time of the production of this study it was concluded that the data used is sufficient to provide a sufficiently robust dataset to enable a credible and proportionate assessment to be undertaken.

3.8 The upper threshold, to define a green rating, has been selected to represent an aspirational proportion of driving to work. This reflects the proportions in other West Midlands local authorities such as Birmingham, Coventry and Sandwell which achieve a lower proportion of commuters driving to work.

Table 3-2: Metric 1 thresholds

Green	Amber	Red
Less than or equal to 65% travel to work driving a car or van	65% to 80% drive to work in a car / van	80% or more drive to work in a car / van

[11] https://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp?collapse=yes



Key

Bromsgrove District

Stage 3b - Sites and Clusters

3b - cluster groups - fill

Metric 1 - Drive to Work (%)

OutputAreas

< 65%

65% to 80%

> 80%

Prepared	Reviewed	Date
JP	SN	Mar 22

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Client

Bromsgrove District Council

Project

Bromsgrove DPR
Transport Assessment

Figure title

Metric 1.1 output areas drive to work % (residential)

Revision	Project number
A	3578

Figure number	Date
Figure 3-1	March 2022

Metric 1.2: Average commuter travel mode split (employment)

3.9 This metric is used only for employment only clusters. It repeats a similar analysis to metric 1.1 but uses mode split data from 'WP703EW - Method of travel to work' for 2011 workplace zones. This builds on stage 1 analysis, refining the datasets used to align with specific area land uses.

3.10 Workplace zones were individually selected to represent the employment clusters. Where a cluster lay on the boundary of two zones with a roughly equal split of total area between the zones, an average of the two was taken.

3.11 The RAG thresholds from metric 1.1 are used for this metric also.

Metric 2.1: Proximity to current sustainable transport services and infrastructure that serve key settlements

3.12 Uses geospatial analysis to determine the proportion of the option area that is within a crow fly distance threshold from existing transport options.

- **Bus**: Using 2019 cumulative one way AM peak hour bus frequency - obtained from Basemap Datacutter and assigned to the road network
- **Rail**: Using 1.5km buffer around centroids of rail stations in Bromsgrove District and immediate surrounding area.
- **Cycle**: Using National Cycle Route information within Bromsgrove and local cycle routes, as identified in the Transport Evidence Base (TEB). This does not consider quality or infrastructure on the route.

3.13 It is acknowledged that public transport, particularly bus services, are currently recovering from the impacts of the pandemic and there is uncertainty on future provision and funding.

3.14 The Chartered Institution of Highways & Transportation recommends, in 'Buses in Urban Developments' (2018), a maximum walking distance of 500m to a core bus corridor with two or more high-frequency services[2]. This threshold has been used to buffer around the existing bus routes and calculate an area of coverage.

3.15 While it is understood this does not necessarily represent a walking distance and that a shorter distance is recommended for less frequent routes / town centres, it is considered a reasonable threshold for this high-level stage of analysis and has been applied consistently across all spatial options.

[2] Buses in Urban Developments, CIHT 2018 https://www.ciht.org.uk/media/4459/buses_ua_tp_full_version_v5.pdf

3.16 Using average walking (3 mph or 5 km/h) and cycling (9 mph or 14 km/h) speeds derived from the DfT's 2019 statistics[3] a distance of 1.5 km to a rail station reflects a six-minute cycle or a 20-minute walk. 2019 has been taken as the most recent data unaffected by COVID, but average speeds only vary slightly. This reflects peoples' willingness to travel further to get to rail services which offer a higher perceived quality or importance[4].

3.17 The appropriate 'buffer' distances outlined above were applied to the sustainable transport network shown in Figure 3-2. These provided a graphical indication of the rail, bus and cycle coverage for each cluster location and formed the input to the qualitatively assessed metric. The ratings were defined as per the descriptions set out in Table 3-3.

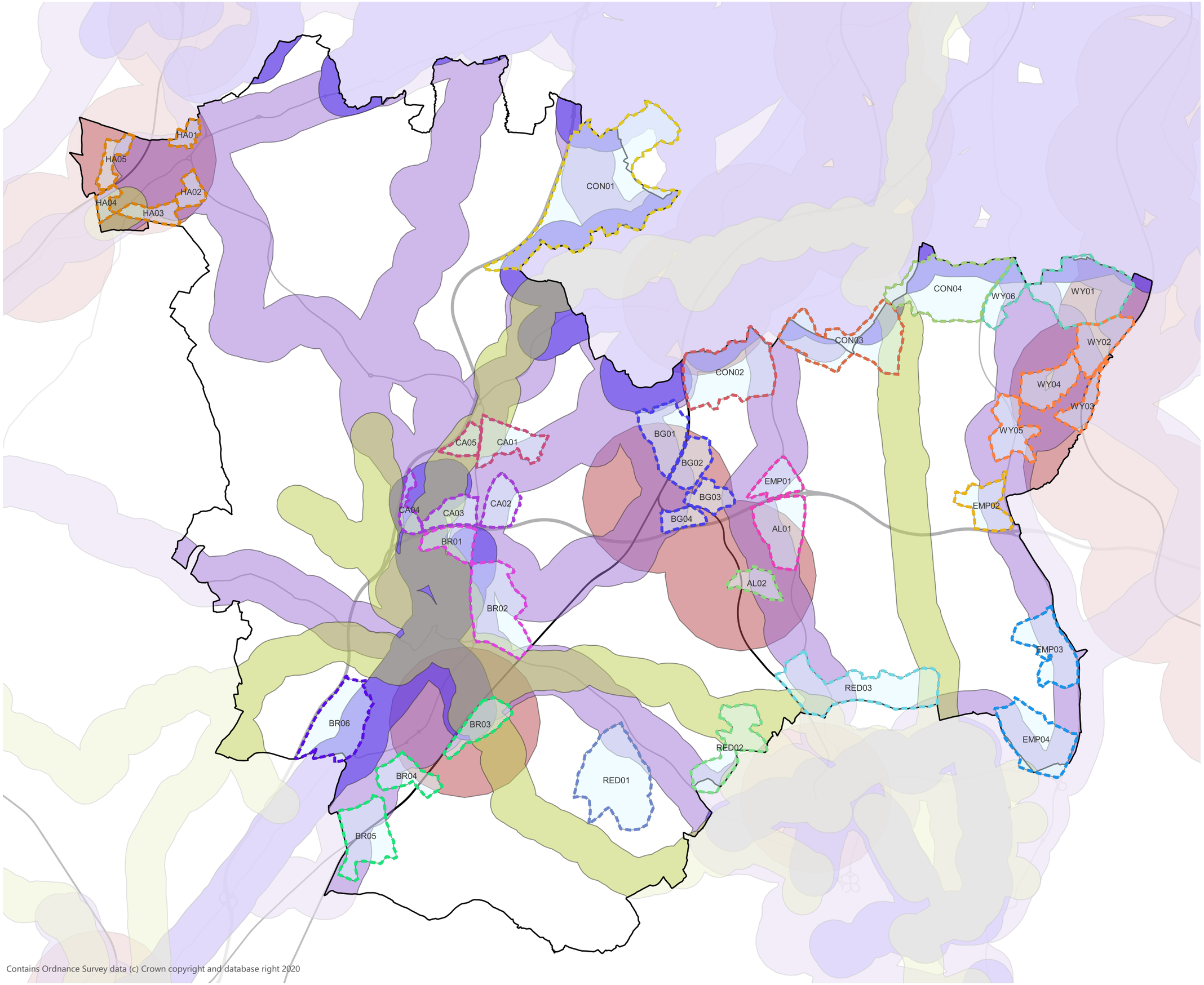
3.18 This builds on the analysis in Stage 1, looking more qualitatively at the provision and how it might be improved to better serve the cluster location.

Table 3-3: Metric 2.1 thresholds

Green	Amber	Red
High quality and multi modal provision already available for most of the sub-cluster	Sustainable transport provision across some of the sub-cluster, with clear potential to improve	Limited provision within the sub-cluster, potential to improve but with multiple modes needing significant enhancements and/or more significant improvements needed

[3] Walking and cycling statistics, England: 2019 report, National Statistics https://www.gov.uk/government/statistics/walking-and-cycling-statistics-england-2019

[4] Planning for Walking, CIHT 2015 https://www.ciht.org.uk/media/4465/planning_for_walking_-_long_-_april_2015.pdf



Prepared	Reviewed	Date
JP	SN	Apr 22

Key

- Bromsgrove District

Stage 3b - Sites and Clusters

- STA Stage 3b Clusters [39]

Metric 2 - Transport Infrastructure

- Cycle
- Bus - High Frequency
- Bus - All
- Rail

TransportNetwork

- Railway Line
- Strategic Road Network
- Major Road Network

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Bromsgrove District Council

Project

Bromsgrove DPR Transport Assessment

Figure title

Metric 2.1 – Bus, rail and cycle network

Revision	Project number
A	3578

Figure number	Date
Figure 3-2	April 2022

Metric 3.1: Access to jobs by public transport

3.19 For this metric accessibility was determined through use of TRACC accessibility analysis software to estimate the number of jobs that can be accessed in 45 minutes by public transport from the cluster polygon.

3.20 The model inputs included:

- **Origins** – The polygons for each cluster were run separately. From this TRACC generates a series of points, reflecting the location and geographical scale of the cluster.
- **Destinations** – A 200m grid of points was created across the travel area.
- **Public transport network** –Traveline data from October 2019 provided the timetable information for any bus, coach or national rail services within Bromsgrove District and on the periphery of the administrative boundary.
- **Road network** – Open Roads data for 2019.
- **Workplace Population** – Census 2011 (WP101EW) workplace population.

3.21 The key parameters shaping the model runs were:

- The journey must be able to be made by public transport between 06:00 – 09:00 on a weekday.
- Considers a 640m walk to the nearest bus stop to the origin point. This has been extended from the analysis undertaken as part of the stage 1 assessment. It represents an eight-minute walking journey and works as a proxy for the opportunity of the clusters, considering the lack of pedestrian access to the defined locations currently that would be enhanced with growth.

3.22 The journey time results for each cluster group are shown in section 4. Scoring for the cluster group was determined by the number of jobs accessible within 45 minutes by public transport from each cluster polygon within the group and averaged across clusters where groups contain more than one sub-cluster.

3.23 The current uncertainty and lack of data on current and long-term future commuter travel patterns, means that this study cannot review the post covid commuter travel context. It has instead drawn on the best available dataset across the district, with recommendations considering current uncertainties and for future studies to incorporate more up to date data wherever possible.

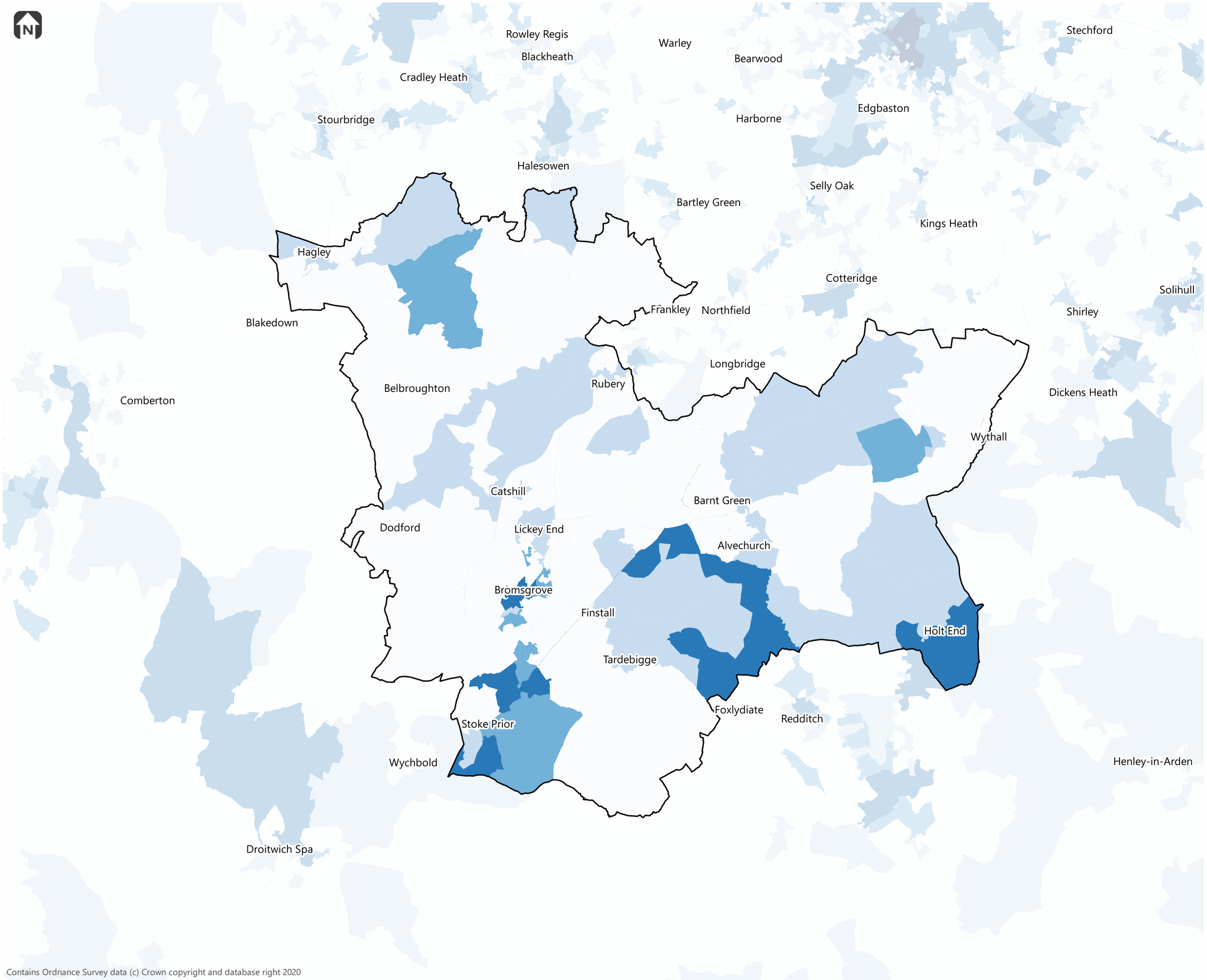
3.24 This builds on the assessment in Stage 1, looking at total employment opportunities that can be accessed from a particular cluster, rather than solely strategic sites.

3.25 The assessment criteria for this metric were designed to reflect the *relative* performance of each option. The RAG ratings needed to be able to differentiate between the spatial options based on the data available to make the assessment framework a useful tool. The thresholds, therefore, are a function of the data available and how each option performs.

3.26 They do not define which spatial options are sustainable and which are not. They are reporting on how each option performs relative to the others.

Table 3-4: Metric 3.1 thresholds

Green	Amber	Red
Over 100,000 jobs within 45 minutes	Between 40,000 and 100,000 jobs within 45 minutes	Fewer than 40,000 jobs within 45 minutes



Prepared	Reviewed	Date
FS	SN	April 22

Key

- Bromsgrove District

Metric 3.1 - Number of Jobs (PT)

Workplace Population
(Per Output Area)

- 0 - 200
- 200 - 500
- 500 - 1000
- 1000 - 10000
- 10000 - 30000

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Client
Bromsgrove District Council

Project
Bromsgrove DPR Transport Assessment

Figure title
Metric 3.1 - Workplace Population (Census 2011)

Revision	Project number
A	3578

Figure number	Date
Figure 3-3	April 2022

Metric 3.2: Access to workforce by public transport

3.27 This metric recreates the analysis in metric 3.1, for the employment-only clusters. For this metric accessibility was determined through use of TRACC accessibility analysis software to estimate the number of potential workers that can be accessed in 45 minutes by public transport from the cluster polygon.

3.28 The model inputs included:

- **Origins** – The polygons for each cluster were run separately. From this TRACC generates a series of points, reflecting the location and scale of the cluster.
- **Destinations** – A 200m grid of points was created across the travel area.
- **Public transport network** –Traveline data from October 2019 provided the timetable information for any bus, coach or national rail services within Bromsgrove District and on the periphery of the administrative boundary.
- **Road network** – Open Roads data for 2019.
- **Economically active population** – census 2011 (QS601EW) economically active population

3.29 The key parameters shaping the model runs were:

- The journey must be able to be made by public transport between 06:00 – 09:00 on a weekday.
- Considers a 640m walk to the nearest bus stop to the origin point. This has been extended from the analysis undertaken as part of the stage 1 assessment. It represents an eight-minute walking journey and works as a proxy for the opportunity of the clusters, considering the lack of pedestrian access to the defined locations currently that would be enhanced with growth.

3.30 The journey time results for each cluster are shown in section 4. Scoring for the cluster group was determined by the average number of potential workers accessible within 45 minutes from each cluster polygon within the group.

3.31 The current uncertainty and lack of data on current and long-term future commuter travel patterns, means that this study cannot review the post covid commuter travel context. It has instead drawn on the best available dataset across the district, with recommendations considering current uncertainties and for future studies to incorporate more up to date data wherever possible.

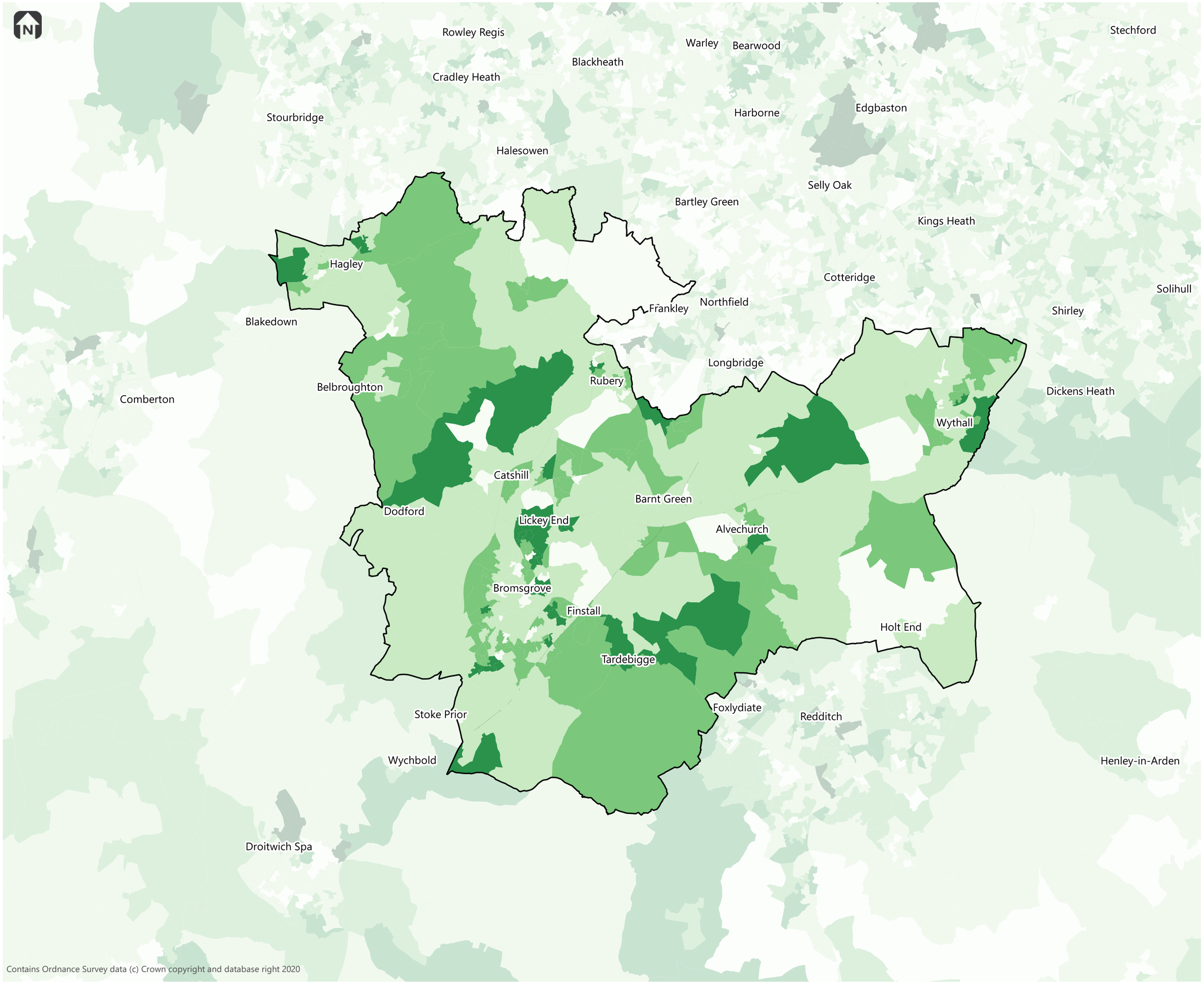
3.32 This builds on the assessment in Stage 1, looking more specifically at the proposed land use and the economically active population that can be accessed from a particular cluster.

3.33 The assessment criteria for this metric were designed to reflect the *relative* performance of each option. The RAG ratings needed to be able to differentiate between the spatial options based on the data available to make the assessment framework a useful tool. The thresholds, therefore, are a function of the data available and how each option performs.

3.34 They do not define which spatial options are sustainable and which are not. They are reporting on how each option performs relative to the others.

Table 3-5: Metric 3.2 thresholds

Green	Amber	Red
Over 70,000 potential workers within 45 minutes	Between 40,000 and 70,000 potential workers within 45 minutes	Fewer than 40,000 potential workers within 45 minutes



Prepared	Reviewed	Date
FS	SN	April 22

Key

Bromsgrove District

Metric 3.2 - Number of Potential Workforce (PT)

Economically Active Population (Per Output Area)

- 0 - 125
- 125 - 175
- 175 - 225
- 225 - 300
- 300 - 600

a company of Royal HaskoningDHV

Client
Bromsgrove District Council

Project
Bromsgrove DPR Transport Assessment

Figure title
Metric 3.2 - Economically Active Population (Census 2011)

Revision	Project number
A	3578

Figure number	Date
Figure 3-4	April 2022

Metric 4.1: Access to healthcare by public transport

3.35 For this metric, data were taken from the Stage 1 assessment and reanalysed for the Stage 2 clusters. Public transport accessibility was determined through use of TRACC accessibility analysis software to estimate the journey time by public transport from origins within the option areas to a healthcare facility.

3.36 The model inputs included:

- **Origins** - A 200m grid of points was created across the travel area.
- **Destinations** – an agreed list of Hospitals and General Practices (GP) surgeries, were defined within Bromsgrove, Redditch and around the edge of the Bromsgrove District Boundary (see Figure 3-5).
- **Public transport network** –Traveline data from October 2019 provided the timetable information for any bus, coach or national rail within Bromsgrove District and on the periphery of the administrative boundary.
- **Road network** – Open Roads data for 2019.

3.37 The key parameters shaping the model runs were:

- The journey to the nearest destination must be able to be made by public transport between 06:00 – 09:00 on a weekday.
- Considers a 500m walk to the nearest bus stop to the origin point.
- Considers total journey time.

3.38 The journey time results are shown in Figure 3-6.

3.39 Origin points from which journeys by public transport were not possible based on the parameters of the model run (as defined within the TRACC software), were removed. This was considered as the most consistent way of appraising spatial options as the results demonstrate the level of connectivity that existing communities have in each option area. It has been assumed that any new growth sited within these option areas could expect a similar provision.

3.40 It has been assumed that no new major healthcare facilities will materialise in the period to 2040 as a result of the delivery of the additional housing allocation which is to be accommodated. The assessments are therefore on the basis that no new locations for healthcare facilities are known to be planned at this stage.

3.41 Scoring for the option area was altered slightly from Stage 1, reflecting the more focused spatial areas being tested. For metric 4.1 this was determined by the average possible journey time for the cluster location rather than the proportion of origin points

within the option area that could reach a healthcare site within 30 minutes travel time (as assessed in Stage 1).

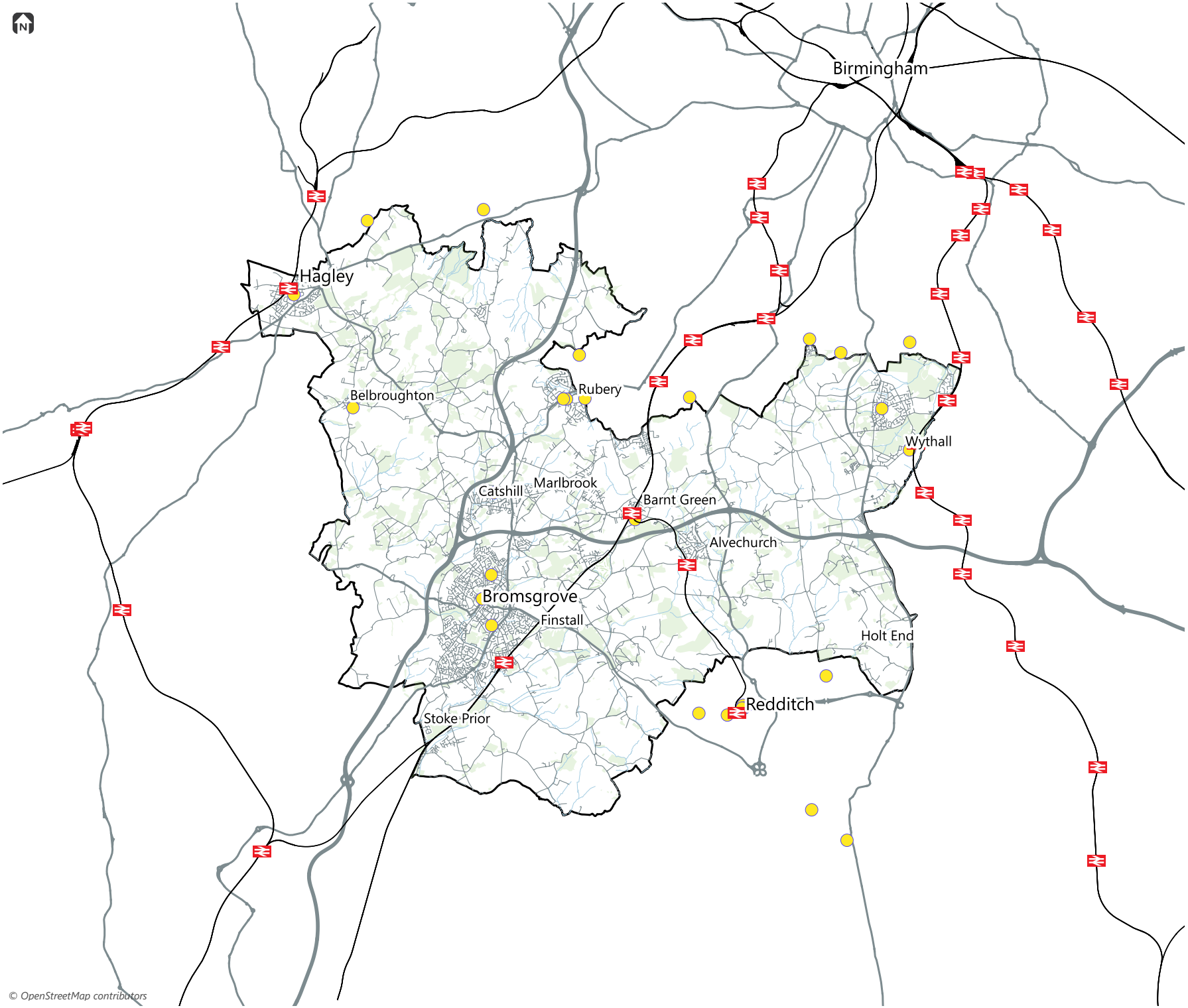
3.42 Where there are multiple clusters within a group the average journey time was taken across all the possible origin points. This means the journey time presented for the cluster group is weighted towards clusters

3.43 The assessment criteria for this metric were designed to reflect the relative performance of each option. The thresholds, therefore, are a function of the data available and how each option performs.

3.44 They do not define which spatial options are sustainable, and which are not. They are reporting on how each option performs relative to the others.

Table 3-6: Metric 4.1 thresholds

Green	Amber	Red
Average journey time is under 15 minutes	Average journey time is between 15 and 25 minutes	Average journey time is over 25 minutes



Prepared	Reviewed	Date
FS	SN	Sept 21

Key

- Bromsgrove District boundary
- Healthcare sites

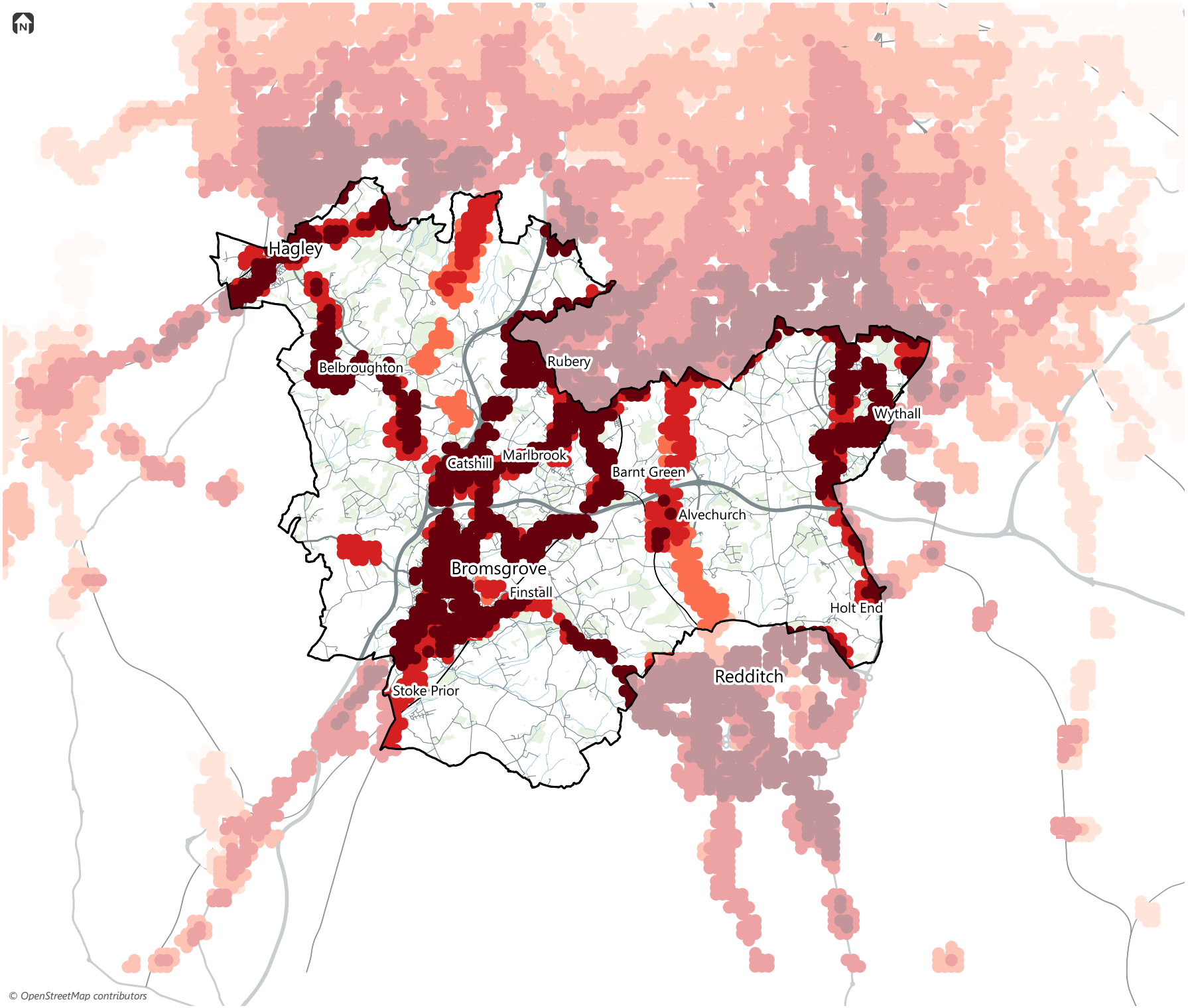
itp
a company of Royal HaskoningDHV

Client
Bromsgrove District Council

Project
Bromsgrove DPR
Transport Assessment

Figure title
Metric 4.1 – Healthcare sites

Revision	Project number
A	3578
Figure number	Date
Figure 3-5	Sept 2021



Prepared	Reviewed	Date
FS	SN	Sept 21

Key

Bromsgrove District Boundary

Accessibility

- 1 - 15 minutes
- 15 - 30 minutes
- 30 - 45 minutes
- 45 - 60 minutes

a company of Royal HaskoningDHV

Client

Bromsgrove District Council

Project

Bromsgrove DPR
Transport Assessment

Figure title

Metric 4.1 – Public transport journey time to healthcare sites

Revision	Project number
A	3578
Figure number	Date
Figure 3-6	Sept 2021

Metric 4.2: Access to hospitals (with A&E) by public transport

3.45 For this metric public transport accessibility was determined through use of TRACC accessibility analysis software to estimate the journey time by public transport from origins within the option areas to a hospital with an Accident and Emergency (A&E) department.

3.46 The model inputs included:

- **Origins** - A 200m grid of points was created across the travel area.
- **Destinations** – Hospitals with an Accident and Emergency department, this included Alexandra Hospital, Redditch, and Queen Elizabeth Hospital, Selly Oak (see Figure 3-7).
- **Public transport network** –Traveline data from October 2019 provided the timetable information for any bus, coach or national rail within Bromsgrove District and on the periphery of the administrative boundary.
- **Road network** – Open Roads data for 2019.

3.47 The key parameters shaping the model runs were:

- The journey to the nearest destination must be able to be made by public transport between 06:00 – 09:00 on a weekday.
- Considers a 640m walk to the nearest bus stop to the origin point. This has been extended from the analysis undertaken as part of the stage 1 assessment. It represents an eight-minute walking journey and works as a proxy for the opportunity of the clusters, considering the lack of pedestrian access to the defined locations currently that would be enhanced with growth.
- Considers total journey time.

3.48 The journey time results for each origin point are shown in Figure 3-8.

3.49 Origin points from which journeys by public transport were not possible based on the parameters of the model run (as defined within the TRACC software), were removed. This was considered as the most consistent way of appraising spatial options as the results demonstrate the level of connectivity that existing communities have in each cluster area. It has been assumed that any new growth sited within these cluster areas could expect a similar provision.

3.50 It has been assumed that no new major healthcare facilities will materialise in the period to 2040 as a result of the delivery of the additional housing allocation which is to be accommodated. The assessments are therefore on the basis that no new locations for healthcare facilities are known to be planned at this stage.

3.51 This builds on the Stage 1 analysis, looking at access to specific healthcare facilities. These may be accessed more infrequently than general practices which are included in the assessment for metric 4.1, but are an important destination for emergencies, visitors, outpatient appointments and for work.

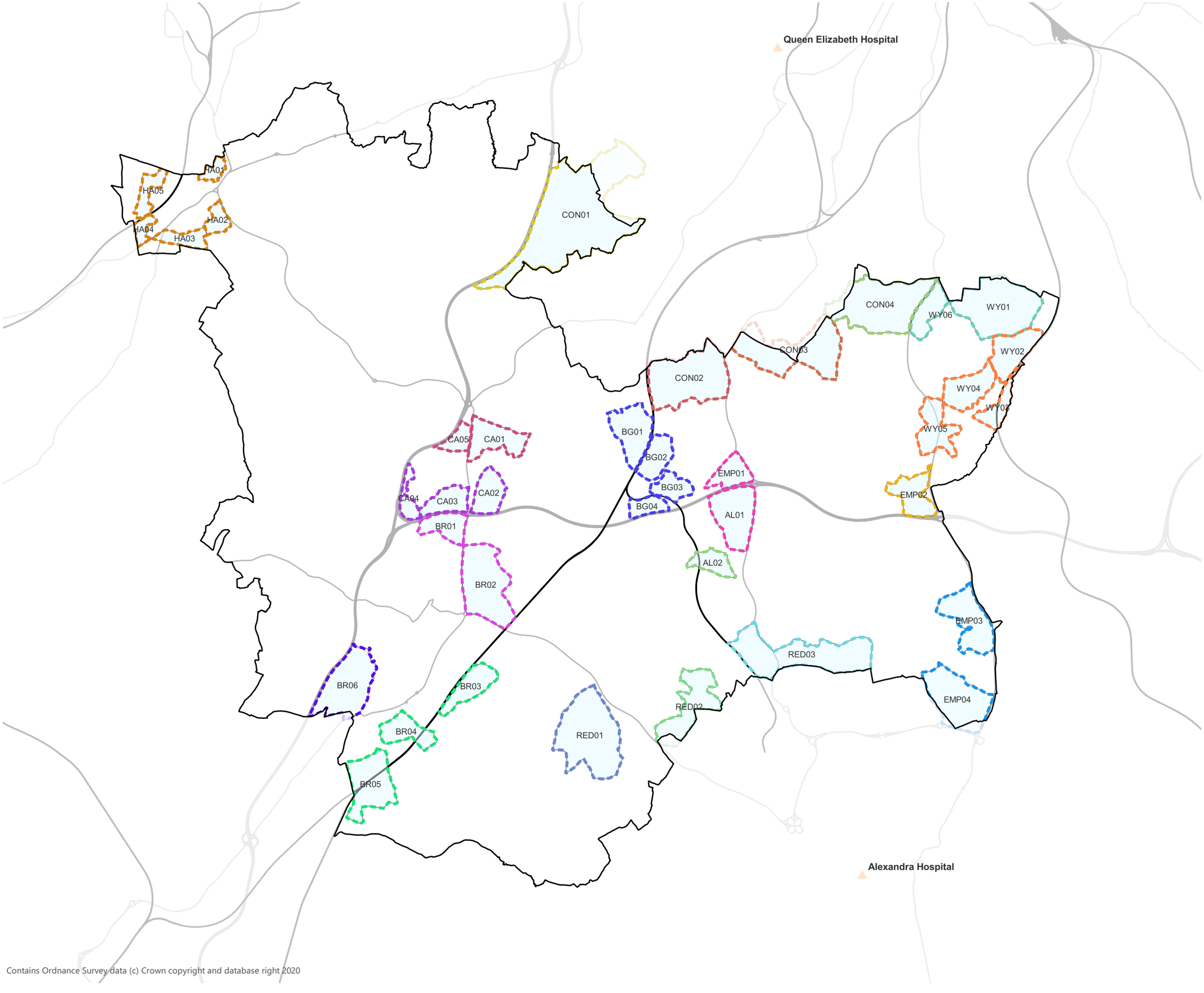
3.52 Scoring for the option area was determined by the proportion of origin points within the option area, where journeys by public transport were considered possible, that could reach a healthcare site within 30 minutes travel time.

3.53 The assessment criteria for this metric were designed to reflect the relative performance of each option. The thresholds, therefore, are a function of the data available and how each option performs.

3.54 They do not define which spatial options are sustainable, and which are not. They are reporting on how each option performs relative to the others.

Table 3-7: Metric 4.2 thresholds

Green	Amber	Red
Average journey time is under 45 minutes	Average journey time is between 45 and 60 minutes	Average journey time is over 60 minutes



Prepared	Reviewed	Date
JP	SN	Mar 22

Key

- Bromsgrove District

Stage 3b - Sites and Clusters

- STA Stage 3b Clusters [39]

Metric 4.2 - Hospitals (A&E) - PT

- Hospitals with A&E departments [3]

TransportNetwork

- Railway Line
- Strategic Road Network
- Major Road Network

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Client

Bromsgrove District Council

Project

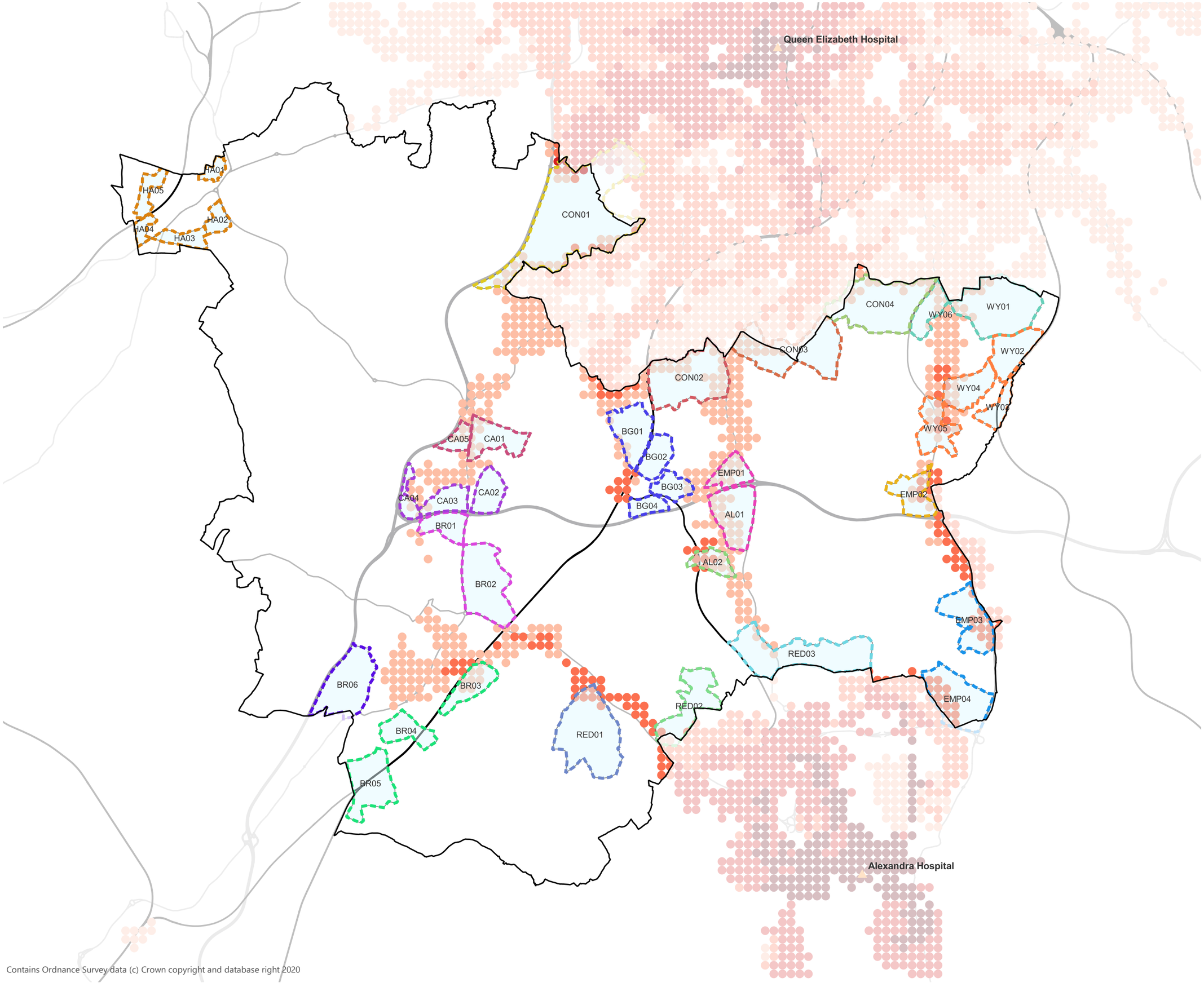
Bromsgrove DPR
Transport Assessment

Figure title

Metric 4.2 – Hospital locations

Revision	Project number
A	3578

Figure number	Date
Figure 3-7	March 2022



Key

- Bromsgrove District

Stage 3b - Sites and Clusters

- STA Stage 3b Clusters [39]

Metric 4.2 - Hospitals (A&E) - PT

- Hospitals with A&E departments [3]

Journey time by public transport

- 1 - 15
- 15 - 30
- 30 - 45
- 45 - 60

TransportNetwork

- Railway Line
- Strategic Road Network
- Major Road Network

Prepared	Reviewed	Date
JP	SN	Mar 22

a company of Royal HaskoningDHV

Client

Bromsgrove District Council

Project

Bromsgrove DPR
Transport Assessment

Figure title

Metric 4.2 – Public transport journey time to hospitals

Revision	Project number
A	3578

Figure number	Date
Figure 3-8	March 2022

Metric 4.3: Access to hospitals (with A&E) by driving

3.55 For this metric driving accessibility was determined through average drive times from identified points to the nearest hospital (with an A&E). Points were chosen for each cluster group to represent journey times across the cluster area and determined by access to the existing road network. These points are shown alongside hospitals (with A&E departments) in Figure 3-9.

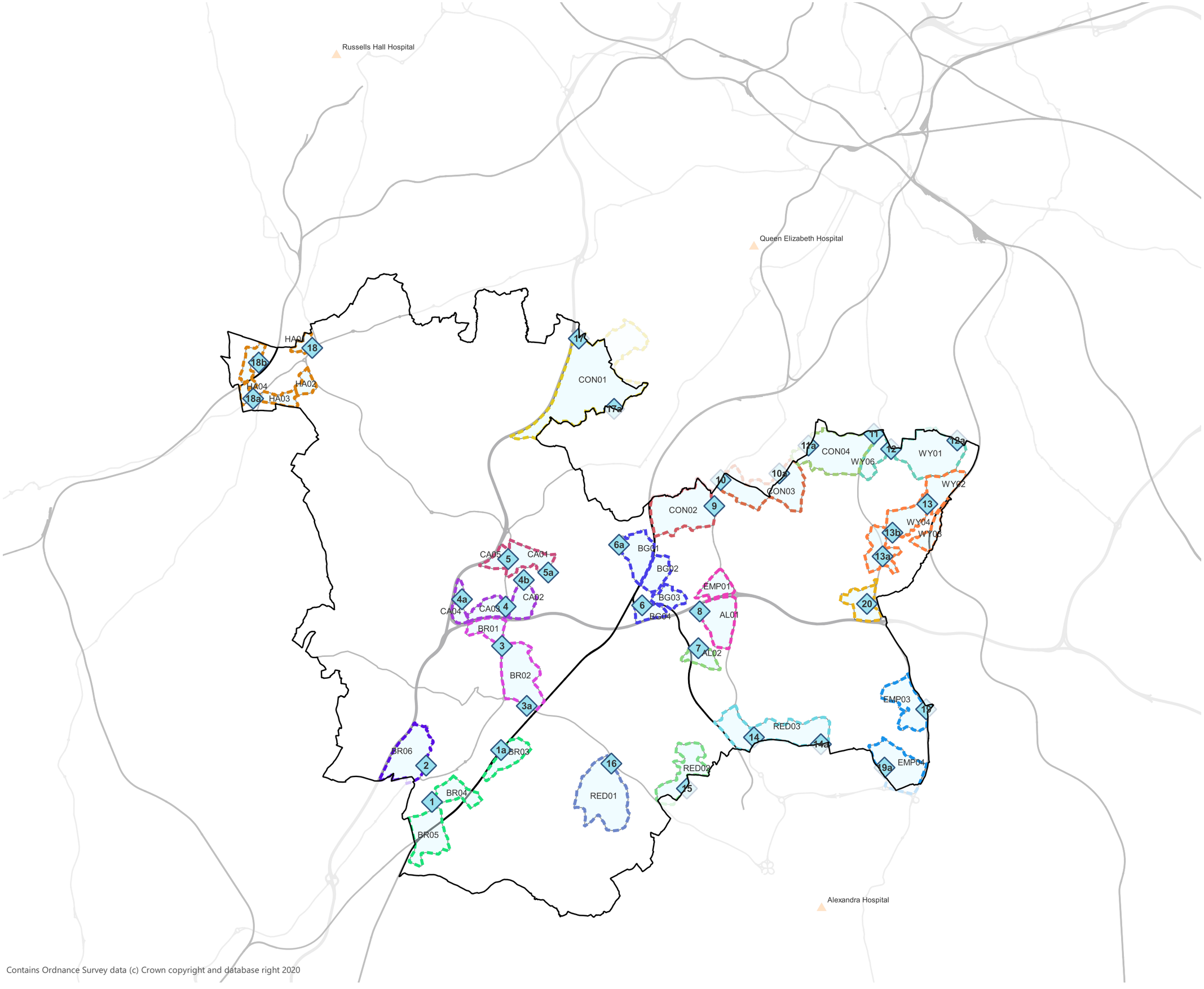
3.56 This drive time analysis was taken from Google maps for trips departing at 08:30 Monday 14th March 2022 (as reported on 17/03/2022). Where a range of times were reported, a mid-point was used.

3.57 This builds on the Stage 1 analysis, looking at access to specific healthcare facilities. These may be accessed more infrequently than general practices which are included in the assessment for metric 4.1, but are an important destination for emergencies, visitors, outpatient appointments and for work.

3.58 The assessment criteria for this metric were designed to reflect the relative performance of each option. The thresholds, therefore, are a function of the data available and how each option performs.

Table 3-8: Metric 4.3 thresholds

Green	Amber	Red
Estimated journey time by driving is under 15 minutes	Estimated journey time by driving is between 15 and 20 minutes	Estimated journey time by driving is over 20 minutes



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Prepared	Reviewed	Date
JP	SN	Mar 22

Key

- Bromsgrove District

Stage 3b - Sites and Clusters

- ClusterGroup_Points [36]
- STA Stage 3b Clusters [39]
- Hospitals with an A&E department

TransportNetwork

- Railway Line
- Strategic Road Network
- Major Road Network

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Client

Bromsgrove District Council

Project

Bromsgrove DPR Transport Assessment

Figure title

Metric 4.3 – Cluster points and hospitals

Revision	Project number
A	3578

Figure number	Date
Figure 3-9	March 2022

Metric 5.1: Access to education by public transport

3.59 For this metric, data were taken from the Stage 1 assessment and reanalysed for the Stage 2 clusters. For this metric public transport accessibility was determined through use of TRACC accessibility analysis software to estimate the journey time by public transport from origins within the option areas to education sites.

3.60 The model inputs included:

- **Origins** - A 200m grid of points was created across the Bromsgrove District.
- **Destinations** – an agreed list of primary, middle and secondary schools within Bromsgrove, as well as schools in adjacent local authorities in relatively close proximity to Bromsgrove District (see Figure 3-10).
- **Public transport network** –Traveline data from October 2019 provided the timetable information for any bus, coach or national rail within Bromsgrove district and on the periphery of the administrative boundary.
- **Road network** – Open Roads data for 2019.

3.61 The key parameters shaping the model runs were:

- The journey to the nearest destination must be able to be made by public transport between 06:00 – 09:00 on a weekday.
- Considers a 500m walk to the nearest bus stop to the origin point.
- Considers total journey time.

3.62 The journey time results for each origin point are shown in Figure 3-11.

3.63 Origin points from which journeys by public transport were not possible based on the parameters of the model run (as defined within the TRACC software), were removed. This was considered as the most consistent way of appraising spatial options as the results demonstrate the level of connectivity that existing communities have in each option area. It has been assumed that any new growth sited within these option areas could expect a similar provision.

3.64 It has been assumed that no new education facilities will materialise in the period to 2040 as a result of the delivery of the additional housing allocation which is to be accommodated. The assessments are therefore on the basis that no new locations for education facilities are known to be planned at this stage.

3.65 Scoring for the option area was altered slightly from Stage 1, reflecting the more focused spatial areas being tested. For metric 5.1 this was determined by the average possible journey time for the cluster location rather than the proportion of origin points

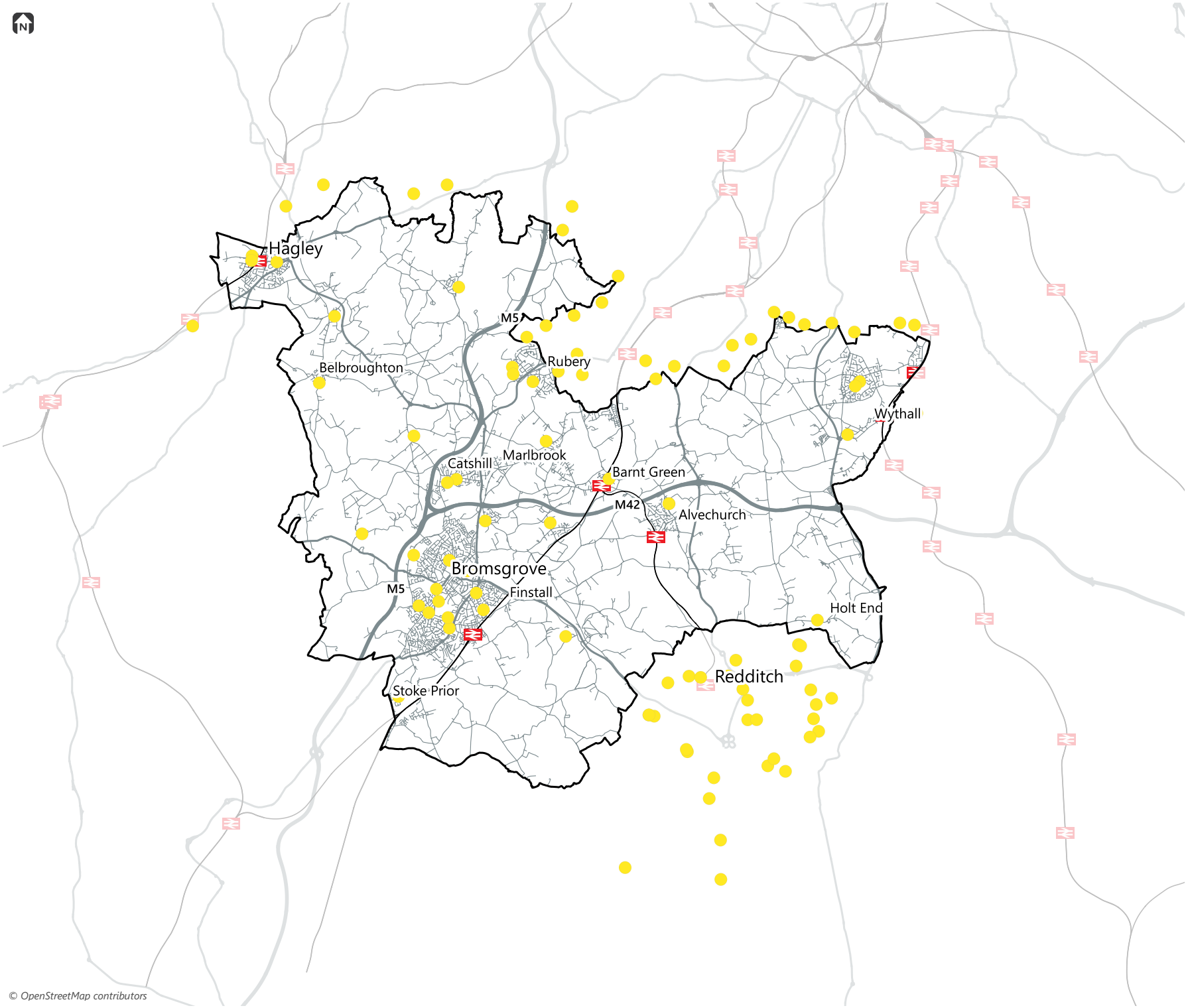
within the option area that could reach an education site within 30 minutes travel time (as assessed in Stage 1).

3.66 The assessment criteria for this metric were designed to reflect the relative performance of each option. The thresholds, therefore, are a function of the data available and how each option performs.

3.67 They do not define which spatial options are sustainable and which are not. They are reporting on how each option performs relative to the others.

Table 3-9: Metric 5.1 thresholds

Green	Amber	Red
Average journey time by public transport is under 10 minutes	Average journey time by public transport is between 10 and 15 minutes	Average journey time by public transport is over 15 minutes



Prepared	Reviewed	Date
FS	SN	Sept 21

Key

- Bromsgrove and Redditch Boundary Area
- Education Sites

a company of Royal HaskoningDHV

Client

Bromsgrove District Council

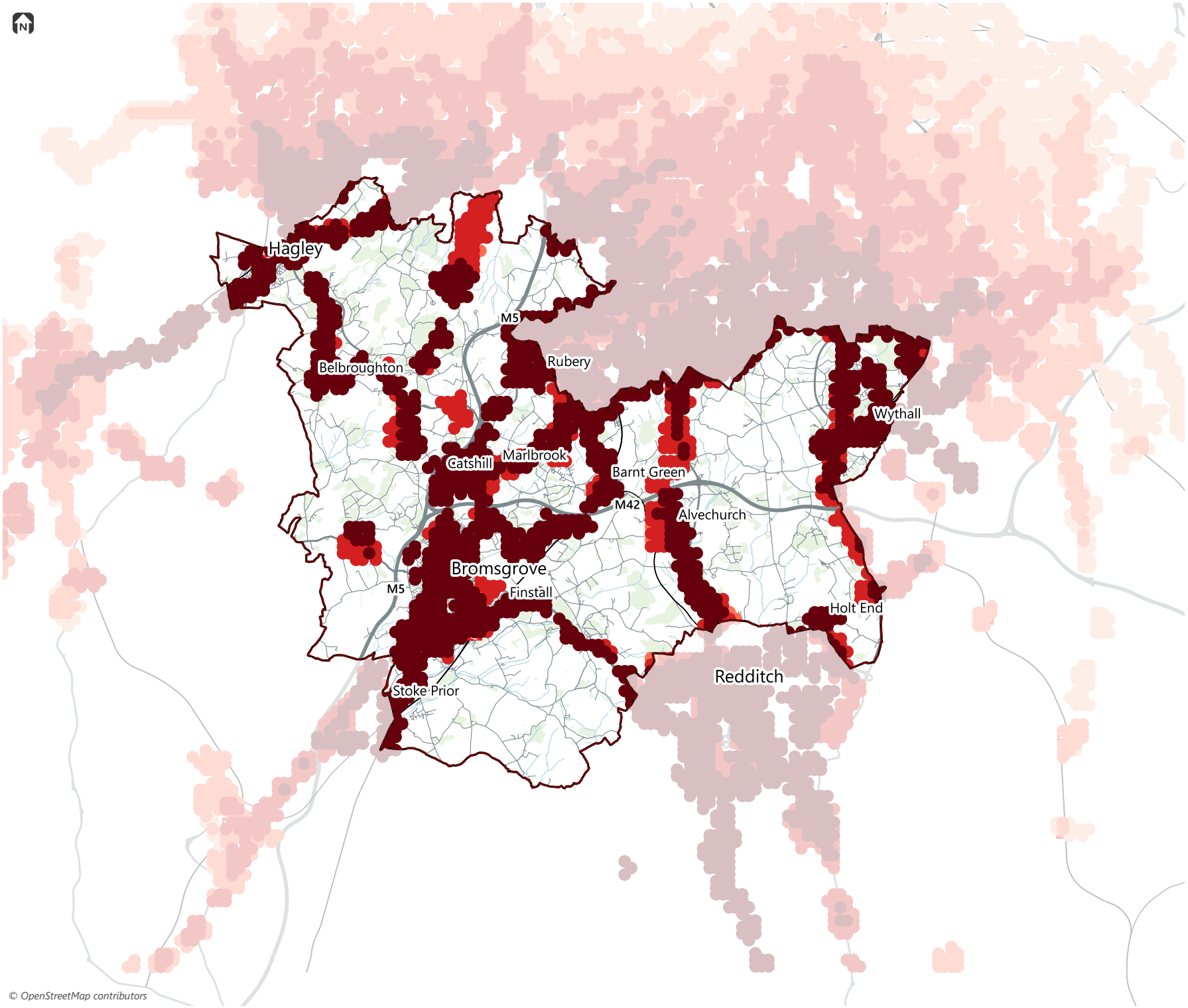
Project

Bromsgrove DPR
Transport Assessment

Figure title

Metric 5.1 – Education sites

Revision	Project number
A	3578
Figure number	Date
Figure 3-10	Sept 2021



Prepared	Reviewed	Date
JP	SN	Sept 21

Key

- Bromsgrove District Boundary

Accessibility

- 1 - 15 minutes
- 15 - 30 minutes
- 30 - 45 minutes
- 45 - 60 minutes

a company of Royal HaskoningDHV

Client

Bromsgrove District Council

Project

Bromsgrove DPR
Transport Assessment

Figure title

Metric 5.1 – Public transport journey time to education sites

Revision	Project number
A	3578
Figure number	Date
Figure 3-11	Sept 2021

Metric 5.2: Access to secondary education by public transport

3.68 For this metric public transport accessibility was determined through use of Visography TRACC software to estimates the journey time by public transport.

3.69 The model inputs included:

- **Origins** - A 200m grid of points was created across the Bromsgrove District.
- **Destinations** – Only secondary and post-16 schools within Bromsgrove, as well as schools in adjacent local authorities in relatively close proximity to Bromsgrove District (see Figure 3-10) were used for this metric. It was noted that Beaverstock Academy in Druids Heath was closed in 2017 and was removed from the analysis.
- **Public transport network** –Traveline data from October 2019 provided the timetable information for any bus, coach or national rail within Bromsgrove District and on the periphery of the administrative boundary.
- **Road network** – Open Roads data for 2019.

3.70 The key parameters shaping the model runs were:

- The journey to the nearest destination must be able to be made by public transport between 06:00 – 09:00 on a weekday.
- Considers a 640m walk to the nearest bus stop to the origin point. This has been extended from the analysis undertaken as part of the stage 1 assessment. It represents an eight-minute walking journey and works as a proxy for the opportunity of the clusters, considering the lack of pedestrian access to the defined locations currently that would be enhanced with growth.
- Considers total journey time.

3.71 The journey time results for each origin point are shown in Figure 3-12.

3.72 Origin points from which journeys by public transport were not possible based on the parameters of the model run (as defined within the TRACC software), were removed. This was considered as the most consistent way of appraising spatial options as the results demonstrate the level of connectivity that existing communities have in each option area. It has been assumed that any new growth sited within these option areas could expect a similar provision.

3.73 It has been assumed that no new education facilities will materialise in the period to 2040 as a result of the delivery of the additional housing allocation which is to be accommodated. The assessments are therefore on the basis that no new locations for education facilities are known to be planned at this stage.

3.74 This builds on the education assessment undertaken at stage 1, looking at only secondary and post-16 schools to provide further understanding of context and opportunity in the area.

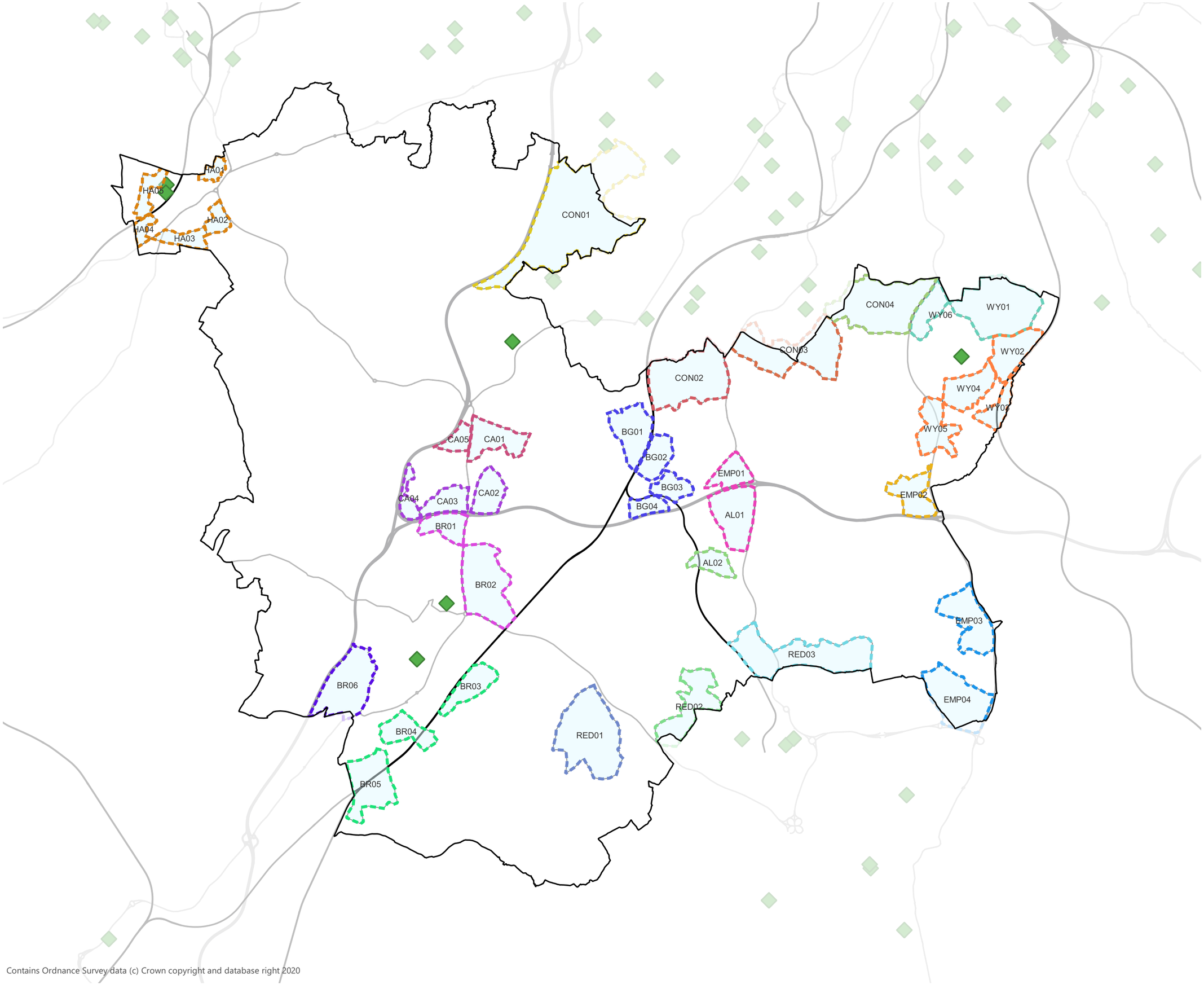
3.75 Scoring for the option area was determined by the proportion of origin points within the option area, where journeys by public transport were considered possible, that could reach an education site within 30 minutes travel time.

3.76 The assessment criteria for this metric were designed to reflect the relative performance of each option. The thresholds, therefore, are a function of the data available and how each option performs.

3.77 They do not define which spatial options are sustainable and which are not. They are reporting on how each option performs relative to the others.

Table 3-10: Metric 5.2 thresholds

Green	Amber	Red
Average journey time by public transport is under 20 minutes	Average journey time by public transport is between 20 and 25 minutes	Average journey time by public transport is over 25 minutes



Prepared	Reviewed	Date
JP	SN	Mar 22

Key

- Bromsgrove District

Stage 3b - Sites and Clusters

- STA Stage 3b Clusters [39]

Metric 5.2 - Secondary Schools

- Secondary and Post-16

TransportNetwork

- Railway Line
- Strategic Road Network
- Major Road Network

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Client

Bromsgrove District Council

Project

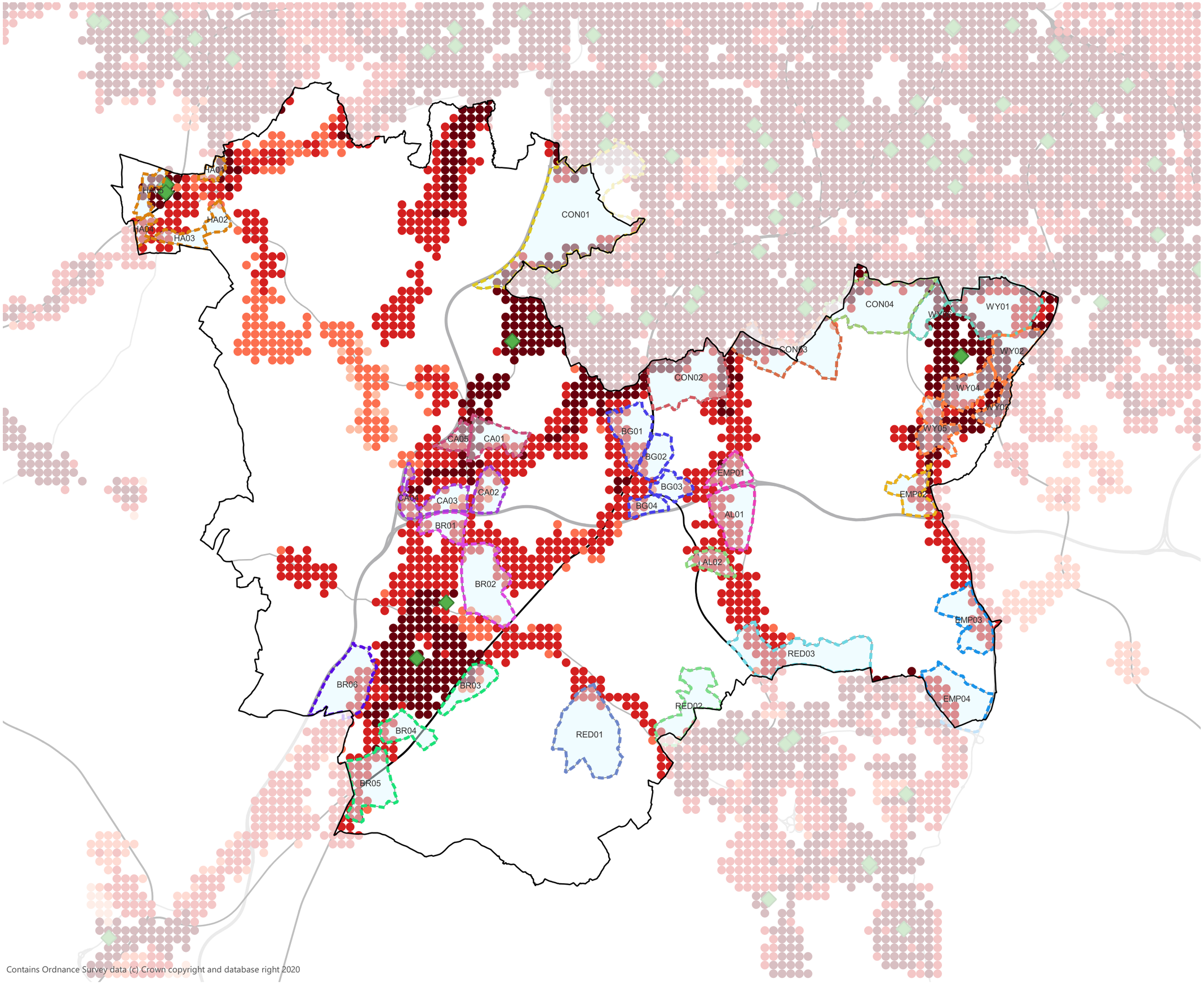
Bromsgrove DPR Transport Assessment

Figure title

Metric 5.2 - Secondary and post-16 education sites

Revision	Project number
A	3578

Figure number	Date
Figure 3-12	March 2022



Prepared	Reviewed	Date
JP	SN	Mar 22

Key

- Bromsgrove District

Stage 3b - Sites and Clusters

- STA Stage 3b Clusters [39]

Metric 5.2 - Secondary Schools

- Secondary and Post-16

journey times by public transport

- 1 - 15
- 15 - 30
- 30 - 45
- 45 - 60

TransportNetwork

- Railway Line
- Strategic Road Network
- Major Road Network

a company of Royal HaskoningDHV

Client

Bromsgrove District Council

Project

Bromsgrove DPR Transport Assessment

Figure title

Metric 5.2 - Public transport journey time to secondary and post-16 education sites

Revision	Project number
A	3578

Figure number	Date
Figure 3-13	March 2022

Metric 6.1: Proximity to planned local sustainable transport improvements

3.78 This metric assesses the proposals for transport improvements across the District and surrounding area, to understand if there are any major transport improvements which have an impact on movement. These include strategic improvements as agreed with the project team and shown in Figure 3-14; it uses information from the Stage 1 assessment, covering:

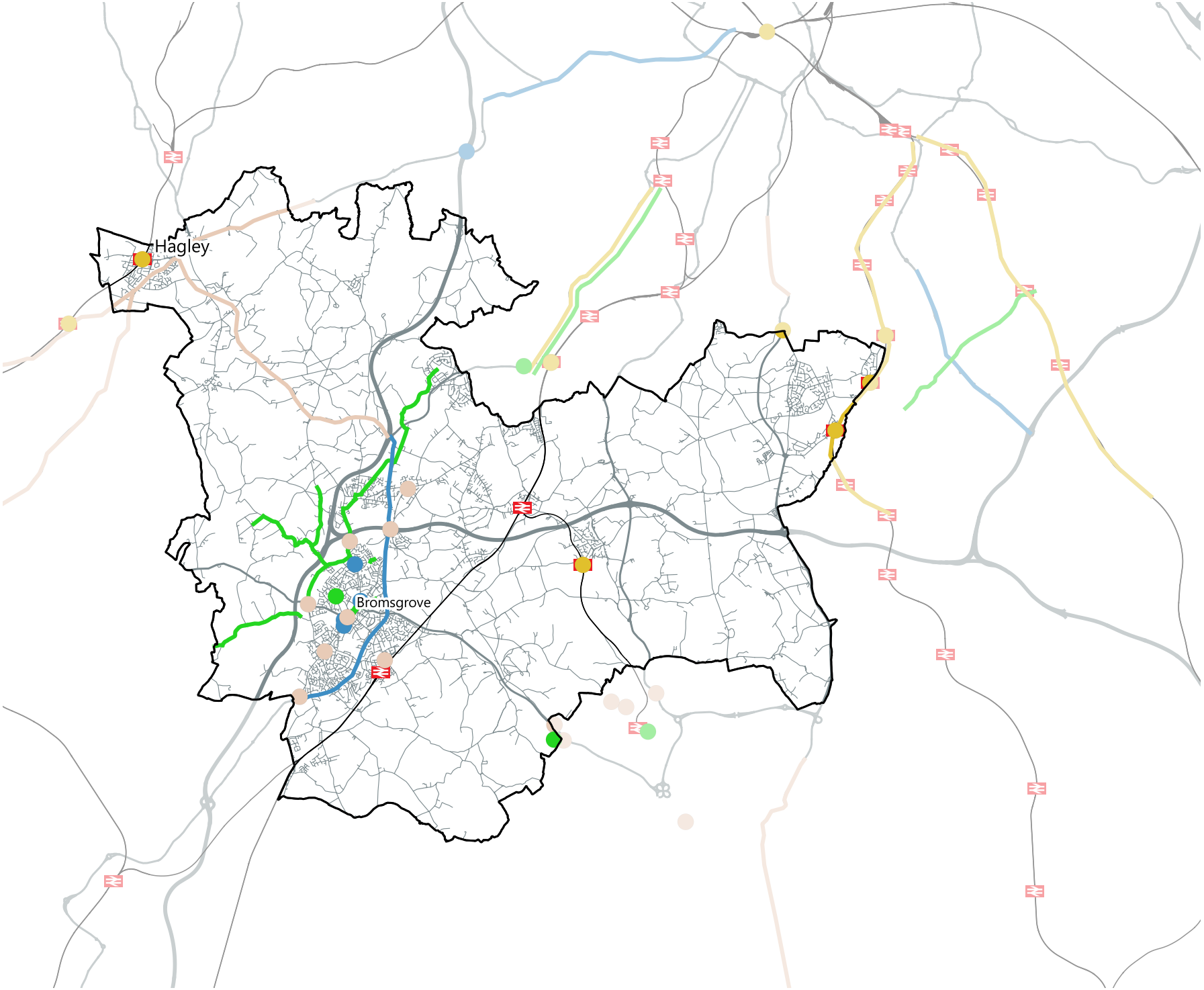
- Bromsgrove Transport Improvements (Bromsgrove package), LTP4
- North East Strategic Transport (NEST), LTP4
- North East Active Travel (NEAT), LTP4
- Major Road Network (MRN) schemes,
- Forthcoming transport improvements, Infrastructure Delivery Plan (IDP, 2014) over £1m
- Information from stakeholders in neighbouring authority areas.

3.79 The ratings are determined by counting the number of proposed transport improvements within 400 metres of a development location.

3.80 Improvements have been included in the count for the metric, in agreement with the project team, where improvements are considered to have a notable impact on sustainable transport in the area. This differs from the stage 1 assessment as it discounts highway improvements, to focus on active travel and public transport connectivity improvements.

Table 3-11: Metric 6.1 thresholds

Green	Amber	Red
Three or more sustainable transport investments nearby	1 or 2 sustainable transport investments nearby	No known sustainable investments planned nearby



Prepared	Reviewed	Date
MJ	SM	May 22

Key:

Transport Improvements
- Active Travel
- Multi-modal
- Public Transport
- Highway

Transport Improvements
- Active Travel
- Multi-modal
- Public Transport
- Highway

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Client
Bromsgrove District Council

Project
Bromsgrove DPR Transport Assessment

Figure title
Metric 6.1 - Local planned transport schemes

Revision	Project number
A	3578
Figure number	Date
Figure 3-14	May 2022

Metric 7.1: Proximity to District Centres

3.81 Metric 7.1 reflects the existing facilities surrounding an area, assessing the potential for supporting shorter distance trips which are more likely to be able to be made by sustainable modes.

3.82 Centres both within Bromsgrove District and the surrounding local authority areas have been considered in relation to the facilities and services they provide. Figure 3-15 illustrates the centres considered as nearby trip attractors for potential development sites, these are listed in Table 3-12 and largely reflect those identified in the previous stage of assessment.

3.83 District centres, for the purpose of this analysis, have been defined as places offering a wide range of facilities and services. These are considered as larger than a 'local centre' which provides facilities for daily trips such as a convenience store and coffee shop. District centres have more range of retail such as clothing, hardware, homeware and cafés/bars/restaurants that might be visited more likely on a weekly basis.

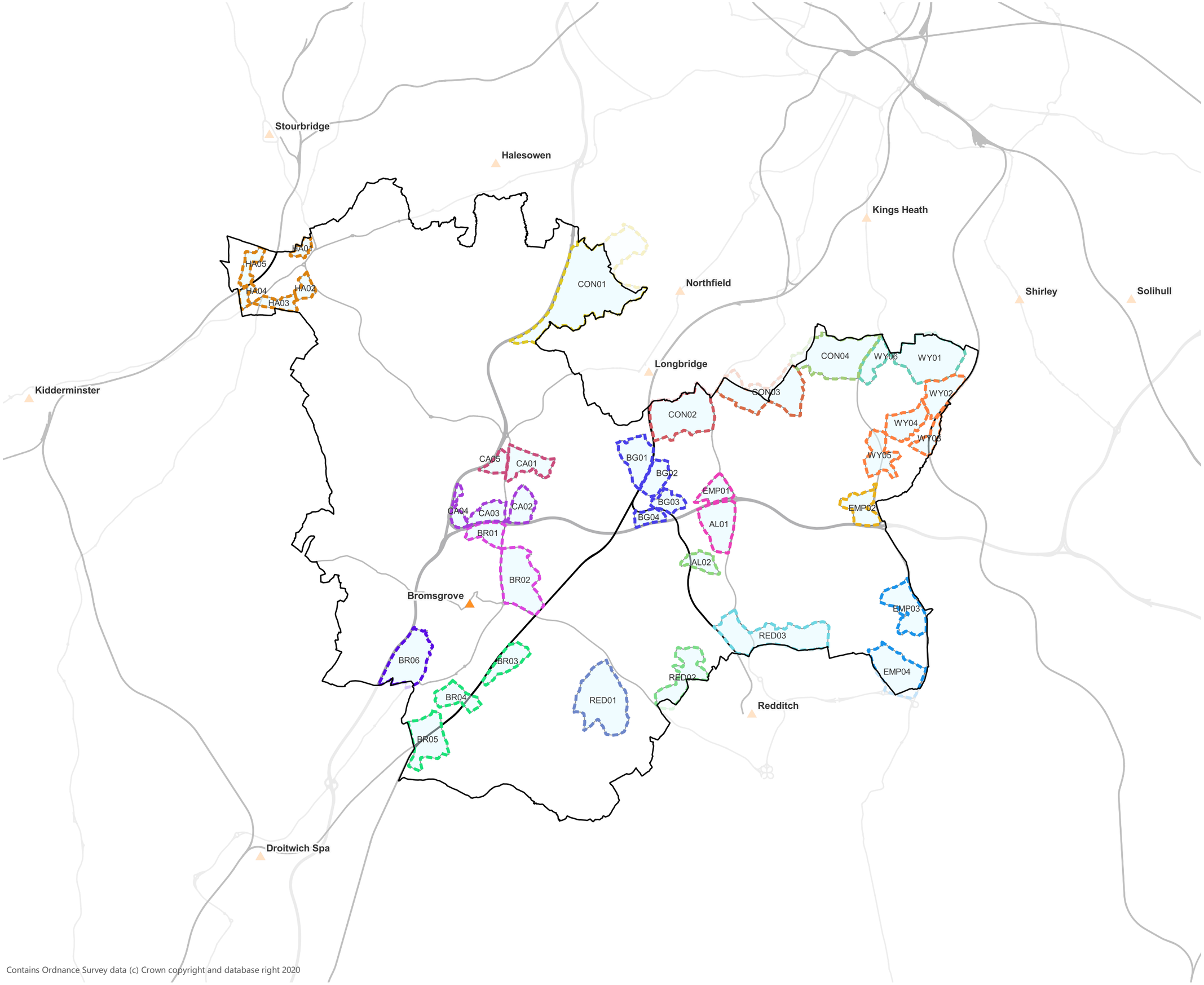
Table 3-12: Metric 7 – District centres

District centres	
Bromsgrove	Kidderminster
Redditch	Halesowen
Stourbridge	Northfield
Shirley	Longbridge
Solihull	Droitwich Spa
Kings Heath	

3.84 The thresholds set out in Table 3-13 rate cluster groups by their average journey time by public transport.

Table 3-13: Metric 7 thresholds

Green	Amber	Red
District centre can be accessed in under 20 minutes by public transport	District centre can be accessed between 20 and 30 minutes by public transport	Nearest district centre is over 30 minutes away by public transport



Prepared	Reviewed	Date
JP	SN	March 22

Key

- Bromsgrove District

Stage 3b - Sites and Clusters

- STA Stage 3b Clusters [39]

Metric 7.1 - District Centres

- DistrictCentres

TransportNetwork

- Railway Line
- Strategic Road Network
- Major Road Network

a company of Royal HaskoningDHV

Client

Bromsgrove District Council

Project

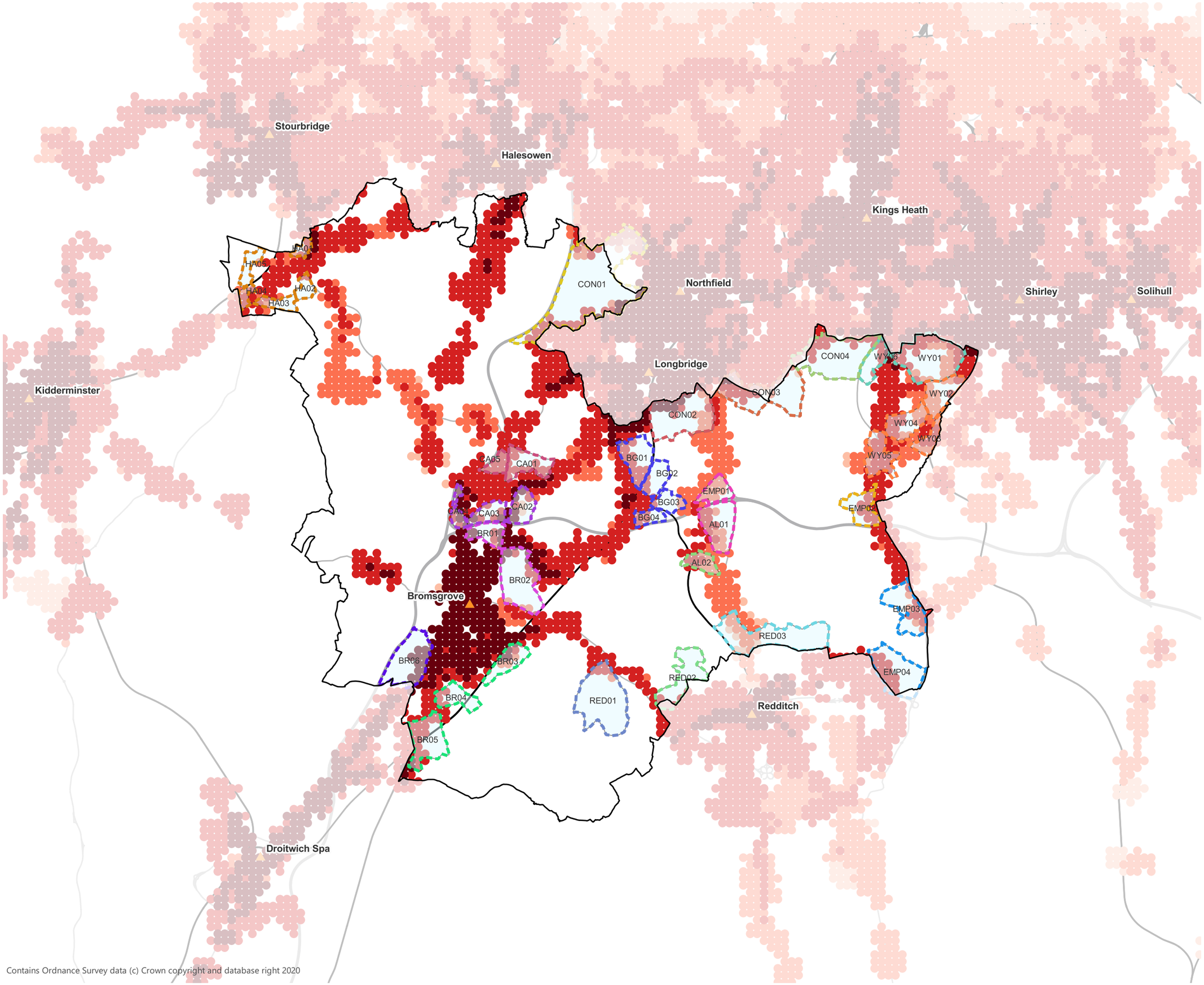
Bromsgrove DPR Transport Assessment

Figure title

Metric 7.1 - District centre locations

Revision	Project number
A	3578

Figure number	Date
Figure 3-15	March 2022



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Prepared	Reviewed	Date
JP	SN	March 22

Key

- Bromsgrove District

Stage 3b - Sites and Clusters

- STA Stage 3b Clusters [39]

Metric 7.1 - District Centres

- DistrictCentres

Journey time by public transport

- 1 - 15
- 15 - 30
- 30 - 45
- 45 - 60

TransportNetwork

- Railway Line
- Strategic Road Network
- Major Road Network

itp
a company of Royal HaskoningDHV

Client

Bromsgrove District Council

Project

Bromsgrove DPR Transport Assessment

Figure title

Metric 7.1 - Public transport journey times to district centres

Revision	Project number
A	3578

Figure number	Date
Figure 3-16	March 2022

Metric Summary

3.85 Table 3-14 summarises the metrics and thresholds for the Red, Amber, Green (RAG) thresholds that make up the assessment framework.

Table 3-14: Assessment metrics

	No.	Metric	Red/Amber/Green measure	Green	Amber	Red
% DRIVE TO WORK	**1.1**	**Average commuter travel mode split from within each growth option area (from 2011 Census).**	Average car driver mode split, derived from Method of Travel to Work question in the Census, 2011, excluding 'work from home' and 'not working' categories. Thresholds defined based on regional benchmark and calculated for each cluster group based on a average of Output Areas population weighted centroids within 250m.	Less than or equal to 65% by car	65% to 80% by car	80% or more
	1.2	**Workplace travel to work (census 2011 workplace zone)**	Average car mode split within selected workplace zones to represent the likely mode of travel	Less than or equal to 65% by car	65% to 80% by car	80% or more
TRANSPORT SERVICES	**2.1**	**Proximity to current sustainable transport services and infrastructure that serve key settlements**	Qualitative geospatial comparison of each growth option in relation to current sustainable transport routes	High quality provision available for most of the site	Moderate provision across the site, with clear potential to improve	Limited provision and more challenging opportunities to improve
LABOUR MARKET	**3.1**	**Number of jobs within 45 minutes by public transport**	TRACC assessment reviewing workplace populations (Census 2011) accessible within 45 minutes by public transport	Over 100,000 jobs within 45 minutes	Between 40,000 and 100,000 jobs within 45 minutes	Fewer than 40,000 jobs within 45 minutes
	3.2	**Number of potential workforce within 45 minutes by public transport**	TRACC assessment reviewing potential workforce (Census 2011) accessible within 45 minutes by public transport	Over 70,000 potential workers within 45 minutes	Between 40,000 and 70,000 potential workers within 45 minutes	Fewer than 40,000 potential workers within 45 minutes
HEATHCARE	**4.1**	**Average journey times to healthcare (hospitals and General Practices) by public transport**	Ability to access healthcare (both within Bromsgrove District and in neighbouring areas) from within each cluster by public transport	Average journey time under 15 minutes	Average journey time between 15 and 25 minutes	Average journey time over 25 minutes
	4.2	**Average journey times to hospitals (with A&E) by public transport**	Ability to access a hospital with an A&E department from within each cluster by public transport	Under 45 minutes	Between 45 and 60 minutes	Over 60 minutes
	4.3	**Average journey times to nearest hospital (with A&E) by driving**	estimated journey time to a hospital with an A&E department from each cluster by driving	Under 15 minutes	between 15 and 20 minutes	Over 20 minutes
EDUCATION	**5.1**	**Average journey times to education (schools) by public transport**	Ability to access schools (both within Bromsgrove District and in neighbouring areas) from within each cluster by public transport	Under 10 minutes	Between 10 and 15 minutes	Over 15 minutes
	5.2	**Average journey times to secondary education facilities by public transport**	Ability to access a secondary or post16 education facility from within each cluster by public transport	Under 20 minutes	Between 20 and 25 minutes	Over 25 minutes
PLANNED IMPROVEMENTS	**6.1**	**Proximity to planned local sustainable transport investments**	Clusters are within 400m of a planned sustainable transport scheme	Three or more investments	1 or 2 investments	No known investments planned
DISTRICT CENTRES	**7.1**	**Average journey times to key district centres by public transport**	Ability to access a district centre from each cluster by public transport	Under 20 minutes	Between 20 and 30 minutes	Over 30 minutes