8. Walking Network Development

8.1. Introduction

The chapter summarises the identification of the walking network for Guildford Borough. The development of the walking network had two key stages:

» Development of the 'aspirational list', which identified key focal areas of pedestrian activity in the Borough. In total, 39 areas were identified and selected as 'key' areas for further consideration.
» Selection of the 'short list', which prioritised seven areas as 'Phase 1' for further assessment and concept development as part of the LCWIP.

The remaining areas (categorised as Phase 2 and 3) may be further developed in the future, as part of future work streams or as other funding opportunities arise.

8.2. Development of Long List

A walking network of key zones and routes has been defined drawing on the analysis from the existing data. The background information identified local destinations, amenities, population centres and movement patterns in the Borough which foster a higher potential for short utilitarian trips to be made on foot.

Guildford Borough has good potential for an increase in the mode share of walking. Both the high volume of local trips undertaken by motor vehicles and the distribution of key destinations in relation to residential areas would facilitate everyday commuter trips to be made on foot.

A key barrier to walking at present is the inconsistent quality and accessibility of the walking network (there are some areas of high-quality provision neighbouring areas of motor vehicle dominance).

The development of the walking network for the Guildford Borough LCWIP focused on the identification of Core Walking Zones (CWZs), as per the DfT's LCWIP technical guidance. According to LCWIP guidance, an approximate five minute walking distance of 400m can be used as a guide to identify the extent of the CWZs, Figure 95.

The CWZs represent nodes of relatively high pedestrian activity within towns or larger settlements in Guildford Borough, typically consisting of several walking trip generators that are located close together – such as a high street, schools, or employment areas/ business parks. CWZs are intended to enhance the pedestrian environment around these key trip generators rather than longer, linear routes.

The CWZs play a significant role in promoting walking to key trip attractors, supporting the local economy, and achieving the LCWIP objective of encouraging more short, utility trips to be made on foot.

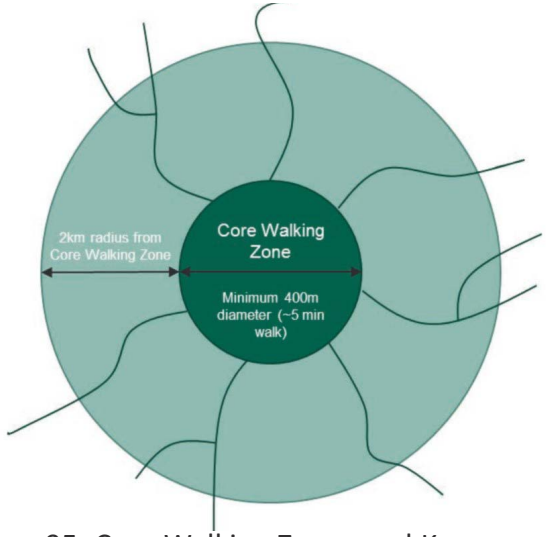

Figure 95. Core Walking Zones and Key Walking Routes (DfT LCWIP Guidance)

8.2.1. Identification of Core Walking Zones

For Guildford Borough, the aspirational list of CWZs was developed utilising three main outputs:

- CWZs were located in the Borough's main town, local and district centres, based on the designations from the Guildford Local Plan. This includes future large development sites, which will contain local centres, as identified in the Guildford Local Plan[1].
- Key data that had been collected in Section 4: Evidence Base (page 49) was analysed to help support the identification and prioritisation of the CWZs across the Borough.
- These were supplemented with additional areas suggested through the stakeholder engagement activities.

The local high street areas are key hubs of pedestrian activity, with clusters of different destinations and which serve multiple journey types (e.g., shopping, dining, employment, personal business, leisure/social, education, etc.).

The local high street areas tend to be located in the centre of the town/village and they are normally easily accessible from all sides of the settlement. They usually are a more compact urban environment and have a higher population and employment density, thus increasing the propensity for utility walking trips. Focus on these areas also helps to support economic vitality and SCC's 20-minute neighbourhood strategy of LTP4.

The University of Surrey (Stag Hill Campus), a key employment and education destination representing an important trip generator, was also included as a CWZ.

The CWZs were then created by drawing 250m isochrones around the key trip attractors within the local centres[2]. This was in keeping with the DfT guidance that a CWZ should be a minimum diameter if 400m (approximately 5-minute walk). The extent of the CWZ covers the main commercial area/high street and main access corridors. Further adjustments were made to ensure the zones selected are covering the key centres and destinations in each location.

The LCWIP seeks to take an approach which is distributed across Guildford Borough, balanced across the urban and rural areas. The identified CWZs were categorised based on the geographic area they are located, due to the different character of local settlements. As Guildford urban area is very dense a high number of CWZs were identified. Another urban area is extending to the west of the Borough, between Ash and Tongham where several local centres have been identified. Villages and small settlements extend throughout the rural area of the Borough with more of a local character and identified CWZs will aim to enhance the pedestrian environment for local connections. Therefore, the CWZs were categorised as follows:

- Guildford Urban Area
- Ash and Tongham Urban Area
- Rural Area
- Potential future CWZs (future development sites).

Figure 96 shows the initial list of CWZs based on Guildford Local Plan retail areas, additional local high streets identified, future local centres and the University of Surrey.

1 Three strategic development sites identified in the Local Plan were added as potential future local centres: former Wisley Airfield, Blackwell Farm, and Gosden Hill Farm

2 Isochrones were not created for the future development sites as the local retail/ commercial areas have not yet been defined. The extent of the development was selected albeit the local centre, and therefore the CWZ, will not extend this far.

8.2.2. Core Walking Zones Refinement

A further analysis of the background data was undertaken in order to identify any gaps/ omissions in the initial draft walking network.

8.2.2.1. Qualitative Heat Map

The analysis process was informed by development of a qualitative 'heat map' of pedestrian opportunities and constraints created by utilising and overlaying the following information data:

- Census data: areas of highest population density, workplace zones, Index of Multiple Deprivation (IMD), developments (completions after 2011).
- Destinations and trip attractors: schools, retail areas, employment areas, green space, medical care.
- Public transport network: railway stations, bus stops,
- Public Rights of Way (PRoW), National Trails.
- Public online comments, e.g. on Surrey LCWIP CommonPlace platform.
- Collisions involving pedestrians.
- PCT information: short car trips (less than 2km) and walking trips.

The qualitative pedestrian opportunities and constraints heat map is shown in Figure 97. The higher intensity colour shows locations with a higher propensity for walking trips and greater potential benefit from infrastructure interventions.

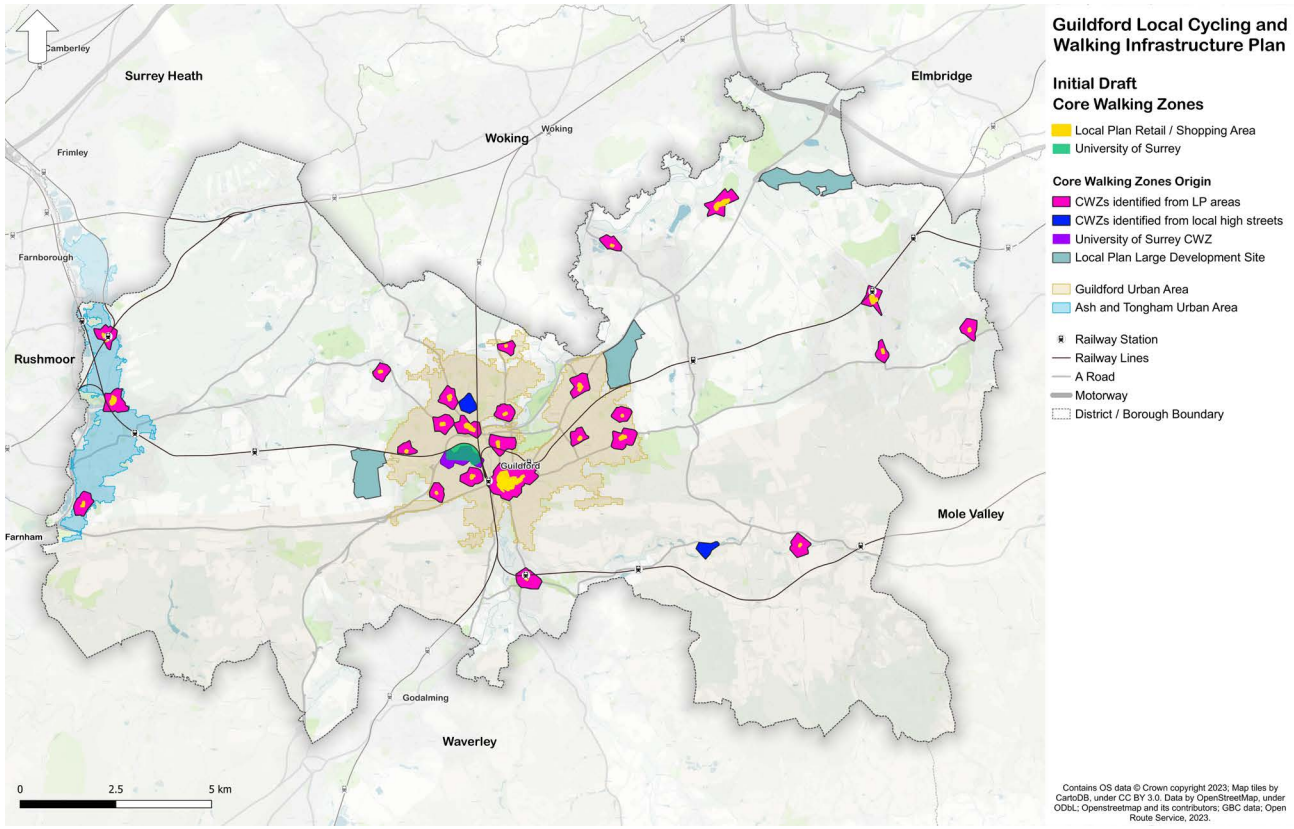

Figure 96. Initial draft Core Walking Zones.

8.2.2.2. Quantitative Heat Map

A quantified walking network heat map on a defined grid (50m by 50m) was produced using the qualitative heatmap. Each grid tile represents the number of different overlapping elements in the area allowing for a quantitative classification of the areas with a higher propensity for walking trips and greater potential benefit from infrastructure interventions.

The initially drafted CWZs were overlaid with the quantified heat map which confirmed that the recommended CWZs broadly aligned with the areas of highest potential benefits across the study area (reflected by the warmer colours in the heat map). Additional CWZs were identified and added, largely located around railway stations and at the centre of villages. Figure 98 shows the quantified walking heatmap overlaid with the initial draft and added CWZs.

In total 39 CWZs are proposed within Guildford Borough. An initial sifting of the zones to Primary (Phase 1 & Phase 2) and Secondary was undertaken to support the prioritisation of the zones for further development.

Nonetheless, all CWZs are retained as part of the aspirational network for future consideration as opportunities arise. Primary CWZs are further assessed using multi-criteria assessment frameworks to estimate in more detail the demand for improvements in each area, and seven CWZs are developed for

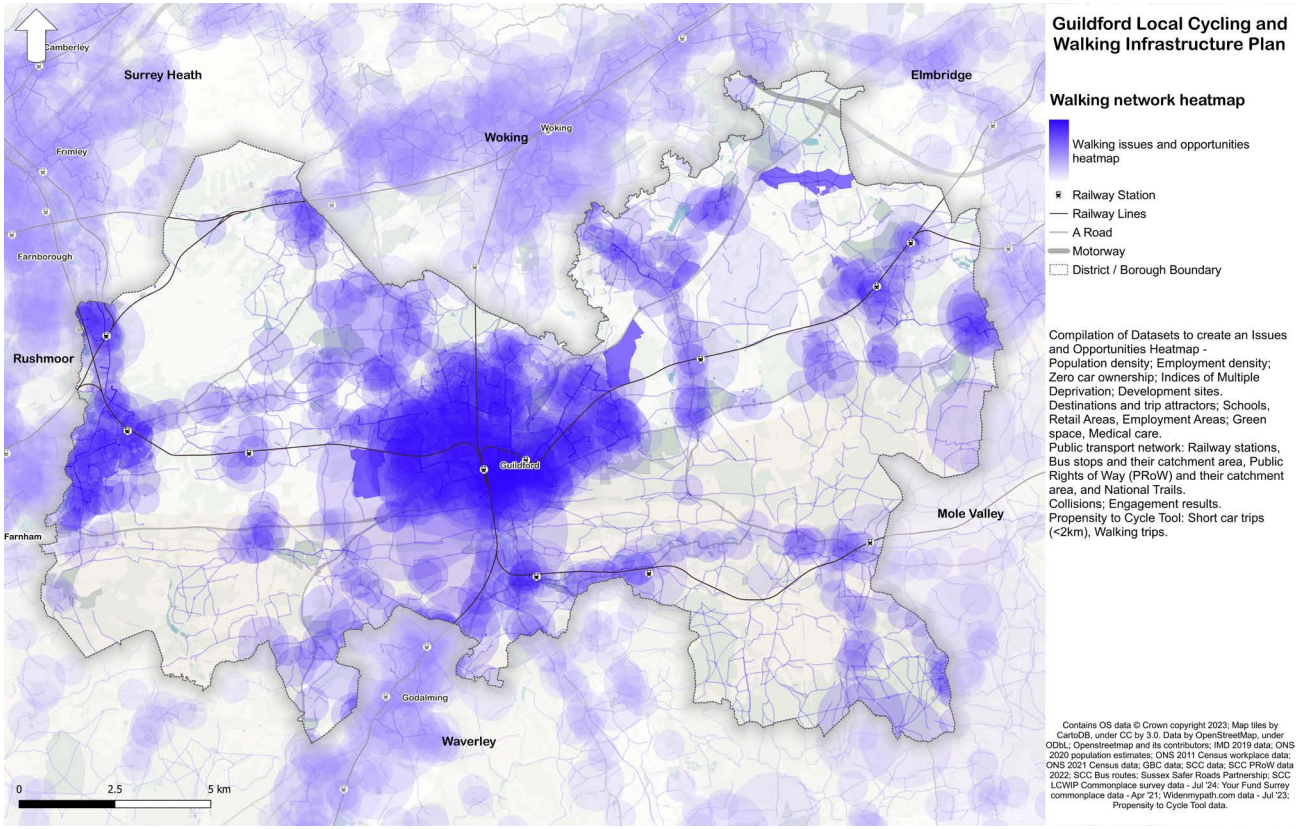

Figure 97. Qualitative walking issues and opportunities heatmap.

potential infrastructure improvements as part of this LCWIP. The remaining CWZs as well as the Secondary CWZs will be developed as opportunities arise.

It was agreed with SCC and GBC that 22 CWZs will be classified as Primary (Phase 1 & Phase 2): 10 CWZs in Guildford urban area, all four CWZs in Ash and Tongham and eight CWZs in the rural area. The sites allocated for development in the Guildford Local Plan are proposed to be categorised as Secondary CWZs (Phase 3) as their masterplanning will develop through the development management process.

The quantified heatmap supported the classification of proposed CWZs based on the average score of the grid tiles in the heatmap within each zone. The score of each tile represents the number of entities denoting higher demand for utility walking trips or pedestrian improvements in the area. The average score helped identify the priorities within the Borough.

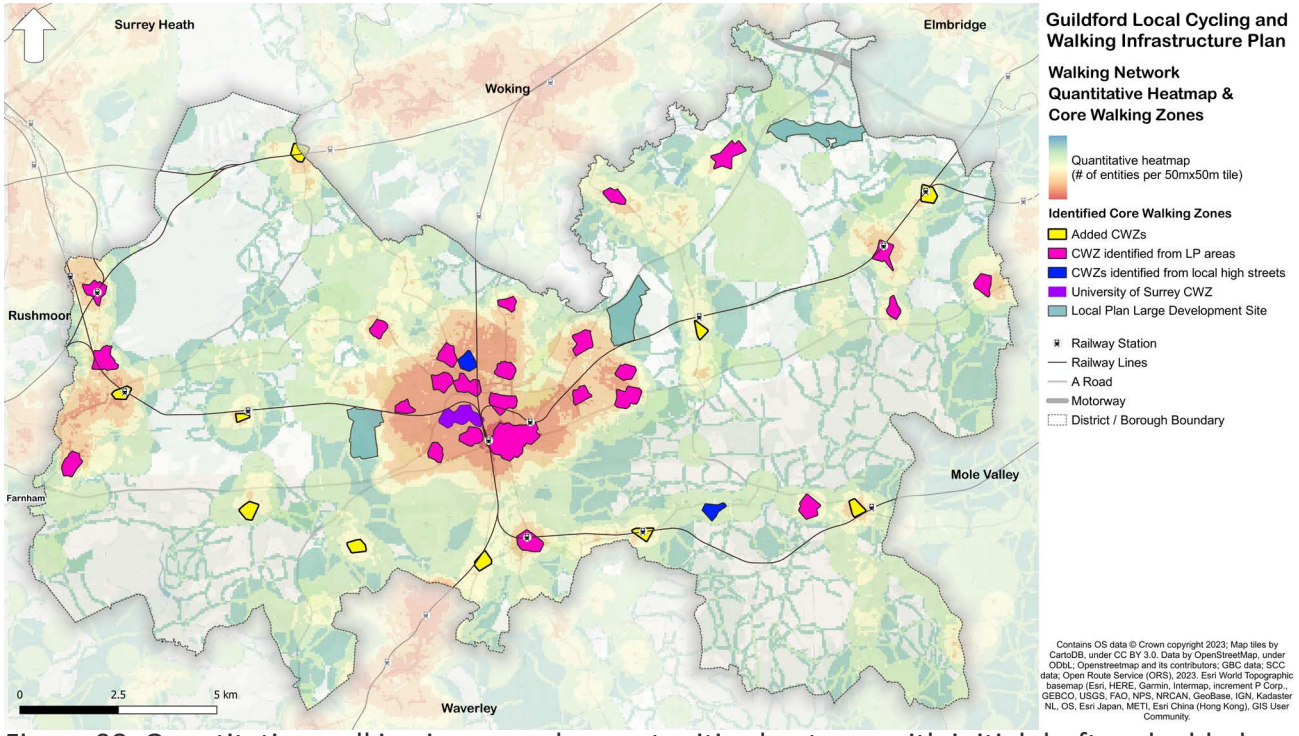

Figure 98. Quantitative walking issues and opportunities heatmap with initial draft and added CWZs.

8.2.3. Final Core Walking Zones list

The 22 CWZs taken forward for further analysis are listed below, in no particular order, and shown in Figure 99.

Guildford urban area

1. Guildford
2. Guildford Park
3. Woodbridge Hill
4. Stoke
5. Worplesdon Road, Stoughton
6. Stoughton Road, Bellfields
7. Park Barn
8. Aldershot Road
9. Grange Road, Stoughton
10. University of Surrey

Ash and Tongham Area

11. Tongham
12. Ash
13. Ash Vale
14. Ash Station

Rural Area

15. Shalford
16. Effingham
17. Send
18. Station Parade, East Horsley
19. Fairlands

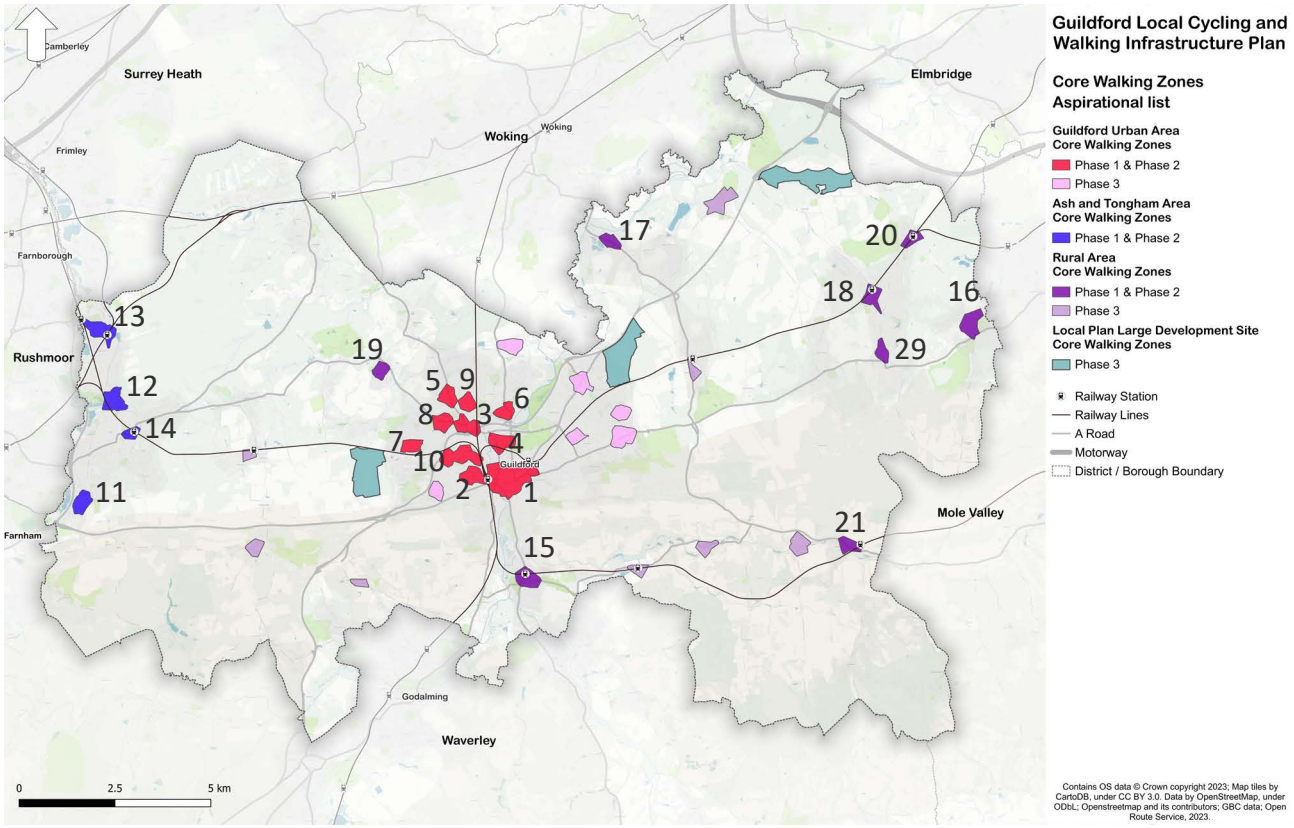

Figure 99. Aspirational list of Core Walking Zones per area.

20. Effingham Junction Station
21. Gomshall (formerly Gomshall Station)
29. Bishopsmead Parade, East Horsley

Table 2 in Appendix 2b (separate document) provides a summary of each of the CWZs, considering key destinations served, population and expected population growth, as well as pedestrian collisions.

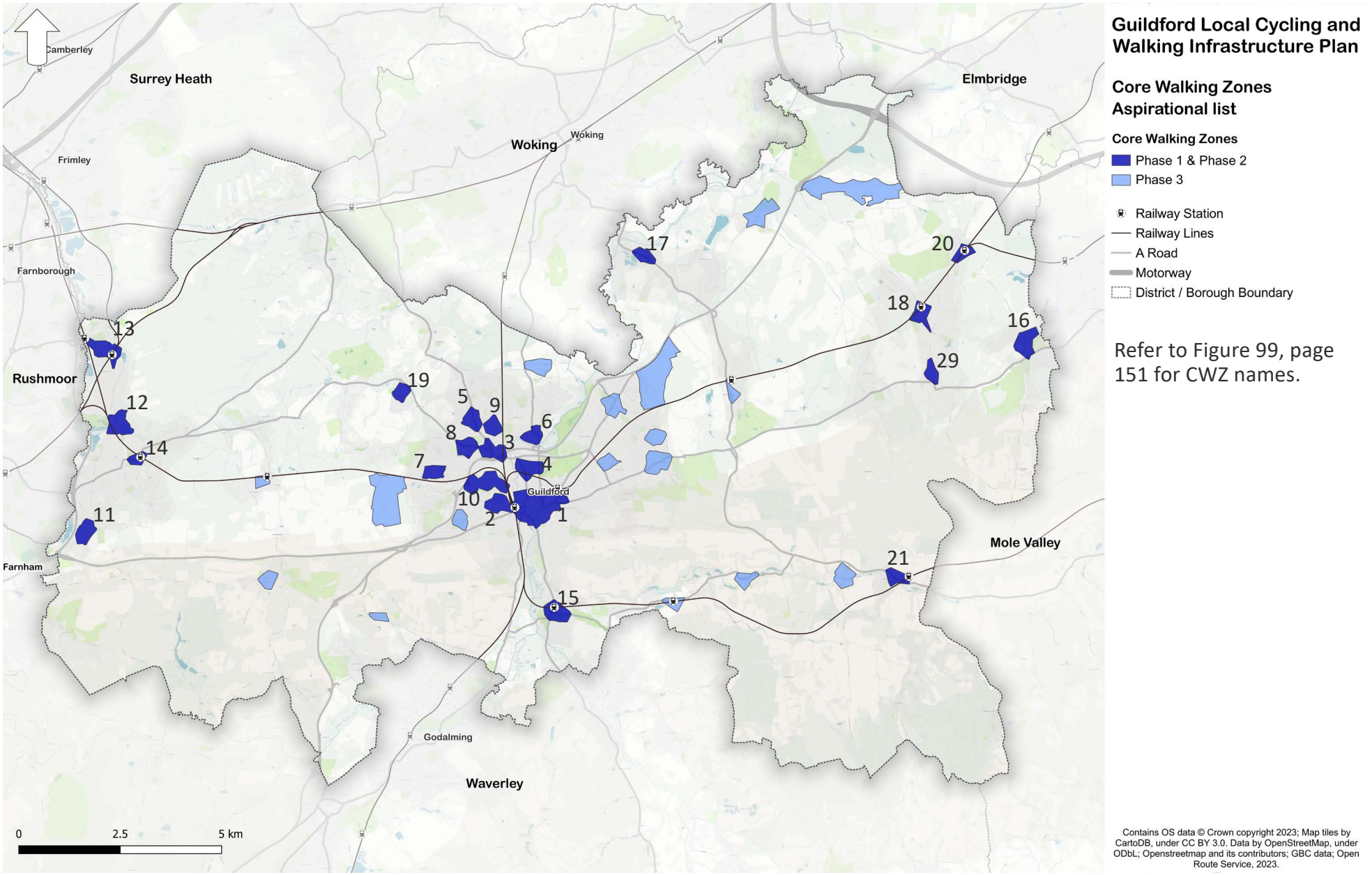

Figure 100. Aspirational list of Core Walking Zones

8.3. Identification of Phase 1 CWZ

Once the aspirational walking network has been identified, an assessment using both qualitative and quantitative criteria was carried out to provide an initial prioritisation of the network proposals and identify a first phase of core walking zones to be developed further as part of the LCWIP.

A multi-criteria assessment framework (MCAF) was developed to identify the Phase 1 ('short list') Core Walking Zones, utilising various data inputs from the evidence base previously gathered. In combination, the MCAF criteria are intended to help identify and prioritise areas with both a higher relative propensity for walking trips and areas with a greater relative potential to benefit from improvements (i.e., areas 'in need' or with lower quality existing pedestrian environment).

The criteria were categorised in five main groupings:

» Access – reflects the number of destinations within a 10-minute walk of the CWZ, in addition to the local high street / commercial area itself, including schools, parks, hospitals, bus stops, and railway stations. A higher number of destinations would indicate a greater propensity for walking trips and therefore a higher score.

» Potential demand – this is based on the resident and workplace populations within a 10-minute walk of the CWZ. Additional criterion will include future demand based on the size of the development areas serving the CWZs. A higher population would indicate greater potential demand and propensity for walking trips and therefore a higher score.

» Existing pedestrian quality – these criteria characterise the existing environment, including speed limit, traffic volumes, and number of collisions involving pedestrians. A 'poorer' environment (e.g., higher vehicular traffic speed, higher flows, and higher number of collisions) was scored higher to prioritise areas that may be 'car-centric' and/or have potential severance and safety issues, which may therefore have a greater opportunity for or benefit from improvements.

» Potential for improvements – these criteria aim to capture the potential for pedestrian improvements in the area. Lower scores are given to areas in relatively good condition, and which therefore may be a lower priority for improvements. Lower scores are also given to areas with significant constraints where improvements may not be feasible or very difficult. Scoring was based on comments from the workshops and a cursory review via StreetView imagery. As the team had not yet been to site, this category has a lower weighting than the others.

» Stakeholder input – these criteria reflect the relative priority of the different CWZs based on public online input (LCWIP Commonplace survey) and LCWIP stakeholder workshop input (via the workshop surveys). Higher scores indicate a higher number of online comments and/or workshop votes.

The MCAF criteria for the selection of the Phase 1 CWZs are listed in Table 9. Each criterion was scored on a scale from 1 (low) to 3 (high). For some criteria a score of 0 was used to indicate the absence of such connection/data to the proposed CWZ. Within each category, the criteria were given a relative weighting of 1 (low) to 3 (high), allowing some criteria to be weighted more heavily (e.g., access to schools weighted more heavily than other 'access' criteria).

The total score for each category was also given a weighting. As with the cycling MCAF, the intent of this weighting was to give a higher significance to factors related to Access and Demand (60% of the total), which utilised more quantitative data and suggests the relative potential usage of each proposed CWZ. A lower weighting was given to the more qualitative criteria. Where applicable, the break-points within each criterion were adjusted to achieve a relatively even scoring distribution.

Table 9. MCAF table for walking aspirational list

Category (weighting)	Criteria [sub-category weighting]	Scoring thresholds (1 = low, 3 = high)
Access (30%)	Key Destinations [2] Number of key destinations, such as parks & hospitals within 10-minute walk from the CWZ	1 = < 4 2 = 4 – 12 3 = > 12
	Schools [3] Number of schools within 10-minute walk from the CWZ	1 = < 2 2 = < 4 3 = ≥ 4
	Bus Stops [2] Number of bus stops within 10-minute walk from the CWZ	1 = < 15 bus stops 2 = < 30 3 = ≥ 30 bus stops
	Railway Stations [2] Number of Stations within 800m of the CWZ	0 = none 1= 1 RS within 10min walk 2= 1 RS within CWZ 3= 2 RS within CWZ
Demand1 (30%)	Local Plan Site Allocations [2] Cumulative number of dwellings for site allocations within 10-minute walk outside the CWZ	0= no development 1 = < 25 2 = < 500 3 = ≥ 500
	Total resident population [2] Number of residents (estimated in mid-2020 – ONS data) within 10-minute walk outside the CWZ	1 = < 3500 2 = 3500 – 7000 3 = ≥ 7000
	Total workplace population [2] Number of residents (based on 2011 Census data) working within 10-minute walk outside the CWZ	1 = < 400 2 = 400 – 2000 3 = ≥ 2000

1 LSOAs and development sites within a 10 minute walk outside the CWZ.

Category (weighting)	Criteria [sub-category weighting]	Scoring thresholds (1 = low, 3 = high)
Existing Pedestrian quality (15 %)	Posted Speed [1] Highest speed limit within the CWZ	1 = 20mph or less 2 = 30 mph 3 = over 30 mph
	Traffic Flows [2] Number of vehicles (AADT) for all links from DfT traffic data) within the CWZ	1 = less than 5,000 vehicles 2 = 5,000 - 10,000 vehicles 3 = more than 10,000 vehicles
	Collisions [3] Number of pedestrian collisions within the CWZ	1 = one collision 2 = less than 2 3 = 2 or more collisions
Potential for Improvements (10%)	Potential to improve to a high and accessible standard, relative to existing condition [1] (Information gathered from the main corridor within the CWZ)	1 = lower potential – pedestrian environment in good condition 2 = medium potential 3 = higher potential – major issues identified
	Significant constraints or dependencies [1] (Information gathered from the main corridor within the CWZ)	1 = significant constraints (e.g. land take, third party works) 2 = constraints typical for a transport improvement 3 = limited constraints

Category (weighting)	Criteria [sub-category weighting]	Scoring thresholds (1 = low, 3 = high)
Stakeholder Support (15%)	LCWIP Commonplace platform input [3] Comments and agreements relating to walking within the CWZ.	0= no comment 1 = < 5 2 = 5 - 10 3 = ≥ 10
	Stakeholder support [2] Number of votes from the stakeholder engagement workshop surveys.	0= no vote 1 = < 2 votes 2 = 2 – 5 votes 3 = ≥ 5 votes

8.3.1. Phase 1 Walking Short List

The multicriteria assessment was applied to the Phase 1 and Phase 2 CWZs presented in Figure 100. The resulting scores and outputs of the MCAF are provided in Appendix 3 (separate document).

The number of CWZs to be taken to the next stages of this LCWIP (short listed CWZs) has been agreed as seven, including Guildford Town Centre, two CWZs in the Guildford urban/suburban area, one CWZ in the Ash and Tongham area and three CWZs in rural areas.

Overall, in the aspirational list of CWZs, CWZ 1 (Guildford Town Centre) ranked the highest, scoring 95.2%. The CWZs in Guildford urban area scored the highest in the list of zones due to the high population they serve, and the number of key destinations within the dense urban environment.

Guildford urban/suburban area (3 CWZ)[1]:

» CWZ 1 Guildford Town Centre
» CWZ 2 Guildford Park
» CWZ 8 Aldershot Road

The selected zones cover a large area in Guildford urban area and the walking corridors will provide connections to key destinations in the area (e.g. University, College, Hospital etc.).

Ash and Tongham urban area (1 CWZ)[2]:

» CWZ 12 Ash

Rural areas (3 CWZ):

» CWZ 15 Shalford
» CWZ 16 Effingham
» CWZ 29 Bishopsmead Parade

CWZ 29 was not included in the MCAF. Following discussions with GBC, this CWZ was included in Phase 1 to replace CWZ 18 (Station Parade, East Horsley), due to existing and future local plan growth in the area. Due to CWZ 29's proximity to Horsley Railway Station and Station Parade CWZ (18) proposals for CWZ 18 are being considered within the CWZ.

Figure 101 shows the CWZs according to their classification based on a MCAF.

1 The University of Surrey CWZ ranked second, however, as this is primarily privately-owned land, this will not be progressed as Phase 1, but will be categorised as Phase 2. However, connections to the University will be prioritised as part of the selection of walking corridors for the other prioritised CWZs.

2 For the Ash and Tongham urban area, all four CWZs had similar scores. Despite Ash CWZ not being the highest scoring CWZ, there were key benefits of prioritising the area as a Phase 1 CWZ. Ash CWZ is located within walking distance to both Ash Vale and Ash Railway Stations, has a relatively high existing population and workplace population, and scores relatively high for schools within a ten-minute walk. Ash is a district centre of the area (identified in Guildford Local Plan) and would seem to have more individual trip attractors.

8.3.2. Walking Corridors

Following the identification of Core Walking Zones, further assessment of the available data has been undertaken to identify the key walking corridors as part of the CWZs. The walking routes aim to capture the main 'funnel' / bottle neck routes which provide access to the CWZs. 'Funnels' may be created by severance issues, such as bridges, waterways, or railways, or by the layout of the street network, which channel pedestrian flows (and potentially other modes) to a few network links to access the CWZ.

Routes leading to key or popular destinations, e.g., schools, recreational grounds, retail centres, or denser residential areas, and located outside of the main core, are prioritised. Where necessary they were amended to provide better connections to the centre of a respective CWZ.

The data assessment, presented as the pedestrian issues and opportunities heat and spatial accessibility maps allowed for the identification of the walking corridors indicating the areas in need for improvements. Roads with the highest scores, as a result of the data assessment, were selected to align the walking corridors. The proposed walking corridors are connecting the different CWZs in Guildford urban area due to the dense urban environment, and provide connections to the neighbouring areas in Mole Valley, Waverley and Rushmoor.

The completed plan of Phase 1 Core Walking Zones and their respective walking routes is presented in Figure 102 (page 159). All seven CWZs along with their walking routes were audited using the DfT's Walking Route Assessment Tool (WRAT)3. The assessment provided a baseline for existing conditions and helped identify existing deficiencies and key issues in the area. The CWZs were audited in October 2023 and January 2024 and the results are presented in Appendix 5 (separate document).

3 The WRAT is a framework for providing a high level assessment of a walking route, covering the key parameters of attractiveness, comfort, directness, safety, and coherence.

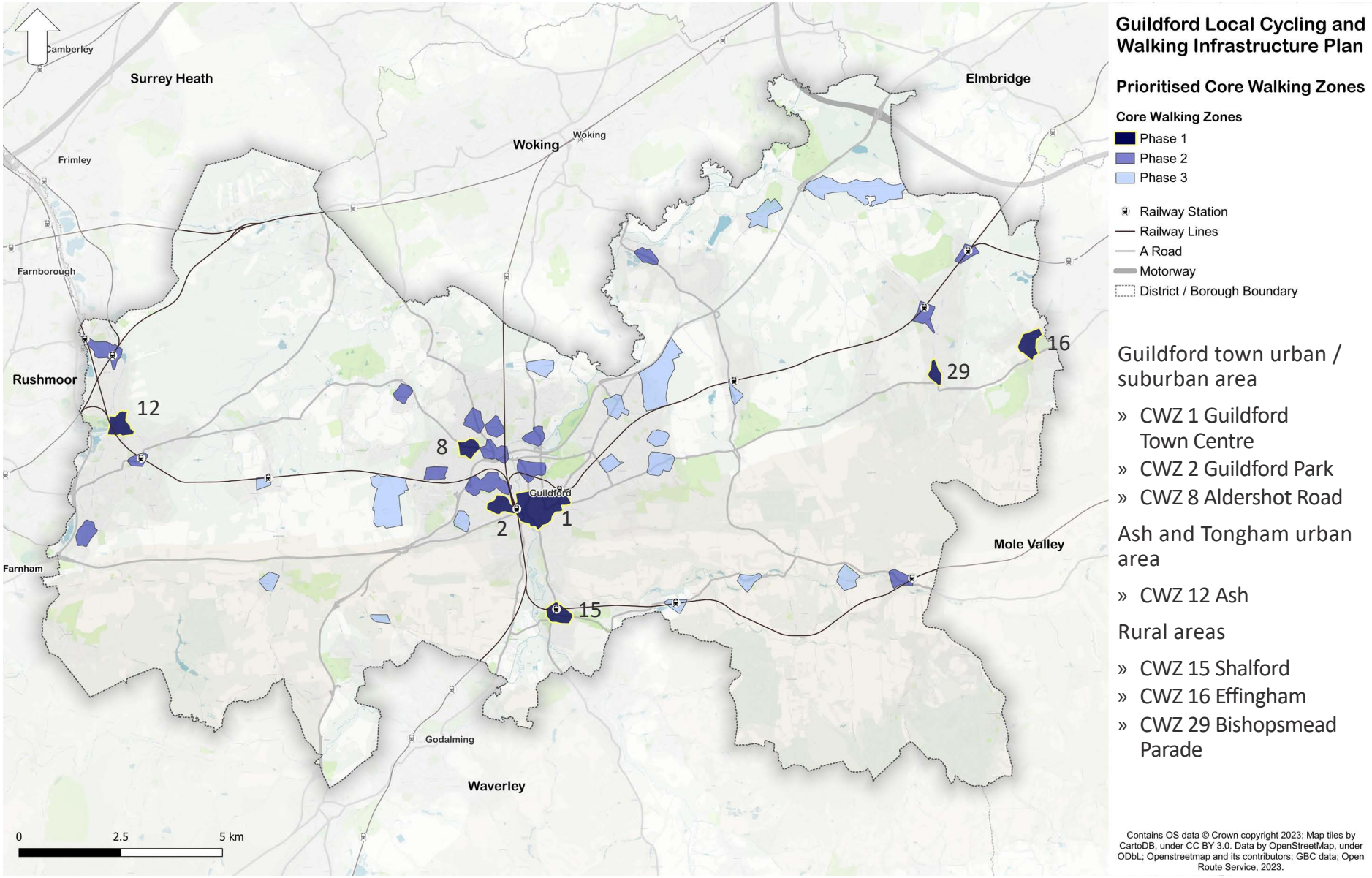

Figure 101. Phase 1 Core Walking Zones.

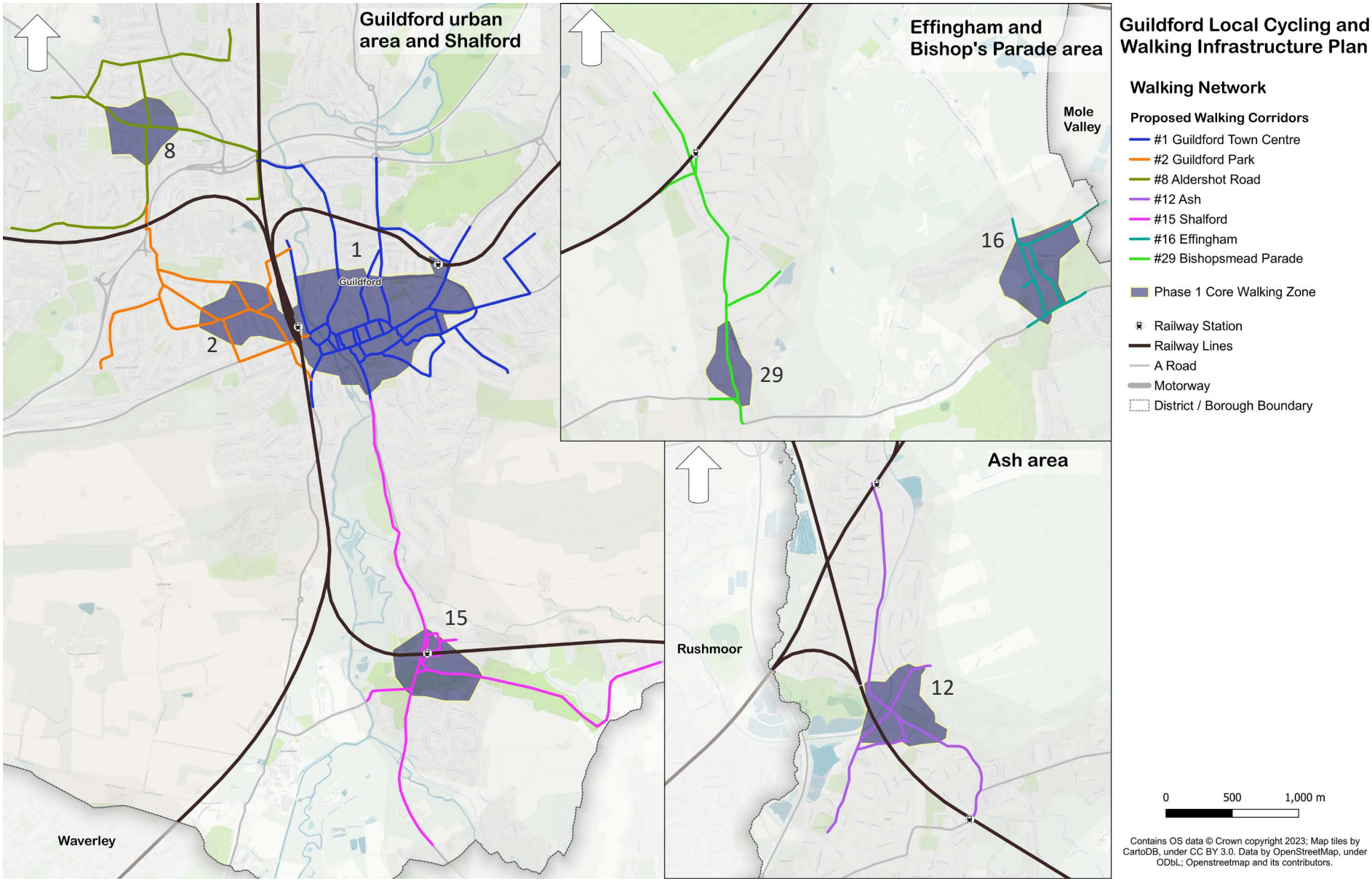

Figure 102. Phase 1 Core Walking Zones – identified walking routes network.


WHIBLEYS
THE JEWELLERS
HIGH STREET
EPIC BARBERS
Push button
Wait for signal