15. Raunds

15.1 Issues, opportunities and constraints

15.1.1 A combination of the topography of Raunds and the less permeable nature of mid-late 20th century development would appear to discourage non-vehicular access to the linear centre, and therefore impact on the opportunities for social and economic transactions.

15.1.2 Raunds town centre remains along the historic route which follows the Raunds Brook (or Hog Dyke) through the valley. East/west routes connect into this linear centre at two points, though the relatively steep nature of the valley can affect accessibility when travelling on foot or on cycle.

15.1.3 Historically the key roads have followed the watercourses and the ridges, running along the contours, with secondary streets at right angles, running across the contours.

15.1.4 Raunds has grown around and within a framework of historic routes which remain today. Development which occurred in the mid-late 20th century has filled in the space between these historic routes and is predominantly comprised of cul-de-sacs. There is therefore little choice of routes to the town centre and other areas of Raunds, routes are not always direct. The route structure analysis opposite indicates streets which link to another street in brown and red, while cul-de-sacs and loops are blue and purple. Figure 93 clearly shows the lack of connecting routes. Detailed analysis of the streets also reveals that the 20th century areas are less legible, with fewer straight streets and more complex street forms, which make walking around, seem further than it actually is. East-west routes within the town are currently limited. The north-western 'quadrant' is currently physically segregated by the cul-de-sac and loop street patterns.

15.1.5 Isochrones (Figure 92) demonstrate that Stanwick in particular is easily accessible by bicycle from Raunds and vice versa.

15.1.6 The scale of the town means that it is walkable, although the topography would mean this is more challenging for some, and in pure proximity terms, the town is close enough to its other neighbours for cycling to be a viable alternative to car travel (Figure 92)

15.1.7 The most distinctive central part of the town is characterised by straight streets, in a regular grid, with routes connecting to each other. There is continuous building frontage, regular rhythms and a strong sense of enclosure and the area contains a mix of uses.

Figure 90 Rotten Row, Raunds. Copyright Will Lovell

Figure 91 Historic map of Raunds

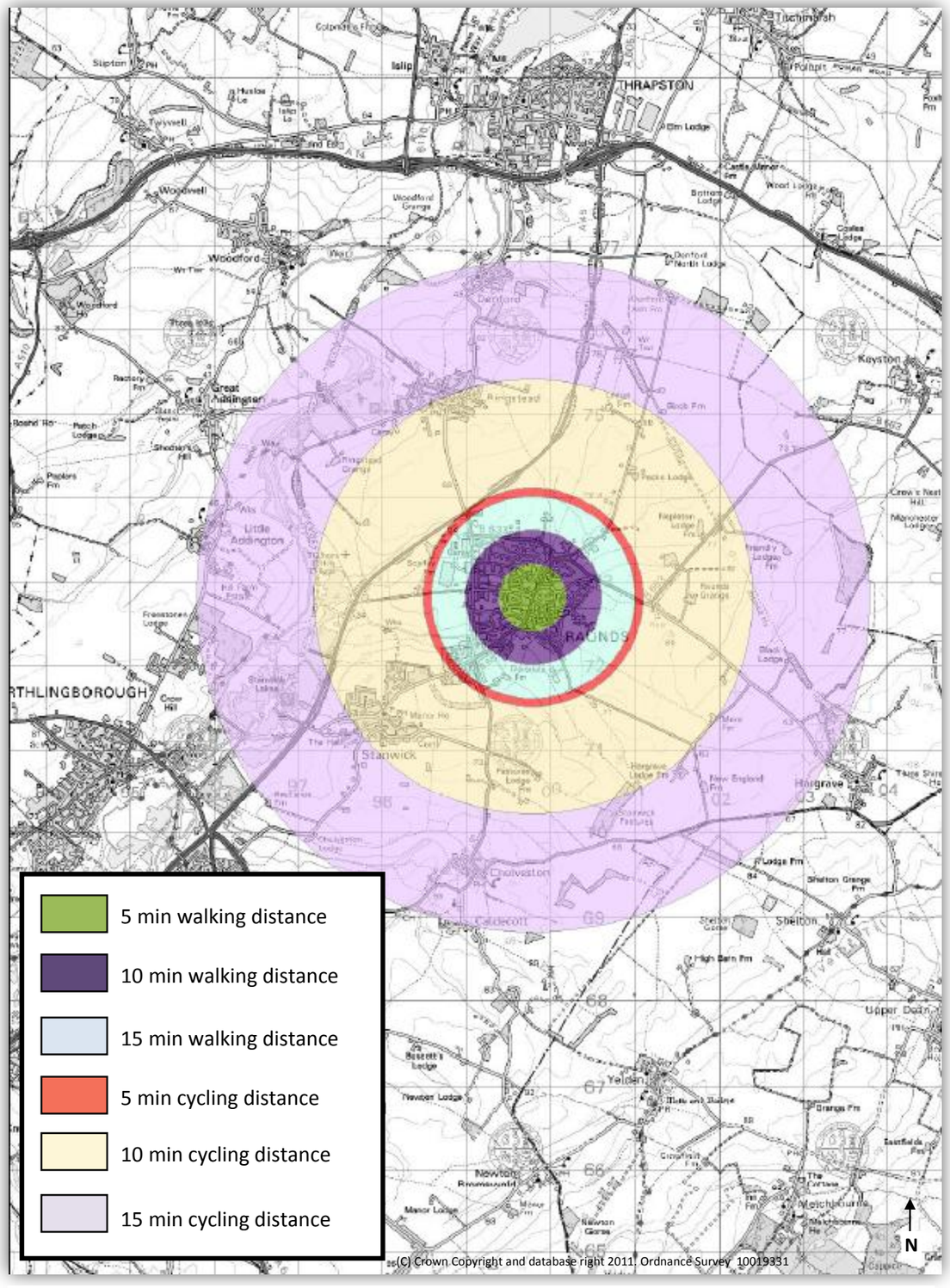
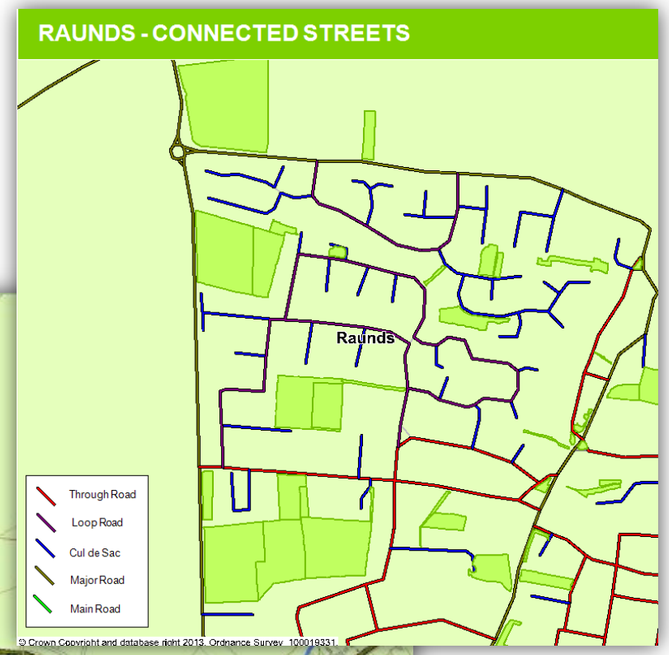


Figure 92 Walking and Cycling Isochrone plan

Figure 94 NW quadrant contains few connecting routes, so hard to navigate.



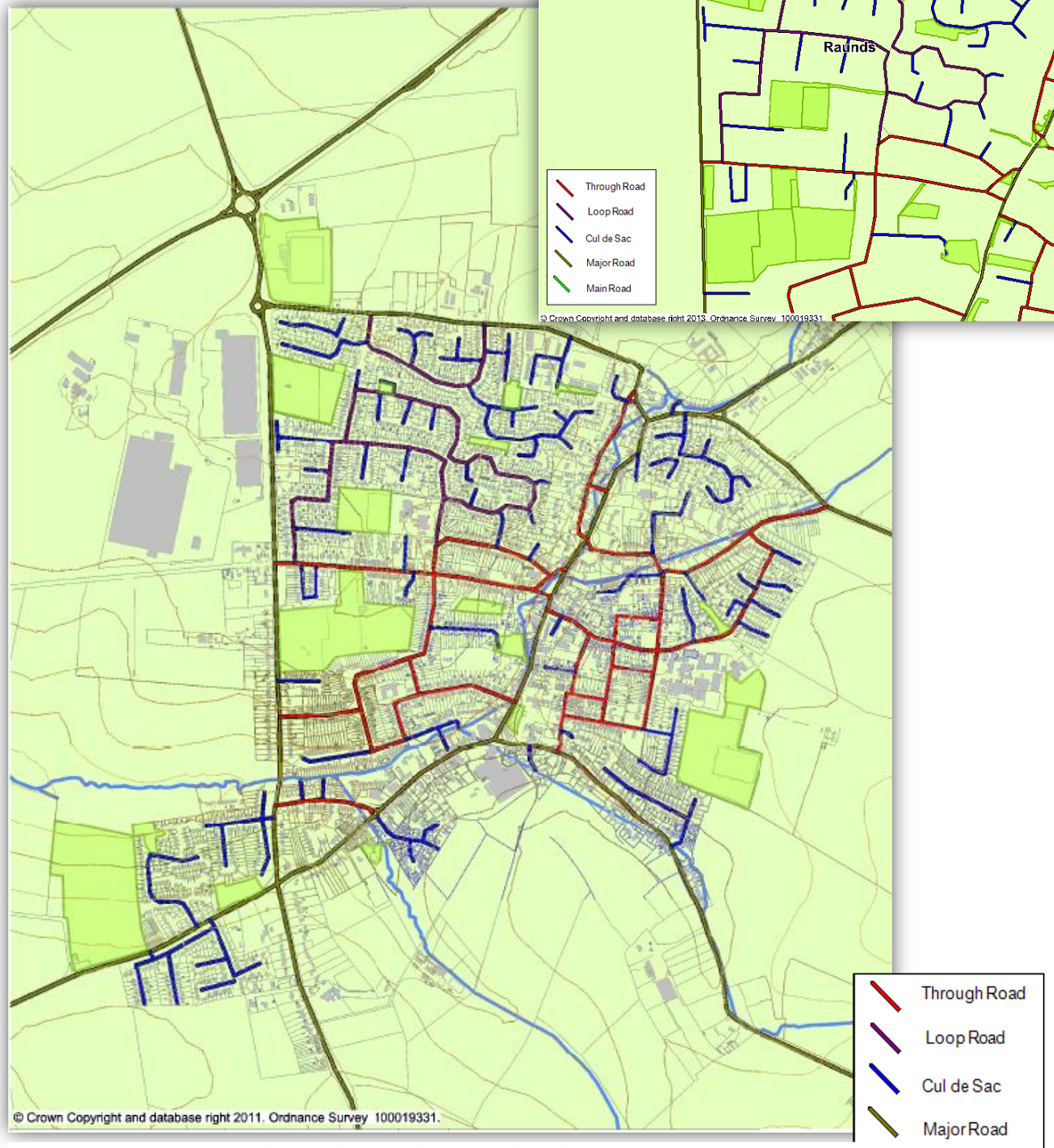


Figure 93 Route Structure Combined Plan

16. Spatial Principles

16.1 Enhance connections to the Nene Valley to the west

16.1.1 The isochrones show that Raunds is within cycling distance of the Nene Valley, and existing and future attractions within it, including Stanwick Lakes. Scope exists to make additional connections across the A45 into Stanwick Lakes (with suitable crossing facilities) and to make the Stanwick Road better for cyclists. The River Nene Valley Strategic Plan suggests developing mini town-river plans which wouldspecify site opportunities and proposals to improve linkages and orientation to the RiverNene and Nene Valley, including at Raunds.

16.2 Work with the natural topography of the town

16.2.1 Raunds' topography has clearly been a key determinant of how the town has developed to date. This should continue to shape any development within or around the town. The existing pattern created by the streets relationships to the contours should be continued.

16.2.2 Watercourses (many of which are currently culverted) have played a significant role in shaping the development of the town, and should be made more of a feature in the town.

16.3 Promote walkable connected places

16.3.1 East-west routes within the town are currently limited and further east–west connections should be created where possible

16.3.2 Any new development should be based around a grid pattern like that in the centre of Raunds, as this is better for the walkability of the area than cul-de-sacs.

16.3.3 The north-western 'quadrant' of the town is currently physically segregated by the cul-de-sac and loop street patterns. Opportunities to create further links (particularly east-west) within this quadrant should be sought. Until this area is better linked, further development north of this area of town would be difficult to connect to the town centre, as links to the town centre would be restricted

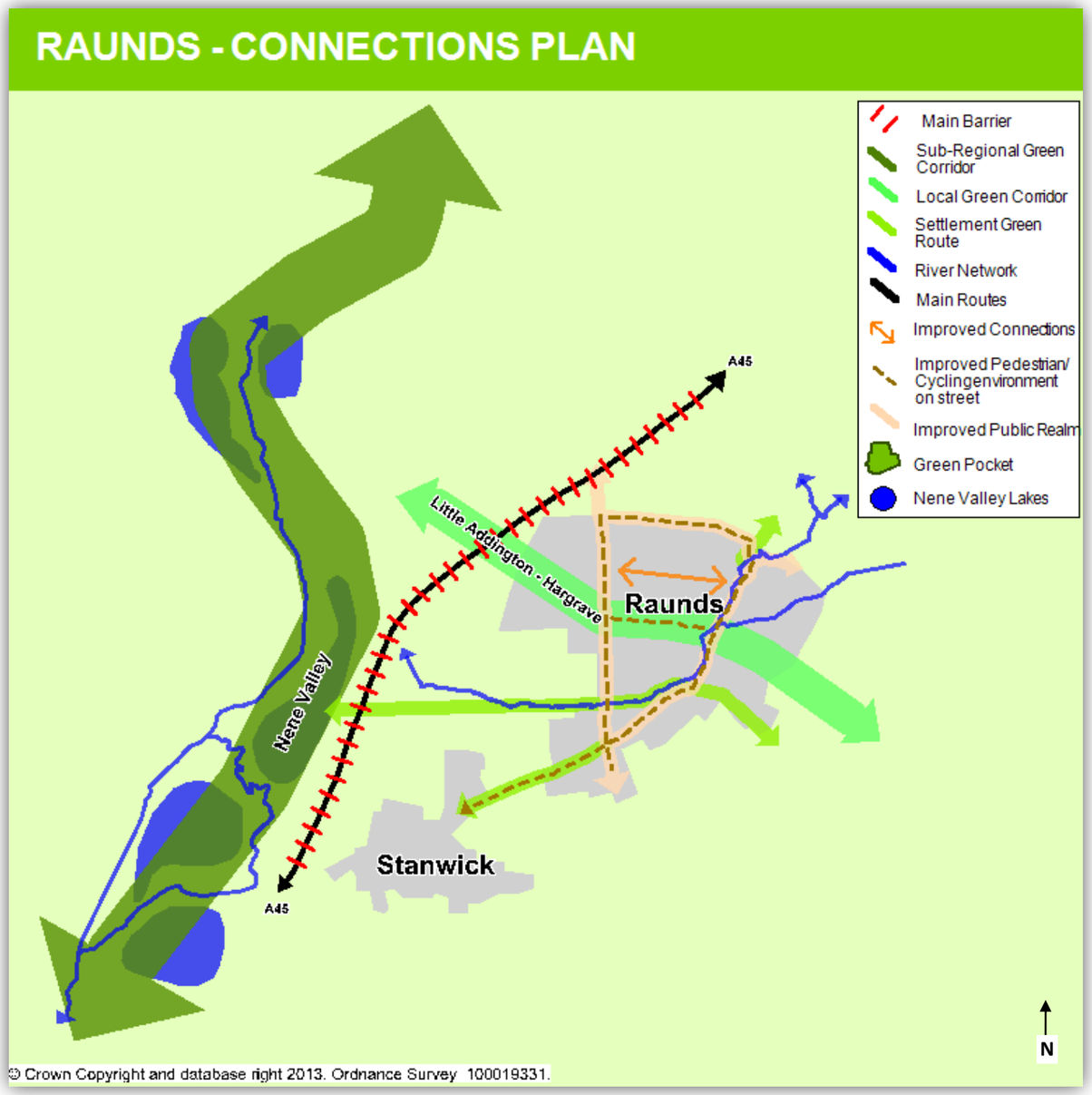


Figure 95 Connections Plan showing key existing and potential GI routes and areas for street improvements

16.4 Enhance connections to the surrounding rural settlements

16.4.1 Isochrones demonstrate that Stanwick in particular is easily accessible by bicycle from Raunds and vice versa. Various local authorities have used “Quiet Lanes” schemes to encourage walking and cycling on certain rural roads and these principles could be employed to improve local lanes around Raunds.

Figure 96 Quiet Lane,Image courtesy of Whiston Action Group

Figure 97 River Somer, Midsumer Norton on the high street (bottom image post-restoration in June 2012 shows how opening up rivers in the town could be achieved. Image courtesy of L.Kozak and D.Longley

Figure 98 Walkers attempting to cross the busy A45 at Stanwick roundabout – Image courtesy of Higham Ferrers footpath group

17. Irthlingborough

17.1 Issues, opportunities and constraints

17.1.1 The town is located on a historic route which follows a natural ridge to the west of the River Nene with Higham Ferrers on the corresponding ridge on the opposite side of the valley. This settlement can be traced back to the Medieval period. In the eighteenth century, agriculture was joined by the boot and shoe industry as the main economic drivers. As a result, terraced houses were built to the north of College Street to house workers from the factories. From the late 19th century a number of quarries were established and gravel extraction altered the landscape. A steelworks was also established to the south west of the town, although this has now been redeveloped for housing during the late 20th century (Ebbw Vale Road etc). The former quarries have now been transformed into a nature reserve. Twentieth century development surrounds the historic core of the town. 20th century development can be seen to the south of the town around Allen Road and Nicholas Road, and Crow Hill remains physically separated from the core of the town to the north.

17.1.2 The A6 encloses the core area of Irthlingborough to the north, and serves to increase the physical perception of the severance of Crow Hill. It also separates existing employment and leisure facilities which have been established to the north of the A6.

17.1.3 The route of the A6 directly connects Irthlingborough and Higham Ferrers on the opposite side of the Nene Valley, though the nature of this road and the intersection with the A45 make this route less attractive to pedestrians and cyclists.

17.1.4 The historic area of the town is centred on the principal north south route, which also connects the town to surrounding settlements. College Street forms a secondary street running parallel with that route. A number of alleyways and pedestrian connections link College Street and the High Street, although these are not shown on the route structure plan (which focuses on links open to multiple modes of movement only). This is a distinctive characteristic of the town, though in places it has been compromised by modern development.

Figure 100 Walking and cycling isochrones

Figure 99 Public realm treatment in Irthlingborough. Photo NNDC

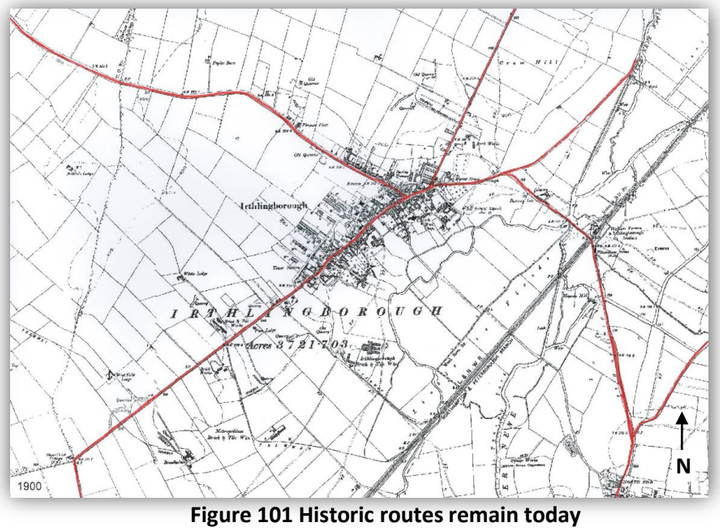


Figure 101 Historic routes remain today

17.1.5 Some of the historic street pattern to the east of the High Street has been compromised by twentieth century development, which has increased the number of dead ends in this more historic area of the town.

17.1.6 Victorian development to the north-west of College Street defines relatively straight streets. These have remained as cul-de-sacs, but the regularity of the street arrangement suggests potential for them to have been developed into a regular grid.

17.1.7 Areas of mid-late twentieth century development are evident in the form of looped streets and cul-de-sacs. These areas are discrete and poorly connected to other areas of the town – i.e. there is often only one way in and out. These areas are all accessed from one of the principal routes identified.

17.1.8 Crow Hill is physically separated from the rest of Irthlingborough, and twentieth century street patterns are in evidence here. Its role and status is currently being assessed through the separate settlement hierarchy and rural services studies being undertaken by East Northamptonshire Council.

17.1.9 The walking and cycling isochrones for Irthlingborough demonstrate that all areas of the town are inherently walkable and cyclable. They also demonstrate that a number of surrounding settlements are within cycling distance of the town 'as the crow flies' although this clearly does not take into account barriers to movement which are known to exist and deter cycling such as sharing routes with fast traffic, along the A6 for instance. These settlements include Rushden and Higham Ferrers (see also the Rushden and Higham Ferrers section of the USS), Stanwick, Little Addington, and Finedon. The town is also within relatively close proximity to Wellingborough, which has implications when planned development to the east of Wellingborough is implemented.

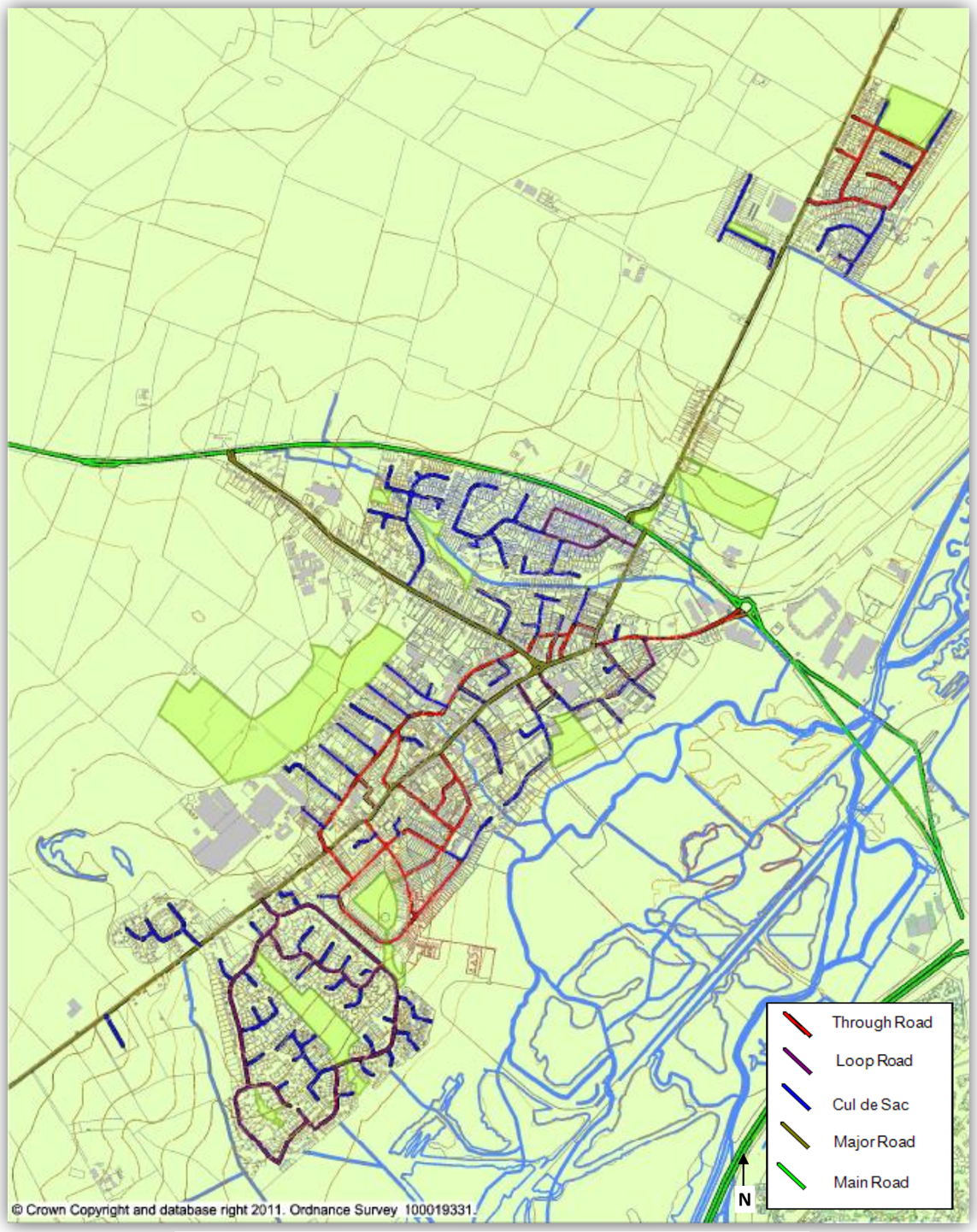


Figure 102 Route structure analysis in Irthlingborough

18. Spatial Principles

18.1 Humanise the A6

18.1.1 The A6 currently acts as a barrier to convenient, safe and attractive pedestrian and cycle access to facilities to the north of the town, including the NHS outpatients centre and the Football ground. It also increases the perception and reality of severance between Irthlingborough and Crow Hill. Existing development turns its back on A6, and no routes obviously lend themselves to forming a grid across the A6. This limits potential for growth to the north of the town to be well connected. Scope exists to re-design and slow the road through the town section, so it becomes a town street, not a bypass.

18.2 Crow Hill

18.1.2 Crow Hill is very disconnected from Irthlingborough. Scope exists to improve its linkages to the town centre through enhancements to the A6, as outlined above. In addition, scope exists to support Crow Hill as a separate but well linked settlement with additional services and development to achieve a greater level of self sufficiency.

18.3 Maintain and enhance physical links to Higham Ferrers (and Rushden) to increase connectivity

18.1.3 There is a need to maintain views across the Nene Valley and to maintain and enhance routes across the Nene Valley between the settlements, particularly improvements for local cycling. The East Northamptonshire Greenway Scheme is starting to develop these links.

18.4 Where possible, create links between existing discrete areas

- Utilise the existing partial Victorian grid pattern to link to future development at Irthlingborough West.
- Link the Pine Trees area (southern loop development) to adjacent grid.
- Connect cul-de-sacs where opportunities exist.

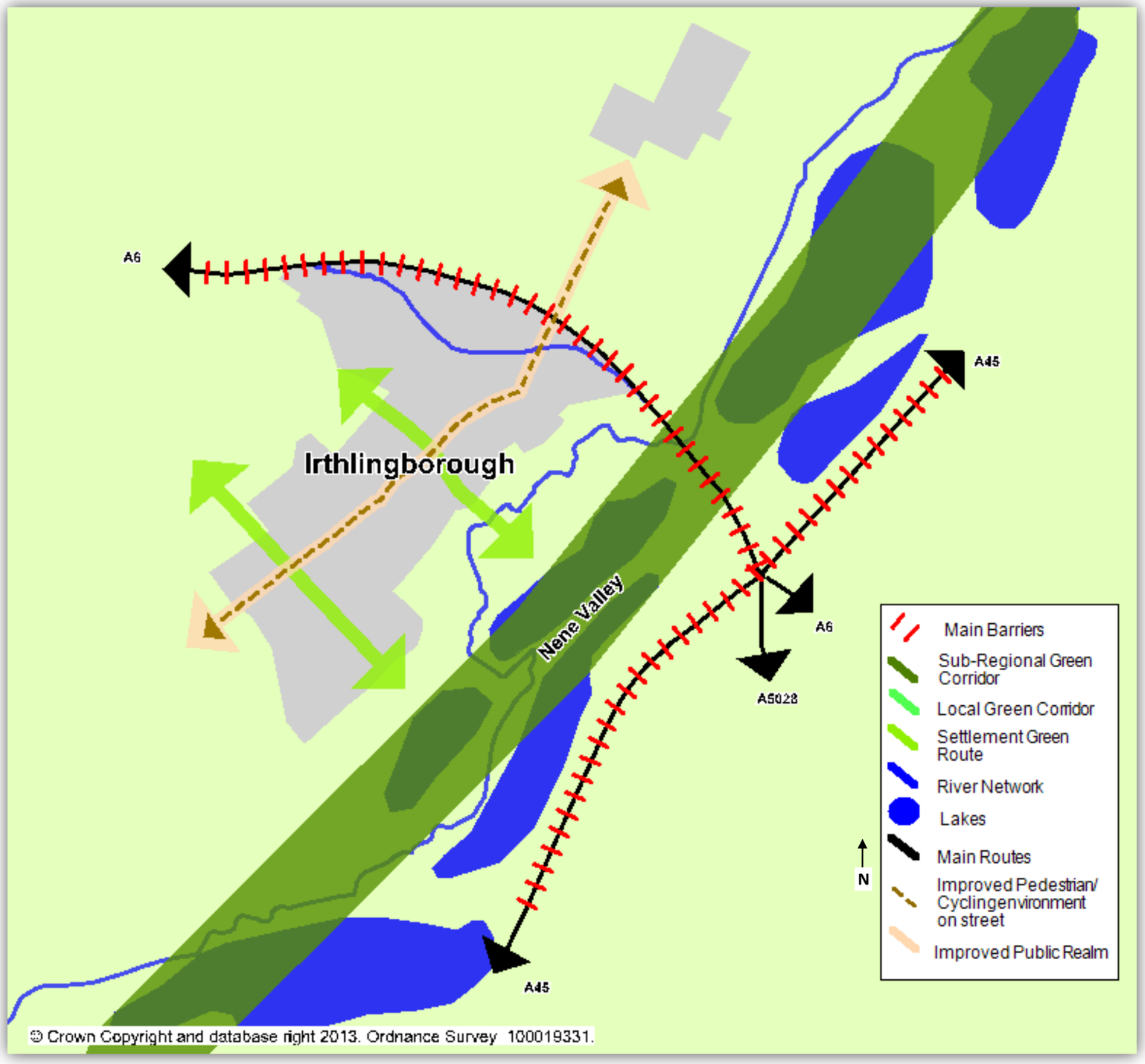


Figure 103 Plan showing improved connections through green spaces and along the streets

- Use the edges - Current development is inward facing (i.e. turns its back on the edges). There is opportunity to use the edges for limited development and create connections.

18.5 Integrate open spaces

18.5.1 Open spaces are currently predominantly on the edge of the settlement. Where possible integrate them within the settlement either through GI corridors to them or within new development. The Nene Valley Strategic Plan recommends creating a mini river plan to highlight specific opportunities to better link the town to the Valley with foot and cycle paths together with improved signage.

Figure 104 St Peter's Church Irthlingborough. The Church is seen here from Back Brook, an overflow channel for the River Nene © Copyright Will Lovell. Maintaining and capitalising on the links to the Nene Valley is important.

Figure 106 The A6 acts as barrier to pedestrian movement. Pedestrian guard rails mean that pedestrians are pushed off the most direct route across the road.

Figure 105 Public realm works to Kensington High Street removed guard rails to better connect both sides of the street and allow pedestrians to cross.

19. Oundle

19.1 Issues, opportunities and constraints

19.1.1 Oundle is located on a narrow spur in the River Nene, and is enclosed by the river on three sides. Its development has been constrained by the floodplain. Access routes to and from the town were and are constrained by the river. The medieval crossing point at South Bridge remains the only entrance to the town from the south, and North Bridge remains the only access from the east.

19.1.2 The development of Oundle can be traced back to the 6th century AD. The plan of the town centre is a typical example of a medieval settlement pattern, with linear forms of development focussed on a market place and a church. On either side of the principle streets (West Street, Market Place and North Street) Burgage plots are still in evidence.

19.1.3 Oundle continued to grow as a market town throughout the 17th, 18th and 19th centuries. Unlike other local towns in Northamptonshire, Oundle never developed an industrial specialism (e.g. boot and shoe), and therefore never experienced the rapid growth of other towns in the industrial era. This is likely to be due at least in part to the fact that the town was bypassed by the main railway links in the mid 19th century. Instead, the public school was the main economic driver in Oundle, and remains as such in present times.

19.1.4 There was a relatively significant amount of development in the town in the 20th century, some of which served to obscure the historic Burgage plots. The school's land holdings have affected the distribution of routes, creating much larger urban blocks between the streets than seen in other towns. However, these are not typical urban blocks, having instead large buildings set in extensive landscape which together creates much of Oundle's unique character.

19.1.5 The town is of a walkable scale, with much of the settlement within a 15 minute walk of the centre, and nearby small villages are within a 15-20 minute cycle ride..

19.1.6 Access to the centre is by the historic routes. There are few alternative cross town connections through the residential areas. All the principal routes converge at the centre adjacent to the old Courthouse (Town Council offices) and Church.

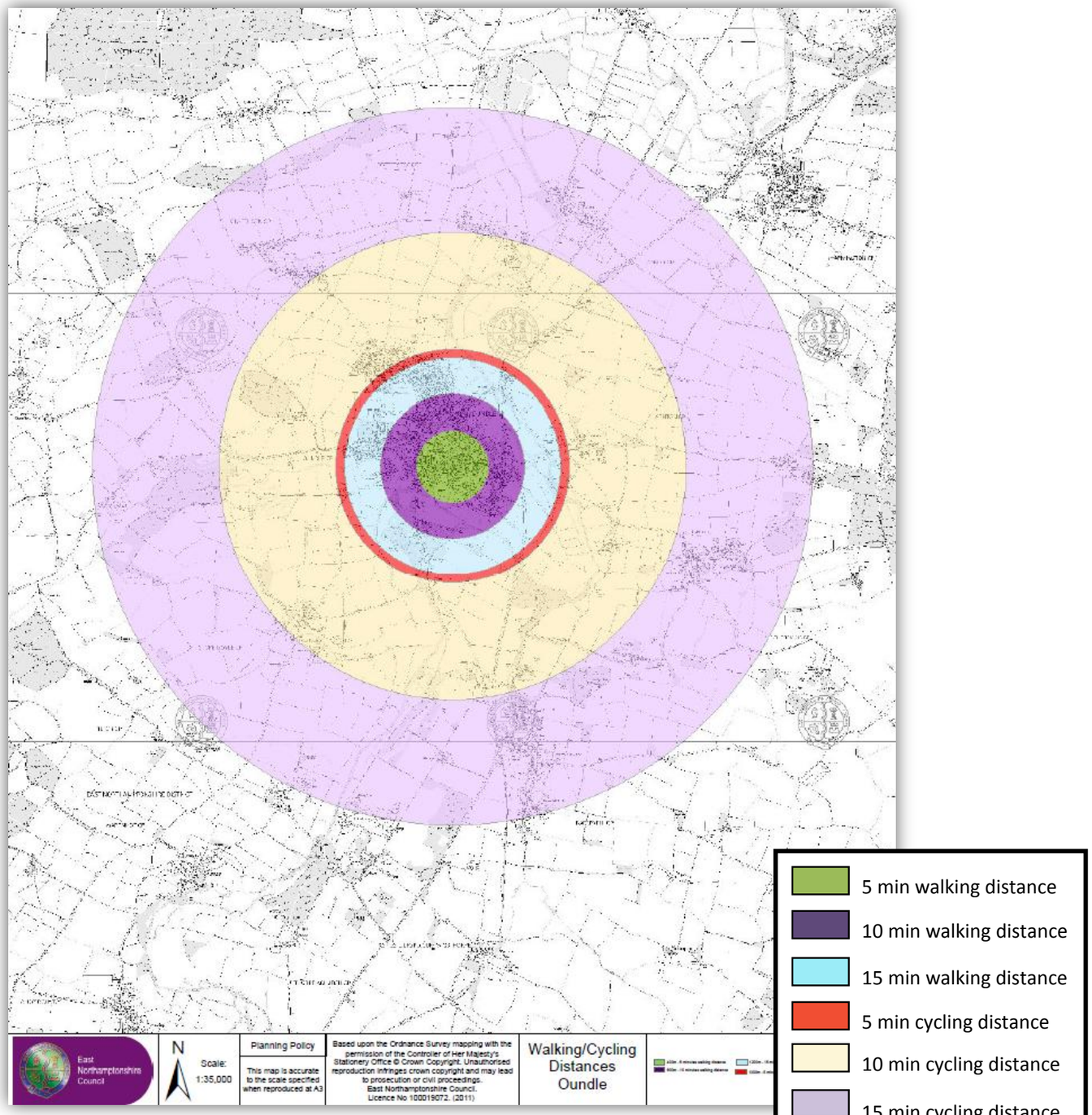


Figure 107 Walking and Cycling Isochrone Plan

19.1.7 To the east, the town's principal routes are supplemented by routes which provide an additional means of circulating through the town (New Road and South Road). However, to the west, the key principal routes have no additional linking connections between them, relying instead on the central converging point. There is a single access point to the A605 across the bridge from the town. An irregular grid street pattern exists in the North East of the town, providing additional permeability through to New and St Peters Roads.

19.1.8 In terms of local connectivity, there are discrete areas of late 20th century developments within and around the periphery of the town. These areas are characterised by looping roads and cul-de-sacs. These areas are generally accessed off one of the principal routes, and are unconnected from each other. This is particularly evident along the Benefield Road.

19.1.9 Prince William School is on a cul-de-sac leading to additional traffic movements. Providing a more connected grid in this area would be welcomed to encourage more walking and cycling to the school. Extending the route to connect to the A605 could also provide another route to take some pressure off North Street.

19.1.10 Public open space within the town is limited, but the sense of openness and extensive mature tree planting is provided by the Oundle School's Estate, and by other large residences in the town, which still retain expansive gardens and by the areas of floodplain. Access to the network of footpaths is variable, and generally worse in the west, with most built form backing onto the countryside. Screening however is provided by extensive woodland and hedging. To the east of the town, there are more footpaths and the countryside seems to integrate better into the edges of the town. These have clear routes to the rights of way, and facilities such as the school and Rugby Club providing an access point to the open space. Walking and cycling through the town centre could be improved both through measures to reduce vehicular speeds and public realm enhancements.

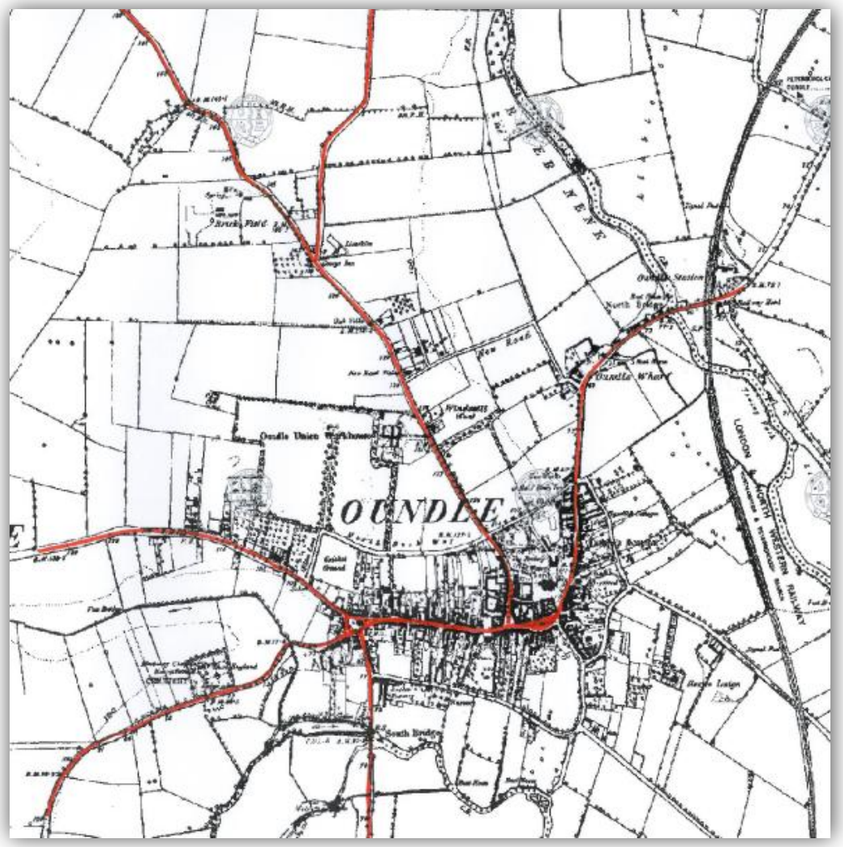


Figure 108 Historic plan showing historic routes, which still form the skeleton of the town.

Figure 109 Market Place, Oundle. Photo Copyright Chris Bamber

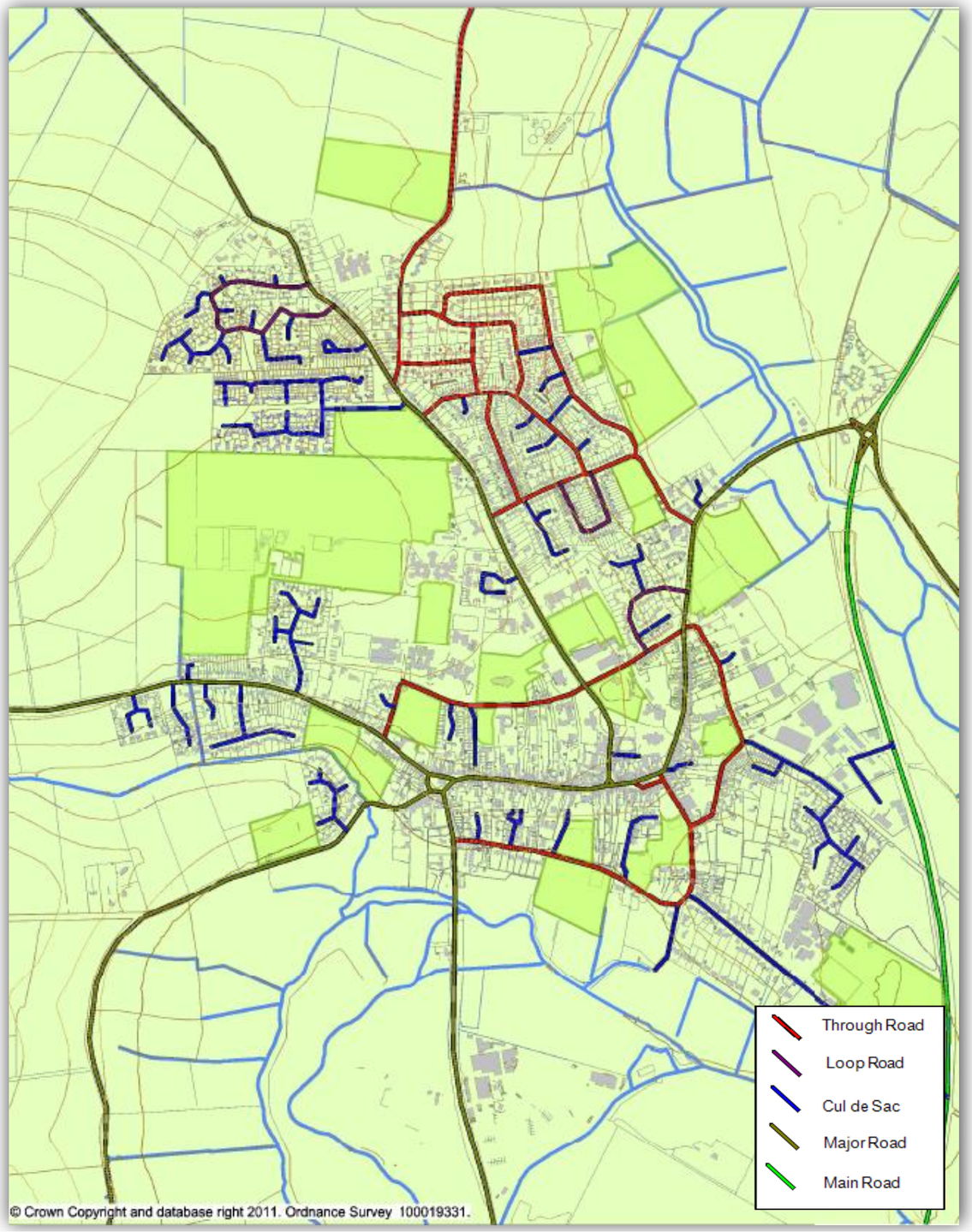


Figure 110 Combined route structure plan

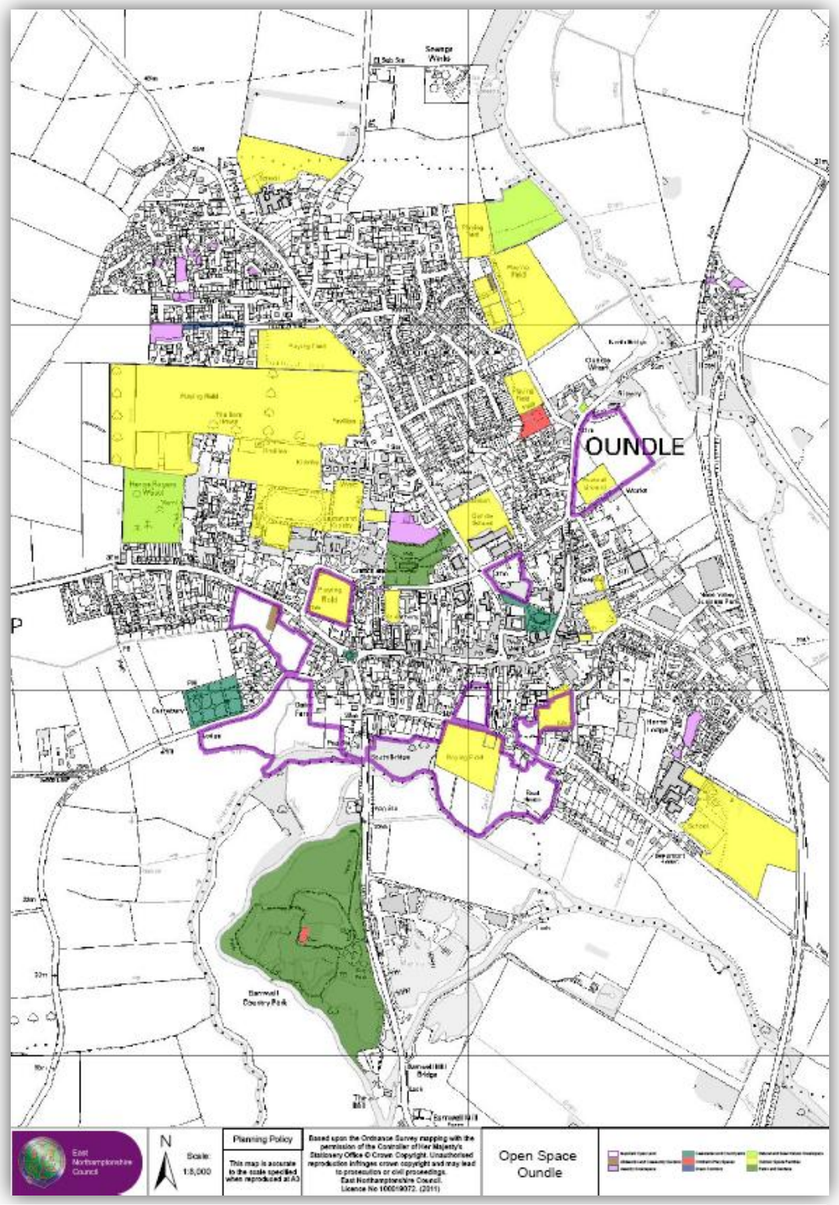


Figure 111 Open spaces

20. Spatial Principles

20.1 Make greater features of the surrounding waterways

20.1.1 Ensure more footpaths in a better connected network. The A605 is difficult to cross to gain access to surrounding settlements and to the river, so providing better pedestrian crossing facilities here would promote more use of the river and access to nearby places on foot.

20.2 Strengthen routes to surrounding rural settlements.

20.2.1 Create more crossings and linkages across the A605 to the east to allow access to settlements and routes beyond. This includes improvements for cycling to local settlements such as slower speed limits, additional signage and cycling signage and slowed routes on rural lanes to nearby settlements. Various local authorities have used "Quiet Lanes" schemes to encourage walking and cycling on certain rural roads and these principles could be employed to improve local lanes around Oundle.

20.3 Additional routes to link discrete areas

20.3.1 Explore whether the Oundle School would be prepared to allow more footpath access through their land holdings.

20.3.2 A linking route between Benefield and Glapthorn Roads would help people to circulate through the town without having to always go through the pinch points at the centre (performing a similar function as New Road already does in the North East of the town).

20.3.3 Limit cul-de-sacs in new development and instead use the model of the irregular grids which characterise Oundle's street pattern.

20.3.4 Improvements to create connected street pattern around the secondary school.

20.4 Improvements for walking through the town centre

- 20mph zone throughout town centre
- Reduction in signing and lining and street clutter to allow the excellent built form to take prominence.
- Deliver a clear sense of pedestrian priority with wider pavements, some shared space areas

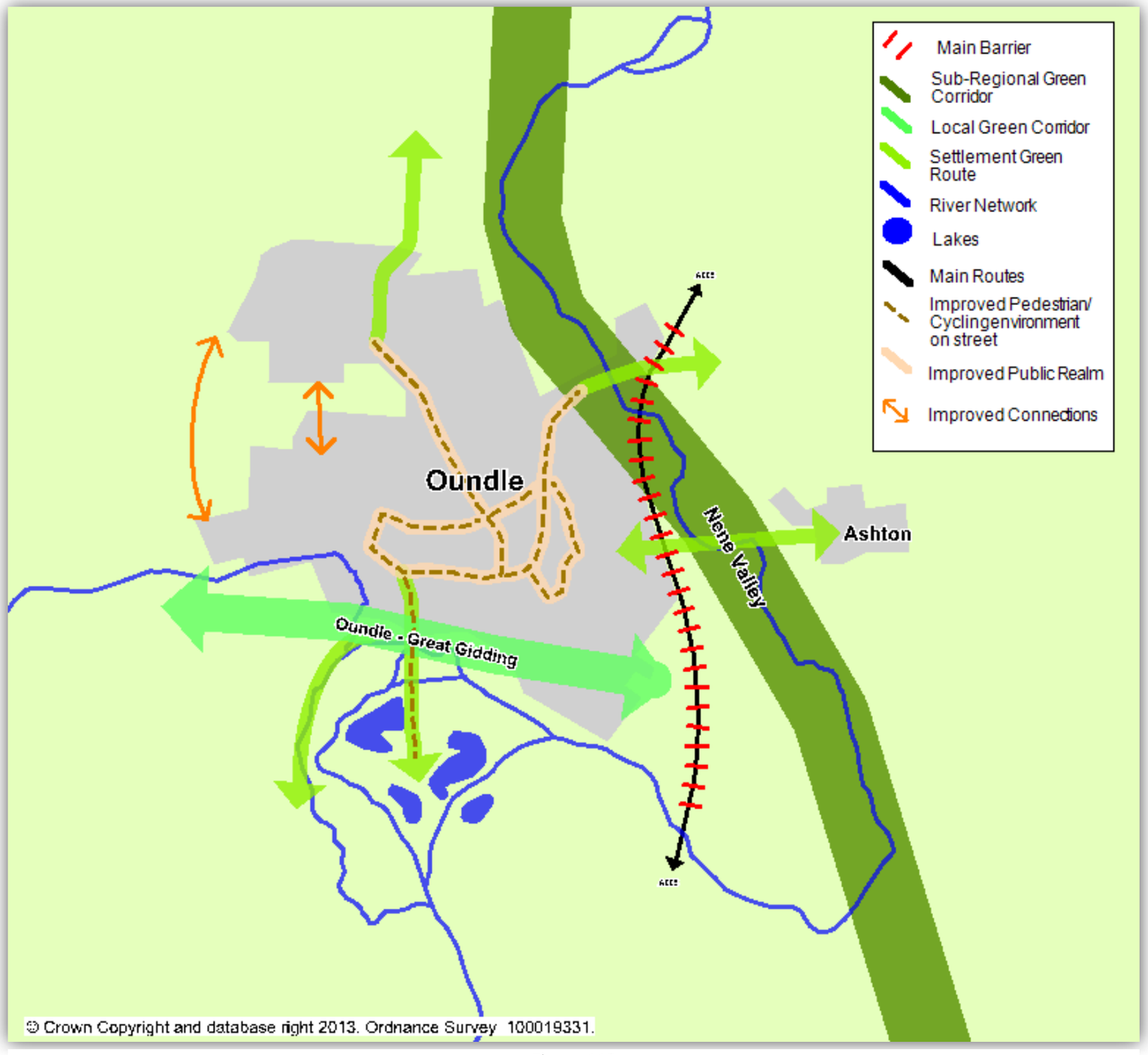


Figure 112

- Unify the historic street network with a consistent use of high quality neutral paving materials.

20.5 Countryside edge

20.5.1 Ensure new development does not create a hard urban edge to the countryside and that treatment of the rural edge is carefully handled to allow buildings to front onto open space, or to screen rear garden boundaries.

Figure 113 and 114 Bury St Edmunds – traffic still travels through but people dominate, and image before. Photo Lucy Tennyson, Rudi.net and BBC Suffolk

Figure 115 Quiet Lane signage from Norfolk County Council pilot scheme

21. Rushden/Higham Ferrers

21.1 Issues, opportunities and constraints

21.1.1 Rushden and Higham Ferrers are separate settlements with distinctive characteristics. However, physically they have coalesced, and for the purposes of this study (i.e. understanding the structure of the towns in terms of function and movement), it is helpful to consider both towns together..

21.1.2 Rushden was originally a small agricultural village, which established itself along the main route to Higham Ferrers. It underwent rapid expansion in the late 19th century, with the growth of the boot and shoe industry, and developed into a small industrial town. Victorian street patterns were laid across and around the medieval core. Rushden expanded southward in 20th century, up to administrative boundary with the borough of Wellingborough and physically coalesced with Higham Ferrers in the mid/late 20th Century.

21.1.3 The historic map (circa 1880) shows that many of the primary routes in and around Rushden and Higham Ferrers were already established at that time. The principal route runs along a north south axis, and travels through the centres of Rushden and Higham Ferrers. All other primary routes connect into this north-south axis and radiate east and west.

21.1.4 Both Rushden and Higham Ferrers are enclosed by the A45 and A6 strategic roads. The nature of these roads is such that they have been designed to accommodate vehicular movements at the expense of pedestrians. A small number of pedestrian crossing points control movement beyond. These either take the form of bridges across (above) the street, or footpaths which are mainly routed around traffic roundabouts.

21.1.5 Overall, extra distance and changes of direction are caused by the need to access a 'crossing point' for the A6 and A45, which currently act as significant barriers to movement.

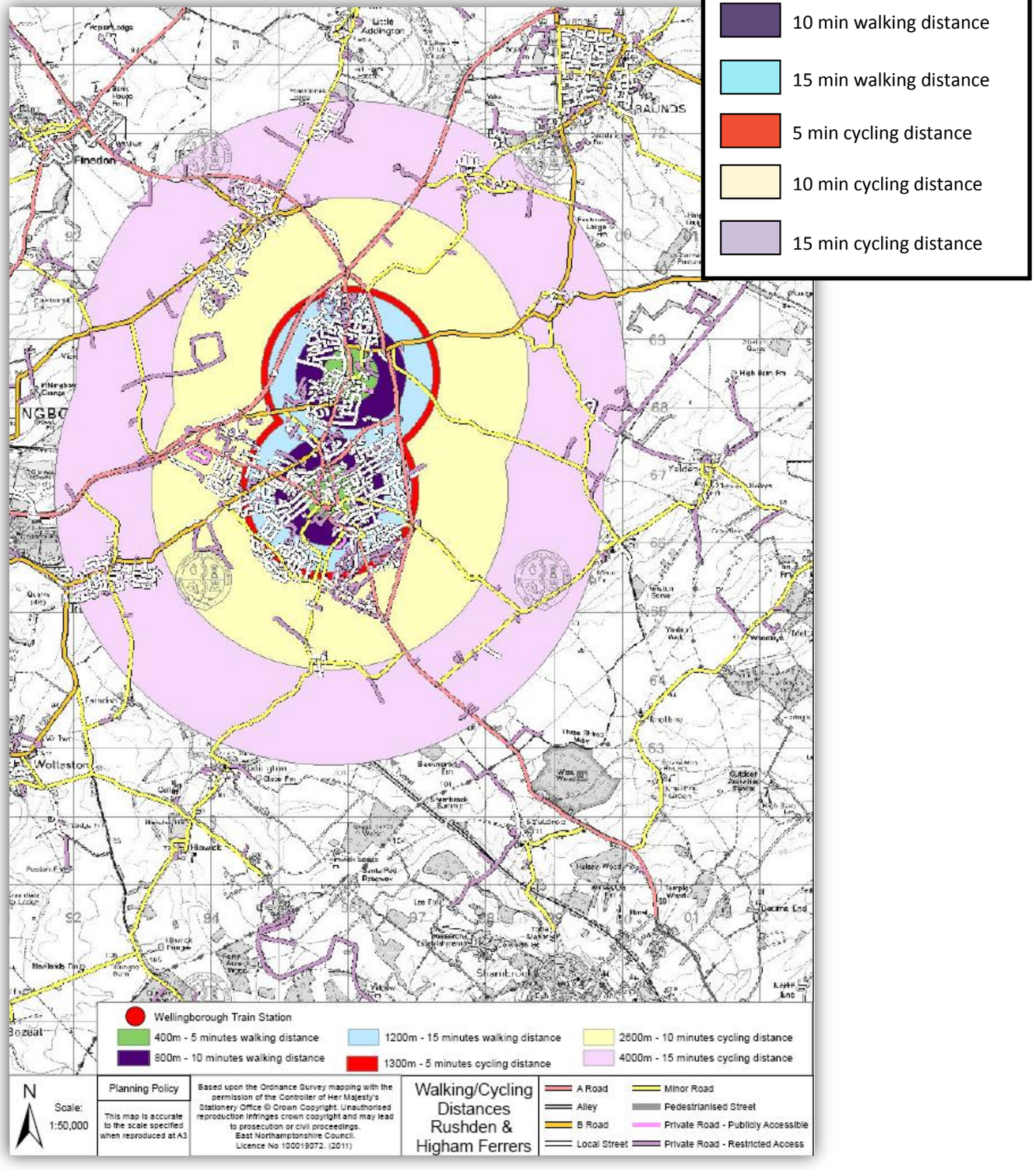


Figure 116 Walking and cycling isochrones

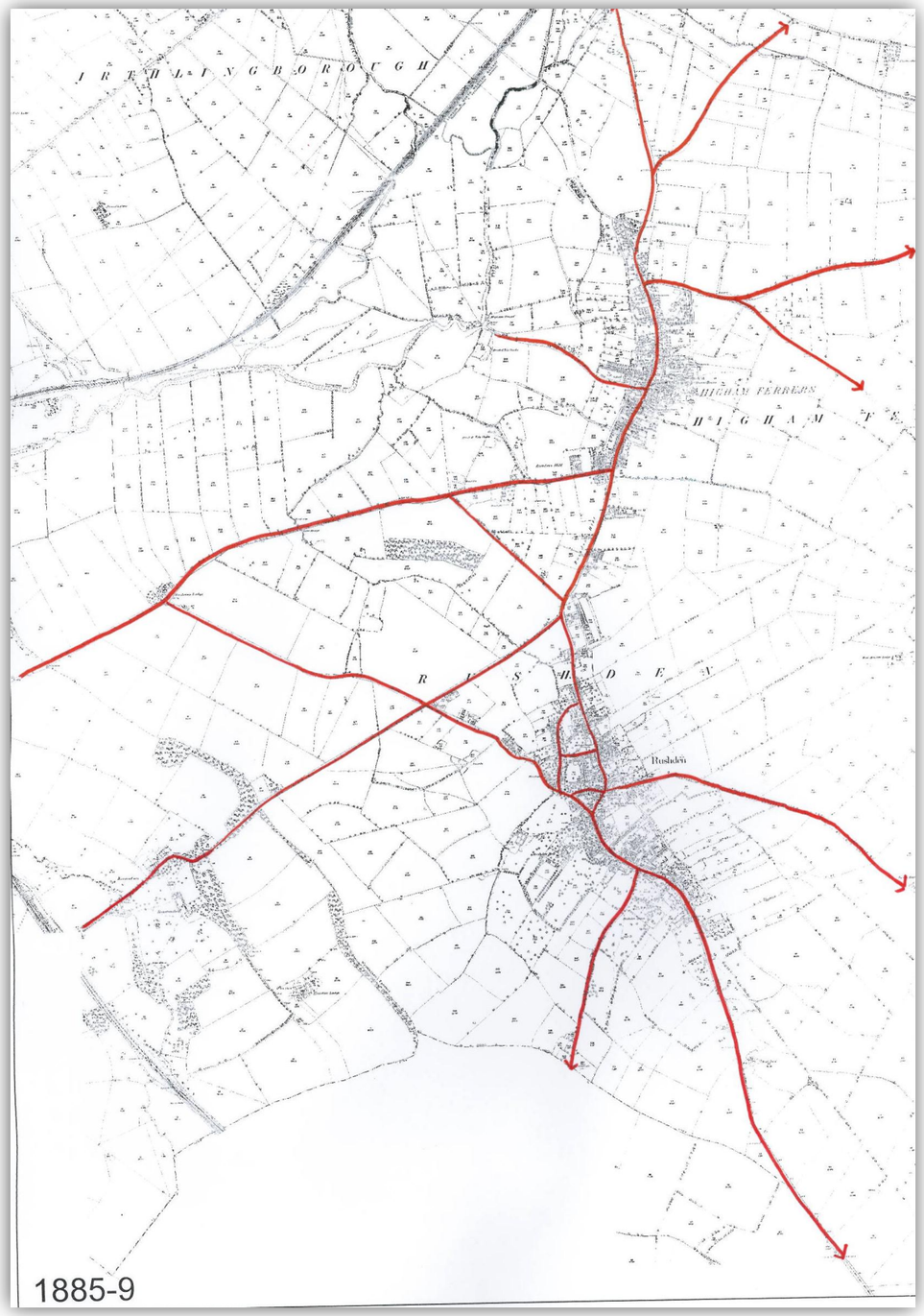


Figure 117 Historic routes remain the key structuring routes today

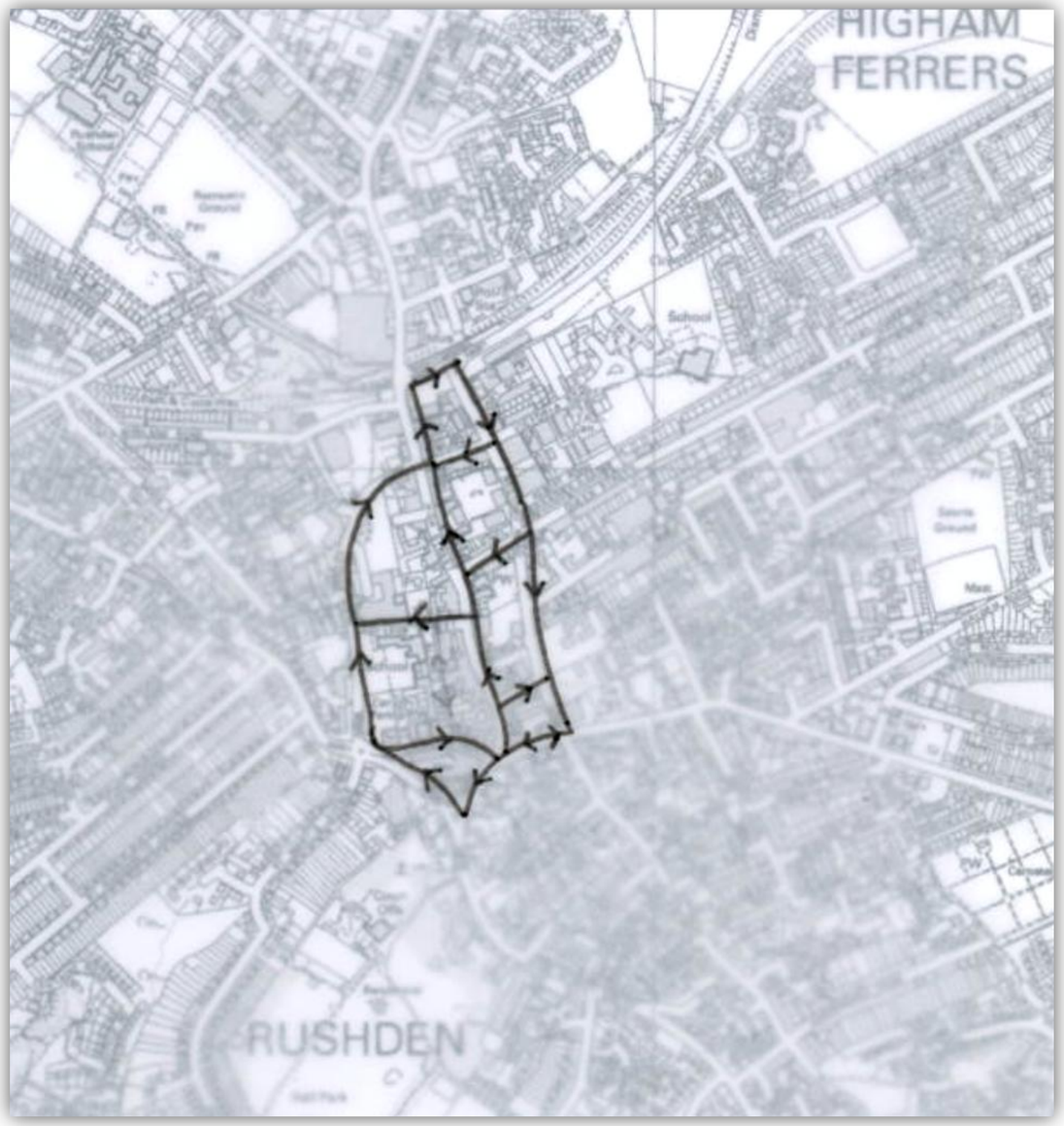


Figure 118 One way system

21.2 Rushden

21.2.1 A Victorian street pattern is laid across the medieval core (east-west) in the central area of Rushden. The streets form a regular grid, providing multiple route options to and from the town centre.

21.2.2 The regular grid to the south west of the town centre also offers route options back toward the town centre, though development blocks are notably longer. Later development south of Hall Park shows an irregular grid pattern. Some cul-de-sacs are accessed from this irregular grid, which is connected back into 3/4 of the historic routes identified (Washbrook Road, Wellingborough Road/Duck Street, and Wymington Road).

21.2.3 At the extremities of the town, residential development is predominantly arranged around cul-de-sacs which connect to a spine road. The 'spine' roads generally follow organic lines (i.e. they are not straight), and they often form a loop to connect at both ends with the same street. This street pattern offers very limited route options for all modes of transport to any destination.

212.4 On the most northern edge of Rushden, (to the east of Higham Road) the street pattern crosses the parish boundary into Higham Ferrers. There is no physical differentiation between the settlements in this area.

21.2.5 At the far western side of Rushden there is an area of concentrated commercial and industrial uses. These are well located to be able to access the A45, but are connected back into the town by a single direct route (Wellingborough Road). The commercial and industrial buildings are generally served by cul-de-sacs, which direct all traffic onto the main roads to the A45.

21.2.6 A one way system for vehicular movements currently operates around the town centre (see Figure 118). This adversely affects the legibility of this key area of Rushden when travelling by car or other type of vehicle, and in some places adversely affects the pedestrian environment due to traffic speeds. The adverse impact on the town centre of the current one way system has already been noted in a number of local studies, including the 2008 Rushden Conservation Area Appraisal, and the Enquiry by Design Report produced on Rushden Town Centre in 2010.

21.2.7 In some areas development around the periphery of the town in itself restricts access to the edge – e.g. properties back onto the edge in a continuous line, preventing potential permeation through, and/or noise bunding acts as a secondary barrier to movement between the built up area and anything beyond the bypass.

21.2.8 Green fingers' project into the 20th century development creating green routes. Street trees are characteristic of the principle north south route through the centre of Higham Ferrers. In Rushden Hall Park is the principle open space. Public open spaces tend to be located on or close to the historic structuring routes. Within areas of late 20th century development in the south of the town there tends to be a larger number of much smaller open spaces.

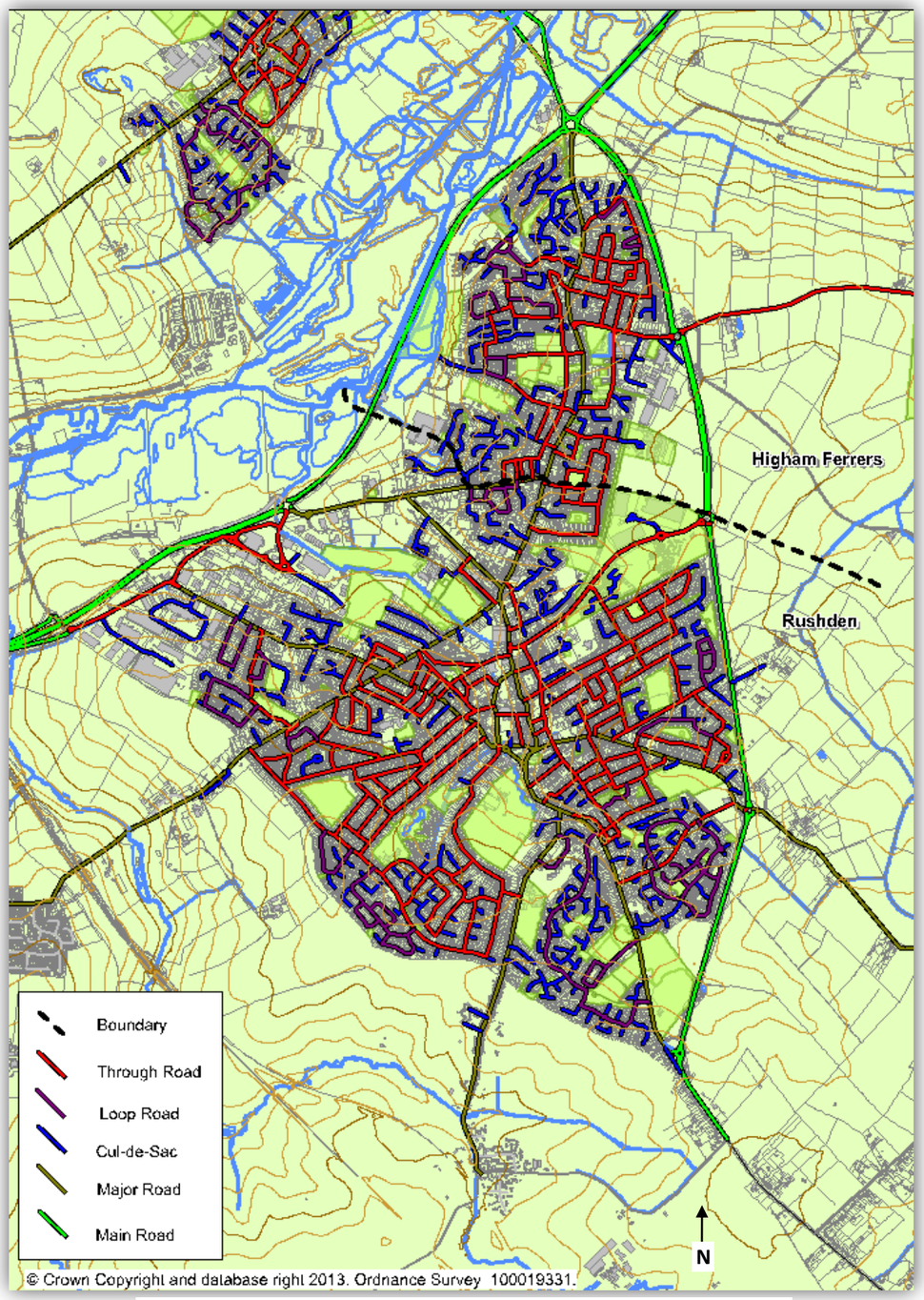


Figure 119 Combined route structure plan

21.3 Higham Ferrers

21.3.1 The north-south route through the centre of Higham Ferrers is the main structuring route. As can be seen from the coloured route structure plan (Figure 119), all other streets within the town link back to this. Only one other route (besides the north-south route) connects directly beyond the town – Kimbolton Road (red) links the town centre to the A6, and Kimbolton to the east. Besides the Kimbolton Road, opportunites to travel east/west require use of the historic radials tp access the A45 or A6. There are two principle routes which connect Rushden and Higham Ferrers – the principal north/south route and Northampton Road. Other residential streets transcend the parish boundary, but can only be accessed off principal north/south spine.

21.3.2 Late 20th century street patterns in the west of the town are predominantly cul-de-sacs, which limit route options.

21.3.3 A small area of employment uses is located to the east of the town, immediately south of Kimbolton Road. This is conveniently located for access onto the A6, and is physically segregated from the rest of the town as it is accessed via two cul-de-sacs.

21.3.4 The walking and cycling isochrones for Rushden and Higham Ferrers (Figure 116) demonstrate that they are inherently walkable and cyclable. Adjacent settlements including Irthlingborough are also within cycling distance of both towns.

21.3.5 Routes to and from the town centres of Rushden and Higham Ferrers to the edge of the settlements are predominantly easily legible, with options of directions and the majority of routes not exceeding three axial lines.

21.3.6 There is very little permeability to the footpaths to the south of Rushden, due to the arrangement of development along the administrative border with Wellingborough. Therefore, although some streets are close to the town's edge, they have convoluted routes to reach land beyond the current built up area.

21.3.7 In terms of green infrastructure and open space, Higham Ferrers's most significant area of public open space lies on the edge of the town to the west between the built up area and the A45.

21.3.8 Street trees are characteristic of many areas of Rushden and Higham Ferrers, most notably the historic structuring routes identified earlier in this study. The street trees are predominantly/consistently lime trees (pollarded).

Figure 120 Pedestrian bridge over A6 Image courtesy of Jo Miles

22. Spatial recommendations

22.1 Humanise the A45 and A6

22.1.1 The A45 and A6 currently act as barriers to convenient, safe and attractive pedestrian and cycle access to the Nene Valley, surrounding countryside, and facilities/attractions in surrounding settlements. This includes the Football Club, and the NHS outpatients clinic, both of which are sited on the edge of Irthlingborough, as well as the railway station at Wellingborough. Although some crossing points already exist, they do not always reflect pedestrian and cyclist desire lines (e.g. the bridge across to Irthlingborough which is underused and instead pedestrians regularly attempt to cross the A45 in the vicinity of the intersection with the A6 at grade).

22.1.2 Some crossing points are ill defined, for example the Right of Way in the vicinity of the Manor Park Rugby Club, and others are routed around vehicular roundabouts. In the short term, the priority should be to create additional safe crossing points on pedestrian and cycle desire lines (i.e. which follow a direct route to a key facility or destination). These should give the pedestrian and cyclist priority, to encourage greater use of these modes of travels (e.g. the Greenway). Creating wider footpaths, provide active frontage where possible, and consider additional tree planting to enhance the environment along the A45 and A6 in the vicinity of Rushden and Higham Ferrers is a long term aim. Traffic light-controlled cycle and pedestrian crossings across the roads, combined with lower speed limits would allow more options to cross the roads and would reflect the significant assets and opportunities which exist on the other side of the roads.

22.1.3 In the future, it will be important not to create any further vehicle only routes.

22.2 Address the edges

22.2.1 Analysis has shown that in addition to the bypasses, there are several other factors which create barriers to movement at the edges of both towns. These include the pattern of built form (I.e. general lack of permeability) and noise bunding. These matters could be addressed, especially in the south of Rushden, by providing better links to the existing footpaths.

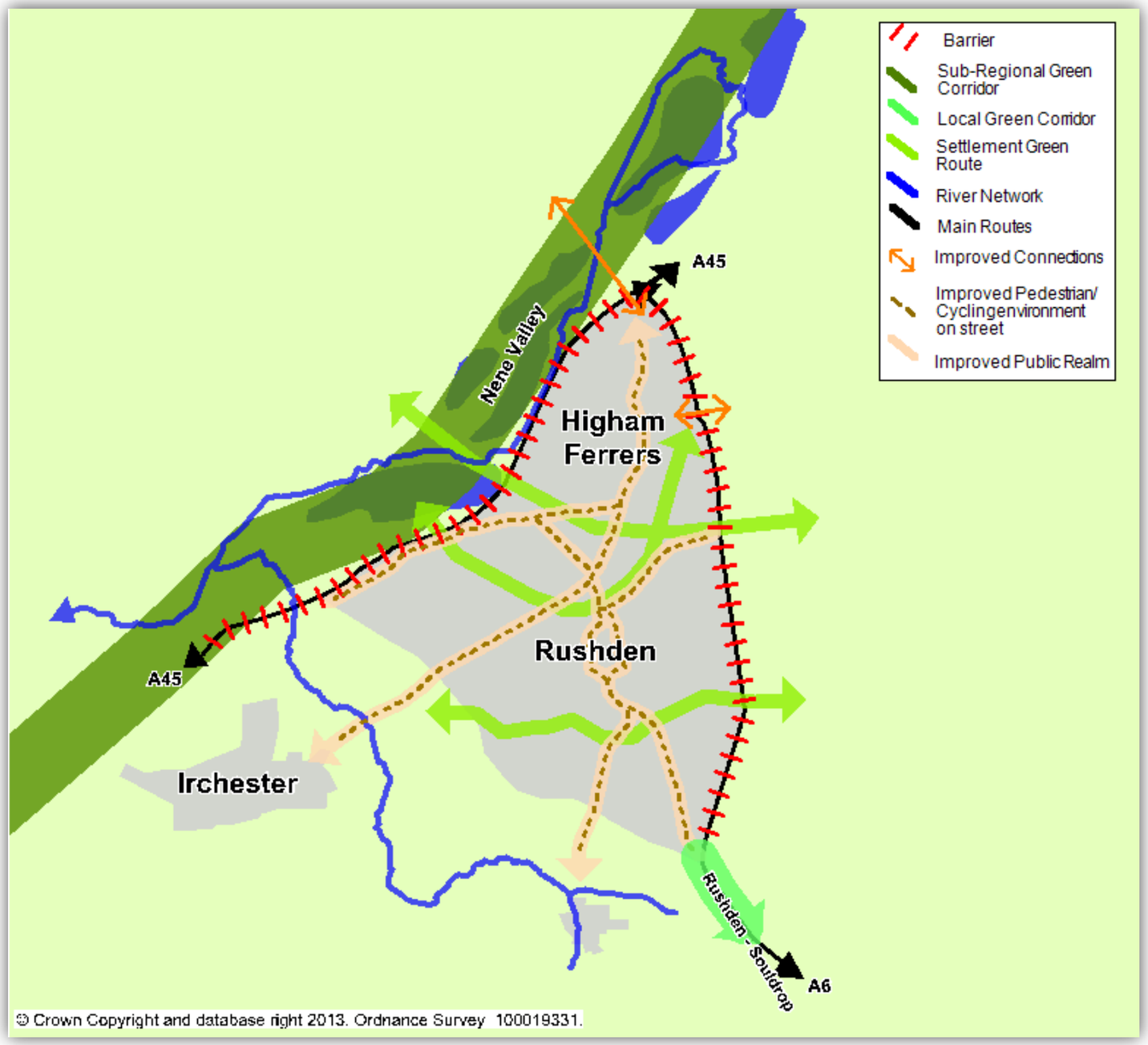


Figure 121 Map showing suggested improvements of green infrastructure and public realm to improve connectivity.

22.3 Focus on primary streets (in Rushden)

22.3.1 Whilst some of the primary streets are already well defined by built form, others currently benefit from less definition. For example, Duck Street currently has less than desirable built definition, which contributes to higher vehicle speeds. A combination of these matters makes the environment less attractive for pedestrians and cyclists, which in turn can affect perceptions of activity and safety.

22.3.2 The primary streets are usually the most connected, but their role as conduits for vehicular traffic has taken precedence over other modes, making them less hospitable. A key issue to resolve is ceasing to use the current one way vehicular system, and instead revert to two way traffic on all streets.

22.3.3 Where possible, widen footpaths on primary streets.

22.3.4 Encourage a mix of land uses along these routes, to ensure activity at different times of the day and night. This could include civic and community uses, as these are the best connected places.

22.3.5 Encourage the development and prioritise the redevelopment of sites along these routes to provide strong built enclosure and active frontages (i.e. consistent building lines, continuity of frontage, front doors onto the street, windows overlooking the street).

22.3.6 Built form along primary routes should be of the highest quality.

22.3.7 Car parking should be contained within the block, not open to the primary streets to ensure they have sufficient sense of enclosure

22.3.8 In London, the "Better Streets" document, issued by the Mayor, sets out key principles for improving streets which would be useful to apply in Rushden/Higham Ferrers (Images opposite).

Figure 123 Existing situation. All images from "Better Streets" Greater London Authority

Figure 122 Step 1 -Tidy up – Remove broken or unnecessary street clutter The illegal A-boards are gone and the street is cleared of any rubbish. Even after this initial stage is possible to notice the marked improvement in space available to pedestrians.

Figure 124 Step 2 is to de-clutter. Unnecessary or redundant street furniture and signage is removed

Figure 125 Step 3-Merging functions involves maximising the effectiveness of street furniture required. Bins are lifted from the ground and attached to existing lamp columns, which also accommodate new hanging flower baskets.

Figure 127 Step 4 - rethink of traffic management sees a higher capital investment, which starts to readdress the balance of the street...

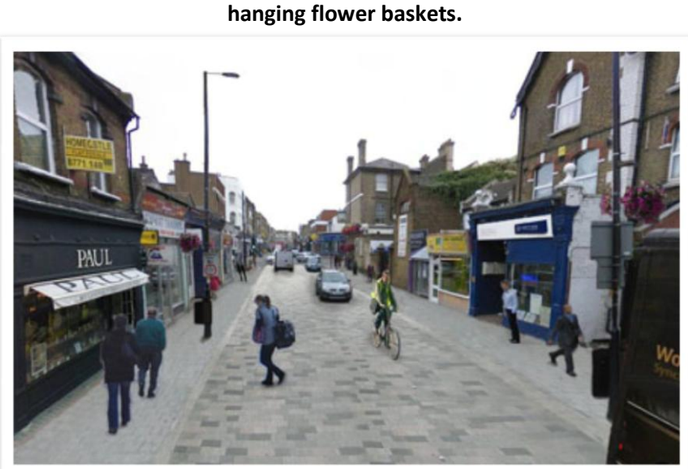


Figure 126 Step 5 - Create a high quality street and rebalanced street environment.

22.4 Promote walkable connected places

22.4.1 The isochrones demonstrate that 'as the crow flies' Rushden and Higham are in themselves walkable and cyclable. They also demonstrate that neighbouring settlements are within reasonable cycling distance. Some aspects of the street network however make areas less permeable.

22.4.2 Use Rushden's Victorian grid street pattern in any new development, to ensure that places are well connected. Analysis has demonstrated that this grid pattern is the most legible, and supports the greatest number of convenience shops outside the town centre.

22.4.3 Limit cul-de-sacs in new development.

22.4.4 Identify ways to improve connections between the southern areas of the town (i.e. the late 20th century development – cul-de-sacs). Connect existing cul-de-sacs where possible.

22.4.5 Avoid locating key facilities (e.g. schools, doctors surgeries etc) in areas where connectivity is poor. Instead, these should be focused on primary streets, so that they are accessible by a range of transport modes.

22.4.6 Improve the opportunities for crossing the A6 and A45 which currently act as barriers to movement (Figure 121).

22.4.7 Prioritise cycling between centres, including between Rushden and Higham Ferrers, Rushden, Higham Ferrers and Irthlingborough, and Rushden Higham ferrers and Wellingborough. This would create a realistic alternative mode of travel between settlements, and reduce traffic movements onto the strategic network.

22.5 Promote the use of the Nene Valley for movement as well as recreation

22.5.1 Better access to the Nene Valley, and more connections to the existing footpath and bridleway network would allow this to be connecting green route, particularly for cyclists seeking to get to Wellingborough station and the surrounding towns and villages. The Nene Valley Strategic Plan suggests developing a mini river plan for the town to set out how foot and cycle path connections to the Nene Valley can be enhanced.

22.6 Promote street tree planting on principle routes

22.6.1 Analysis has shown that street trees are a unique characteristic of the more historic areas of Rushden and Higham Ferrers, most notably the principle north-south route which connects the centres of both towns. In most area, the street trees are consistently pollarded lime trees. As a unique characteristic, it is recommended that this feature is enhanced and continued where appropriate. The following recommendations could help to achieve this:

- Seek to retain existing street trees within the town;
- Where street trees appear to have been removed (for example around Rushden town centre and High Street South), these should be replaced so that principle routes are continuously lined with appropriate street trees (usually lime trees);
- Where any new principle streets are developed in future, they should be designed to accommodate street tree planting (usually lime trees) in line with the precedent set on existing key routes.

22.7 Retain and where possible enhance public open spaces

22.7.1 Analysis has shown that Rushden has numerous small areas of amenity space (primarily in the areas of late 20th century development), but very few large scale open spaces. Large formal spaces tend to be located adjacent to principal routes through the town where they are most accessible (e.g. Hall Park is accessed from High Street South).

22.7.2 The following recommendations are suggested for open space in Rushden:

- Amenity spaces might be linked together where possible (e.g. through enhanced street tree planting, or provision of new spaces or green links);
- Provision of new green spaces should be encouraged where possible and appropriately accessible, preferably as part of a wider network of connected spaces;
- Enhance links to the Nene Valley to the west, as a key recreational opportunity;
- Analysis has shown that In Higham Ferrers, public open spaces are principally focussed within the grid of routes around the town centre (the most accessible area of town). Higham Ferrers has a large swathe of green space around the edge to the west, between the built up area and the A45. Not all of this however appears to be publicly accessible. Like Rushden, in areas of late 20th century development there are a relatively large number of smaller amenity green spaces, some of which appear relatively discreet, and others appear link in a linear format to the western green space.

22.7.7 Alongside the Greenway, work to implement the GI routes identified in the Environmental Character Suite, shown in the suggested connections map Figure 121, page 68.

23. Thrapston

23.1 Issues, opportunities and constraints

23.1.1 Thrapston is one of a number of small towns which lie along the valley of the River Nene. Others include Raunds (approximately 6km south), Higham Ferrers (approximately 8 km south) and Irthlingborough (approximately 8km south west). The River Nene loops around the western and northern edges of the town, and served as a major transport route through the town having been made navigable between Peterborough and Thrapston in 1737, and between Thrapston and Northampton in 1760. The centre developed around a convergence of routes, most significantly the Huntingdon to Leicester route which runs east-west through the town (and forms the High Street), and the Peterborough to Wellingborough Road. In the late 19th and early 20th century, two railways ran through Thrapston, and the town had two railway stations. One was the Blisworth-Peterborough branch of the London and North Western Railway, the other was the Kettering – Huntingdon branch of the Midland Railway.

23.1.2 The town grew significantly in the second half of the 20th century. The 1970's map shows development filling the area between Highfield Road and the established built areas, and development north of this on the opposite side of Highfield Road. Between the 1970s and present, significant development occurred to both the south and the east of the town. Street patterns show that these areas of development are relatively discreet from the more established areas of the town, and are characterised by predominantly by cul-de-sacs, with some loops.

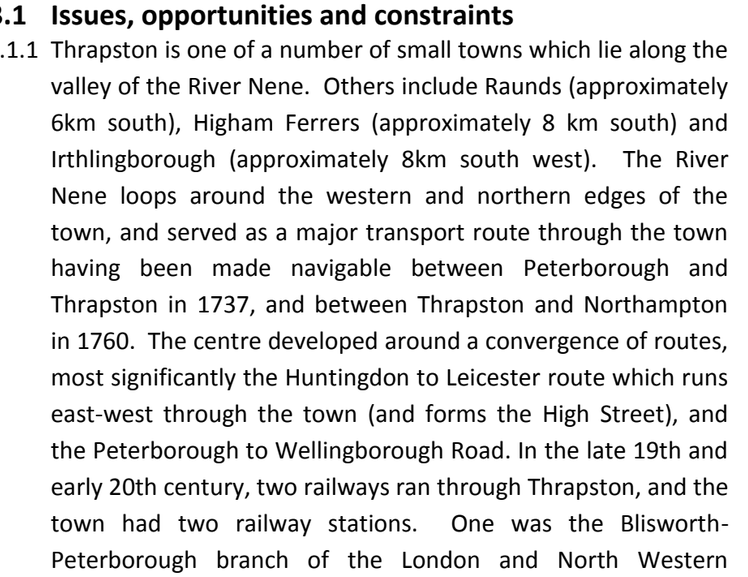


Figure 129 Historic routes

23.1.3 Historic routes remain the same today. As well as the main through routes, Thrapston has a secondary route running parallel to the main E-W route. This pattern is evident in other settlements like Oundle (South Road), Corby Village (also South Road) and Rushden (Rectory Road) and presumably is a result of the linear growth along the principal High Street with outbuildings and so on behind the frontage, and then as the town grew, these rear ranges became more important and were able to support their own secondary street.

23.1.4 The principle routes identified converge on the area of the town centre. The principle east-west route reflects the historic route between Huntingdon and Leicester. The north-south routes would have (and still do to a lesser degree) connected Oundle and Higham Ferrers.

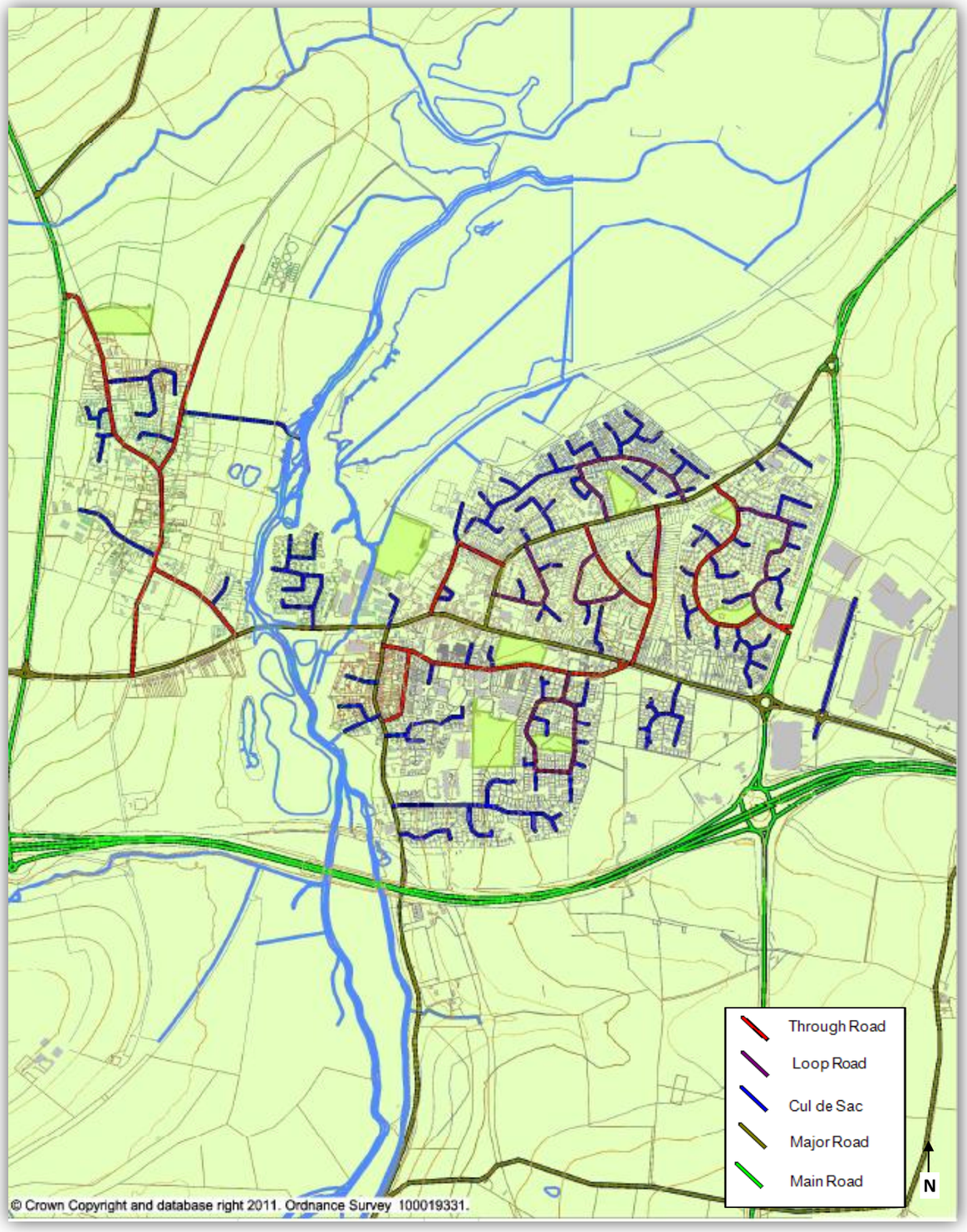


Figure 128 Combined route structure plan

23.1.5 Thrapston is enclosed by the A605 to the east, and the A14 to the south. Both of these major routes currently act as barriers to pedestrian/cycle movement. To the west, Islip is bordered by the A6116 linking to the A14, which also has a limiting effect on the ability of non motorised traffic to cross (plus there are limited destinations within reasonable walking/cycling distance

23.1.6 To the west, Thrapston is constrained by the River Nene, with only a singular historic crossing point, which currently serves all modes of transport. Beyond the River Nene, the village of Islip is a separate and distinct settlement, though sufficiently close to Thrapston, that residents could walk or cycle into the town, via the single historic river crossing point.

23.1.7 Other 'red routes' i.e. connecting routes were predominantly developed during the late 19th/early 20th centuries, with the exception of Windsor Drive, which visibly differs with its curving organic form.

23.1.8 Mid – late 20th century street patterns predominate, with large numbers of cul-de-sacs. These are usually accessed via streets which loop back onto one of the principle routes (earlier development), or via another cul-de-sac accessed off a principle route. The proliferation of cul-de-sacs serves to create discreet areas within the town, which are physically inward looking and poorly connected to the older forms of development. This offers limited route options, and directs vehicular modes of transport in particular onto a relatively small number of principle routes (see route structure analysis below).

23.1.9 The street patterns displayed in Thrapston divide into clear character areas. As is typical, these tend to have the oldest and most connected streets at the centre, with most recent and least connected housing estates at the edge. Thrapston also has a partial grid, shown as Area 2, where 'Y' shaped streets forms what appears to be the start of a grid system between two of the principle historic routes identified earlier. This pattern however was not continued in more recent development.

23.1.10 In terms of legibility, it is relatively straightforward to get from the centre of the town to its rural edge and vice versa. These routes predominantly require access onto one of the principle structuring routes demonstrating how key these radials and their quality for all modes are. Despite some housing areas being located at or near the edge of the settlement, there appear to be few opportunities to access adjacent countryside from within these areas. Instead, the development pattern appears to deliberately inhibit such movement in most places, e.g. Mason Close or Orchard Way.

23.1.11 The centre of Islip is a similar distance from Thrapston High Street as some development within the town. It is reasonable to assume therefore that residents in Islip have a realistic opportunity to walk or cycle into Thrapston town centre. The axial line analysis also demonstrated that the route from Islip is reasonably legible, which adds weight to this assumption.

23.1.12 The area of commercial development to the east of Thrapston is furthest away from the town centre. However, the straight nature of the routes which discharge movement onto the main east-west route through the town mean that the route to the town centre is particularly legible, with only two axial lines (one change of direction). This suggests that if in the long term there were any redevelopment of this commercial area, it could accommodate different uses with strong links to the town centre.

23.1.13 Alongside the town centre, there are a two convenience shops on the Oundle Road. One is just on the edge of the town centre, whilst the other is associated with a garage further north. The existence of these shops suggests that despite the bypassing of Thrapston by the A14 and the A605, there is still sufficient movement along the Oundle Road to support these businesses. The third shop is associated with the garage/services located off junction 13 of the A14, at the intersection with the A45. This convenience shop is primarily located to attract passing trade from the strategic highway intersection. However, the above analysis demonstrates that this shop is geographically closer to some residential development and the commercial area at Haldens Parkway than other shops or the town centre. Indeed, it is clear that pedestrians do walk to this shop, despite the hostile environment and lack of pavements etc.

24. Spatial Principles

24.1 Make more of a feature of the River Nene and the gravel pits

24.1.1 Both features have the potential for recreation, tourism and movement to be easily accessible from the town centre and to provide a draw to the town. This could be in a riverside park with additional play facilities, seating, cafe etc.

24.1.2 Join up use of the dismantled railway line as a public right of way.

24.1.3 Have water edge development which fronts out over the waterspace, rather than turning its back on this asset. Develop a waterfront strategy.

24.1.4 Create new pedestrian routes and rights of way to access the water to the north of the settlement and along the eastern side of the Nene.

24.2 Improve links to other settlements to the south

22.2.1 The A14 currently acts as a major barrier to pedestrian and cycle movement, with only one multi modal crossing under the A14 (Denford Road), and one right of way. Denford Road is quite well used by pedestrians and cyclists, but enhancements to make it easier to walk and cycle would be beneficial. Creating more obvious links to the Nene Way would also help to provide more scope for off road routes to the south.

24.3 Create connections between discrete areas of the town as created by predominance of cul-de-sac and loop development

24.3.1 Through the adopted Rural North, Oundle and Thrapston Plan, land is allocated at Thrapston South for a mixed-use development. This will effectively 'fill the gap' between the current built up area and the A14, but does not represent any expansion of the town beyond this physical limit. This site offers the opportunity to provide an additional east-west route to supplement the High Street and should link into as many as possible of the existing cul-de-sac routes to form route options to the town centre and the edge of the settlement.

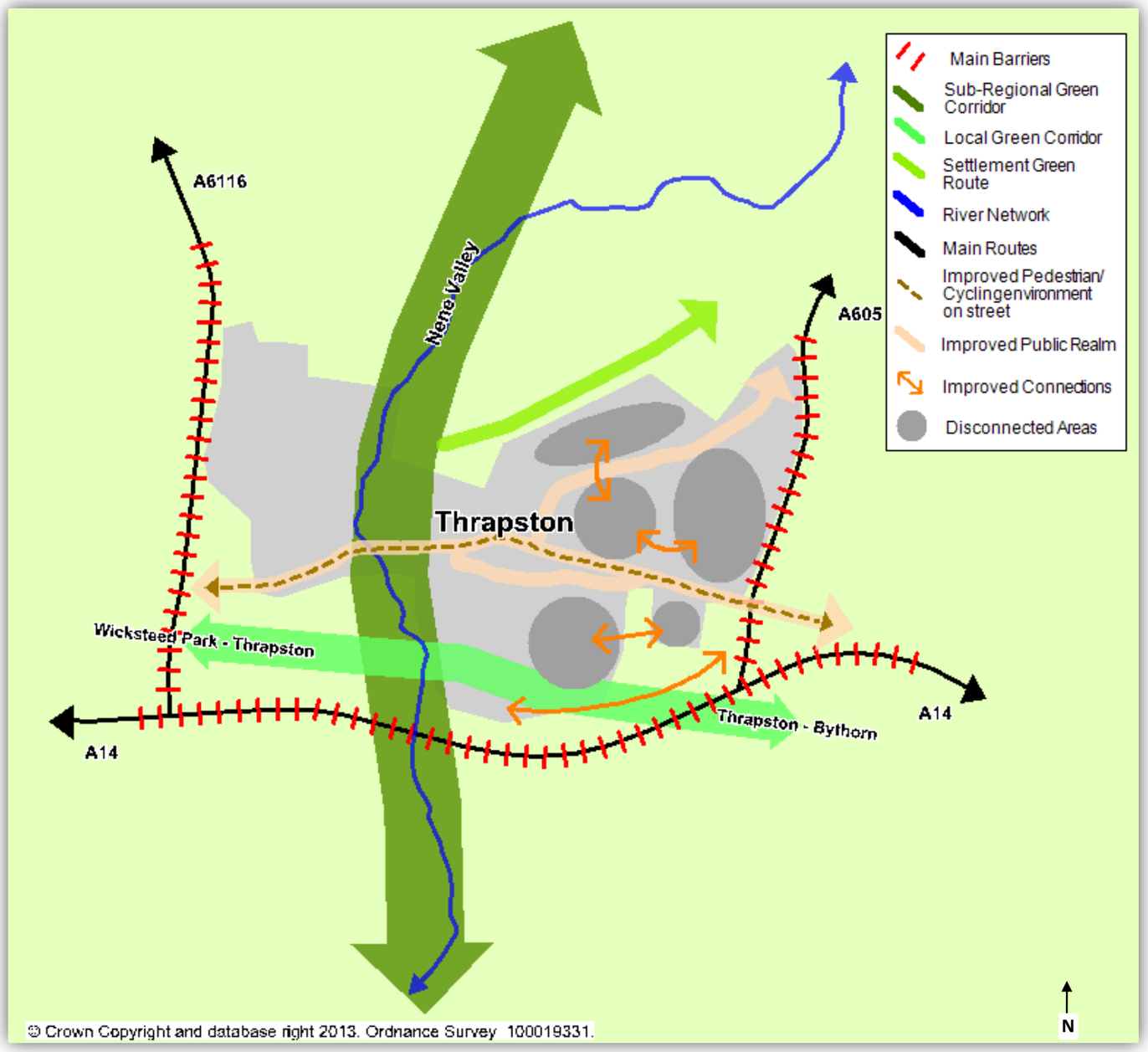


Figure 130 Thrapston map showing improved green connectivity and public realm improvements between neighbourhoods

24.4 Create routes and rights of way across the A605

24.4.1 Currently, no formal routes appear to exist, creating these links would be beneficial in accessing the nearby village of Titchmarsh and vice versa.

24.5 Focus on the principal streets

24.5.1 Those streets identified as principal streets should remain the focus of mixed use development.

24.5.2 Continuous built enclosure, and increased massing, especially where volumes of traffic have decreased due to the town being bypassed by the A14 and the A605.

24.5.3 Promote walking and cycling along these streets with wider pavements, 20mph limit in town, continue high quality surfaces and give clear steer of more rural surfaces towards the river, such as bound gravel.

24.6 Retain strong links between Thrapston and Islip

24.6.1 Wider footpaths, seating, and clear signage to riverside walks**.**

24.7 Better connect Nine Arches Way into the town centre if the area in between is redeveloped.

24.7.1 Improvements for walking to the town centre, such as wider pavements and avoiding diverting pedestrians from their "desire lines" along with scope to create better connections to Thrapston Lakes along the stream.

Figure 131 Lammas Riverside Park courtesy of Maxwell Hamilton

Chapter Three: Development Principles

25. Introduction

25.1 Development Principles

25.1.1 This chapter uses the constraints and opportunities information contained within Chapter Two and other qualitative factors from a range of existing evidence base documents, including the Strategic Housing Land Availability Assessment (SHLAA) and Urban Extensions Studies. These are encapsulated in summary diagrams to assess the potential sectors where development could be located around the towns.

25.1.2 Once these broad sectors are established, they are broken down into smaller sub areas based on the adjacent town structure. These sub areas are then assessed for their potential level of integration to the existing town. The assessment is based on the route structure analysis, informed by the axial lines analysis alongside Green Infrastructure (GI) routes, and examination of any movement barriers (See Chapter 2).

25.1.3 Any areas which already have planning permission are included as part of the existing town, even if they are not yet built. Sites which have been previously identified in plans and policies are assessed in order to establish the key issues, if any, which will need to be addressed to allow development to integrate well with the existing town.

25.1.4 The assessment has focused on connectivity and does not consider other qualitative factors such as landscape, coalescence, infrastructure issues and other constraints since this is covered elsewhere in other documents. It instead focuses on the level of possible movement integration. However, the summary tables have identified other important issues that could be relevant if a site is brought forward.

25.2 Integration assessment methodology

25.2.1 The methodology for the integration assessment of segments and sub area is set out in the table on page 77

25.2.2 The USS assessment explores how integrated any growth at the edges would be, grading each sector from A-E. The assessment is based on how easily new development could connect to the local street and GI networks, what barriers there are (such as major roads, rail, rivers) and how easily such barriers could be overcome. It also suggests where there are barriers how these can be improved and enhanced to become more of a feature to the town with new development, such as the rivers and open spaces. For instance, a Grade E (poor) score would highlight a sector where there are no possible connections to a local connected network, the only connecting point would be via a vehicle only route and the adjacent town structure is cut off by dead ends and loops, none of which front onto the single connecting route. There would be no clear grid network, no GI routes and significant barriers between site and amenities, which cannot be overcome without significant difficulty such as large areas of built form, Highways Agency level roads, and flood plains.

25.2.3 The assessments indicate the key issues that any site coming forward in the sector would need to resolve to improve its connectivity. A poorly scoring site would therefore need more work and infrastructure to improve its connectivity, but it does not mean that such a site should not necessarily come forward, but further work and mitigation is needed to enable it to integrate well with its context.

25.2.4 Each town has been split into sectors based on existing and future routes.

		What?	How?	Why?
USS chapter 3 methodology – Sector assessment Methodology	9	Divide the town into segments for more detailed consideration.	Using the historic and radial routes identified in steps 2 and 4 above, divide the town into segments (number to vary according to scale and complexity of the town) for more detailed consideration.	Dividing the town in this way enables identification of the opportunities and constraints to potential integration of any strategic (or non strategic) growth in any given direction.
	10	Discount any segments in which there are 'show stoppers' to development	Identify any broad areas/segments which are unlikely to accommodate development due to an existing significant constraint – e.g. the River Nene and its floodplain	There would be no benefit in assessing these.
	11	Assess each of the segments against the agreed matrix, and conclude an 'integration capacity grade'	Complete the matrix for each segment. Some segments will need further subdivision where contrasting morphological character areas exist around the edges of the segment, and therefore result in different integration capacity grades. The assessment if based on how easily new development could connect to the local street and GI networks, what barriers there are and how easily such barriers could be overcome. **Integration capability to context grading** **Grade A - best possible** • Connects to at least one brown route (radial) which has significant amounts of active frontage. • Connects to multiple red routes with active frontage in an existing grid which could be continued. • Green and blue (GI and river) links to the countryside and the town centre. • Enhances walking and cycling network. • No significant barriers identified between the site and the centre and its nearest local centre. **Grade B** • Connects to one brown route. • Connects to 1 or 2 red routes and an existing grid. • Green link into countryside and town centre or local centre. • Can link into existing walking and cycling network • Barriers between site and centre can be overcome easily **Grade C** • Connects to at least one brown route • Connects to a red route • Potential to create more red routes by connecting to existing dead ends (no built form blocking the ends) • Connects to area with partial grid • Can connect into a GI framework – but not fully linked up with other destinations • Barriers between site and centre or local centre can be overcome, but not easily **Grade D** • No red connecting points • Adjacent town structure is loops and cul-de-sacs with blocked ends • No grid network to connect to. • GI acts as a barrier rather than a connector. • Significant barriers between town and site which can only be overcome with difficulty in part. **Grade E – least integration potential** • No red connecting points • Only connecting point is vehicle only route (green) and adjacent town structure is all dead ends and loops, none of which front onto the single connecting route. • No grid network • No GI routes • Significant barriers between site and amenities which cannot be overcome – no scope for bridges, major noise bunds, built form.	This objective method of assessment enables direct comparison of the potential integration for any development in different directions for growth within and between settlements based on the current situation. It also identifies opportunities and constraints to be overcome if development were considered desirable in these broad locations.
	12	Summarise the findings of steps 10 and 11 on a diagram	Use agreed colour coding system to illustrate relative integration capacity and grading each sector from A-E. Grade A = Yellow, Grade B = Orange, Grade C = Red, grade D = Purple and Grade E = Blue.	To summarise the findings of the research

26. Wellingborough

26.1 Connections

26.1.1 The key existing routes split the town into potential sectors for growth. These have been highlighted in Figure 132.

26.1.2 Highlighted in yellow in Figure 134 is a proposed link from the town to the proposed Wellingborough East Sustainable Urban Extensions

Figure 132 Historic structuring routes, used to define segments.

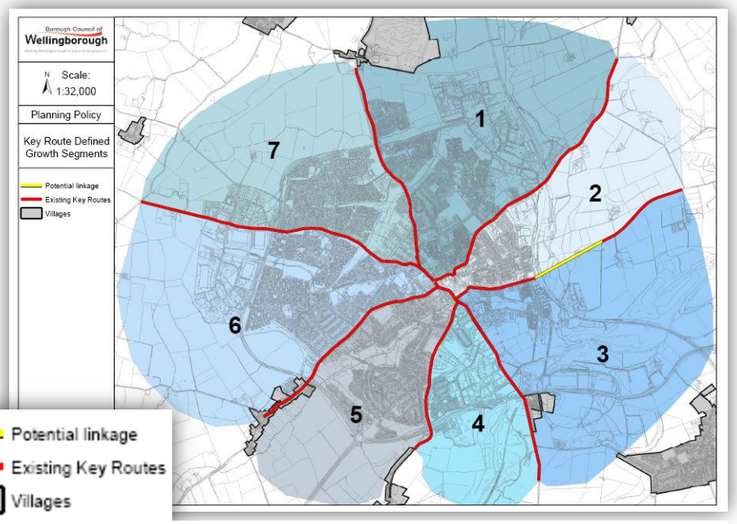


Figure 134 Sectors

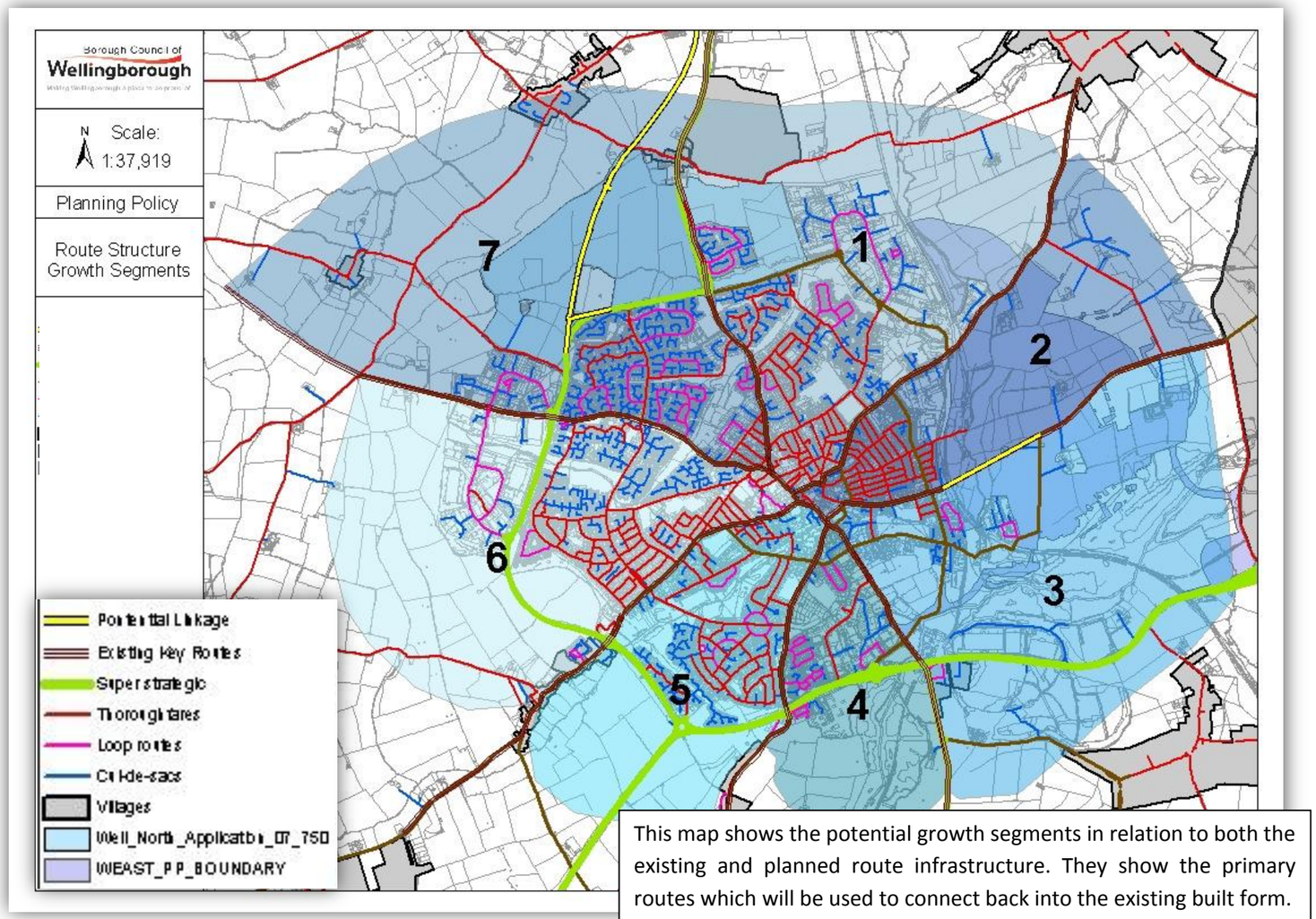


Figure 133

This map shows the potential growth segments in relation to both the existing and planned route infrastructure. They show the primary routes which will be used to connect back into the existing built form.

26.2 Summary of Constraints

26.2.1 Figure 135 shows the growth segments overlaid on a map showing physical and natural constraints. Based on the map it is concluded that opportunities for growth in Wellingborough are within segments 1, 2, 5, 6 and 7. Opportunities for growth within segment 3 & 4 are severely limited by the river, floodplains, impact on the SSSI and local wildlife reserves and the major dual carriageway. Opportunities for growth within segment 3 are also limited by the railway line.

26.2.2 The route structure analysis map (Figure 136) shows clearly defined areas which are categorised by the streets form and connection. From this the town has been split into 7 sectors according to its street pattern and layout. These character areas relate to different periods of development and distinct neighbourhoods. Road patterns and street layout as well as the ease of access and availability to amenities and open space are key features which go towards defining each of the character areas.

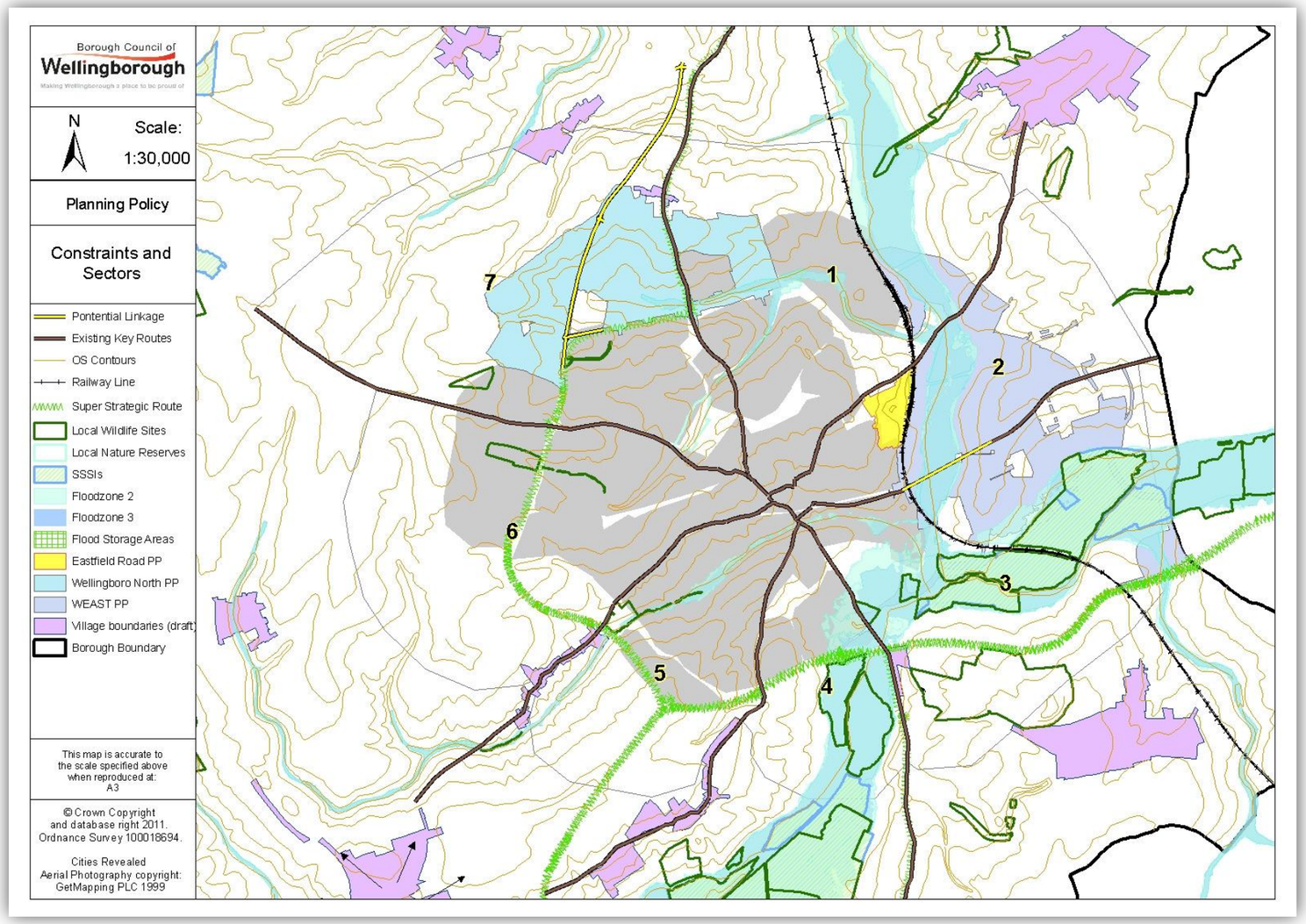


Figure 135 Sectors and constraints

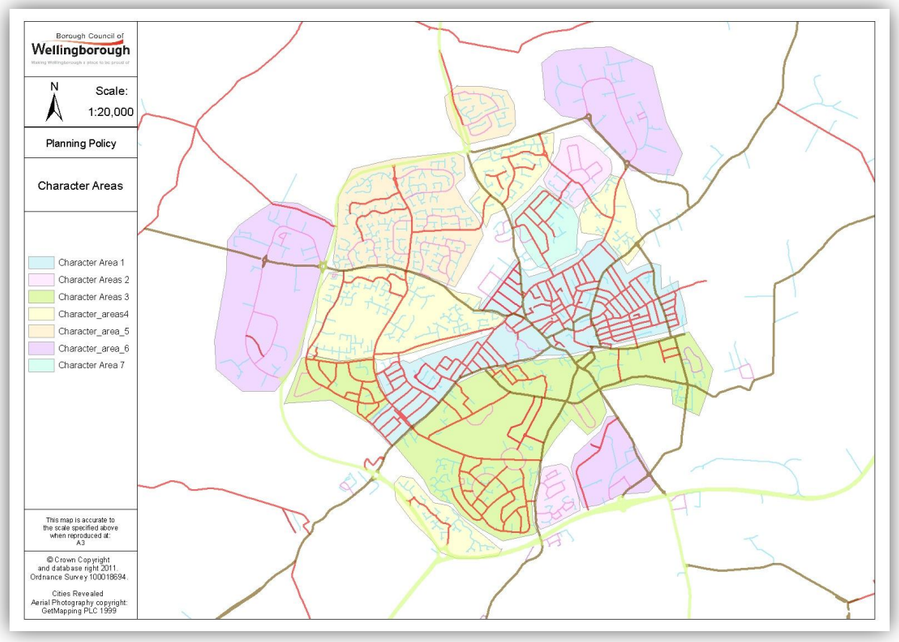


Figure 136 Route Structures map

26.2.3 Figure 137 shows the potential broad areas of growth, based on the constraints. These zones do not have strict boundaries, but set out the general location for assessment. Using the growth sectors along with the relationship to the existing character areas, each area has been assessed in the table below in terms of its connectivity, scope for improvements, issues to do with barriers and what local characteristics might usefully be considered in any future designs.

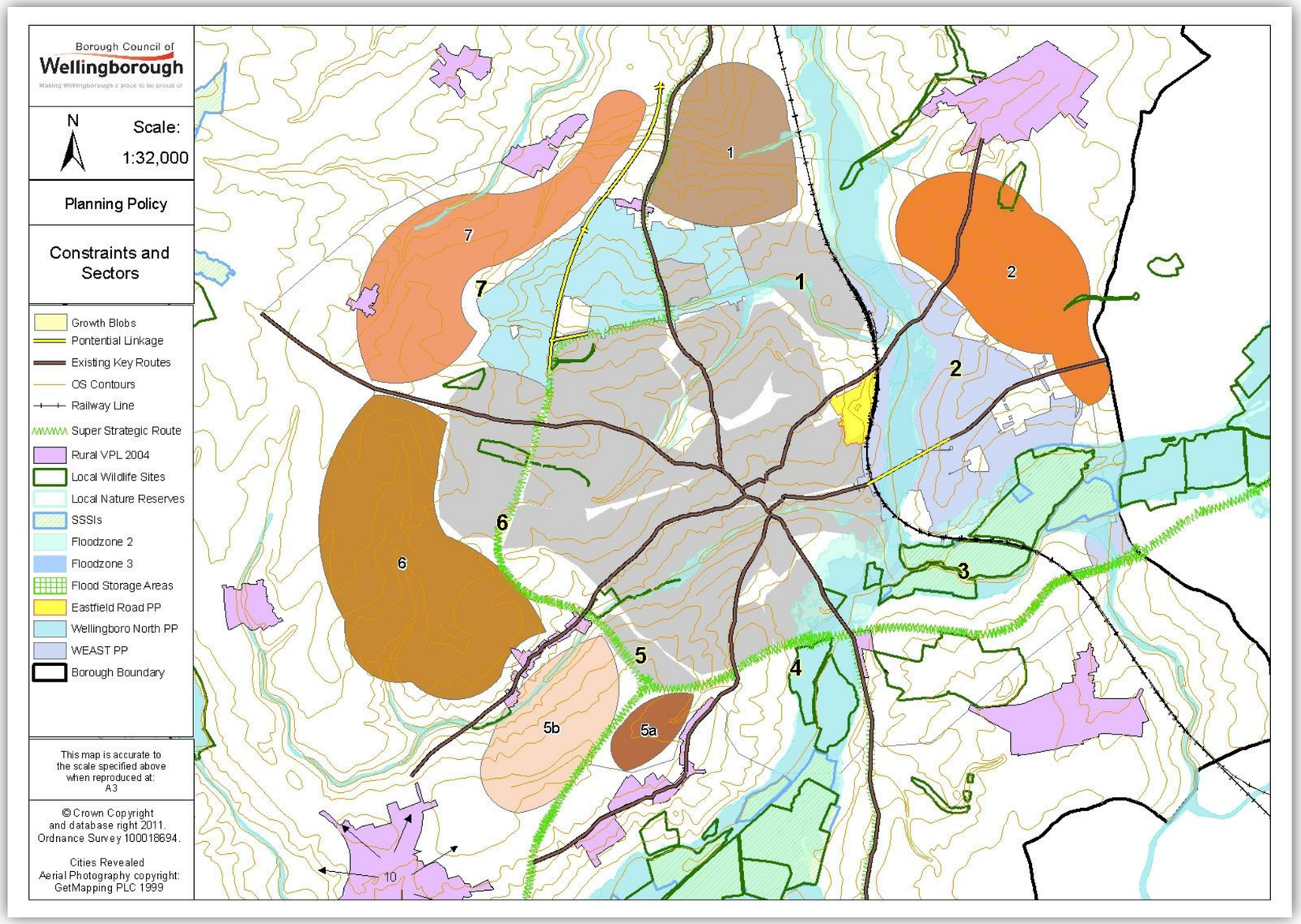


Figure 137 Potential areas for further assessment

Segment	Connections			Barriers	Comments	Integration Capacity grade
	Brown Routes	Red Routes	GI			
1A	1	1-2	Yes several corridors exist. Very good potential to extend these corridors particularly to the North of this segment. Potential to link existing corridors with the Golf course and also the wider strategic GI network linking to the River Ise.	Major barriers to the NE of this segment include the railway line and river with floodplain. Difficult to overcome. No clear grid in immediate context. A509 to west a major barrier as high speed and multi lane, but significant changes proposed as part of NW Wellingborough SUE. A510 and lack of frontage development forms additional barrier.	Difficult to assess ease of connection into the SUEs as masterplans and planned road layout could change before implementation. Ability to connect cycle networks on the East and West of the segment in the existing area and to planned cycle networks within East and North SUE. Would need to ensure that SUEs are built with further expansion in mind. Benefits could be nature and river related development to the NE. Topography slopes towards the town giving a feeling of integration and inclusion into the town. Potential to better integrate the Finedon Road industrial estate into the fabric of the town. Opportunity to better connect Redhill Grange, which is impeded by major roads at present.	C at present, but proposed NW Wellingborough SUE masterplan would improve to B.
1B	1	2	GI corridors exist but none that currently lead directly into the town centre – but there is potential to do so and to link to those provided within 1A	Physical distance to town centre starting to become more problematic. Topography – beyond ridge would result in separation both physically and visually. Open space, setting to Great Harrowden would result in a sizeable green buffer which would further isolate from the town.	Difficult to assess ease of connection into SUEs as masterplans and planned road layout could change before implementation. Ability to connect cycle networks on the North in the existing area and planned cycle networks within the North SUE. Would need to ensure that SUEs are built e with further expansion in mind. Impact on landscape and views likely to be significant. Concerns over coalescence (although this is not factored into the grading) Potential links along river and railway line.	C. Implementation of SUE could improve some elements, but not the distance or need for significant green spaces around Gt Harrowden.
2A	2	2	Currently no GI routes through the existing built form, limited scope for GI with the existing built form, potential to green Midland Road as a quite well treed route into the town centre. GI corridors are prominent in the plans for the urban extension to the East with potential to continue these into the wider strategic GI network linking to the River Ise to the south. Also, to the north, potential for GI linkage through disused open space and semi natural areas within Finedon Road/Nest Lane site.	Major barriers to the East of this segment include the railway line and river with floodplain. Difficult to overcome. Benefits could be nature and river related development to the East.	Difficult to assess ease of connection into the SUEs as masterplans and planned road layout could change before implementation. Ability to connect cycle networks on the East and West of the segment in the existing area and to planned cycle networks within East and North SUE. Would need to ensure that SUEs are built with further expansion in mind. Topography slopes towards the town. Potential to improve town's gateway entry points (both by road and rail). Challenges relating to high infrastructure demands and timing. Improving access to river and countryside to east.	C but consented Wellingborough East scheme would enhance to B.
2B	2	2 but would likely increase with construction of 2A	Currently no GI routes directly into town. GI corridors are prominent in the plans for the urban extension to the East but no GI within existing built form and limited scope for GI within the existing built form, potential to green Midland Road as a quite well treed route leading into the town centre.	Borough boundary Physical distance to town	Difficult to assess ease of connection into the SUEs as masterplans and planned road layout could change before implementation. Ability to connect cycle networks on the East and West of the segment in the existing area and to planned cycle networks within Eastern SUE. Would need to ensure that SUEs are built with further expansion in mind. Topography slopes towards the town. – Positive Need for connected networks in 2A to create grid for this are to connect to.	Difficult to assess given lack of context, but could be C depending on 2A arrangement.

5a	0	0	There is a link to green infrastructure corridor which leads to the town centre – although not directly. Potential to continue this but this is limited by the A45 as a major dual carriageway.	Major barrier of A45 dual carriageway and high speed, particularly for pedestrians and cyclists. Topography slopes away from the existing town. Connected grids in local context but separated by green space or difficult to access due to built form.	Difficult to access any existing road network except for the A45. Ability to connect to existing cycle networks will be difficult. Topography slopes away from the town, creating a sense of separation. Impact on landscape – SSSI/SPA/views. Scope to connect to local settlements but coupled with concern about coalescence.	E
5b	0	0	There is a good green infrastructure corridor which leads direct, to the town centre, but this is cut off by the A509.	Major barrier of A509 which is dual carriageway, high speed, and exacerbated by level changes. Small floodplain. Topography slopes away from the existing town. Lack of connected grid within the A509 to connect to.	Difficult to access any existing road network except for the A509 and A45. If A509 barrier could be reduced, could allow better countryside access along green route. Topography slopes away from the town. Concern about landscape and views, impact and coalescence issues. High quality walking/cycling green link offers most scope for increasing connections but would need radical changes to A509 to allow for better integration.	D
6a	0	1	There is a GI corridor but this is cut off by A509.	Major barrier of A509, particularly for pedestrians and cyclists. High speed and multi laned. No nearby connected grid but development of Park Farm Way/Shelley Way site could create possible connections.	Concerns over coalescence with Wilby, but could provide additional connections to Wilby and countryside access. Access would be from A509 which is a significant barrier. Red route is long way west and not part of town.	D
6b	1	2	Existing GI corridor through Park Farm Way industrial estate could be extended.	Major barrier of A509. Particularly for pedestrians and cyclists. High speed and multi laned, compounded by level changes and existing built form/street layout. No nearby connected grid – industrial estate has potential to create a connected network, but within the A509, the network is not connected and not easily resolved. Distance from town becoming more of an issue, and approach through industrial estate.	Access to the existing road network would need to be from the A509 or through the existing industrial estate. Easier to overcome the current A509 as a barrier as it is a one lane each way route which could be downgraded to make it easier to connect any new development with the existing town. Development in this direction could better connect the town to the employment area and create a more mixed use neighbourhood. Good existing cycle network which would be easy to link into. Good potential to link into existing red routes. Topography slopes towards the town – positive greater feeling of integration.	C
7	2	5	Existing built form has prominent green infrastructure corridors. GI corridors are prominent in the plans for the urban extension to the North although they tend to be orbital routes and fewer connections direct to town centre. Potential to continue these with potential to link to local nature reserve and sports pitches.	Isham bypass is planned into the Northern SUE with planned development either side, but access across still limited by nature of proposed road. Would be at some distance from town centre.	Sector 7 is large and encompasses the consented NW Wellingborough SUE and beyond. In terms of the SUE area, the A509 forms a major barrier, as does the lack of many connecting streets within the A509. Resolving these issues and capitalising on GI links will need to be secured through the detailed planning stages to achieve a B integration level. The IWIMP in particular will need careful design both to allow integration within the consented area and in any future development. No cycle networks currently planned into Northern SUE. Would need to ensure that SUEs are built with further expansion in mind. Beyond the SUE, the score is much harder to rate as the street plan is not yet fixed. Obvious issues would be distance, topography, and the design of the IWIMP.	Difficult to assess – broadly B/C based on consented masterplan and C for wider area.

26.3 Conclusions

26.3.1 The best connected sectors are 1a, 2a and 7, all of which have consented schemes in place on all or part of them, indicating that these areas do have the greatest potential to integrate into the existing fabric of the town. Since the layout and street connections within these areas can be designed to create as connected a grid as possible, this means expansion of these areas also scores well, meaning that 1b and 2b have higher potential for integration.

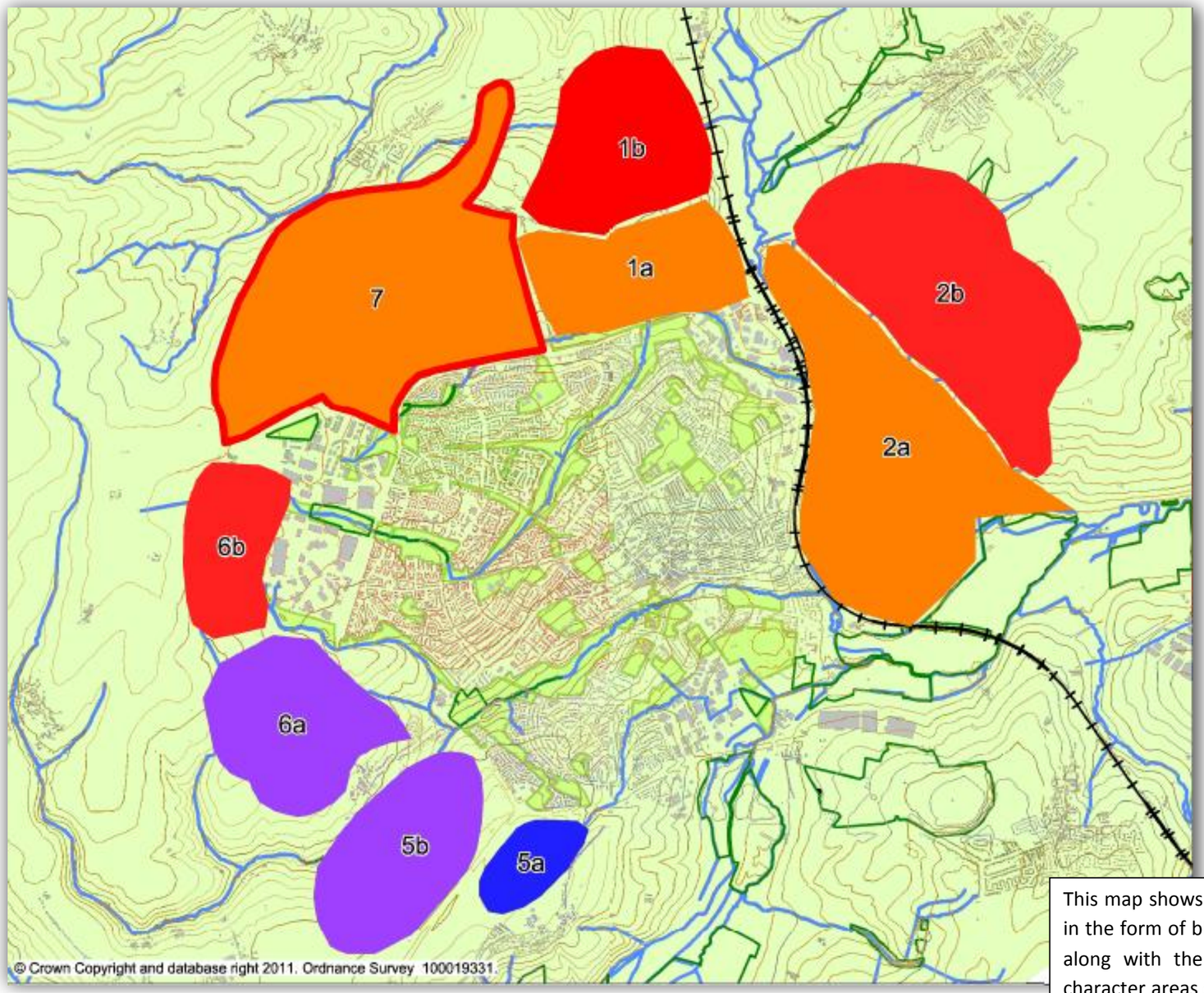


Figure 138 Integration Potential

This map shows the potential areas of growth in the form of blobs. Using the growth sectors along with the relationship to the existing character areas each has been assessed in the table below in terms of its connectivity.

27. Corby

27.1 Connections

27.1.1 This section draws upon the baseline analysis of Corby's movement and connectivity to ascertain the future opportunities for well connected growth.

27.1.2 This plan to the right (Figure 140) shows the basic route structure for Corby indicating the key radial routes into the centre of the town.

27.1.3 These radial routes have been used to divide the outer edges of Corby into sectors for analysis. For the purposes of this study, these sectors will be used to look at the potential options for future sustainable growth to the town.

27.2 Potential directions of growth

27.2.1 Within the Corby vicinity, a large sustainable urban extension has been granted planning permission. These are shown on the constraints map opposite (Figure 141). Potential directions of growth are then shown on the following map (Figure 142).

27.2.2 Segment 5 and part of segment 1 are of high landscape value associated with Rockingham Castle and the Welland Valley and Jurassic Way, and were identified as of high environmental sensitivity, so this segment has not been analysed in detail.

Figure 140 Structuring routes

Figure 139 Segments

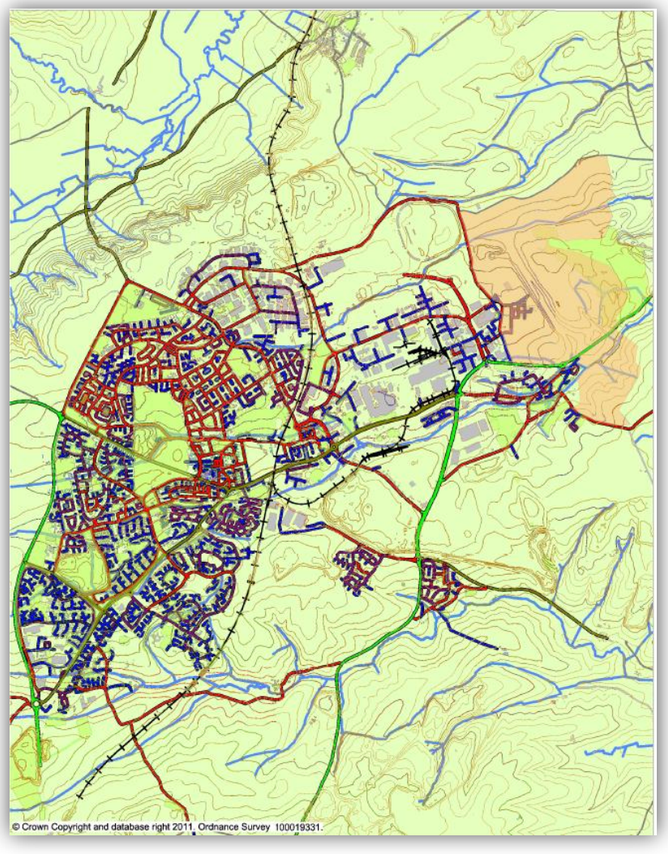


Figure 141 Combined route structure plan

Segments	Connections			Barriers	Comments	Integration capacity grade
	Brown Routes	Red Routes	GI Corridors			
1	0	0 – but potential to link to Rockingham Road	Sub regional GI Local GI Close to strategic GI links, but no GI link to the centre. Potential to create a GI link though to the town centre by connecting up existing open spaces, tree planting on streets etc and creation of a planned walking/cycling route through Corby rugby/football club and other open spaces and streets to connect with Thoroughsale Woods,	Water course and flood plain (not extensive) Will need to consider connections to strategic/SHLAA sites Kirby Hall and grounds Jurassic Way Welland Valley Industrial area has a semi connected grid, but very large blocks which are not of a human scale and therefore less likely to be used for walking/cycling through.	Important historic constraints to the landscape and visual impact on the higher ground Score could be improved in the future dependant on the connections provided within the potential strategic/SHLAA sites Good GI connectivity E-W Poor connectivity to the town centre Adjacent to industrial character area Would need to create a connected network to Princewood Road and improvements to Gretton Brook Road. Opportunities in the area to create a new link into the town alongside disused railway line and GI link via Thoroughsale Woods.	D
2a	0	1	Harpers Brook to Geddington and Harpers Brook to Weldon Park GI corridors identified as potential GI routes through this sector, but do not connect to the town centre.	A43 – difficult to cross, little frontage, high speed road A6086 poor link for pedestrians and cycles Town centre at some distance (15 mins bike ride) Woodland buffer to Stanion and A6006 would mean it would be difficult to connect to this nearby settlement.	Opportunity to create new link into town on disused railway and to provide more pleasant GI link into town. Development within this segment could benefit from connections provided within the adjacent developments. This could therefore increase the score in the future. Segment is predominantly rural in character	D

2b	1	0?	GI routes within Priors Hall SUE could be continued into new areas, but would need to connect back into town centre also – along Willowbrook for instance.	Distance – starting to be a considerable distance from Corby town centre A43 is a poor route, at present, for pedestrians and cyclists. Large employment zone to west of Priors Hall forms a barrier to movement particularly to the town centre by walking and cycling.	Opportunity to create good link into countryside. Very dependent on the development of Weldon Park and Priors Hall to allow for future expansion and to ensure that they themselves are as connected as possible to the urban structure of Corby.	D – but potential to improve based on masterplans of adjacent SUE.
2c	2 key roads provide the links to this area but neither, and particularly A43, are designed with pedestrians and cyclists in mind.	0 – undeveloped, but potential to create	No connecting routes	Distance – at some considerable distance from Corby town centre A43 – poor route, at present, for pedestrians and cyclists. Creates barrier to employment areas Woodland a barrier to movement to Weldon Park	Opportunity to create GI link along the Stanion to Deene Park GI corridor, and other links back to centre of Corby.	D
3a	0	1	No GI corridor, but potential identified for improvements to Harpers Brook corridor	The railway is a significant divide between the sector and the town centre and would be difficult to connect across Routes on the western side of railway line are convoluted, mainly cul-de-sacs and difficult to create a primary route to the sector. Adjacent to substantial proposed employment development (Eurohub). Eurohub makes it difficult to connect through to the town and does not provide a particularly inviting key route into the town. Water course and associated floodplain A43 forms barrier to Stanion	Whilst geographically close to the town centre, the railway line combined with a lack of any direct radial routes would make this site very difficult to access. Significant street connections would be at the eastern edge and would create a very long way round. Footpath links exist, but are urban and not well surveilled, although a new footpath has recently been installed which links to Oakley Vale – but Oakley Vale itself is not well connected to Corby town centre by foot. Opportunity for better links along the railway line as this offers the most direct route to the town centre.	D

3b	0	1-2	No GI corridor to the town centre but potential to create links along Harper's Brook tributary	A6003 a vehicle only route from Southern gateway south. Railway forms a barrier – but there are two crossings. A6014 not pedestrian/cycle friendly road and would be the key connection.	Distance from radials is key, as west of railway line is relatively close to radial route, but elsewhere access would be more convoluted. Railway offers most direct route to town centre – explore potential for local stops and cycle/footpaths alongside in the long term.	C
4	0	1	No defined GI link but potential to improve access to Jurassic Way and new route along Harpers Brook. No existing GI link to town centre.	A6003 – fast, no frontage, few crossing points, no provision for pedestrians Water main easement alongside road Street pattern in adjacent existing town structure does not create many through routes, or clear hierarchy of streets. Existing built form turns its back on the A6003 – including the two schools.	Major road separating the segment from the rest of Corby. Downgrading this road in the future and addressing the lack of frontage could make future development more successful. Connections across this road will be important to prevent isolation and not being connected to the town. Gainsborough Road is most direct potential route to the town centre. Scope to create new connections and points to link the new and old communities together at both school sites. Cottingham Road is direct route with space to create cycling route but need to cross roundabout. Development needs to be carried out in association with links and improvements to the existing town structure – creating connections across the road (eg links to Beanfield estate – continue pedestrian/cycle links across such as off Bridgewater Court and creation of frontage on eastern side of A6003). Water easement could form a potential GI orbital route around Corby.	D

27.3 Conclusions

27.3.1 Corby presents the most challenges to create development which will connect well with the existing town and its town centre. This is due to its own historic pattern of growth, with residential and industrial areas already quite isolated from one another in two distinct zones, and the town centre. The railway also forms a significant barrier, particularly when combined with the street patterns which abut it, as do the various roads which surround the urban edges and dissect the town.

27.3.2 However, Corby also has high ambitions for growth and this is in large part about the regeneration and rebalancing of the town. In summary therefore, whilst it poses the most challenges to develop in a way that is well connected, it also offers the potential largest rewards of solving the problems within the existing structure of the town.

27.3.3 Sector 2c roughly corresponds to Deenethorpe airfield where the landowner is promoting a new village with a range of local services. It is therefore different to the other sites which seek to become part of the town's fabric, as it would be intentionally separate, so its score is inevitably lower. However, in order for this area to be sustainable in the broadest sense, the new village would need to allow people to access their nearest large service centre, Corby, in the most sustainable way. This score highlights this is as an issue which will need to be addressed to overcome both the distance and quality of approach to Corby and vice versa.

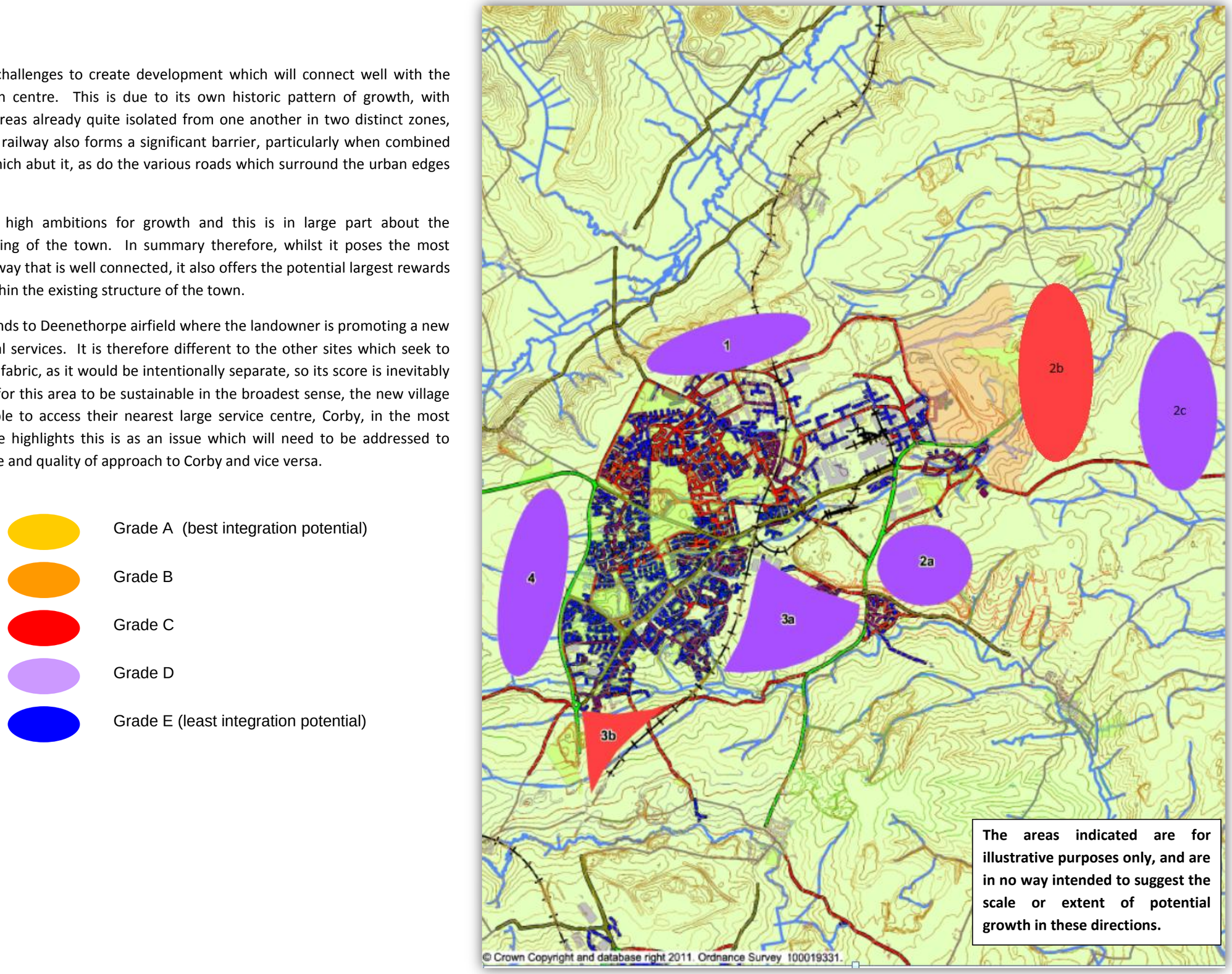


Figure 142 Integration Potential

28. Kettering

28.1 Using the evidence set out within this study, a number of conclusions can be drawn about the physical opportunities and constraints to any further growth to Kettering, focussing particularly on movement and integration with the existing fabric of the town.

28.2 Potential directions of growth are highlighted within sectors divided by the key structuring routes. Sector 3 is effectively within Burton Latimer and assessed as part of that settlement.

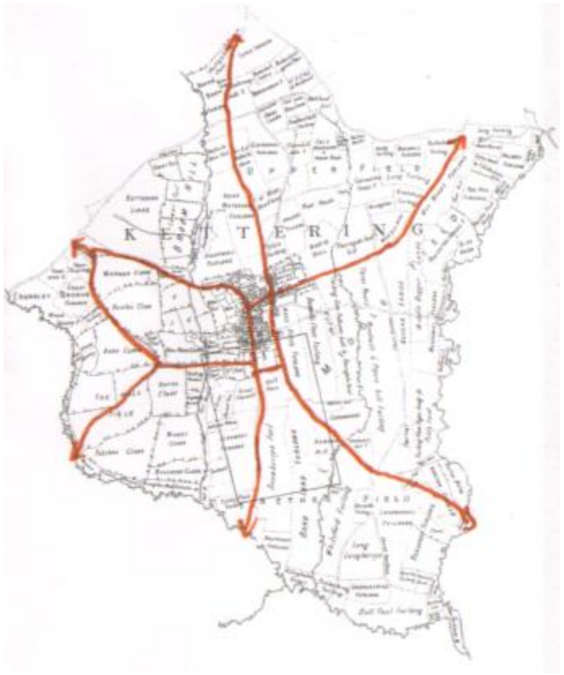


Figure 143 Summary of the town structure

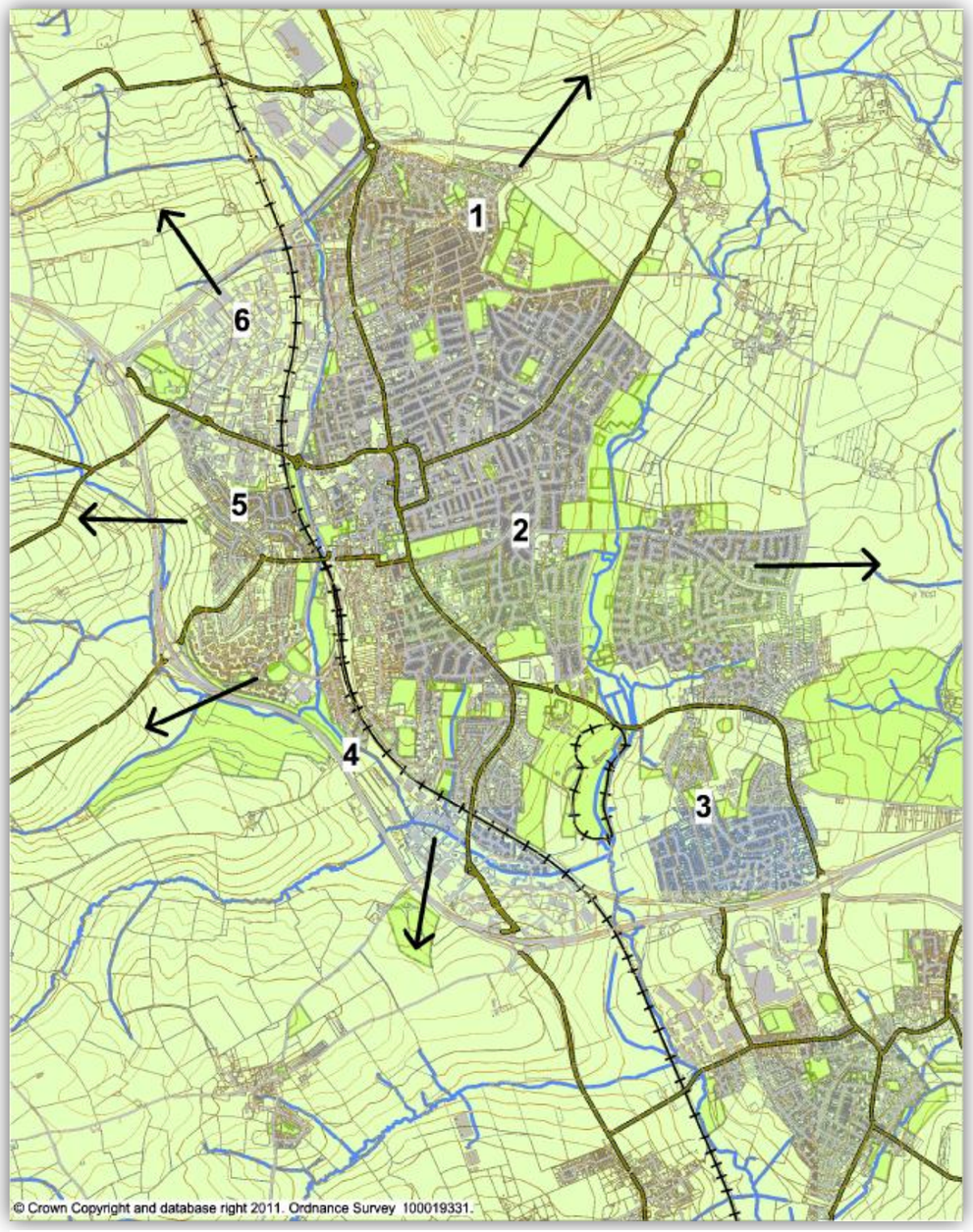
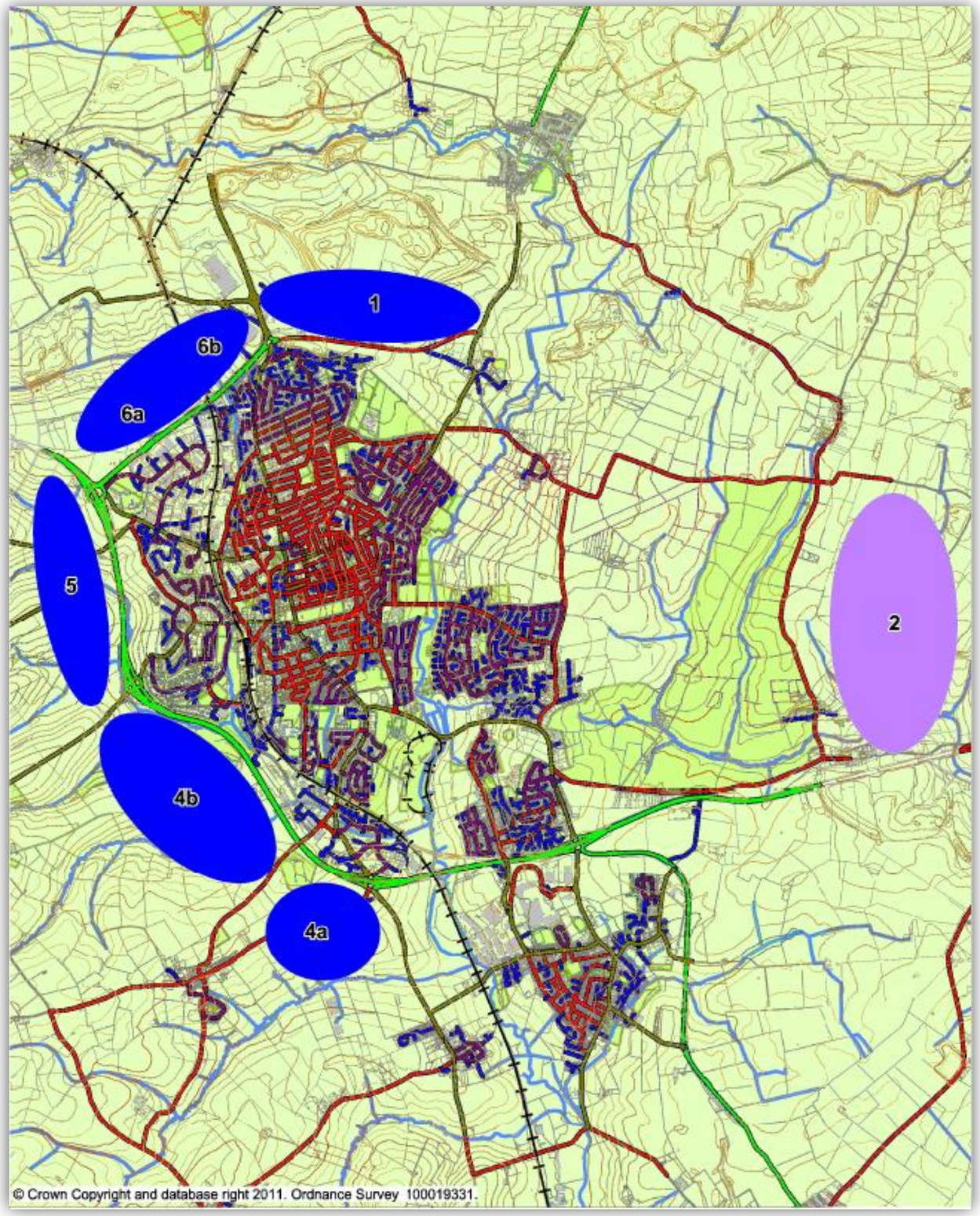


Figure 144 Potential directions of growth

Segment	Connections			Barriers	Comments	Integration capacity grade
	Brown Routes	Red Routes	GI			
1	1	0	No	A43 – High speed route, difficult to cross Estate to south of A43 has no available connecting points Green buffer to south of A43 further isolates.	Site is within 2 brown radial routes, but access to the eastern of these would be obstructed by high landscape sensitivity area.	E
2 (expanded Ket East)	1?	?	No	Ise Valley Distance from town centre would be considerable – well beyond a 15 minute cycle time	Radial route (A6003) connects to consented Kettering East area but unclear if/how it will continue through the site. New road connecting to St Marys/East Ave could potentially be a new radial, depending on how Kettering East is brought forward, but again, not clear how this would link in to the wider Kettering East site. GI links with Kettering East – but not set and main GI route is along Ise Valley Main issue is the distance from the rest of Kettering.	D
4a	1	2	No	A14 creates significant barrier Development around retail park/Kettering Park hotel does not provide connected grid which this could link to	Two red routes are within area 4a, but only one of these connects across the A14. Connects to a red and brown route with little frontage at most southerly end. Brown routes across the a14 are not accessible to all modes, so without much intervention, these routes have a more limited role.	E
4b	1	2	No	A14 Urban form within A14 is cul-de-sacs with little opportunity to add on (railway line forms additional barrier, lake and green space around Kettering Conference Centre).	1 red route is very direct to town centre, but otherwise site is cut off by A14. Brown routes across the a14 are not accessible to all modes, so without much intervention, these routes have a more limited role.	E
5	0	1	No	A14 Urban form within A14 is cul-de-sacs with little opportunity to add on	Potential to create a connected network within A14 with development of remaining open area (West Hill). Brown route across the A14 is not accessible to all modes, so without much intervention, this route has a more limited role and in any event is cut off by the Cransley Park development.	E
6a	0	0	No	A43 to the south. No route structure within A43 to connect to as is all dead ends Railway limits connection to radial to east	A43 has a lower highway status and so should be easier than the A14 to link into the town's structure, but this would require the nature of the road to wholly change, with multiple access points on it, frontage along etc. Railway line offers potential for public transport link.	E
6b	1	0	No	A43 to the south. No route structure within A43 to connect to as is all dead ends	A43 has a lower highway status and so should be easier than the A14 to link into the town's structure, but this would require the nature of the road to wholly change, with multiple access points on it, frontage along etc. Railway line offers potential for public transport link.	E

28.3 Conclusions

28.3.1 Kettering is heavily constrained by all the major roads around its perimeter. These combined with the layout within these roads mean that connections across them, to new development areas, would be very difficult to achieve. The area with the best score is beyond the permitted area for Kettering East, based on the assumption that the layout of Kettering East can be controlled to enable as many connections as possible. However, this area is at some distance to the centre of the town and would require the key routes to the centre to be direct and high quality for all modes, but particularly for bicycles.



Grade A (best integration potential)

Grade B

Grade C

Grade D

Grade E (least integration potential)

Figure 145 Integration assessment

29. Burton Latimer

29.1 The key historic structuring routes are used to define segments within the town.

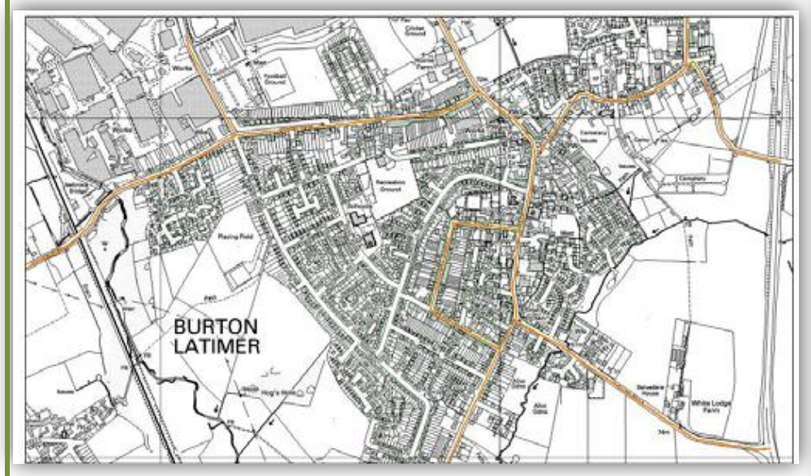


Figure 146 Structuring routes

29.2 Summary of opportunities and constraints

29.2.1 Segment 2 is effectively fully developed and segment 7 has a swathe of flood plain running through it. Assessment areas are identified in each segment, based on the corresponding urban structure within the segment/character areas.

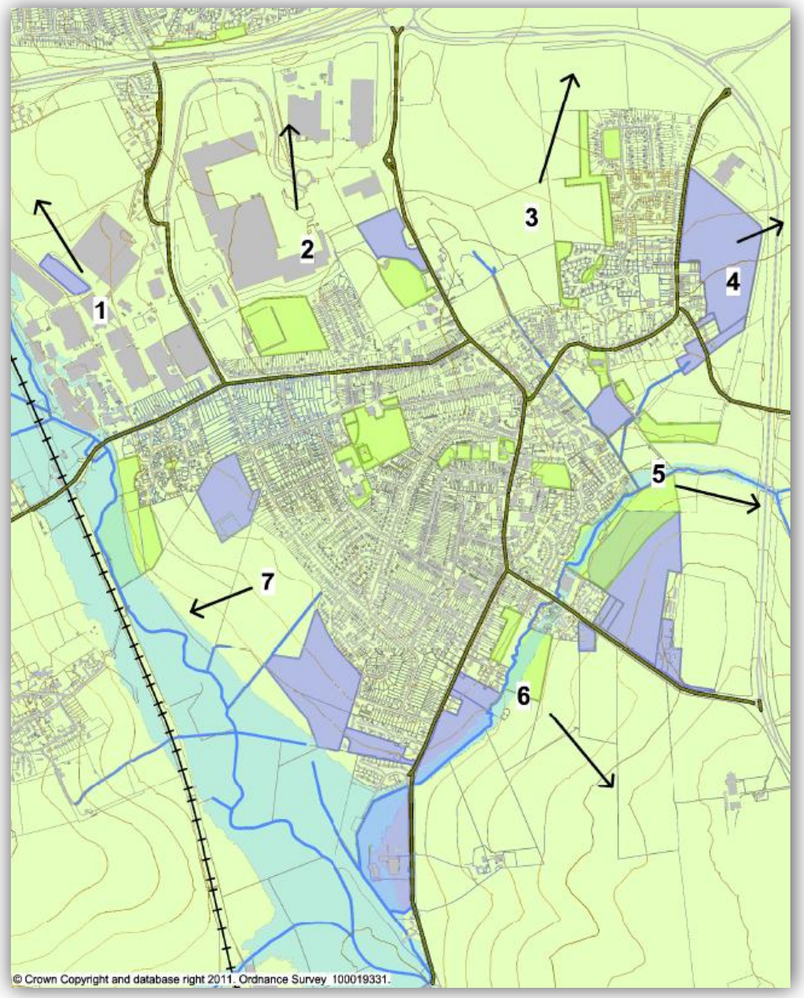


Figure 148 Directions of growth

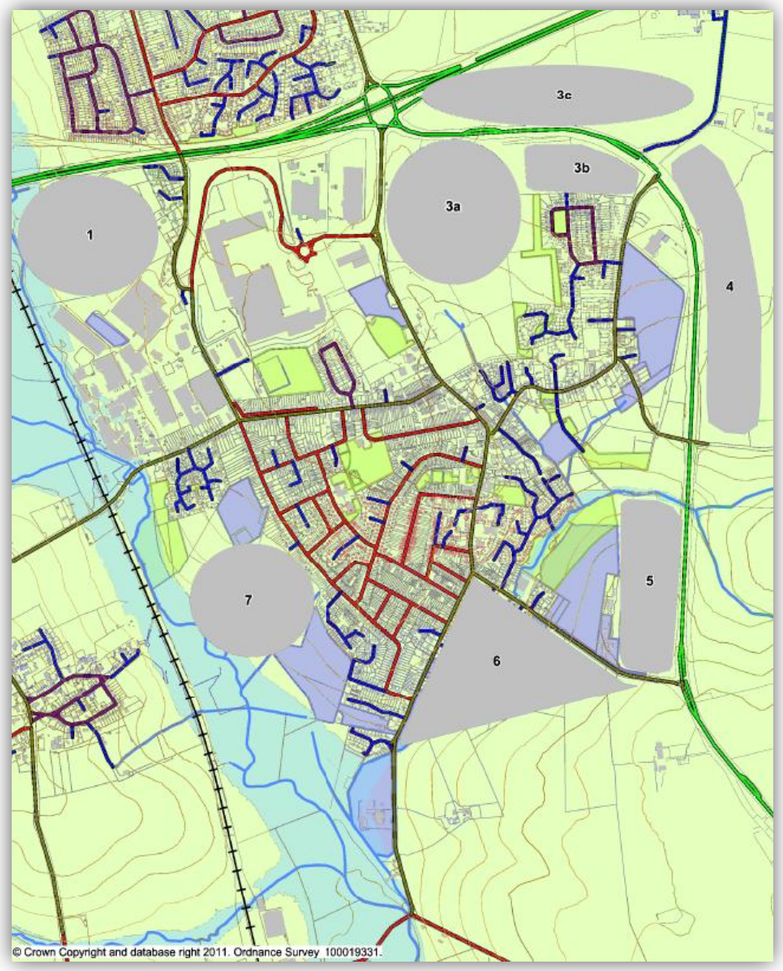


Figure 147 Integration potential

Segment	Connections			Barriers	Comments	Integration capacity grade
	Brown Routes	Red Routes	GI			
1	1	0	River Ise bounds the site to the west, so a much better link could be created.	A14 to north River Ise to west and railway Industrial development to south Agricultural land	Segment would infill existing space between Burton Latimer and Kettering. There is one single access point and it would be difficult to integrate this site with the surrounding development. The site slopes down to the west towards the River Ise and so the layout would have to reflect this. Could link into existing short cul-de-sacs off Polwell Lane. Would need to include a mix to transition between the A14, existing industrial estate and surrounding finer grain housing	C
3a	1	0	Footpath runs through the segment. Could be a north-south footpath, but poor crossing point of A6	A14 and A6 to north Burton Latimer Hall (listed) to south and its associated open space and setting Kettering Road to west. Difficult to connect to existing cul-de-sacs around due to built form layout or woodland.	Segment is close to the A14 and Burton Latimer Hall. Has previously been identified as important open space creating a buffer between Kettering and Burton. If designed well and sufficient planting is included the impact on the listed building could be mitigated. Close to town centre and there are existing footpaths to the south to connect to. Burton Latimer Hall provides example of street enclosure and frontage, but would be hard to create a connected grid to surrounding existing cul-de-sacs.	C
3b	1	0	Footpath to the west of the site.	A6 to the north Elm Road development to the south.	This is a small segment which would essentially be an extension to Elm Road. It would feel very remote from Burton. It could link on to one existing cul-de-sac, but not a connected network. If 3a came forward alongside this, it could provide another local east-west link.	D
3c	1	0	Footpath runs N-S but poor crossing point of A6	A6 to south, A14 to north Lack of a connected grid to south	A6 is a major barrier and town is some distance from this sector. Cranford Road alignment changed and no connected grid within segment 3 to connect to town centre. Would rely solely on radials. Would need to improve pedestrian links south through open space and access across A6, as well as improve quality for pedestrians and cyclists of radials as relied on them heavily.	D
4	1	0	Footpath link to Wood Street across A6 (but difficult to cross)	A6 is a major barrier alongside noise buffer and layout of new housing to west of A6 does not allow street connection across A6	No grid to connect to. Only one radial, but is at distance from town centre. Feels disconnected from town.	D
5	1	0	Stream to the north, along with the setting of the cemetery. A footpath runs through the area north to south.	Footpath to north Conservation Area to north A6 to east Existing development to west with known poor links to town centre	Potential to link to GI route to north and to create a route out to the countryside along the stream. Would need to create a local grid with recently consented development to west, although only likely to be a loop system back to Higham Road. Potential though to create a linking route for peds and cycles through the open spaces to link to Church Lane. Very difficult to add to, to the west, as A6 forms major barrier so unlikely to be able to secure a connected grid across it.	C
6	2 (Could be various, depending on size of site)	0	One footpath from Finedon Road runs south from Burton.	Existing development to the north A6 to the east	Potential to create a GI link alongside stream running south. Would need to link on to existing cul-de-sacs off Higham and Finedon Roads. Development would need to create access point as close as possible to High Street/Higham Road junction and to provide linkages across the stream to Finedon Road. Potential to create a grid system to replicate that to the west. Significant landscape impact however as site slopes uphill away from stream.	B
7	0	2	River Ise is to the west, Hog's Hole could form part of the area and a footpath runs through the area.	Recently approved development to the north River Ise and railway to the west Hog's Hole to the south	To the north and south of this site applications have recently been approved. Hog's Hole would have to be protected and the site is not particularly close to the centre of Burton Latimer. The connections to the site are poor too. Site would undermine the existing GI of the Ise Valley and would likely be a cul-de-sac.	D

29.3 Conclusions

29.3.1 The highest score is in sector 6 which has a combination of proximity to the town centre, proximity to 2 direct radials in to the centre, the possibility of creating a GI link along the stream and the potential to create a connected grid.

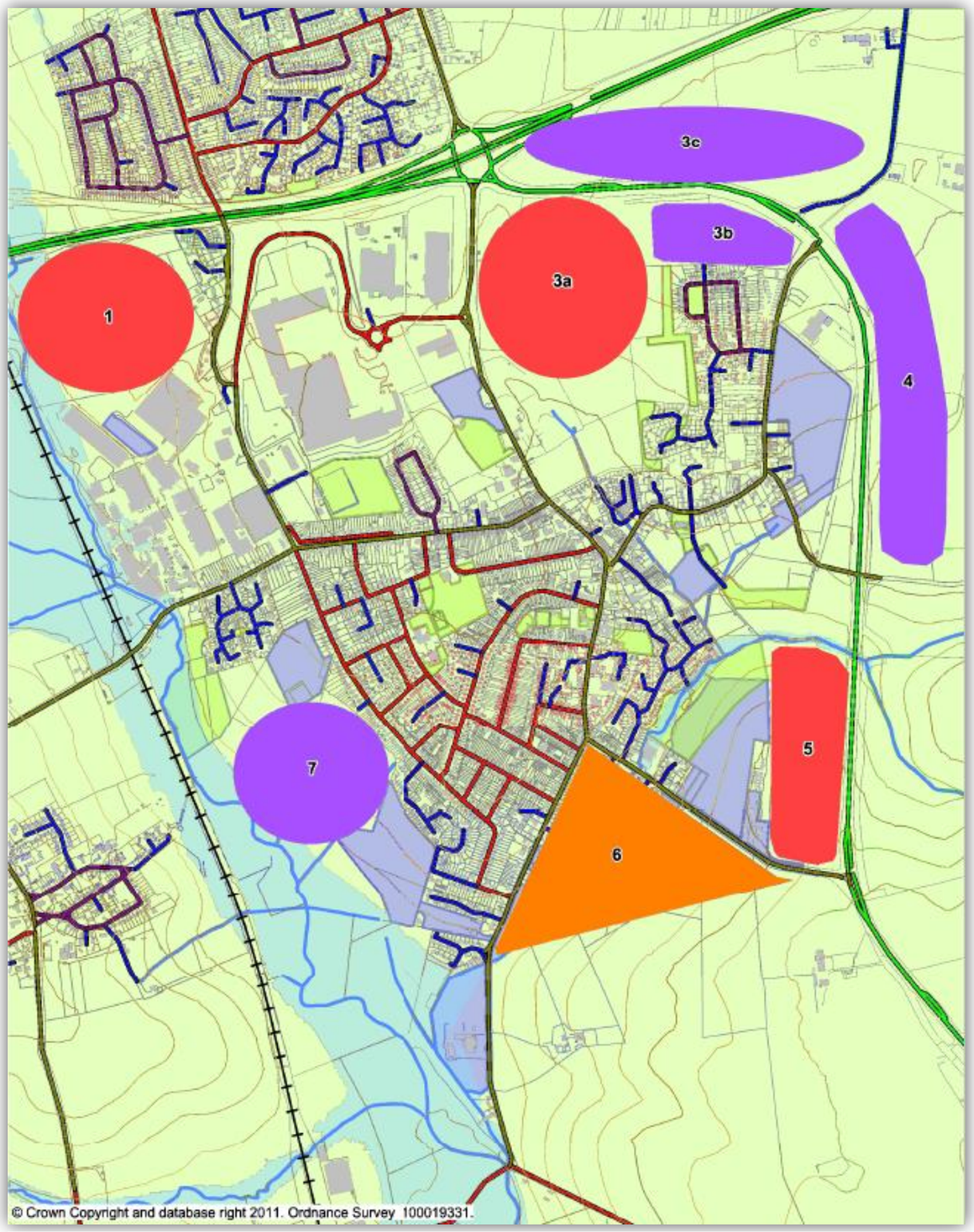


Figure 149 Site integration assessment

30. Desborough

30.1 The key historic structuring routes are used to define segments (Figure 152) within the town, and potential directions for growth.

30.2 The directions of growth are highlighted on Figure 151 alongside the composite map of all the structuring elements (Figure 150).

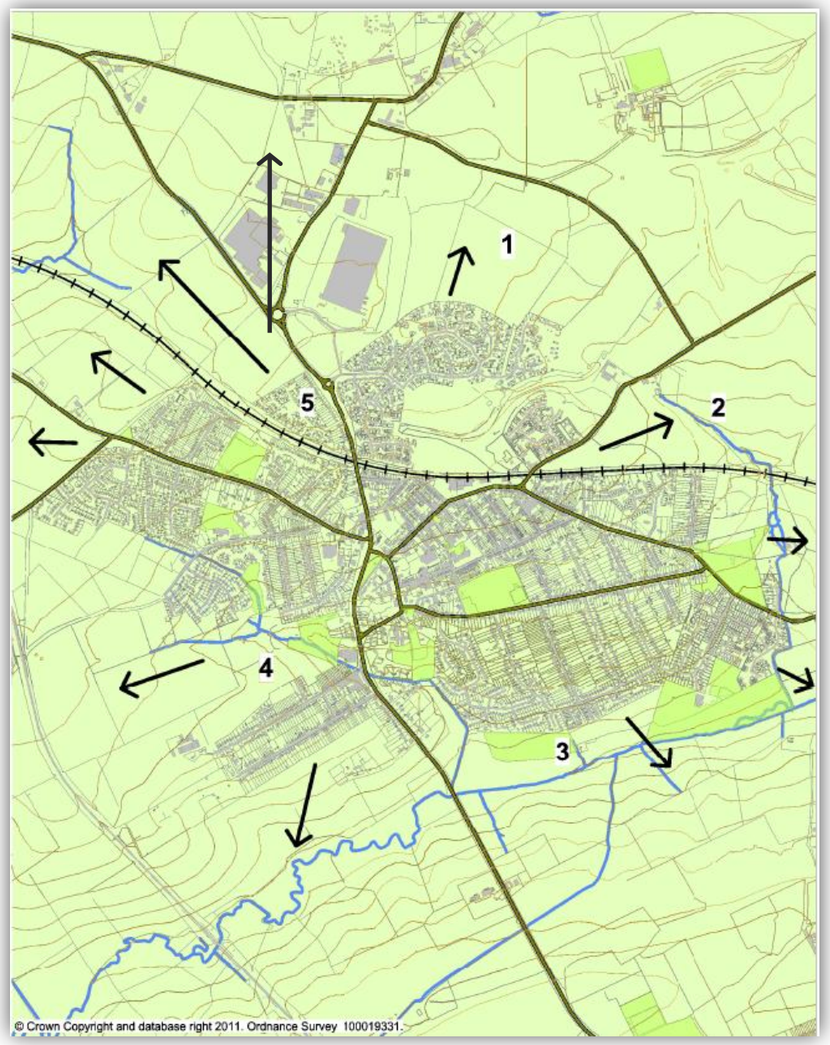


Figure 151 Potential directions of growth

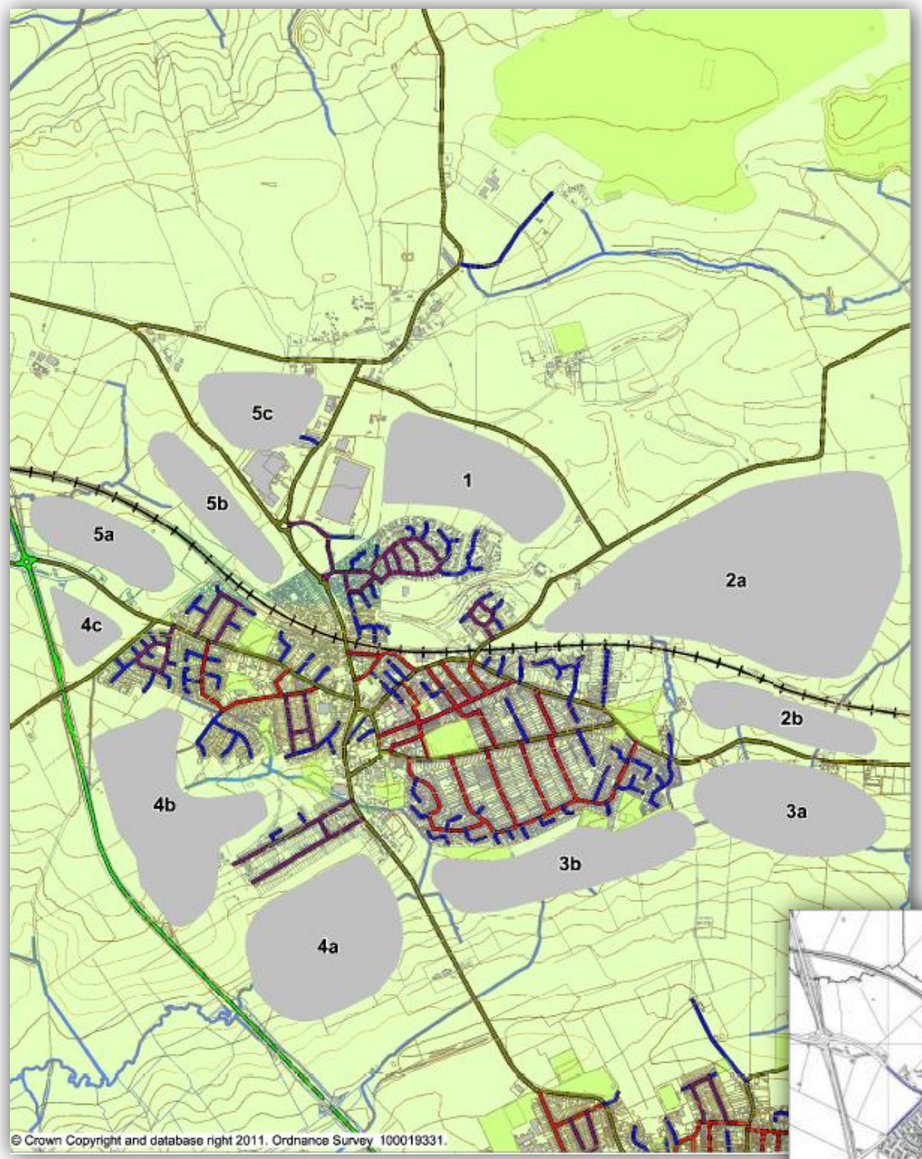


Figure 150 Composite map showing all the structuring elements.

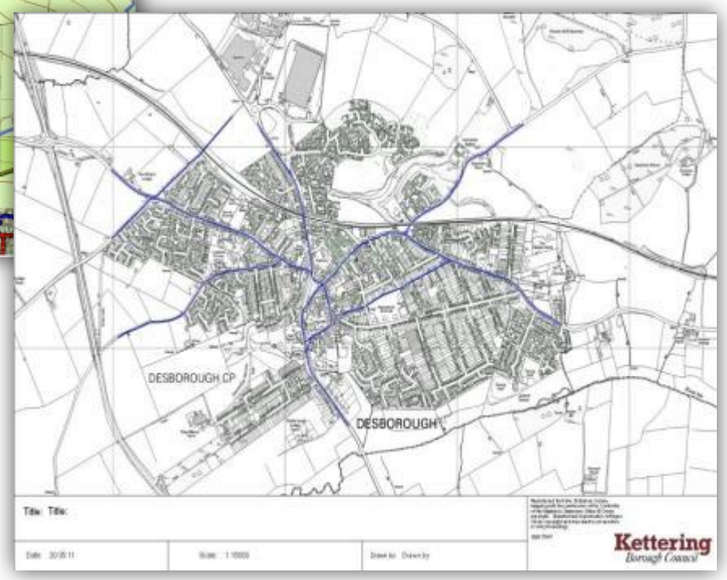


Figure 152 Structuring routes

Site	Area	Connections			Barriers	Comments	Integration Capacity Grade
		Red	Brown	GI			
1	a	1	0	A significant amount of open space and a new leisure centre have been delivered as part of The Grange development. The Plens (Wildlife site) is found to the south of Area A, within the existing Grange development. Two wildlife sites are located between Back Lane and Pipewell Road. Development could connect to existing footpaths and the wider network. These footpaths do not directly link to the centre. There is no pedestrian link across the railway line which connects Area A to the town centre. There are links to the surrounding countryside and villages. Sub-Regional GI Corridor Jurassic Way runs through the town, north to south. Local GI corridors are found to the north of Area A.	Railway line is a significant barrier to pedestrian movement towards the centre. There are links which connect to the surrounding roads which then lead into the centre. Open space – north of Yaffle Crescent (The Grange), between Pipewell Road and the proposed SUE. Commercial area (Magnetic Park) to the west of Area A. Pipewell Road to the east.	The site could connect into Back Lane (red route) which links two key brown routes through Desborough (Harborough Road and Pipewell Road). The only links into the existing built form are to loops and cul-de-sacs (The Grange development) which are currently divorced from the centre. If no link is progressed to Back Lane the routes into/out of the site would be convoluted and deter sustainable travel choices. 15 minutes walking (within 1200m of the centre). The site has some potential to connect to the centre via footbridge. If this cannot be delivered, walking and cycling routes out of the site will be convoluted and indirect, discouraging sustainable journeys. Desborough North: Kettering Borough Council resolved to grant outline planning permission for development of this site, subject to completion of a s106, agreement in 2012) Although there is one link to a red route this is to the northern edge. To the south the development would link into a series of loops and cul-de-sacs. No grid to connect into. Railway line is a significant barrier.	D
2	a	0	1	The Area is not immediately adjacent to any GI corridors. Wildlife Site to the east. There does not appear to be any footpath that Area A could directly link into.	Railway line to the south of the site. Existing open space/Wodland at Gaultney Wood Wildlife Site. From GIS appears to be a watercourse running south from Gaultney Wood Farm.	Beyond the railway line is residential, cul-de-sac style development. There does not appear to be many opportunities to create links to the centre which would be better than using the brown route (Pipewell Road); a link across the railway into Area C may be of little value. Area B is 10-15 mins walking time of the town centre (800-1200m buffer). There is one connection to a brown route but none to red. Railway line again constitutes a barrier and there are few opportunities for good pedestrian links. The brown route is however a direct route into the centre once on this.	D
	b	0	1	Open space (including allotments and cemetery) on the western edge of Area B. Footpath link through site and the open space into Copelands Road/Rushton Road, west of the site. Proximity to the wider footpath network which serve key designations including Rothwell. Ise Valley Sub-Regional GI corridor further to the south.	Railway line to the north. Rushton Road to the south. Wildlife site to the west (The Cedars). TPO area to the west between the site and cemetery/allotments.	A minimum of 15 mins walk, some parts of Area C are further away. No red routes to connect to. Due to its position between a brown route, railway line and open space, there is no existing built form to connect into.	D

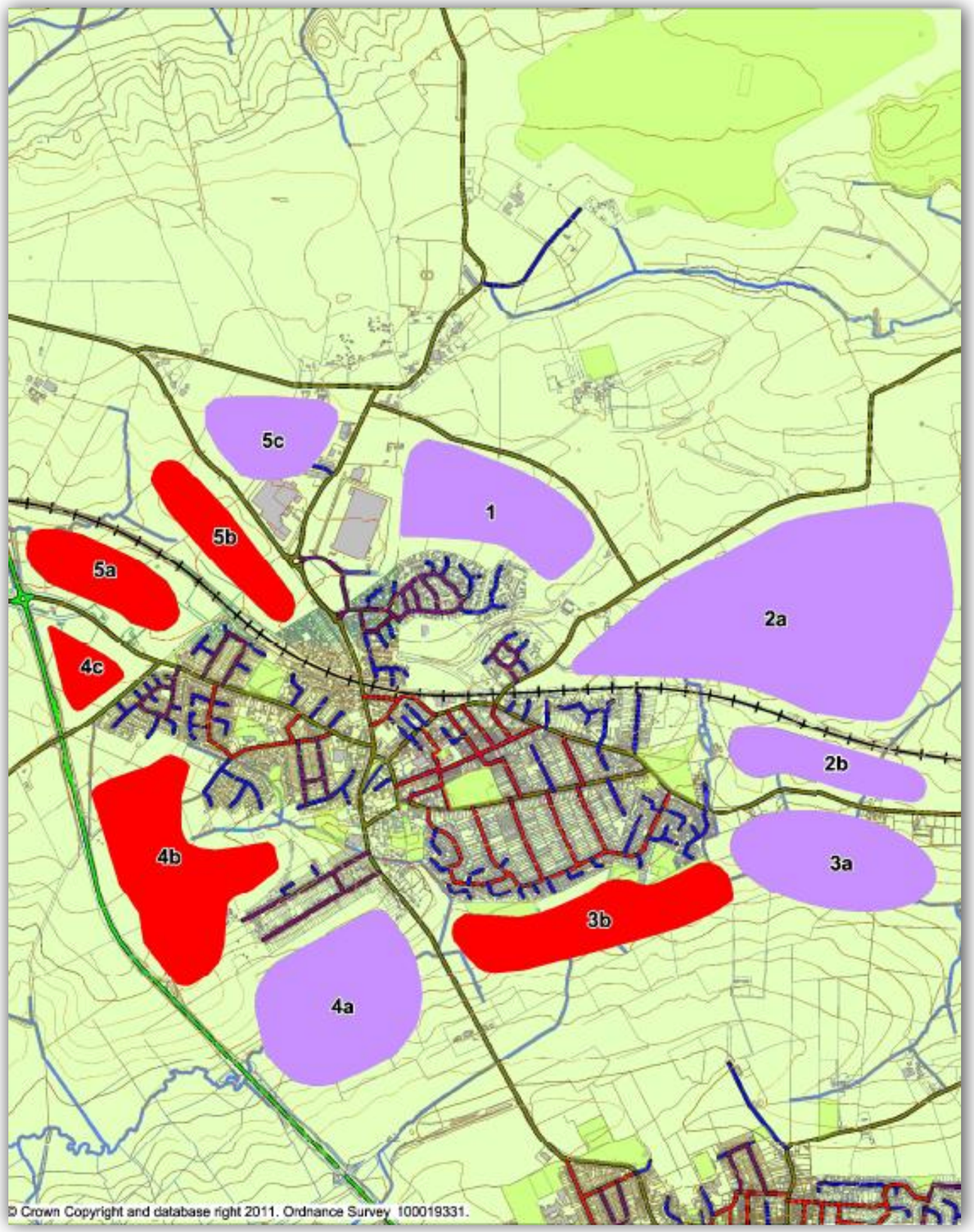
3	a	0	1	Link within the site which connects to the wider footpath network e.g. Rothwell and north of Desborough. Within the Ise Valley Sub-Regional GI Corridor.	Rushton Road to the north. River Ise to the south. Part of Area 3A falls within Flood zones 2 and 3. Wildlife site within this area. TPO on the western edge of area to the rear of Sycamore Drive. Existing development.	TPO represents a key barrier on the western edge. Beyond this is an area of built form which is of a cul-de-sac style. If a link could be made into this area it would be of no value. The brown route travels direct into the centre. There could be an opportunity to develop a GI link from the site along the Ise. No red routes to connect into.	D
	B	0	1	Opportunity to develop a foot/cycle link into the town centre. Links available to the wider network. Ise Valley Sub-Regional GI Corridor within this area.	River Ise to the south. Part of site falls within Flood zones 2 and 3. Local Nature Reserve and Wildlife Site (Tailby Meadow) to the south of the leisure centre site.	Adjacent to an existing residential area. Although there are no links to red or brown routes the connections to a red route are via relatively short blue links. Connections can be made into the existing built form. Part of area E is likely to become available for redevelopment in the short-term. Opportunities to develop links along the Ise into the centre.	C
4	a	0	1	Ise Valley Sub-Regional GI Corridor.	River Ise. Part of site falls within Flood zones 2 and 3. Existing linear frontage development.	No opportunity to link into existing built form. Within 15 mins walking time. Many opportunities to develop good footpath links; footpath link on opposite side of Rothwell Road to Area F which travels into the centre of Desborough. Close to a link which takes you to Rothwell. Brown route travels to the centre of Desborough.	D
	b	0	0	Footpath through the site. Jurassic Way Sub-Regional GI Corridor.	TPO (woodland) and pocket park (Pioneer Avenue) within Area F.	Although this site would link to a blue route (the remainder of Harrington Road running west is non-vehicular) this is a relatively short stretch (Harrington Road) which links into a red route leading to the centre. Potential to integrate the open space/TPO into a development? There appears to be potential to join up existing blue routes and create red routes in this area.	C
	c	0	2	Footpath links west, beyond the A6. Good footpath connection to the Magnetic Park commercial area, north of Desborough Town Centre.	Triangular site – enclosed by the A6 to the west and two brown routes. A6 provides a barrier to accessing footpath links to the wider countryside.	Opportunity to develop active frontages along the two brown routes. The brown routes run from the western side of the town into the centre. The street layout in the town centre (Gold Street/High Street/old A6) needs to be altered to improve west-east pedestrian movement.	C
5	a	0	1	Footpath within site linking up to Magnetic Park. This connects to other links which lead northwards to local wildlife areas. Link to centre is via the brown route.	Railway line to the north east. Braybrooke Road (brown route) to the south west.	Areas B and C could be developed together providing frontage development and a gateway to this part of the town. Appears to be little opportunity to connect into existing built form, no connections into blue routes will be possible and in any case will be of little value. Same comment regarding the town centre's street layout applies to this area.	C
	b	0	1	Footpath within site linking up to Magnetic Park. This connects to other links which lead northwards to local wildlife areas. Link to centre is via the brown route.	Railway line to the south west. Brown route (Harborough Road) along the north eastern edge).	Direct access onto a brown route but no red routes to connect up to. Part of the area is within 10 mins walking distance of the town centre (remainder of the area is within 15 mins walking of the centre).	C
	C	0	1	Potential links to Brampton Wood	Large industrial units and limited street connections together with railway line	Improvements to Harborough Road for walking and cycling. Improve connections to Section 1	D

30.3 Conclusions

30.3.1 The sectors with the best prospects to integrate with the town are to the north-west, west and south. The railway line and old A6 at present form significant barriers meaning the town is already quite poorly connected so new development would need to work even harder to address these existing issues as well as ensure that it was connected within its own site.

30.3.2 Sector 3B is the closest to the town centre and offers the most potential for creating GI links. Sectors 4 and 5 also offer scope with potential to create frontage onto the structuring routes and to link up existing cul-de-sacs into a connected network.

30.3.3 The proposed urban extension to the north of the town is disconnected by virtue of the railway line and the layout of the Grange. These issues will need to be addressed in the planning of this area. Scope exists to utilise the green infrastructure (GI) connection through Desborough Green Space and to link to the town centre across an additional railway bridge, alongside creating as direct as possible connections to surrounding streets. The quality of the Harborough Road for walking and cycling would also be beneficial to enhance as this will remain the principal route into the town centre.



Grade A (best integration potential)

Grade B

Grade C

Grade D

Grade E (least integration potential)

Figure 153 Integration potential

31. Rothwell

31.1 The key historic structuring routes are used to define segments within the town, and potential directions for growth.

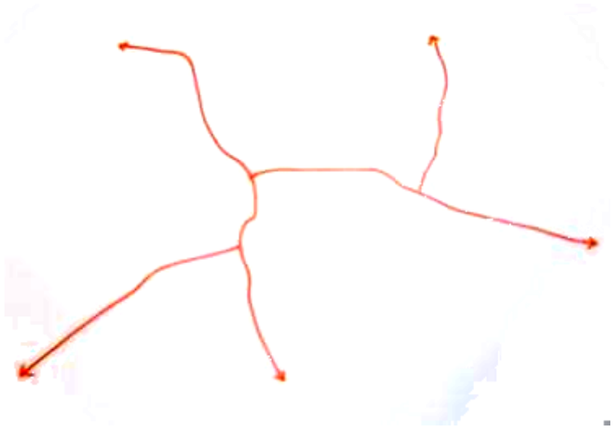


Figure 154 Structuring routes

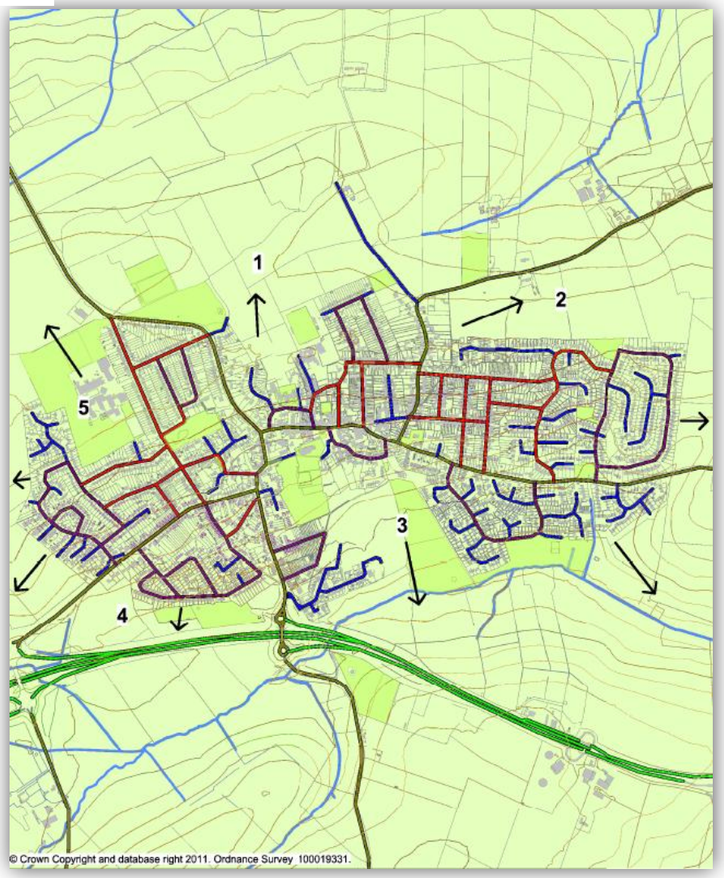


Figure 155 Potential directions of growth

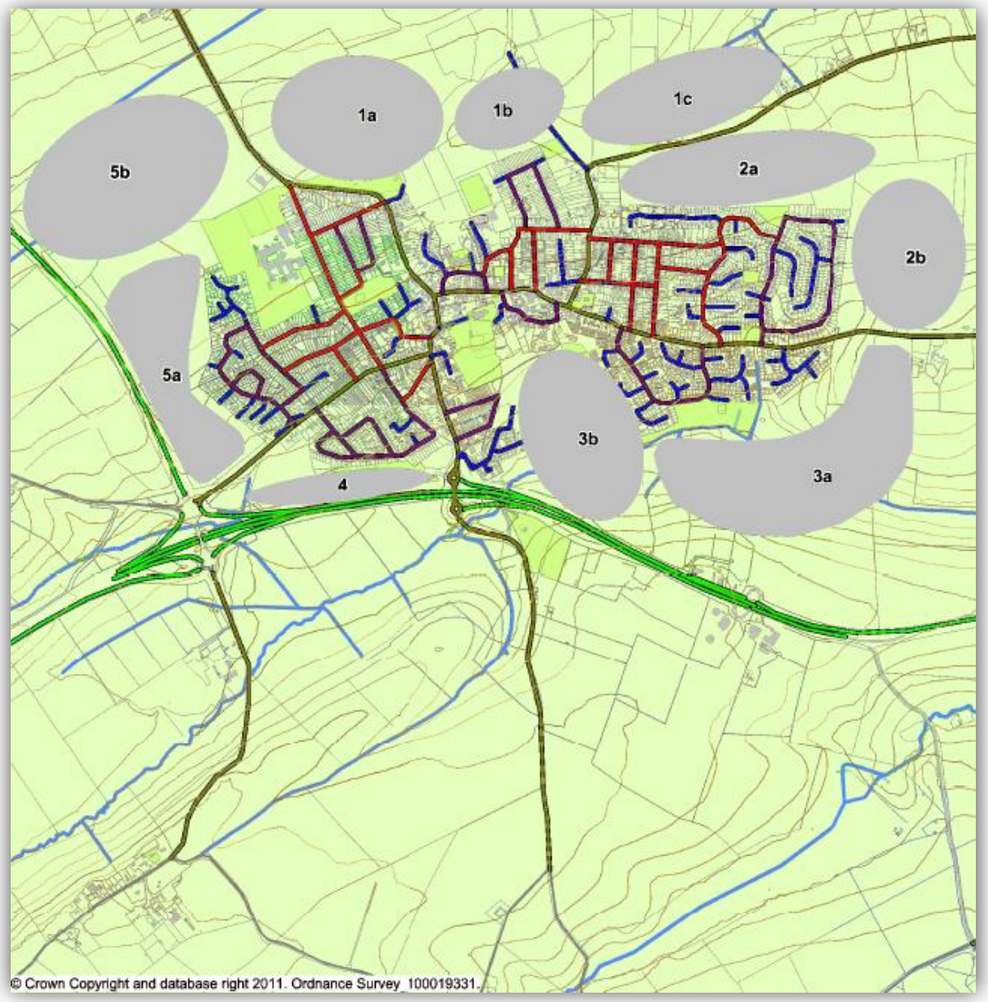


Figure 156 Assessment areas

Segment	Area	Connections			Barriers	Comments	Integration capacity grade
		Brown Routes	Red Routes	GI			
1	a	1	2	Footpaths runs through the site. Sub Regional GI corridor (Ise Valley) to north of the site.	Cricket ground Football grounds Rothwell Junior Schools Ise Valley to the north	Segment would wrap round open space and extend Rothwell into open countryside to the north of Rothwell. This could affect wildlife migration and GI so development would need to be carefully planned. Development should not extend too far to the north in order to protect the Ise Valley and avoid possible coalescence with Desborough.	B
	b	0	0	Footpaths runs through the site. Sub Regional GI corridor (Ise Valley) to north of the site.	Football ground (potential housing site) Ise Valley to the north	Segment has greater potential if football club site or Rothwell North comes forward then the site would benefit from an increased number of connections, which could improve linkages into the segment.particular scope to create new e-w link.	C
	c	1	0	Footpath runs through the north-western part of the site. Sub Regional GI corridor (Ise Valley) to north of the site.	Allotments. Site is potentially very visible from Desborough (and Rushton?) and could result in coalescence between the settlements. Ise Valley to the north.	This segment would feel very detached from Rothwell without segment D coming forward. Rushton Road is a low trafficked road which would not form a barrier if development sites C and D were linked.	D
2	a	1	0	Access can be gained by a number of 'cut' throughs. Site links to the wider GI network.	None	There is only one obscured potential 'red' connection to this segment but in order to come forward at least one existing residential property would need to be demolished. However, there are opportunities to connect into other 'estate' roads despite leading onto a less direct road network. There are two potential footpath improvements which would link into the far western side of the segment.	D
	b	1	0	None	Ground levels slope significantly downwards into Rothwell. (Site may have been quarried?)	Despite having no connections into neighbouring residential estates, this segment would benefit from its connection to the main radial route which links straight into Rothwell Town Centre. However, the distance along this main radial (Glendon Road) would equate to over 15mins walking for most of this site which may affect the sustainability of this area of the town for future development. Despite this, it is very achievable in cycling terms (5mins) and is on a main bus route.	D
3	a	1 (although most of the site suffers from blocked access onto this main radial due to existing development)	0	Slade Green Infrastructure corridor runs through this site. A public footpath runs between sites F and G.	Columbus Crescent (designated open space). Slade Brook. The Slade brook is in a cutting and ground levels slope downwards towards the Slade.	Although there are no 'red' connections adjacent to this segment there are several blue/ 'dead-end' routes which could connect into this site and be improved. The area of open space which separates it from the neighbouring residential development is well used and combined with the Slade Brook, it could provide a attractive feature which could be crossed via cycle and foot. Only the very eastern part of the site connects directly to the main radial route which links straight into Rothwell Town Centre. The distance along this main radial could equate to over 15mins walking time to the town centre. However, it is very achievable in cycling terms (5mins) and is on a main bus route, along Glendon Road. There is a potential foot and cycle link onto Glendon Road, closer to the town centre and well within the 15mins walking distance to the town centre.	D
	b	0 (there are no connection points onto the main radial route)	0	Slade Brook Green Infrastructure corridor runs through this site. A footpath runs in between sites G and F and around the northern section of this site.	Manor Park and Rothwell Recreation Ground (designated open space). Impact on Listed Buildings and the Rothwell Conservation Area. The Slade brook is in a cutting and ground levels slope downwards towards the Slade. There is planning permission on part of the site?	Segment could connect into several blue / 'dead-end' roads and walking access into the town is possible along public footpaths and through green designated open space. Development of this site may negatively impact the setting of the Grade I Listed Holy Trinity Church and other neighbouring Listed Buildings as well as the Manor Park and the character and appearance of the Rothwell Conservation Area.	E
4		2	1	A footpath runs through the site	Allotments. Noise from A14 and A6 which abut	Potential connections to existing red routes are difficult and in between properties, it is unlikely that a reasonable vehicle access to this red route (Meadow Road) can be achieved without the	C

					the site and act as barriers to further development.	demolition of residential properties. Walking and cycling routes are more likely to be achieved.	
5	a	1	1	None	Topography of the site slope downwards towards the town.	Segment could connect into several blue / 'dead-end' roads. Connection onto main radial route (Harrington Road) would provide fairly easy access into Rothwell Town Centre although is likely to at least 15 minutes walking distance but is close to a main bus route.	D
	b	1	1	Rothwell Gullet Nature Reserve to the north of the site.	Rothwell Gullet Nature Reserve to the north of the site.	Connection to red route is obscured but possible in between Montsaye School and Doctors Surgery. However, a connection here is unlikely to achieve much more than existing connection to the main radial (Desborough Road). Connection onto this main radial route would provide fairly easy access into Rothwell Town Centre although is likely to be at least 15 minutes walking distance but is close to a main bus route.	D

31.2 Conclusions

31.2.1 The best scoring areas relate to the north of the town, partially encompassed within the urban extension area.

31.2.2 Infill to the south in sector 4 would allow development close to direct radials, but the central part of the sector would be difficult for all mode connections and would have to rely heavily on walking and cycling links to connect to the centre of the town.

- Grade A (best integration potential)
- Grade B
- Grade C
- Grade D
- Grade E (least integration potential)

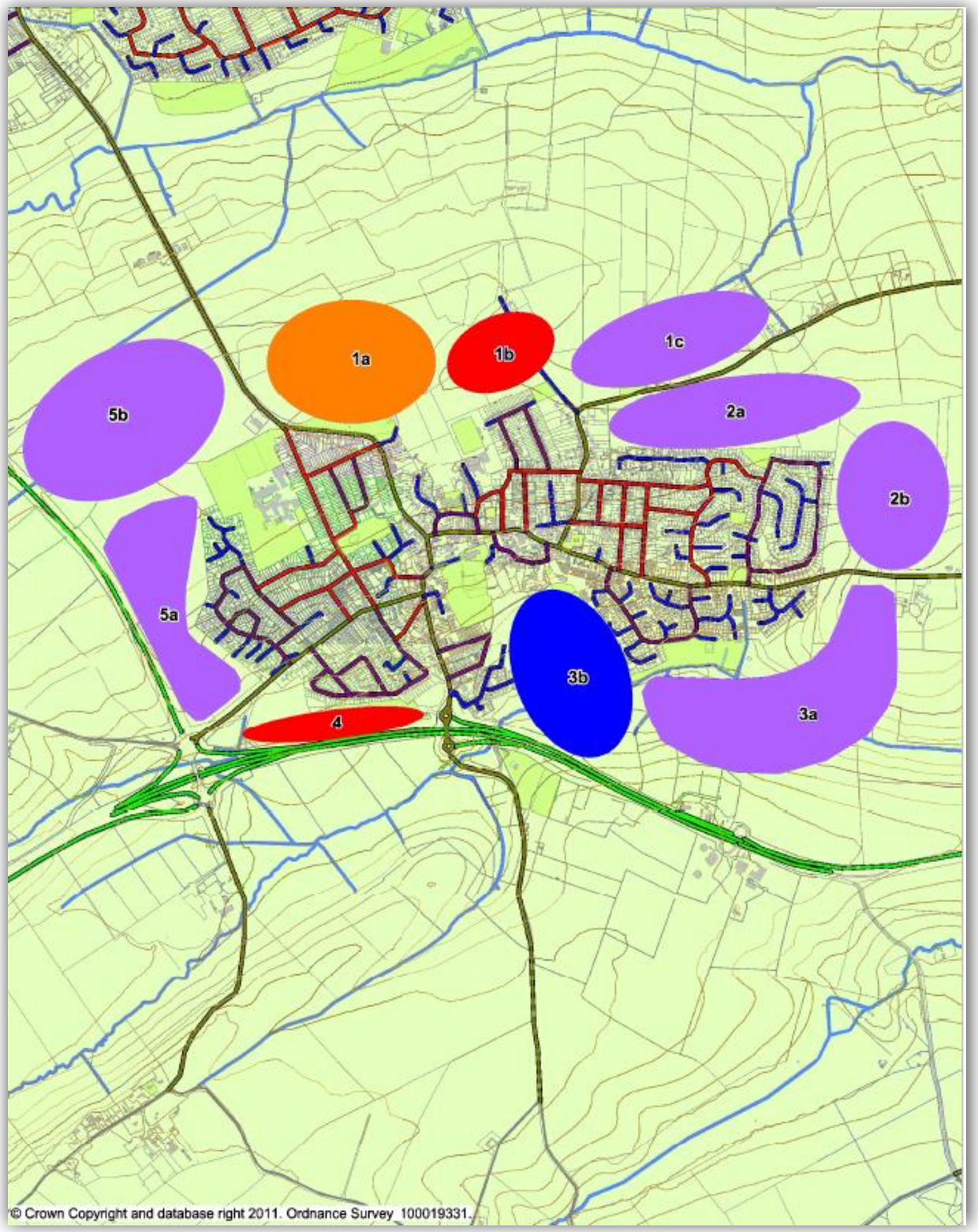


Figure 157 Map showing composite map integration assessment

32. Raunds

32.1 Using the evidence set out within this study, a number of conclusions can be drawn about the physical opportunities and constraints to any further growth to Raunds, focussing particularly on movement and integration with the existing fabric of the town.

32.2 Summary of Constraints

32.2.1 Based on the opportunities and constraints identified above, it is concluded that there is limited opportunity for development within segment 7. Opportunity would be restricted to infilling on existing areas of open space. This segment is not therefore assessed in the table below, although it is acknowledged there may be potential to enhance the overall movement structure given the location of the open space.

Figure 159 Structuring routes

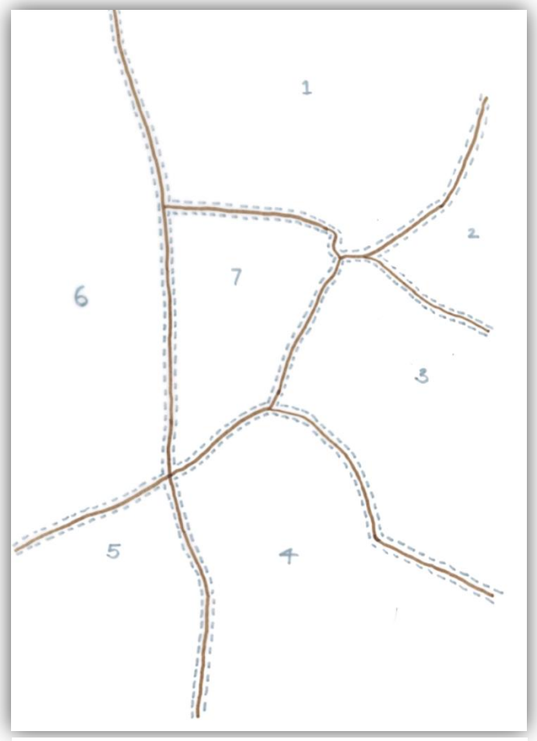


Figure 158 Segments

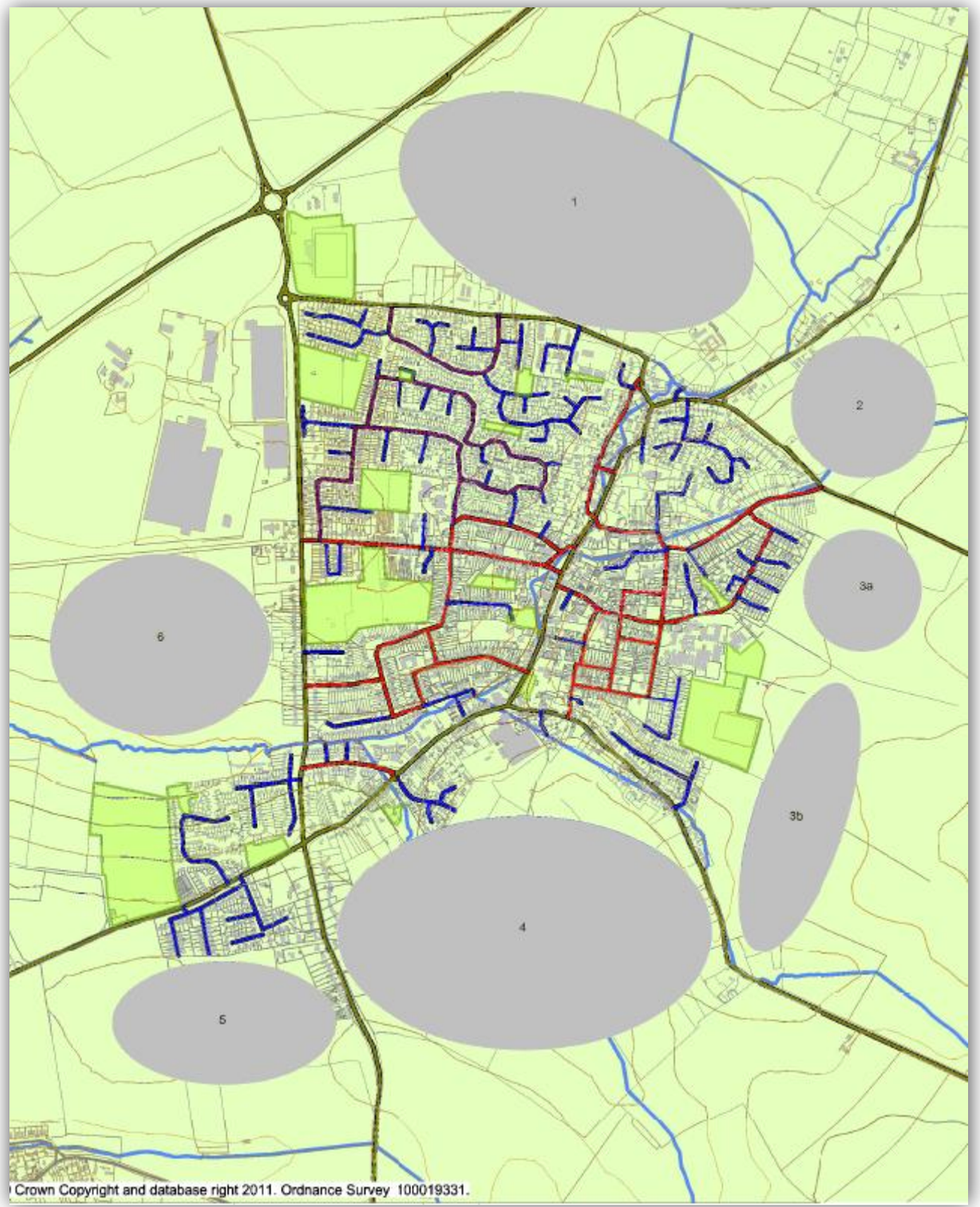


Figure 160 Areas for assessment

Sector	Connections			Barriers	Comments	Integration capacity grade
	Brown routes	Red routes	GI			
1	2	1	Not to the town centre, though there are rights of way into the surrounding countryside.	Brick Kiln Road – not a substantial barrier but would need to be made more pedestrian friendly. Loop and cul de sac development in the north western quadrant of the settlement (segment 7) limits multimodal permeability and route options to the centre and other destinations within the town.	The most significant barrier is the loop and cul de sac development, which limits route options. This could be considered to fall within integration capacity grade D. The extent to which this forms a barrier is reduced travelling eastward through the segment by virtue of the direct principal route (and red route) to the town centre where a significant number of the town's services and amenities can be accessed. Improvements for walking and cycling to the town centre along the principal routes would help encourage these modes	B/C
2	2	1 – connecting to a grid pattern	Not to town centre, though there are rights of way into the countryside.	An area of cul-de-sac development in the western most part of this segment limits multi modal route options to the centre.	The barrier to movement created by the area of cul-de-sac development is partially mitigated by the direct principal (brown) routes to the town centre, and the connection to a grid street pattern via Butts Road. There is also an existing public right of way through the area of cul-de-sac development. Improvements for walking and cycling to the town centre along the principal routes would help encourage these modes.	B/C
3a	1	0 (directly though potentially scope to link into the grid via the ends of cul-de-sacs)	Not to the town centre, though there are existing rights of ways to the surrounding countryside.	No significant barriers identified, though potential to link via existing cul-de-sacs would need to be considered in further detail.	The integration capacity grade for this area is predicated on the assumption that some multimodal links would be achievable via the existing cul-de-sacs which form the edge of the existing built up area. Should multimodal connections via these existing cul-de-sacs not be achievable in practice, the integration capacity grade for this area would need to be revised. Existing rights of way link around the edge of existing built form to connect this area into the adjacent grid pattern.	C
3b	1	0	Not to the town centre	Manor School and playing fields act as a barrier to the creation of links into the grid street pattern. Cul-de-sac development south of Manor School.	The overall integration capacity of this area might be enhanced if part of a comprehensive scheme linking into area 3a.	D
4	2	0		Topography is a significant issue in this area of town. The increase in levels to the south are such, there is no opportunity for creation of a direct multi modal link or grid network, which would lead directly into the town centre, or into the existing grid network around the town centre. This would require significant earthworks and potentially punching through existing development which fronts Grove Street and Thorpe Street. Potential multimodal connections appear limited due to southern built edge. Some limited cul de sac development (Weighbridge Way) may provide opportunity to link to Grove Street.		D
5	2 (subject to scale and form of any development)	0	No	Cul-de-sac development to the north, though there doesn't appear to be development at the ends, so some potential to link through.	Wouldn't connect into an existing grid, though subject to linking into existing cul de sacs a grid could be created. Distance to town centre and topography would need to be considered.	C
6	1	2	Yes - Meadow lane to the north forms a right of way connecting Raunds town centre and Stanwick Lakes.	Existing development fronting London Road limits potential multimodal connections into the existing movement network. Topography – level changes to the town centre.	Potential to use existing open space to the east as a green link toward the town centre?	B

32.3 Conclusions

32.3.1 Sectors 1 and 2 are considered to offer the greatest ease of integration because although they are adjacent to areas which are poorly internally connected, they do relate to the key radials with their clear route to the centre. Northdale End, which has outline consent, bridges areas 1 and 2, so the wider segment outside the consented boundary is analysed in the table below.

32.3.2 Sector 6 also offers a direct link to the town centre, although the topography would mitigate against this. There is the potential for establishing a green infrastructure link to the town centre through the existing open spaces.

- Grade A (best integration potential)
- Grade B
- Grade C
- Grade D
- Grade E (least integration potential)

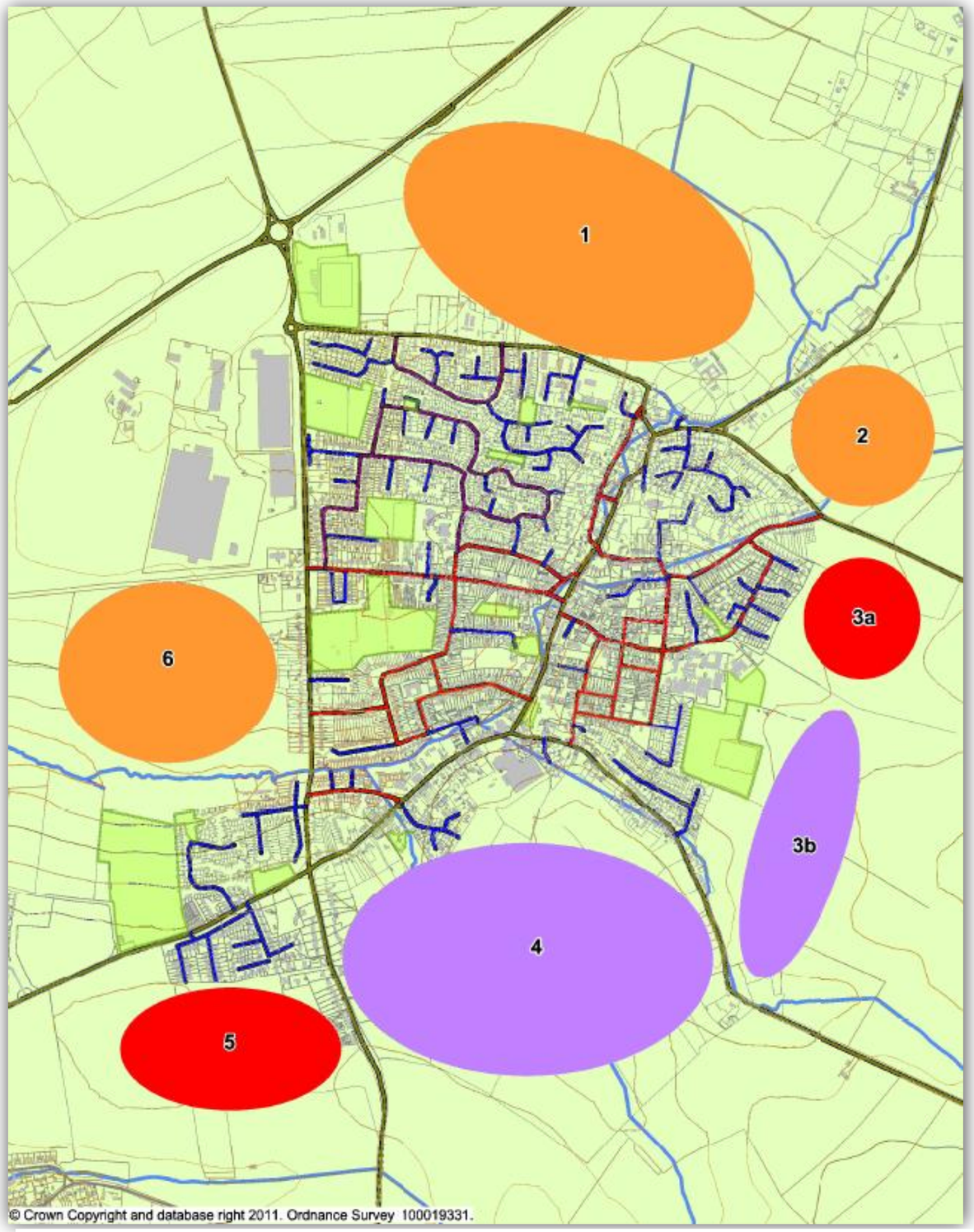


Figure 161 Integration assessment

33. Irthlingborough

33.1 Using evidence set out within this study, a number of conclusions can be drawn about the physical opportunities and constraints of any further growth at Irthlingborough, focussing particularly on movement and integration with the existing urban fabric of the town.

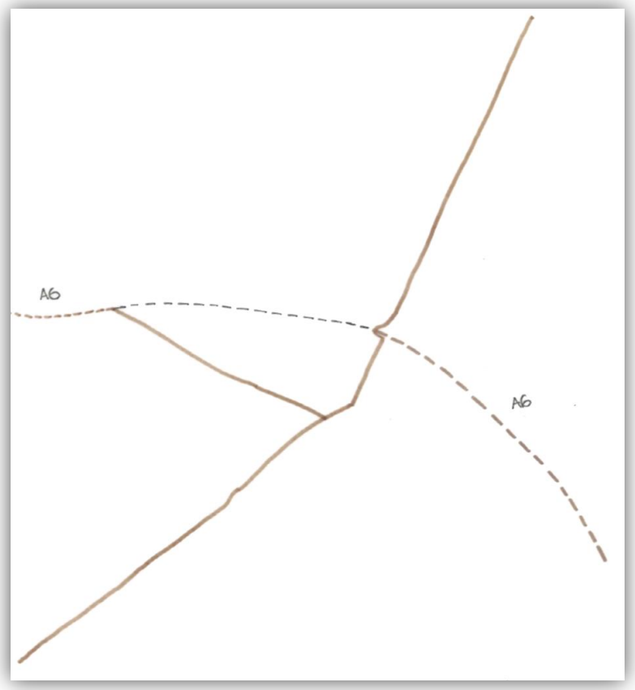


Figure 162 Summary of the structure

Figure 163 Sectors for assessment

33.2 Potential directions for growth

33.2.1 The main constraint is the River Nene and its associated flood plain and lakes. Although the A6 was identified as a 'green route' within the route structure analysis (ie vehicular only and not very pedestrian/cycle friendly), it also forms, in part, a relatively historic route linking Irthlingborough to surrounding settlements. For the purposes of this exercise, therefore, the A6 has formed part of the structure summary.

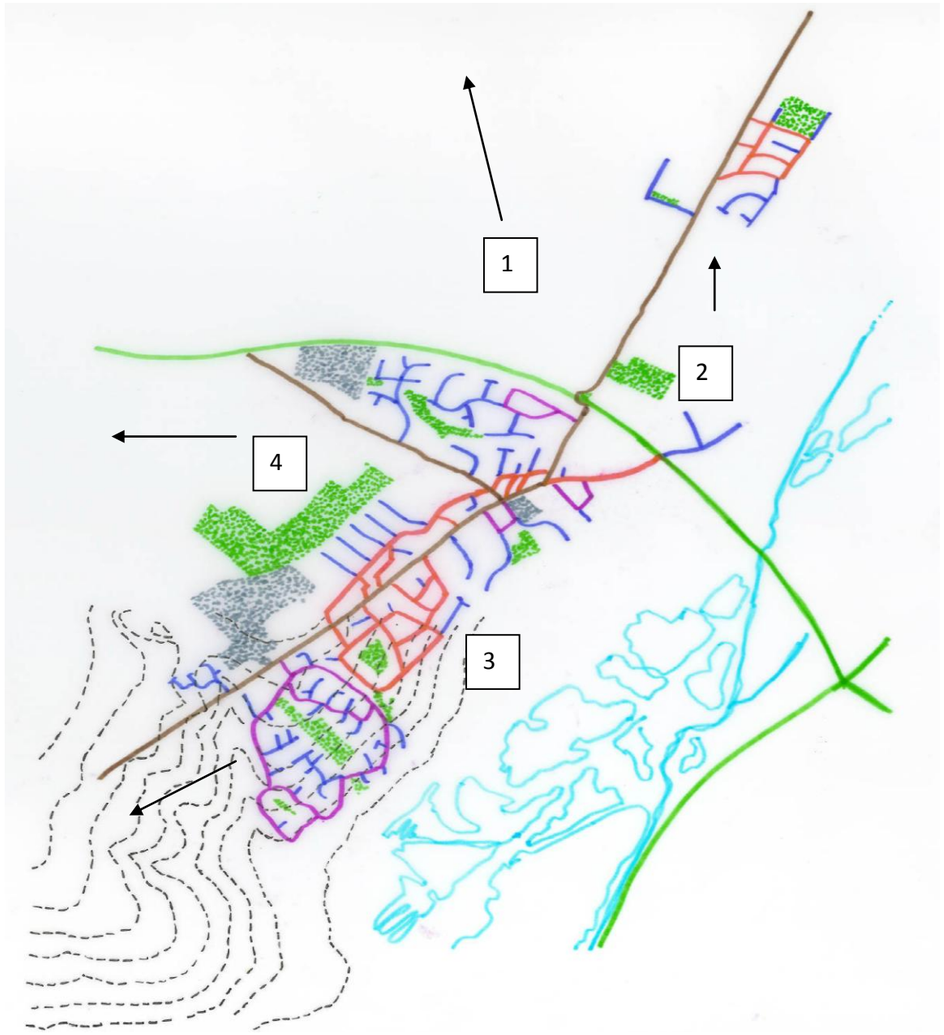


Figure 165 Potential directions of growth

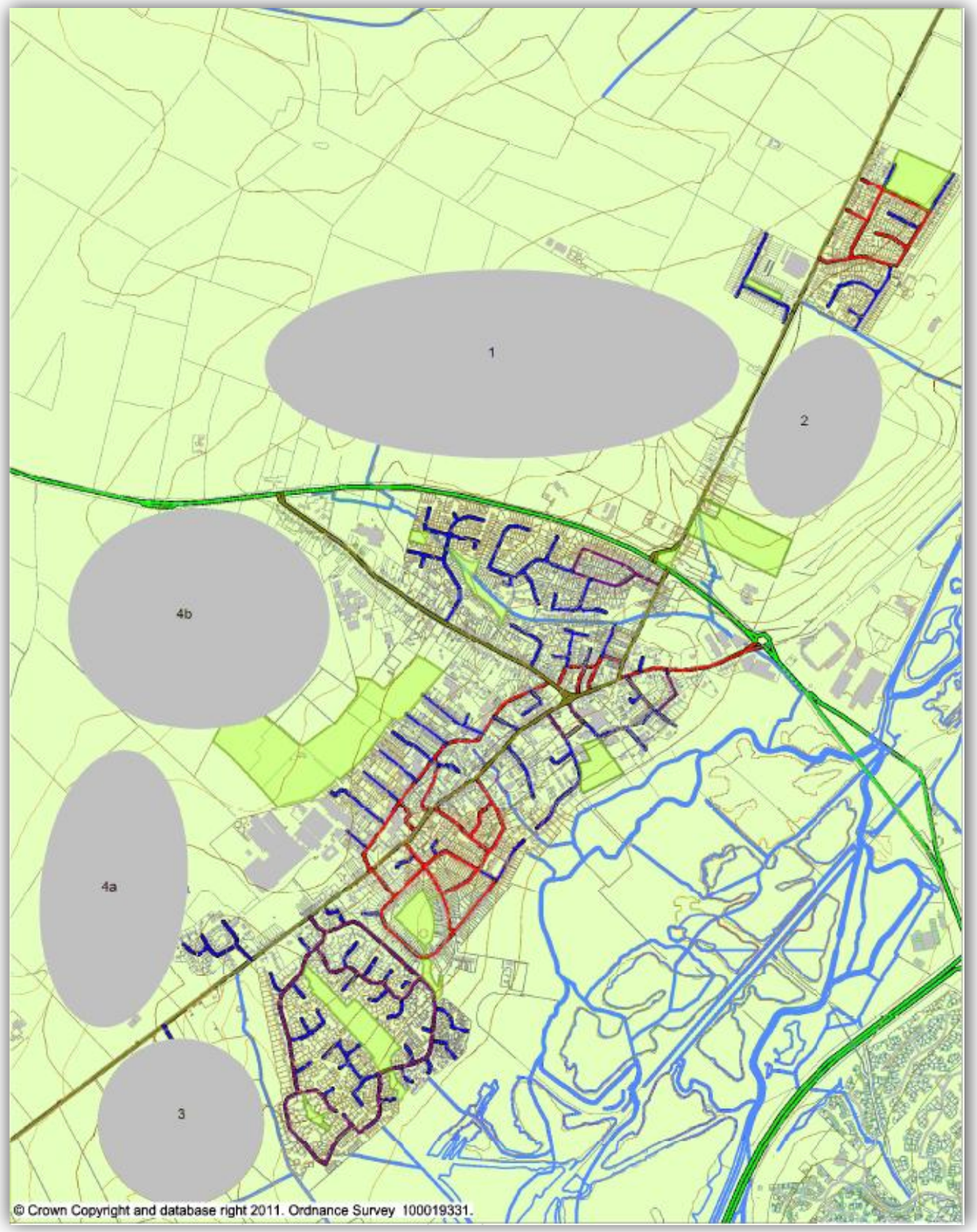


Figure 164 Assessment

Segment	Connections			Barriers	Comments	Integration capacity grade
	Brown routes	Red routes	GI			
1	1	0	No	The A6 forms a physical barrier between this area and the existing built fabric of the town. Development between the A6 and Finedon Road is characterised by loops and cul-de-sacs. The built edge turns its back on the A6. Topography	Whilst the A6 might be overcome as a barrier, the pattern of development to the south of this highway severely limits potential multimodal routes through from this area to the town centre.	D
2	1	0 (directly though could link into Crow Hill via existing cul-de-sacs)	Adjacent to the Nene Valley	The A6 forms a physical barrier to the existing built up area, and most significantly the town centre. Existing (and committed) commercial development adjacent to the A6 limits route options toward the town centre. Topography		C
3	1	0	Adjacent to the Nene Valley	Adjacent to loop and cul-de-sac development.		D
4a	1	0		Adjacent to piecemeal cul-de-sac developments which limit route options and connectivity (existing and permitted)	Integration capacity grade could be enhanced if an appropriate grid street pattern was established through development of 4b and/or the approved layouts of committed sites were amended.	D
4b	1-2 (the A6 is currently classed as a 'green route as defined in the route structure analysis, as it forms a bypass to the town. It does however have historical routes and connects Irthlingborough to nearby settlements including Higham Ferrers and Finedon. As such, for the purposes of defining the segments of Irthlingborough above, the A6 has been considered as a 'brown' (principal) route).	0 – though there may be some potential to link into the partial grid and create a grid network.		Existing green spaces would need to be relocated, as in their current location they could act as a barrier to integrating into the 'partial grid'. Existing development along Finedon Road limits points at which routes could be connected into Finedon Road.		B/C

33.3 Conclusions

33 3.1 Sector 4b has the most integration potential as it could connect to the existing partial grid to the south, with consequent direct routes to the town centre. However, there are still problems about the nature of the A6 as a vehicle focused road, which is not hospitable to pedestrians and cyclists. In addition, the open spaces within sector 4 would need to be designed to provide GI links, and not as green buffers/barriers to the town.

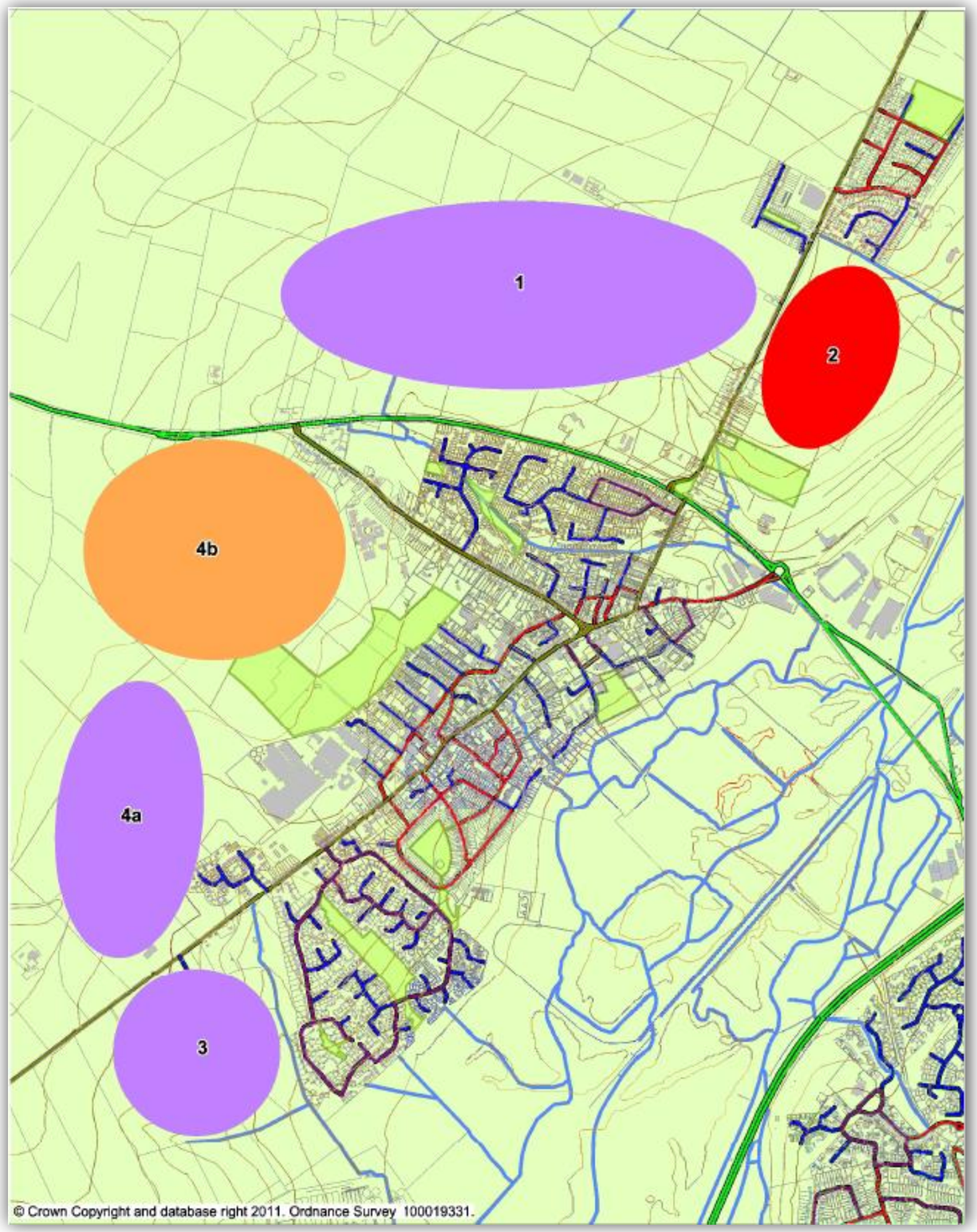


Figure 166 Integration assessment

Grade A (best integration potential)

Grade B

Grade C

Grade D

Grade E (least integration potential)

34. Oundle

34.1 Using the evidence set out within this study, a number of conclusions can be drawn about the physical opportunities and constraints to any further growth to Oundle, focussing particularly on movement and integration with the existing fabric of the town.

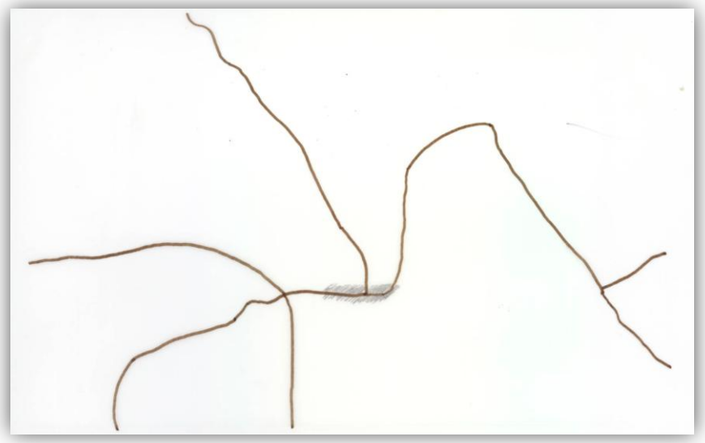


Figure 169 1 Key structuring routes

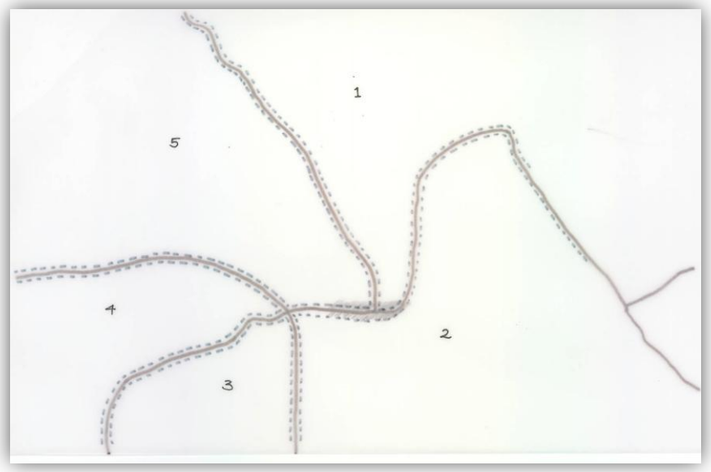


Figure 168 Structuring routes divide the town into segments for analysis

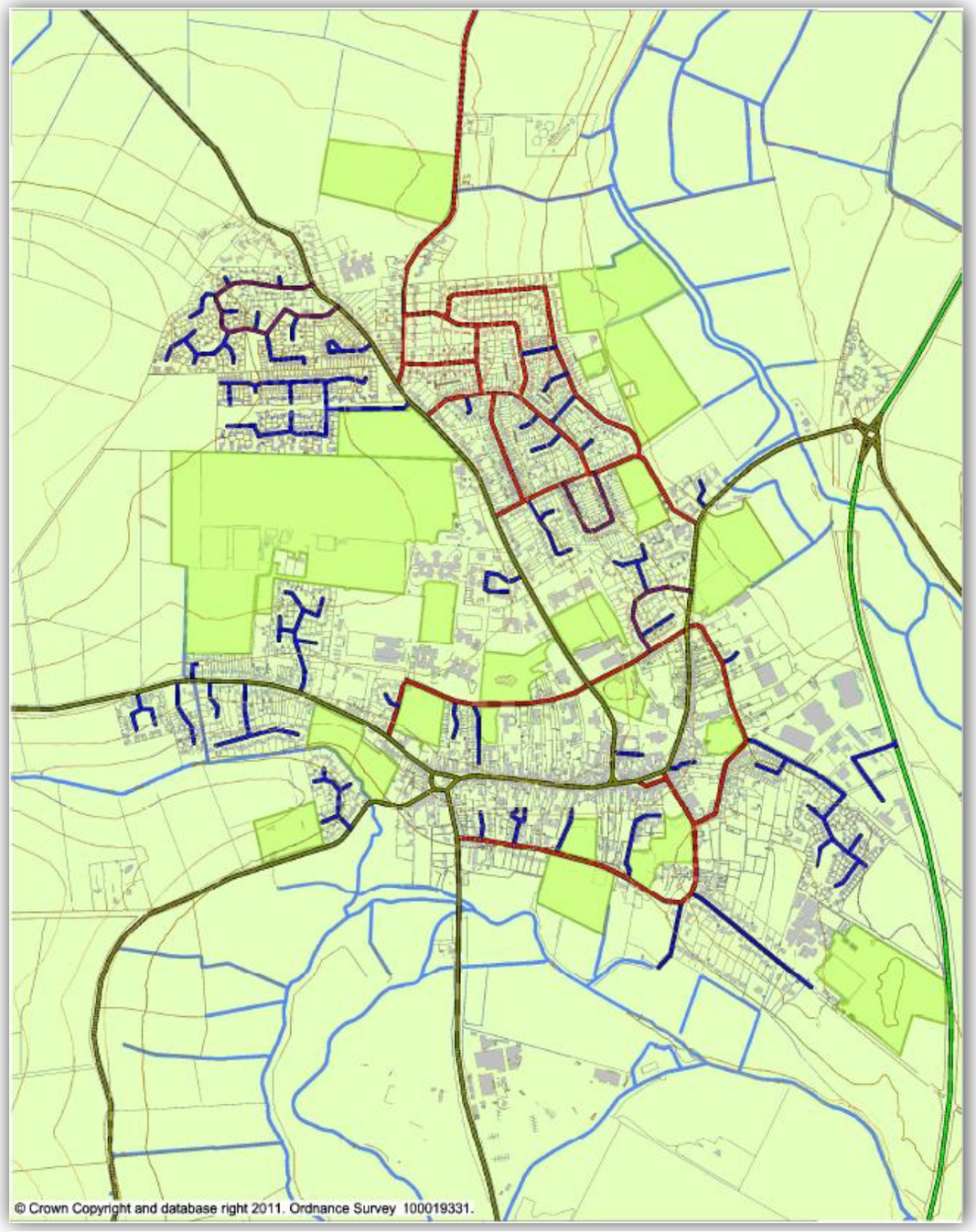


Figure 167 Opportunities and constraints

34.2 Based on the opportunities and constraints identified above, it is concluded that opportunities for growth at Oundle are limited to segments 4 and 5, as illustrated.

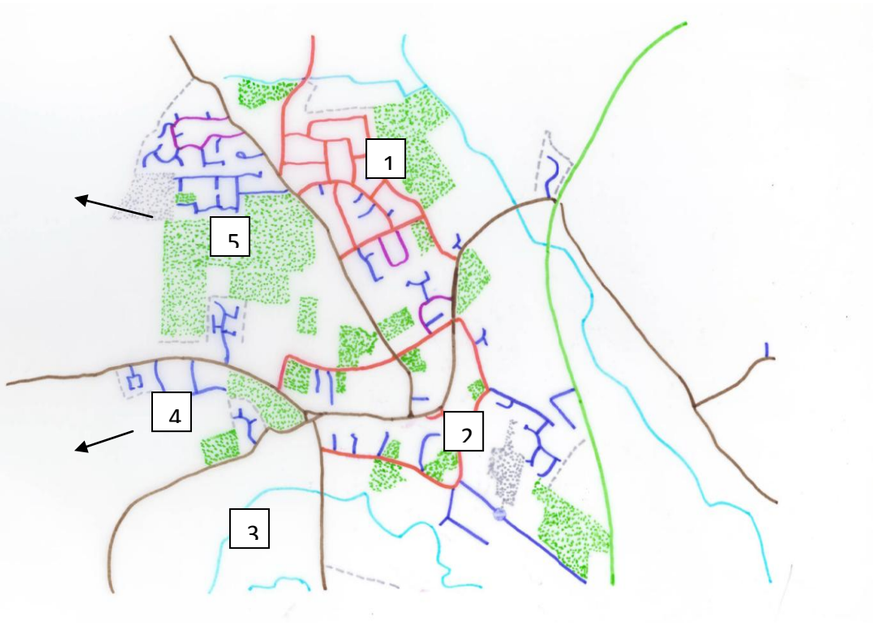


Figure 171 Sectors and directions of growth

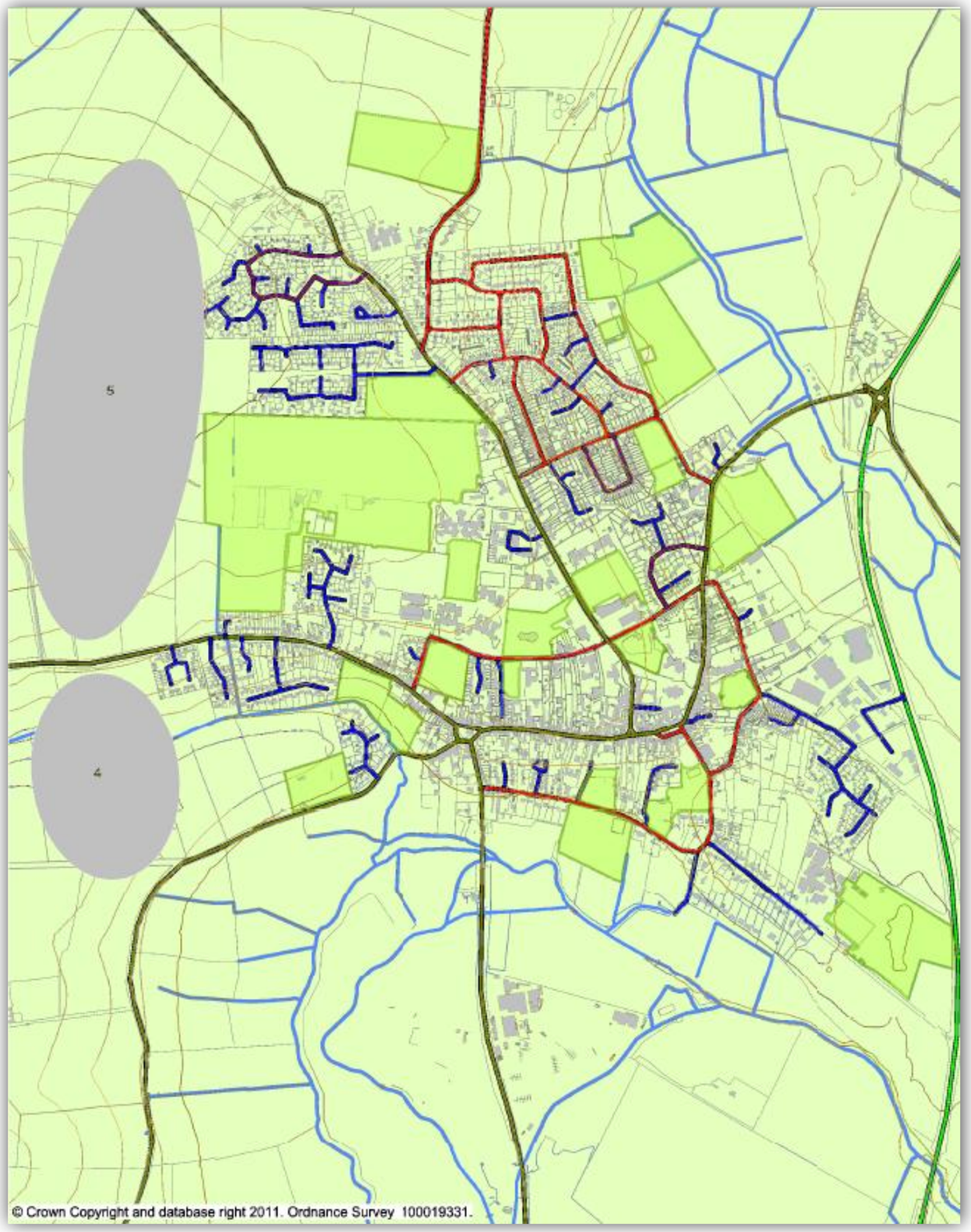
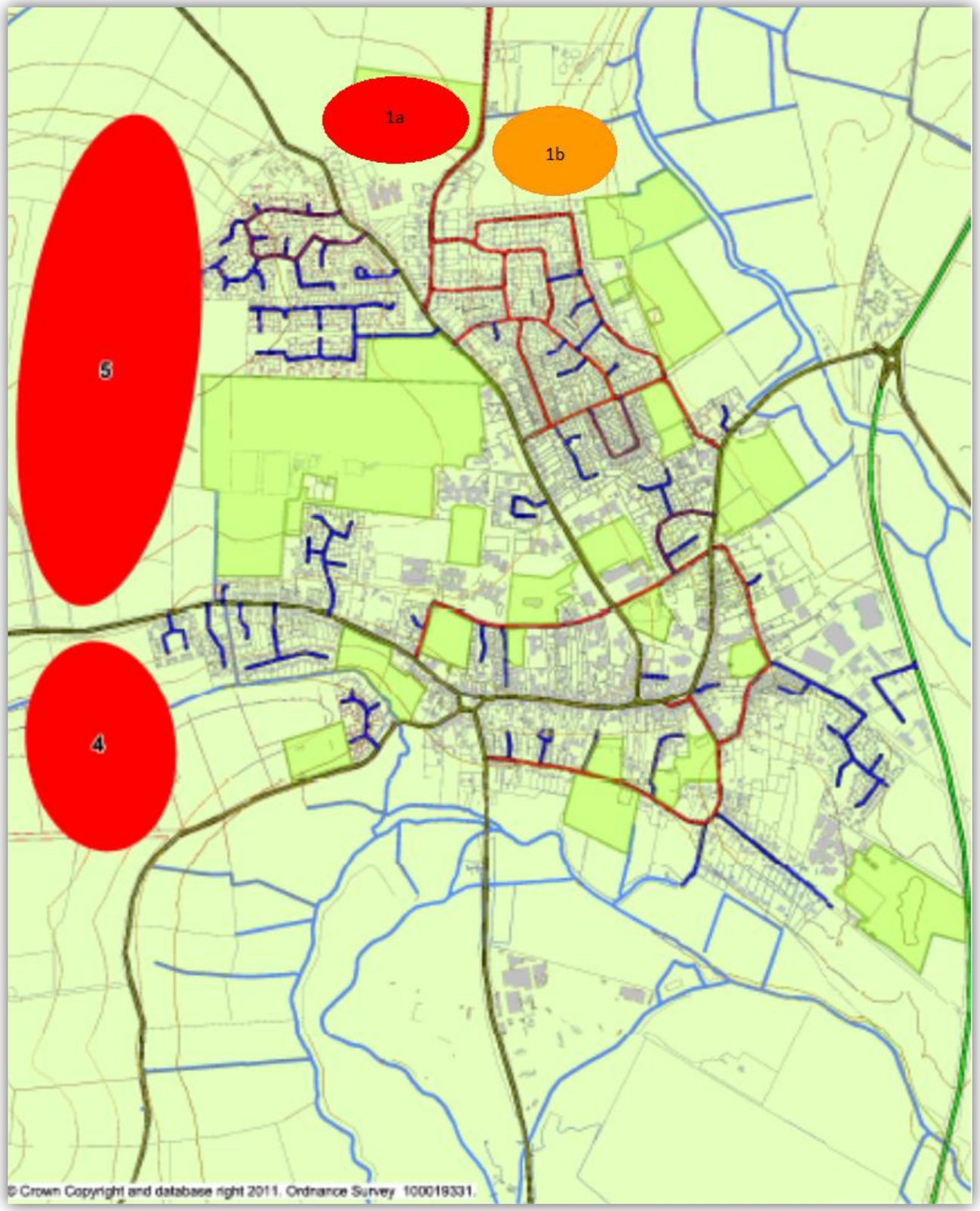


Figure 170 Areas for assessment

Segment	Connections			Barriers	Comments	Integration capacity grade
	Brown routes	Red routes	GI			
1a	1	1	Footpath routes exist to north, and local lanes. No clear GI route back to town centre.	School forms a barrier at the edge	Could link between Cotterstock and Glapthorn Roads to create a grid. Improvements for walking and cycling to the town centre along Glapthorn Road would be necessary to encourage people to use these modes.	C
1b	0	2	Adjacent to Nene GI route which links north and south	Designated open space – but this could form part of a GI route or be designed into the movement strategy for any sites to the north.	Could link on to St Peters Road and Occupation Road to form an extended irregular grid of streets between these roads and Cotterstock Road. Would need improvements to GI route to town centre.	B
4	2	0	No - Some important open land is identified within this segment – there may be potential to create some GI links, though none exist at present.	Segment already incorporates some disjointed cul-de-sac development	Some cul-de-sacs might have some potential to link up Existing public right of way between the two brown routes	C
5	2	0	No – existing playing fields are not publicly accessible	Oundle School playing fields currently act as a barrier Loop and cul-de-sac development	Distance to and choice of routes to the town centre would need to be considered Large segment therefore relatively large amount of development would be required to achieve the required connections to make this option work	C

34.3 Conclusions

34.3.1 Both sectors receive a Grade C or medium score as there are limited routes to connect to and create a connected network. The sector areas are very large, and would need to be brought forward together to create the most opportunities to create connections. The full assessment matrix is below.



Grade A (best integration potential)

Grade B

Grade C

Grade D

Grade E (least integration potential)

Figure 172 Summary of integration potential.

35. Rushden/Higham Ferrers

35.1 As highlighted within the baseline analysis, in terms of movement and structure the settlements of Rushden and Higham Ferrers are inextricably linked. As such, for the purposes of the analysis of structure and movement, the settlements of Rushden and Higham Ferrers have been considered together. This section draws upon the baseline analysis of the settlements' movement structures to assess the integration capacity of potential organic growth at the two towns.

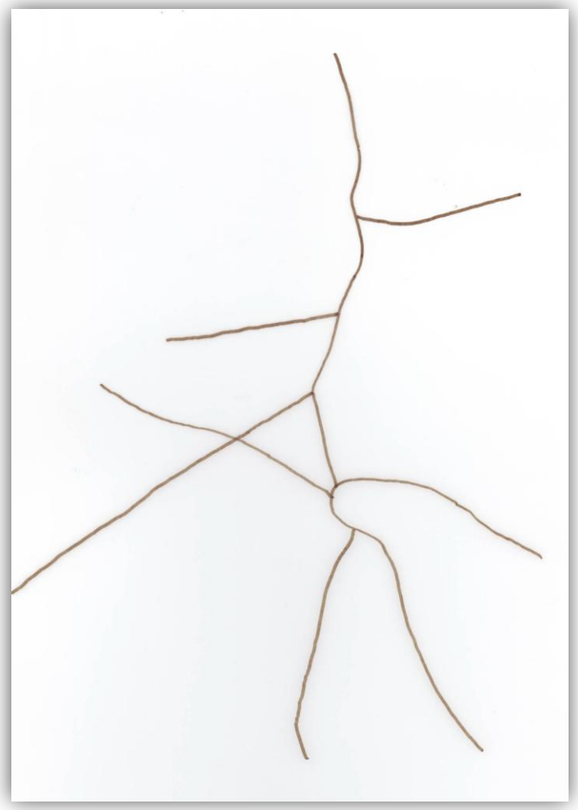


Figure 173 Key structuring routes

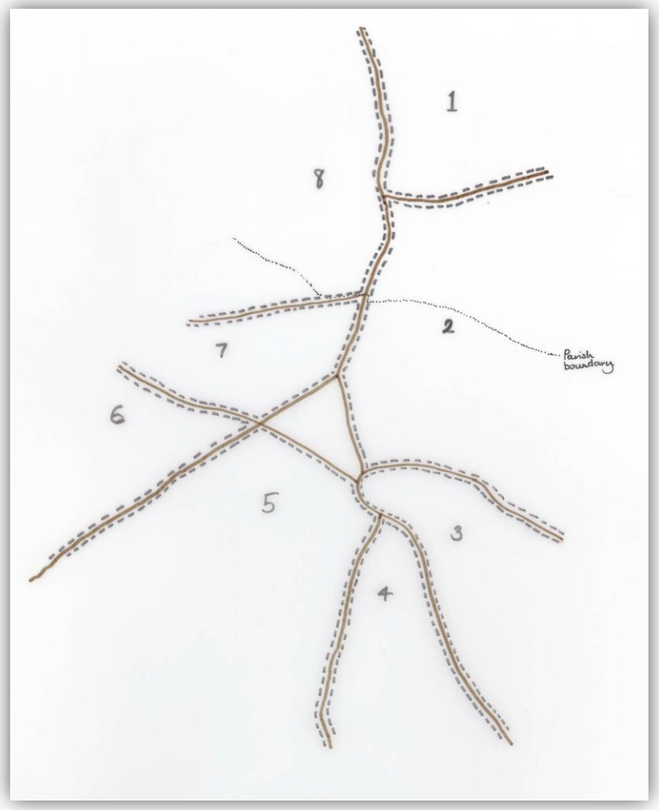


Figure 174 Segments

35.3 Summary of opportunities and constraints

35.3.1 There is very limited opportunity for development within the existing built up area and therefore any significant additional development would need to be accommodated around the edge of the existing built area.

35.3.2 Options for growth to the north of the A45 are extremely limited due to the River Nene. This is a regional green infrastructure corridor.

35.3.3 Based on the above conclusions, potential directions for growth are limited to the south-west and east of the settlements.

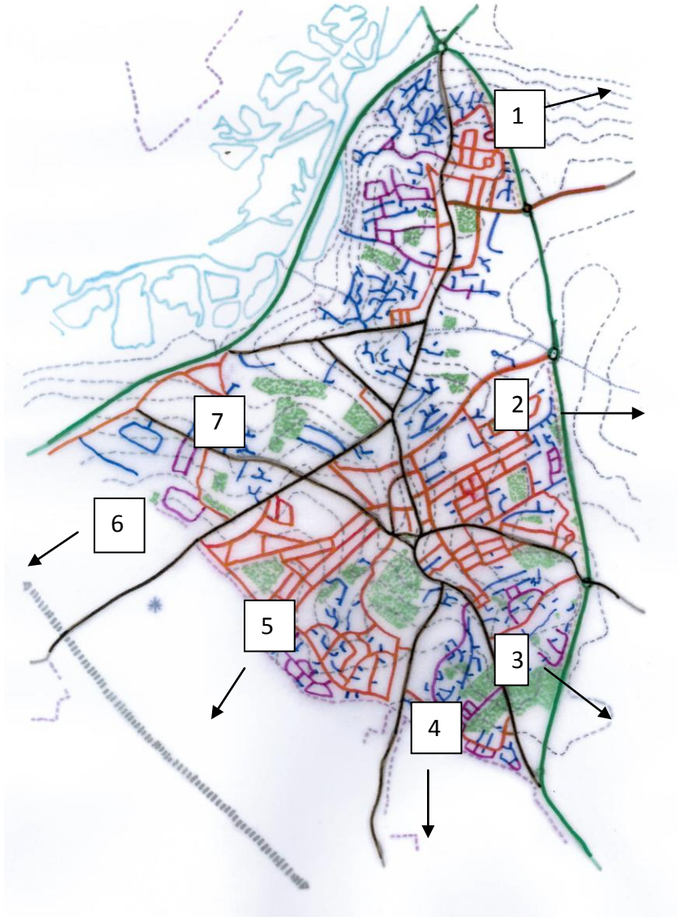


Figure 176 Direction of growth

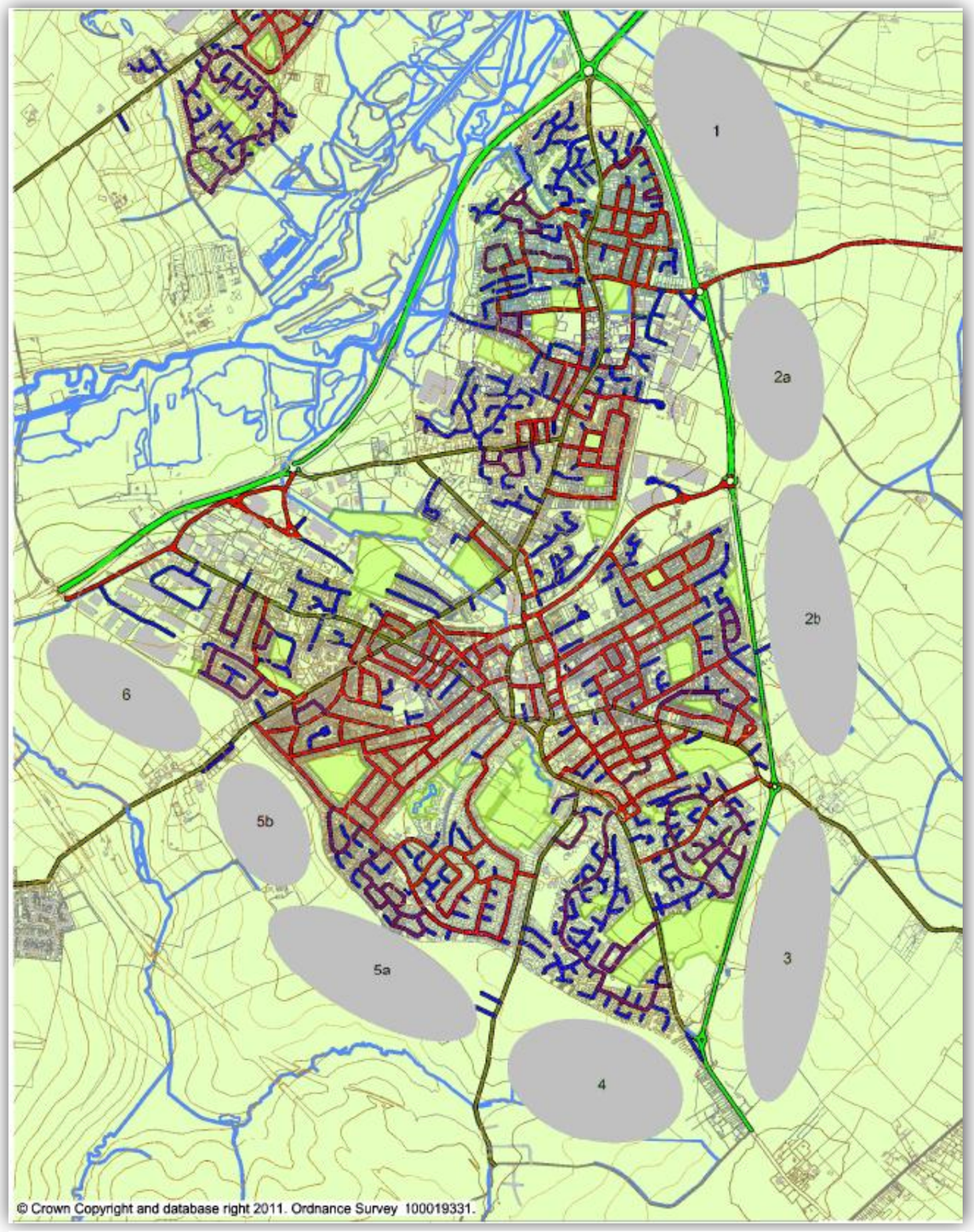


Figure 175 Assessment of edges

Site	Connections			Barriers	Comments	Integration capacity grade
	Brown Routes	Red Routes	GI			
1	1	0	No	The A6 currently forms a significant barrier. The existing built edge and noise bunding create further barriers along the A6. Topography	If the existing barriers identified could be overcome the adjacent street pattern is an irregular grid providing route options to the town centre.	C/D
2a	1	0	Existing right of way connection	The A6 currently forms a significant barrier. The existing green space and school on adjacent land currently act as a barrier to movement.	If any development/redevelopment were to take place on adjacent land, there may be potential to create a street pattern which could transcend the A6.	C
2b	1	0	May be scope in the northern area to link to an existing right of way and then into the Greenway	The A6 currently forms a significant barrier. Some loop development on adjacent land, though this joins into the regular grid. Existing built edge forms a barrier in some places. A noise bund forms an additional physical barrier.	A change of character of the A6 would be necessary, including removal of the existing noise bund. There may be some potential for the creation of a new connecting route into the roundabout with John Clark Way.	C/D
3	1-2	0	No	The A6 currently forms a significant barrier. Loop and cul-de-sac development on the opposite side of the A6.	Even if the character of the A6 were altered, the existing street pattern would currently prohibit direct route options toward the town centre.	E
4	2	0	No	Adjacent to loop and cul-de-sac street patterns. Existing built edge condition. Bedford Road meets the A6 (green route) to the east of the area.	Only two realistic direct links to the town centre – the two brown routes.	D
5a	1	0 directly (though there may be scope to connect via existing cul-de-sacs)	No	The existing built edge condition to the south of Rushden forms a continuous barrier. Some of this area is adjacent to late 20th century loop development.	Two existing cul-de-sacs may provide some potential to link to the irregular grid pattern to the north.	B/C
5b	1	0	No	The existing built edge forms a continuous barrier.	The existing grid street pattern (with direct links to the town centre) could be extended into this area, though this would require 'punching through' the existing built edge.	C/D
6	1	0	No	Adjacent street pattern is based on cul-de-sacs, and land uses are predominantly industrial/commercial A45 to the north	All movement to the town centre would be focussed on Irchester Road. Existing barriers are not easily surmountable unless there is substantial redevelopment of the adjacent commercial zone. The street pattern and nature of he land use do not make an attractive pedestrian environment.	C

35.4 Conclusions

35.4.1 Segment 5a is considered to have the greatest potential for easily connecting into the existing urban structure as development would connect to Rushden Road (a primary street), and there is scope to connect to the existing local streets by extending the cul-de-sacs. The character and pattern of the irregular grid to the north could be used. Improving access to the countryside, and creating green spaces to link to the GI to the north, would further improve the score, but it is acknowledged that the existing built form creates a continuous barrier within which there are looping streets which are not particularly direct. The full assessment matrix is attached below.

Grade A (best integration potential)

Grade B

Grade C

Grade D

Grade E (least integration potential)

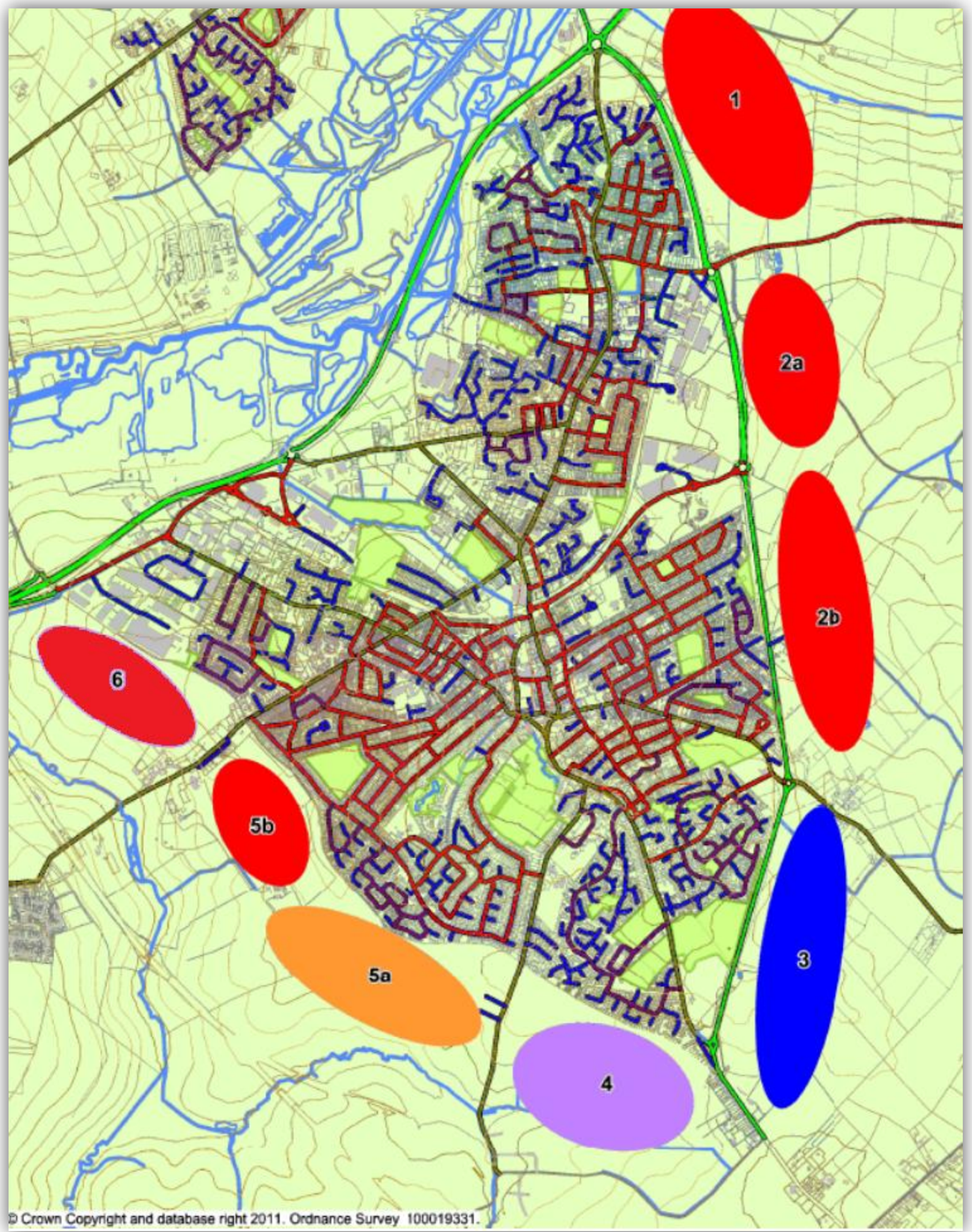


Figure 177 Integration assessment

36. Thrapston

36.1 As highlighted within the baseline analysis, Thrapston town centre is equidistant from the eastern edge of Thrapston and the centre of Islip village, which lies to the west of the river. As such, for the purposes of the analysis of structure and movement, the settlements of Thrapston and Islip have been considered together. This section draws upon the baseline analysis of the settlements' movement structures to assess the integration capacity of potential organic growth at Thrapston.

Figure 179 Structuring routes

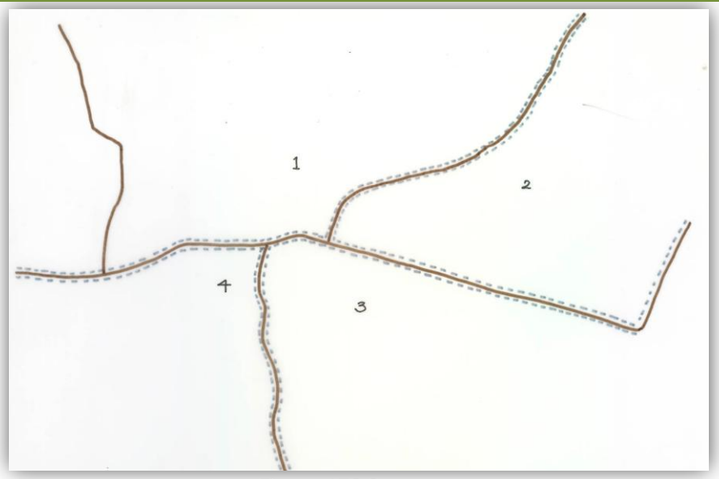


Figure 178 Segments

36.3 Summary of constraints

36.3.1 Based on the opportunities and constraints identified, it is concluded that:

- There is no opportunity for any growth to the north of the town, which could be appropriately integrated with the existing fabric. In this direction there would be an impact on the SSSI and the Special Protection Area, and the majority of the land forms Thrapston Lakes.
- Opportunities directly related to Thrapston would involve development on the opposite side (south) of the A14 (3) or east of the A605 (area 2).
- Through the recently adopted Rural North, Oundle and Thrapston Plan, land is allocated at Thrapston South for a mixed use development. This will effectively fill the gap between the current built up areas, but does not represent the expansion of the town beyond its current physical limits, namely the A14.
- Given the location of Thrapston town centre and the movement relationship with Islip, a number of potential directions for growth to the west of the river have also been identified.

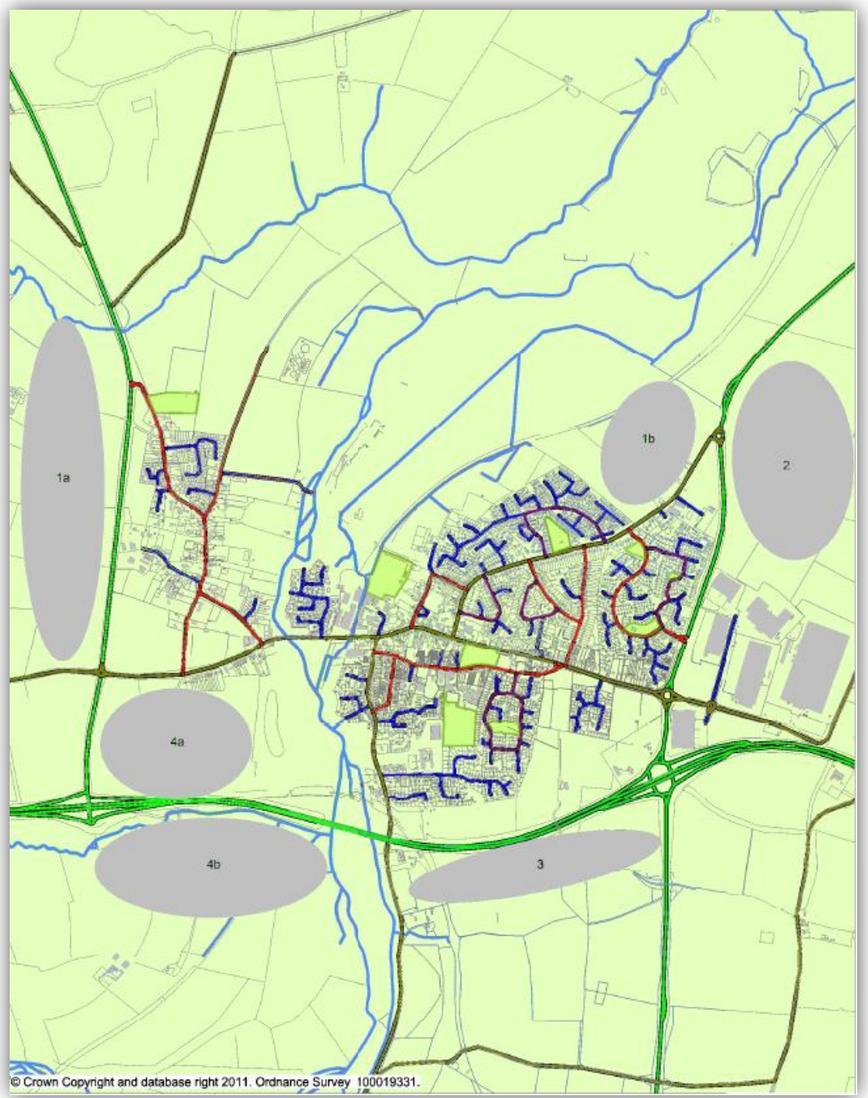


Figure 180 Assessment areas

Segments	Connections			Barriers	Comments	Integration capacity grade
	Brown Routes	Red Routes	GI			
1a	1	1	No	A6116 - green route carrying traffic off junction 12 of the A14. Heavily trafficked though the width etc of the road is perhaps more easily addressed than some green routes. Limited routes to connect to on the opposite side of the A6116.	Topography may be an issue here - land slopes down eastward toward the watercourse. Potential to create high quality pedestrian and GI routes through Islip using existing streets and open spaces.	C
1b	1	0	Yes – Adjacent to Nene Valley Strategic GI route although could be better linked up with town	Cul-de-sac development and development backs onto this area.	Potential route around the north of the town toward the town centre adjacent to the watercourse.	C/D
2	1	0	No	A605 and roundabout junction. On opposite side of A605 is loop and cul-de-sac development.	Adjacent to commercial area which is dominated by warehouses – this is not well integrated into the urban structure of Thrapston.	D
3	1	0	Yes - green and blue corridor running northward	A14 - a substantial constraint. Likely to be noise mitigation measures associated with the allocated development site on the opposite side of the A14, which could act as a physical barrier.	A14 is unlikely to be substantially changed in character in the foreseeable future, and as such is a significant constraint which would be very difficult to effectively overcome.	E
4a	1	1	Potential for links/paths across the river?	River Nene and gravel pits. As such, there is currently only one point of access from the site to Thrapston town centre (although there is also a more indirect route via the existing built area of Islip and the existing public rights of way)	Would need to explore potential pedestrian and cyclist routes – potential for additional crossing point of river.	B/C
4b	0	0	Yes - green and blue corridor running northward	A14 River	Substantial constraints not easily overcome	E

36.4 Conclusions

36.4.1 The sector with the greatest potential for integration with the existing built form is 4a, within Islip, due to its proximity to the town centre and to a direct radial. However, development would be isolated within this sector by the river, A14 and A6116, so it would need to facilitate additional pedestrian/cycle connections over the Nene. Scope exists to improve the green spaces and waterway spaces between this sector and the town to improve access and provide more leisure amenities.

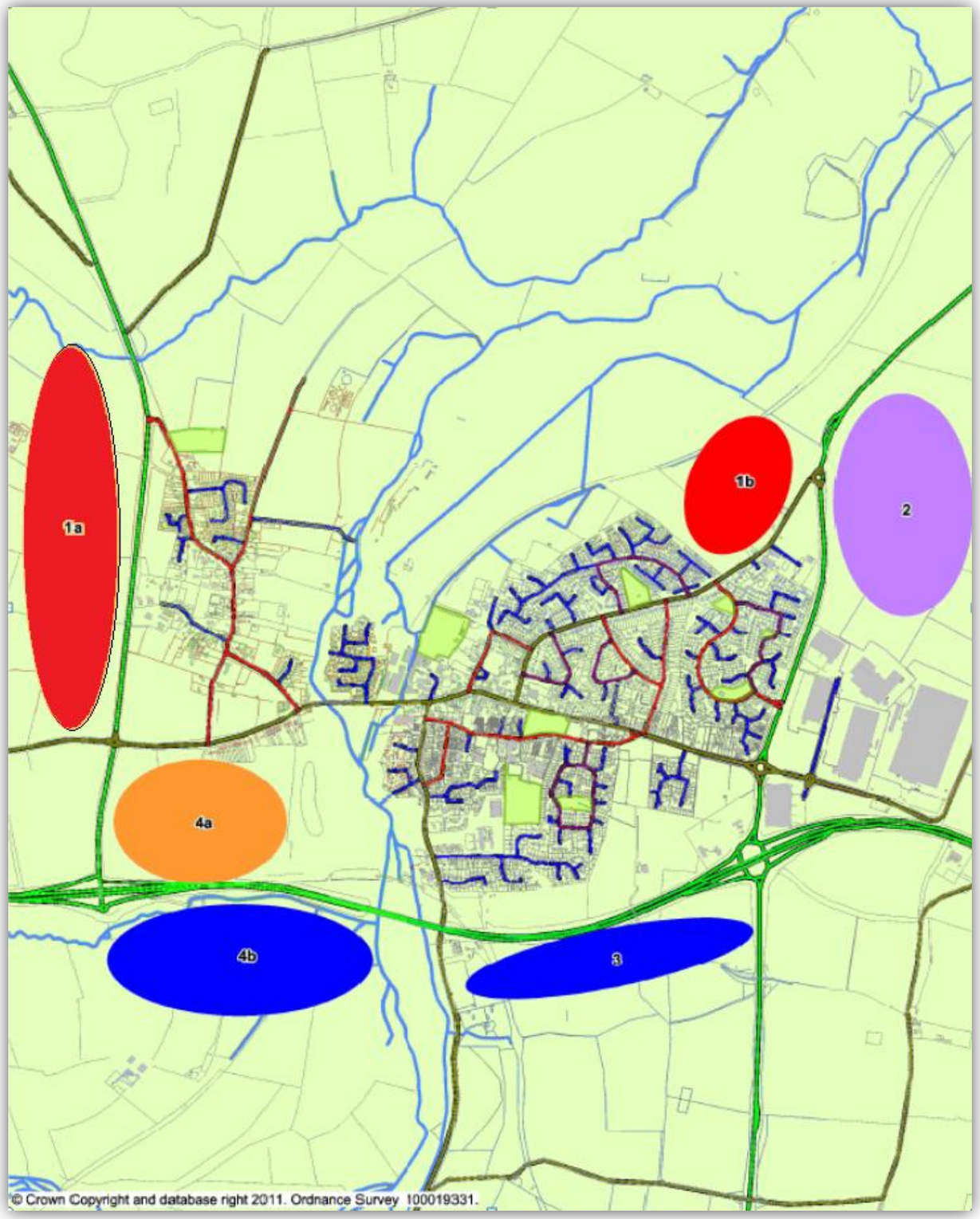


Figure 181 Integration assessment

Grade A (best integration potential)

Grade B

Grade C

Grade D

Grade E (least integration potential)

Chapter Four: Site Principles

DRAFT

Chapter Four: Site Principles

This final chapter, summarises the key attributes and issues of each town, drawing together the themes of Chapters 2 and 3, and then applies those findings to creating specific principles for strategic sites within the settlements.

37. Wellingborough

37.1 Summary of overall policy and principles recommendations

Well connected...		**Mix up uses**	**Streets for All –safe, pleasant, characterful and lively for all users**
...From the centre to the edge	Prioritise the historic radial streets, which are the most connected, for improvements for all modes of transport. Ensure good connections to these radials for the major new urban extensions, ensure that they are the focus for active mixed uses and that they are of high quality for all users, particularly pedestrians, cyclists and public transport.	The town is of a walkable and cyclable scale, with relatively well connected structure, but industrial and out of town shopping areas are much less walkable and segregate shopping and employment from the residential and cultural areas. In future, greater use of mixed use areas and enhance zoned areas for all.	New development in Wellingborough should draw from its existing character in streets and forms to achieve development which is locally distinct**,** understanding the local street patterns and geometry - There is a clear pattern of streets and open spaces. There are historic regular and irregular grids. Built form continuously encloses the spaces between buildings to define it.
...Through the suburbs	Connecting up the cul-de-sac areas where possible and ensuring that existing shopping and service areas are developed to promote walking and cycling access.	More mixed use areas in new development and fostering the existing small local centres with additional mixed uses and employment should occur. Also a more flexible mixed use approach to the SUEs could allow for more employment space, and smaller unit sizes within the SUEs	
...At the edge	The A45 and A509 form barriers at the edge of Wellingborough. Where development has already gone beyond, or seeks to grow beyond these barriers, the roads will need to change character, so that they are more pleasant for everyone to use – both along and across the roads. Lower speeds, pedestrian and cycle crossing points, pavements alongside and frontage on to them will need to be created. The Isham-Wellingborough Improvement road (IWIMP), should be designed with pedestrians and cyclists in mind to ensure it does not become a similar barrier. The development of the edges of Wellingborough will need to consider longer term growth opportunities to allow future development to connect to new and existing areas. In addition, improving connections at the edge of the settlement to facilitate access to the surrounding smaller villages by linking up GI routes and improving cycling facilities along the radial routes beyond the settlement will be important. Creating a good first impression at the gateways at the edge of the settlement was also considered advantageous		
...Via green space networks	It will be important to capitalise on the excellent GI links within the town to make more connections, and to make the connections of high quality to facilitate access to the Nene Valley in particular, and links to local settlements. Capitalise on heritage of significant street trees.		

37.2 Potential Strategic sites - Policy Recommendations

37.2.1 Wellingborough East – Stanton Cross

The site lies within a sector assessed as Grade B so it has a good level of possible integration with the wider town.

The approved masterplan and the Wellingborough Site Specific Proposals DPD seek to create connections and WEAST could successfully link and extend the eastern radial out across the railway line. Nonetheless as the detail emerges, or if the master plans changes, the following policy recommendations should be borne in mind:

- Maximise GI connecting opportunities, particularly to the Rivers Nene and Ise
- Make connections to radial routes as straight and direct as possible
- Improvements to gateway points to the site including the Station.
- Focus mixed use development along the extended radials within the site
- Provision of walkable connected streets, based on characteristic Wellingborough street patterns and forms. 2 clear street patterns exist close to site (Victorian rectilinear grids and post War irregular grids) which could form the starting point for designing new street patterns. Ensure development allows for future expansion along primary and other streets.

37.2.2 North West Wellingborough

This large site lies within a sector assessed as B/C (with B being the closest to the existing town).

The approved masterplan seeks to create connections and resolve some of the problems of the A509. Key remaining issues/policy recommendations are:

- Integration of IWIMP to allow access across and along for peds/cyclists
- A509 to south – improvements to allow access and links to existing local centres and to newly accessible countryside to north. Encourage frontage development to A509 south side.
- Scope for improved linkages east to Park Farm Way industrial estate and thence Nene GI linkages.

37.2.3 Appleby Lodge

Development principles are set out in the Wellingborough Site Specific DPD, but additional matters are highlighted below. The site lies within a sector assessed as C on the integration grading.

- Continue GI corridors through Park Farm Way and to south and enhance out into open countryside. Potential additional orbital routes to link to NW Wellingborough GI routes.
- Need to overcome major barrier of A509 with better access for all modes across and along this route, and encourage built frontage wherever possible. Reducing speed on the road and public realm improvements to make it feel more like a town street, rather than a ring road. Enhancements for walking and cycling along Sywell/ Hardwick Roads.
- New development should seek to connect to existing streets in the existing Industrial estate and enhance the green infrastructure and public realm routes to the site through the existing industrial area. Ensuring that the streets are designed for all users, so that whilst the area is only for employment uses, it still feels a pleasant route through the town to access the countryside beyond.
- Ensure that alongside the main employment uses, other local facilities, such as crèche, local shop/sandwich bars and open spaces are provided to ensure a wider mix within the area.
- Use Wellingborough town (and local settlement) connected street patterns and forms to generate local character, particularly the irregular grids and linear forms in Wellingborough and in its surrounding settlements. Ensure that new development fronts onto the main routes through the site, providing pedestrian access at the front from the street.

(Factual update: Wellingborough Council resolved to grant outline planning permission, subject to completion of a s106 agreement, for an employment development on this site in July 2013)

37.2.4 Park Farm Way/Shelley Way

Development principles are set out in the Wellingborough Site Specific DPD, but additional matters are highlighted below. The sector assessment has focused on land outside the current town edges, which does not apply to this site. However, using the same methodology, this site would be graded B on the basis that it can connect to a brown route (Northampton road), it could link to the adjacent red route and the local grid, it can access nearby GI routes and provide a GI connection through the site itself. The main barrier between it and the town centre is the distance and how pedestrian and cycle friendly Northampton Road is, which could be improved relatively easily:

- The site is adjacent to a radial route into the town centre and a GI route to the town centre. Both are already good routes, but any enhancements for walking and cycling could further improve them.
- Ensure active frontages to Northampton Road and enhancing the gateway into Wellingborough here would set the tone for the rest of the radial.
- The site offers scope to enhance access to the wider countryside and the potential to extend the existing GI route into the countryside, and to reduce the severance effect of the A509 by offering safe crossing points across it (with necessary reduction in speed) and frontage and landscaping along it to increase the sense of enclosure and help reduce speeds. The Site Specific DPD seeks provision to be made for widening this road. If this is brought forward, this would need to reconcile the need to cross the road. This may well require design intervention such as a generous central reservation area to allow people to cross/boulevard approach (see example from Milton Keynes below). A boulevard approach would also allow for a local street alongside the main thoroughfare which could be slower speed and have frontage access along it. The Site Specific DPD also suggests having a landscaped buffer alongside the A509. Introducing additional landscaping would help to reduce speeds and create a better sense of place, but it should not provide an additional barrier to crossing the road. Built frontage to the road and direct access from it to side streets would also help to serve to reduce speeds and animate the street.
- The site could blend well with the existing local street pattern of rectilinear grids and should seek to connect to these wherever possible

Resolving the issue of crossing the major roads which encircle the existing edges of Wellingborough, and across new roads like the IWIMP is common to many of these sites so that the new developments can connect easily to the existing town. The approaches adopted will depend on the expected vehicle movements along the roads. In some instances, reducing the vehicle speed, introducing building frontage and having side roads access on to them could work. For roads which will need to maintain a high number of vehicle movements and higher speeds, adopting a boulevard approach may work since it would allow the same amount of traffic through, would facilitate frontage access to the access lanes and would divide up the carriageway so that its easier for pedestrians to cross.

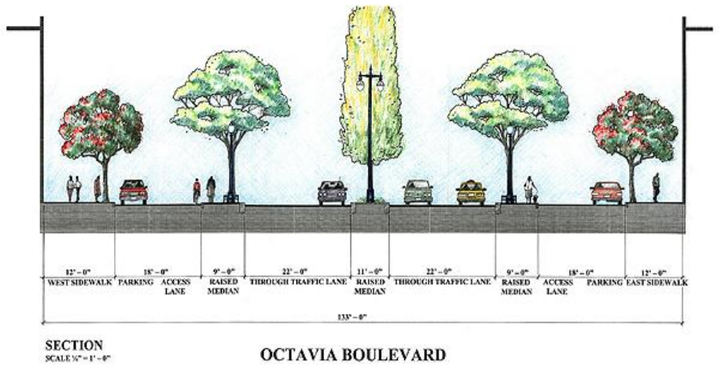


Figure 182 Boulevard, Milton Keynes

38. Corby

38.1 Summary of overall policy and principles recommendations

Well connected...		**Mix up uses**	**Streets for All –safe, pleasant, characterful and lively for all users**
...From the centre to the edge	Focus on the key road routes to the town centre to ensure they are designed with pedestrians and cyclists in mind along with improved links between the out of town retail and the town centre.	New employment should be delivered in mixed use areas which should include a network of connected walkable streets, green spaces, a variety of unit sizes, community and retail spaces so that they can serve the employees and nearby residents. Existing zoned areas need to be developed to connect with the rest of the town, so that they are pleasant to go through to get to developments beyond them.	Change emphasis on road strategy to prioritise pedestrians and cyclists. Increased use of home zones and low speed limits in residential areas, reduce speed limits on existing trunk roads within the town to allow for cycling, walking and encourage frontage access to and built form to line these streets.
...Through the suburbs	Neighbourhoods are disconnected by major roads and street pattern of cul-de-sacs and loops. New neighbourhoods to be internally well connected, but also to improve links through existing areas to local centres/town centre. There are few choices of routes in the employment areas to the North East of Corby, and so providing additional streets would help people access the employment and services more easily. Significant interventions are needed to link up cul-de-sacs and create more connections to adjoining communities, such as is planned at Kingswood.	Continue efforts to intensify and diversify land use within the town centre and to improve its links to the Old Village. but also Explore scope to accommodate small scale employment, and housing in existing local centres to support their viability.	
...At the edge	Ensure new development and access to the countryside at the edges of the town is not severed from the town by the existing large roads or industrial areas.		
...Via green space networks	Keeping the focus on green infrastructure, not just as a destination, but also a connecting route, is important. Prioritising funds towards the creation of well connected safe routes through the open space will continue to be very important.		

38.2 Potential Strategic sites – Policy Recommendations

38.2.1 Corby West SUE

This site sits within the sector assessed as D integration since there are significant issues. Addressing these will be critical and the following principles set out the key matters to overcome these integration problems.

- **Improved connections to town centre via:**

Create linked GI route from the town centre, through existing areas and the new development, to the wider countryside. This could be achieved by linking the existing pockets of open space within the existing residential areas with foot/cycle paths to form a route and by utilising the green open space around Cottingham Road to form a GI link into town. Safeguard thee connections in future development.

Enhancements to Cottingham Road to improve walking and cycling links and crossing the roundabouts (also links to local schools).

Links to Gainsborough Road and walking/cycling enhancements where necessary.

- **Improved local integration through:**

Design changes to A6003 to reduce speeds, create routes along and across it and provide built frontage wherever possible. Make best use of the water easement to create enclosure and interest through landscaping, public art and views of built form.

Create as many linkages through to the existing streets as possible, but in particular through to Gainsborough Road and around both school sites. Safeguard these connections in future development.

Improvements need to be carried out to the existing town structure – creating connections across the road (eg links to Beanfield estate – continue pedestrian/cycle links across such as off Bridgewater Court and creation of frontage on eastern side of A6003).

Enhanced GI routes to local centres eg Danesholme.

- **Improved access to wider countryside** through better links to Jurassic Way and surrounding footpaths. Water easement a possible new GI route to form GI orbital round Corby.

- **Integrate old and new communities** by creating good access to existing local centres and by providing mixed used areas within the new development with employment, local shops, schools in clusters.

- **Ensure new street patterns are connected**, limiting use of cul-de-sacs and with a clear street hierarchy and with mixed uses and civic uses on the most connected streets.

38.2.2 Rockingham Enterprise Area/Land at Cockerel Road/Willowbrook North

A number of sites are assessed together here since they are within the same segment with similar issues. They are within the town's boundaries and so were not subject to the sector analysis to generate a connectivity grade. However, using the same methodology, the sites are B/C grade in that there are local red routes to connect to and a partial grid which could be connected to and improved along with scope for GI connections.

See also the Rockingham Development Framework which sets out design principles.

- **Improve access to the town centre**

Improve connections to the town centre through provision of Willowbrook GI route and scope to use link along old railway line or GI route alongside. Improvements, where necessary, to Rockingham Road, for walking and cycling. Enhancement to Heritage Way as one of few crossing points of railway line. Improvements to Phoenix Parkway for walking and cycling, scope for more intensive land use to street frontage to create activity and enclosure.

- **Improve Local integration**

Through connecting to existing cul-de-sacs in adjacent industrial areas. Need to ensure walkable block sizes, and wrapping large units with smaller active frontages. Good walking and cycling links to Priors Hall.

- Seek to provide a **mix of uses** including employment, leisure, places for workers to eat, open space in walkable blocks. Whilst pure residential uses might not be appropriate, the area should still be walkable, and compatible with the wider area.

- **Access to wider GI network**

The key GI link to the wider countryside is along the Willowbrook, but also to access the wider countryside to the north.

Walkable employment areas

A key issue is that the zoning of Corby has led to areas within or beyond the industrial areas being disconnected. Ensuring that new development, or redevelopment within these employment districts is still walkable and considers the zone as part of the wider town is important. Using a "smart code" might be a helpful way to consider developing the area, which seeks to ensure walkable areas and the correct forms of building are used within the town. For example in El Paso, Texas where SmartCode principles extend to the airport to create a walkable main street with shops, businesses etc based around 5 minute pedestrian walking zones, see link and example below.

(http://www.elpasotexas.gov/smartcode_workshops.asp & http://placeshakers.wordpress.com/2011/09/16/special-districts-getting-all-mixed-up/)

Ensuring that the built form fronts the streets and has entrances, and offices located at the front to create as many front doors as possible. Servicing and car parking should be contained within the block, behind the street frontage.

39. Kettering

39.1 Summary of overall policy and principles recommendations

Well connected...		**Mix up uses**	**Streets for All –safe, pleasant, characterful and lively for all users**
...From the centre to the edge	**Prioritise the radial routes** Prioritise these radial routes, which are the oldest and most direct, for investment in pedestrian and cyclist movement to promote local connectivity. Ensure there are active frontages along these major spine routes and development does not turn its back on them, as it has done in the past. Focus civic, social and community buildings on the key spine routes to improve access to them.	**Ensure mixed neighbourhoods** Out of centre retail areas need to develop role as local centres too – with much better local access for walking and cycling to nearby residents and businesses. Existing and future employment areas should still be developed to facilitate pedestrian and cycle movement with a wider mix of uses to include open space, shops, leisure, varied unit size and scope for additional housing.	**Promote walkable and cyclable connected places.** The town is of cyclable scale so prioritise cycling as a quick and relatively inexpensive solution to traffic related problems. Use the Victorian and 1930s connected streets as a model for development and limit cul-de-sacs in new development.
...Through the suburbs	Identify ways to reconnect the isolated suburbs to the centre and to each other by joining up routes, creating links. Similar problems exist in some of the industrial areas, where connecting routes to ione another would allow these areas to form part of the overall movement structure of the town.		
...At the edge	Create better direct, logical and safe pedestrian and cycle links across the major roads which encircle the town. If the town is to develop beyond the A43 and A6003, then the character of the roads will need to change so that they become more like town streets, not bypasses. This will need more tree planting, wider footways, active frontage where possible, pedestrian routes along and across and streets accessed off the main roads. Landscaping to give a sense of enclosure, where frontage built form is not possible could help to integrate the street into the rest of the town and reduce speeds. The A14 creates a significant barrier to the countryside and outlying settlements. The focus should be on the existing bridges and underpasses to ensure that they are safe and hospitable for pedestrians and cyclists as well as vehicles.		
...Via green space networks	The rivers should act as a the primary focus for quality routes – both along the Ise, but also the Slade Brook. Ensure new green spaces are well connected to the main movement networks. Street trees and green streets to connect the green spaces. Integrate parks into movement network – so that they become active places on the way to somewhere. Explore opportunity to use the land alongside the railway line as cycle/GI route.		

39.2 Potential Strategic sites recommendations

39.2.1 Kettering North

Kettering North currently has a low integration score of E.

Improve access to the town centre through enhancements for walking and cycling along Rockingham Road radial route, and importantly at the junction with A43/A6003. There is no GI route to the town centre from the North. There are however, disparate open spaces which could be linked by enhancing existing streets to become "Green Streets" with additional landscaping, trees, improvements for walking and cycling, places for sitting.

Improving local integration This is likely to be difficult because of the A43 and the layout of built form to the south of it. Clear and safe pedestrian crossing facilities and improvements to the routes through to the residential areas to the south would be necessary to help overcome this problem in part. Some built frontage to the A43 would help to reduce speed and should be linked to opportunities to places to cross and access into the existing open space.

Mixed use

Any new neighbourhood to the north should include a mix of uses to ensure that it fits into the town's structure providing people with a greater mix of uses such as opportunities for cafes, crèches, open spaces.

40. Burton Latimer

40.1 Summary of overall policy and principles recommendations

Well connected...		**Mix up uses**	**Streets for All –safe, pleasant, characterful and lively for all users**
...From the centre to the edge	Improve radials for walking and cycling with slower speeds, wider pavements and tree planting.	There is scope to introduce a greater mix of uses in smaller scale units within the town centre, to support more employment and a wider mix of uses within the town. There is a significant change in scale and urban grain to the north west of the town in the employment areas. There could be continued pressure for continued large scale employment but this needs to be alongside a wider mix of uses, and smaller units, which can provide a more animated and human scale frontage and street pattern, and facilitate a wider mix of uses.	**Use the historic layouts to guide new development:** The existing interconnectivity, pedestrian scale and grid layout which characterises the existing morphology of the town needs to continue with any new development reflecting these principles. **To support the town centre** public realm improvements on the High Street would create a safer and more pleasant environment.
...Through the suburbs	Improved access to the town centre from the residential area to the east.		
...At the edge			
...Via green space networks	Join up the green spaces, using the River Ise and local streams as connecting routes through the town. Improve cycle links to Kettering – explore the potential for links alongside railway line and Ise.		

40.2 Potential Strategic Sites - Recommendations

40.2.1 Kettering Business Park adjacent to A6 Burton Latimer

The site is disconnected from the town by the A6, so overcoming this barrier would be critical in its integration. Good scope exists to connect the site to Burton Latimer via a GI walking and cycling route following the existing footpath connections, but this would necessitate much better crossing points of the A6.

Street connections are currently limited to the Cranford Road, which also would need improvements for walking and cycling. Limited scope exists to create more local connections to the residential areas to the south (Woodland Drive area).

Historic layouts – whilst large employment units are likely to be promoted here, ensuring they are within a more traditional street pattern and form will help to link the area to the town. Cranford Road is the most important street, and could form the skeleton of a main street with uses fronting on to it and with a network of smaller streets springing from it, with a variety of unit sizes and uses. Ensuring GI routes continue through the site in open space to add to the mix of land uses.

41. Desborough

41.1 Summary of overall policy and principles recommendations

Well connected...		Mix up uses	Streets for All –safe, pleasant, characterful and lively for all users
...From the centre to the edge	Ensure the town centre is as accessible as possible from: the North - public realm improvements and more active uses along Harborough Road to encourage walking and cycling and additional connection over railway line to connect to Desborough Greenspace and a GI route within it. From the west - Ensuring better connection across the Harborough Road . From the south - potential to create a southern gateway into the town and to improve the entrance to Federation Avenue and Pioneer Avenue and public realm improvements.		Better quality public realm is required in the town centre to make it feel more pleasant. Public realm works to signal a sense of arrival and draw people into the centre from the old A6 would be beneficial.
...Through the suburbs	Cul-de-sacs should be limited in new developments and ensure that new development uses the traditional character of Desborough's Victorian grid streets or the more rural historic lanes to generate new places which connect to one another and respond to the local context. Promote walking and cycling connection to Rothwell.		
...At the edge	There is poor access to countryside to the north, but potential to improve this via a new bridge link to Desborough Green Space. Access to the south is restricted by building form. Any new development and infill on the edges should create a good countryside edge and provide new links to the open space.		
...Via green space networks	New open spaces should be seen as part of a wider framework and should be provided as part of new development. New and existing GI assets should be linked with wider GI corridors identified by the River Nene Regional Park (RNRP), the Kettering Green Wheel project and the emerging Kettering Site Specifics DPD.		

41.2 Potential strategic sites recommendations

41.2.1 Desborough North

This site is assessed as Grade D, so there are significant issues on integration to address. (Factual note: Kettering Borough Council resolved to grant outline planning permission for development of this site, subject to completion of a s106, agreement in 2012)

Connection to town centre:

Ensuring better connection between the urban extension at Desborough North and the town centre is very important, so it can support the centre's success. The main barrier is the railway line which separates the two so the additional bridge across the railway is considered critical to help this area integrate better.

The only street link is Harborough Road, so upgrading the quality of this street to make it as pedestrian and cycle friendly as possible will be needed.

Local integration

The Grange, to the south of the site is built on a cul-de-sac street pattern with very contorted streets which will make it difficult to connect to and routes through it somewhat illegible. Maximising the number of connecting points, but laso having a clear hierachy to identify the main street within the development will therefore be important. Local links to the adjacent employment area should also be of high quality for people working nearby.

The site could connect into Back Lane which links two key routes through Desborough (Harborough Road and Pipewell Road) and would provide some more direct links to the radial route into town.

GI

Development could connect to existing footpaths and the wider network. These footpaths do not directly link to the centre, but should link into any future GI network towards a new railway crossing. . There are links to the surrounding countryside and villages. Local GI corridors are found to the north of the site and so the site offers scope to connect to these and to link them to the GI route to the town centre.

Figure 183 Harborough Road – simple measures to visually narrow the road to help slow speeds, different surface treatments and wider pavements to prioritise walking and cycling movement on this key radial. Good ideas are to be found in the Hamilton Baillie Associates "Traffic in Villages" toolkit for rural communitieshttp://www.hamilton-baillie.co.uk/_files/_publications/50-1.pdf

Figure 184 Dunster, Exmoor – showing how simple footpath realignment, surface materials and removal of signs and lines can create a very different lower speed environment that emphasises the character of the place. Images from Hamilton Baillie.

Employment Areas – mixed use and walkability

Ensuring a mix of uses within employment areas is important to encourage a walkable neighbourhood.

Key principles:

- Include commercial services such as banks, childcare, and cafes near offices and industries, so employees can undertake daily errands without needing a car.
- Include parks, public squares, and recreational facilities within office and industrial sites.
- Require connections to adjacent neighbourhoods.
- Require a connected street pattern. Avoid cul-de-sacs.
- Require pavements and cycle routes, regular pedestrian crossings, street trees.
- Require that service areas and outdoor storage be located to the rear of buildings and out of pedestrian pathways, to the extent feasible. Require each building or development to be connected to adjacent buildings or developments via direct walkways.
- Require pedestrian breaks and/or crossings at regular intervals
- Require that buildings face and have entrances near the street
- Encourage buildings to have active uses onto the street ie offices, factory shops etc

42. Rothwell

42.1 Summary of overall policy and principles recommendations

Well connected...		**Mix up uses**	**Streets for All –safe, pleasant, characterful and lively for all users**
...From the centre to the edge	**Improve east –west links** There is limited connectivity between the east and west of town, so an additional eastern link to the north of the town, avoiding the historic core of the town centre would ease congestion in the town centre. Potential to create an additional pedestrian link from the east to the town centre? Connectivity should be improved to the west of the town, as the road network is not well connected and difficult navigate.	New community facilities should be located on the key radial routes or well-connected grid streets, not on cul-de-sacs or loops. Routes to schools must be good quality, lit, have a hardsurface, be wide so they are suitable for cyclist and walkers, and be more direct than driving. Schools may need to allow secondary access points into school, and not just the front entrance (this could be for limited periods of the day to limit security concerns) to facilitate walking to school.	Walking and cycling links to Desborough should be improved as access between the two towns by this means is poor given their proximity. Additional cycle route to Kettering along the proposed GI link Removal of town centre on-street car parking, widening of pavements and improved pedestrian environment especially at the point of connection of Bridge Street/High Street and Desborough Road Promote safe walking and cycling along existing routes and signage for walking and cycling times to key locations
...Through the suburbs	Existing residential cul-de-sacs and loop road layouts are difficult to add additional development onto and this should be avoided with any new development.	Employment Alongside employment within the town centre, any employment sites on the edge of the town (such as to the west and south near the A14 junctions and close to the A6) need to ensure excellent walking and cycling links along the radial roads into the town centre. There is scope for small scale mixed uses within the north of the town too within the SUE to provide for passing trade.	
...At the edge	There is poor access to countryside to the north, but potential to improve this via a new bridge link to Desborough Green Space. Access to the south is restricted by building form. Any new development and infill on the edges should create a good countryside edge and provide new links to the open space.		
...Via green space networks	New development should continue the pattern of close links into the large open spaces. New development should provide for future development through linkages to open countryside outside the site boundary. Access to the Ise, and enhancements of footpaths to the North to reach this longer footpath network would benefit the wider GI network. There is an opportunity to enhance the park to the south of the Church, which is already a good connecting route with more facilities to draw more use, such as a cafe.		

43. Rushden/Higham Ferrers

43.1 Summary of overall policy and principles recommendations

Well connected...		Mix up uses	Streets for All –safe, pleasant, characterful and lively for all users
...From the centre to the edge	Improve the historic primary streets as the most direct routes to the town centre – particularly for walking and cycling..	Avoid locating key facilities (e.g. schools, doctors surgeries etc) in areas where connectivity is poor. Instead, these should be focused on primary streets, so that they are accessible by a range of transport modes.	Improve facilities for walking and cycling along the key primary streets.
...Through the suburbs	Existing residential cul-de-sacs and loop road layouts are difficult to add additional development onto and this should be avoided with any new development. Use Rushden's Victorian grid street pattern in any new development, to ensure that places are well connected. Analysis has demonstrated that this grid pattern is the most legible, and supports the greatest number of convenience shops outside the town centre. Identify ways to improve connections between the southern area of the town (i.e. the late 20th century development – cul de sacs). Connect existing cul de sacs where possible		
...At the edge	The A45 and A6 cut off the towns from the surrounding countryside and villages so improved links across these routes is key. in addition to the bypasses, there are several other factors which create barriers to movement at the edges of both towns. These include the pattern of built form (I.e. general lack of permeability) and noise bunding. These matters could be addressed, especially in the south of Rushden, by providing better links to the existing footpaths		
...Via green space networks	Better access to the Nene Valley, and more connections to the existing footpath and bridleway network would allow this to be connecting green route, particularly for cyclists seeking to get to Wellingborough station and the surrounding towns and villages. Connect up existing green spaces to provide a network and look to create new larger spaces on most accessible streets.		

43.2 Potential strategic sites recommendations

43.2.1 Nene Valley Farm

This site is not within a sector with scope to grow (as it is constrained by the A45 and Nene), so was not assessed as part of the sector assessment. However, the same principles can be applied. The site has therefore been assessed as a Grade D. This is because it does have a connection to a radial route (Northampton Road) but no other connections to any other local roads (although the site has a public footpath link in the east).

Improved connections to the town centre
Improving Northampton Road for walking and cycling would be important.

Improved local integration measures would be important to ensure that this site was not one large cul-de-sac. Scope for connections to Donne Close and for future development, routes to the north

Green Infrastructure
The site has the potential to help deliver a better connected GI network providing an east west link out to the Nene Valley

Glossary

Accessibility – access to a range of services through interconnected street networks.

Axial line analysis – Assessment of the street network based on drawing straight sight lines along the streets. The greater number sight lines required indicates a greater complexity in the street pattern, likely making the route less intuitive and legible.

Connectivity An assessment of how easy it is to move around a settlement since a greater number of route options allows more direct travel between destinations –considering how often streets and paths intersect, or how closely the intersections are spaced and how direct the connections are.

Continuous Enclosure – when building frontages define public spaces in continuous building lines. This allows private spaces to be protected by built form whilst the public spaces provide the access points to the buildings. Trees, narrow streets, awnings and canopies can also contribute towards and create a sense of enclosure.

Cyclable – an area within a town or city that is fit or designed for bicycle riding

Cyclable scale – a town where the town centre is within a 10-15 minute cycle ride of the majority of the settlement.

Design codes – criteria established to direct development through design based policies.

Fabric (e.g. urban fabric) – the physical material or built form of a building, structure or city.

Figure Ground Plan – shows the relationship between built and unbuilt space. Building footprints are generally shown in black for instance, and remaining open spaces in white. It is generally devoid of other detail that can confuse or obscure the spatial nature being examined.

Footfall – the number of people walking through a space

Framework (urban) – structure of the town ie its streets, open spaces, squares etc.

Green buffer – a landscaped space serving to protect development from noise/disturbance from adjacent roads/industry but can also provide a barrier to movement.

Green Streets – Conversion of an ordinary street into a heavily landscaped route to act as a connector between parks and open spaces, and to encourage walking and cycling along the route.

Green Infrastructure (GI) –. 'Green Infrastructure' is a network of multi-functional green space. It is set within and contributes to a high quality natural and built environment and is required to deliver 'liveability' for existing and new communities.

Humanize –to alter or make something more civilised and human scale. For instance, to allow for human interaction and enjoyment, or for built form to be designed with small scale details in mind as well as

Homezone – a residential street or group of streets organised to be prioritised for the needs of pedestrians and cyclists, with very low traffic speeds, where children could play and the focus is on the community living in the street, not traffic passing through it.

Isham to Wellingborough Improvement (IWIMP) – A509 Isham to Wellingborough highways improvement.

Isochrone –a time based travel map, showing how far you could get within a certain time frame.

Legibility – the ease with which people can understand the layout of a place..

Local distinctiveness – positive features of a place and its communities which contribute to its special character.

Masterplanning – an overall plan for a specific area or areas such as a town centre, district, neighbourhood or waterfront.

Modal shift – Efforts to encourage people to reduce private car use in favour of walking, cycling or public transport**.**

Morphology – the study of the form of human settlements The study seeks to understand the spatial structure and character of a town by examining the patterns of its component parts and the process of its development.

Mixed-use – a project or limited area of development which combines different land uses, such as housing, retail and office uses.

Noise bunds – man made landscaped ridge to deflect noise from roads/industry

Permeable – the extent streets in urban areas permit movement of people or vehicles in different directions.

Place-making – the art of making places collaboratively in a joined-up approach to city and urban planning.

Proximity – nearness of services and facilities in a particular area of the city, town, district or neighbourhood.

Radial route – streets emanating from the centre to the edge of a settlement in a direct fashion.

Sense of place – the feeling of being associated with a location, based on a unique identity and other memorable qualities.

Setback – standard for locating a building or structure at a minimum distance (set back) from the street or plot line.

Site of Special Scientific Interest (SSSI) – a conservation designation denoting a protected area.

Smart Growth – the concentration of growth in compact and walkable urban centres to avoid sprawl. It advocates a compact, public transport-orientated, walkable, bicycle-friendly land use, including neighbourhood schools, complete streets, and mixed-use development with a range of housing choices.

SuDS – sustainable urban drainage system.

Spatial Framework – an overall vision setting out the objectives of a town, district or neighbourhood.

Street Corridor Plan – long term plan for the length of a street, setting out how it can change to improve conditions for pedestrians, cyclists and public transport users and capable of being implemented over time.

Streetscape – the distinguishing character of a particular street as created by is width, degree of curvature, paving materials, design of the street furniture and forms of surrounding buildings.

Townscape – the relationship of buildings, shapes, spaces and streets that gives a town or area its distinctive visual character or image.

Traffic calming – areas where the local quality of environment takes precedence over the needs of traffic .

Urban block – the smallest area of land defined by the grid of streets. It can vary considerably in size according to the layout of the streets.

Urban extensions – the sustainable expansion of a town or city on or near Greenfield sites.

Urban quarter – an area within a town or city with a unique blend of character which is distinctive from other 'urban quarters'.

Urban village – planning and urban design concept whereby settlements have mixture of uses, provision of good transit routes, streets and promotion of walking and cycling.

Walkable (also walkability) – is the measure of how friendly an area is to walking both in terms of what can be accessed on foot, and how pleasant it is to walk about..

Walkable Neighbourhood – a pedestrian friendly urban environment where many daily activities, such as getting to school, work, shops, public transport are within walking distance and so there is less need to rely on the private car.