

West Thurrock Way Integration Feasibility Study

Lakeside Regional Town Centre

Thurrock Council

December 2013

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Introduction

Thurrock Council has asked Atkins to prepare a feasibility study into options for improved integration and connectivity across West Thurrock Way, Lakeside.

This study's purpose is to identify and evaluate a range of options which seek to address the current severance of the B186 West Thurrock Way, improving accessibility and permeability for pedestrians and cyclists to support the transformation and ongoing development of the Lakeside area as a new Regional Town Centre.

This study will form a significant input into informing the ongoing preparation of the Lakeside Regional Town Centre Master Plan and Investment Strategy and the Lakeside Regional Town Centre Plan (LRTCP).

In addition the completed study will assist and inform the Council in its discussions with key land owners, developers and Government agencies on the preparation of its strategy for funding of the necessary transport infrastructure improvements.

1

The Brief

Atkins have been commissioned to carry out a study into options to tackle severance and improve connectivity along the length of the B186 West Thurrock Way.

The study is focused on overcoming the severance effects caused by the configuration of the road network in the study area relative to the development zones, with a particular focus on the severance caused by the West Thurrock Way.

The study purpose is to identify and consider options for overcoming or reducing significantly the severance impacts caused by the West Thurrock Way. The study will review the feasibility of a series of options for improving pedestrian accessibility and permeability, developing those that are deemed favourable after an evaluation exercise into deliverable costed options.

In parallel to this study David Lock Associates (DLA) has been appointed by Thurrock Council to lead on the development of a Masterplan for the wider Lakeside Basin study area. In developing this study we have worked closely with DLA in understanding the likely scale and form of future development in the Lakeside Basin, likely timescales for new development coming forward and critically what the resultant demands for more sustainable movement patterns will be in the Lakeside area.

Work on the Strategic Spatial Framework Options has already identified indicative locations for green bridge links or tunnels to provide enhanced connectivity between the northern and southern development zones that straddle West Thurrock Way. As part of this study, working closely with DLA, we have reviewed both the locations and form of different types of crossings on West Thurrock Way. We have also looked at plans for improving access along the length of the road.

Context

Site context

Lakeside Regional Shopping Centre and the neighbouring retail parks are a thriving and successful shopping and leisure destination attracting many thousands of trips into the area daily. The land use characteristics of the area have largely been shaped by good accessibility afforded to motor vehicles through excellent connectivity to the local and strategic road network. The majority of trips made to and from Lakeside are currently by private motor vehicle.

The area to the south and west of Lakeside is characterised generally by low density development, with a lack of good design quality. The area is also dominated by roads, vehicles and large parking areas, with large scale buildings which are not always easy to access except by motor vehicle. The routes passing through the area are generally busy with roads encouraging fast vehicle speeds, significant road junctions and roundabouts which discourage pedestrian and cyclist access across large parts of the area.

Planning context

Emerging planning guidance for Thurrock as set out in the consultation document 'Site Specific Allocations and Policies Local Plan - Further Issues and Options' (SALP) from January 2013, outlines the aspiration that the northern part of West Thurrock / Lakeside be designated as a Regional Town Centre. Securing the designation as a Regional Town Centre would enable the area to grow in economic importance, with more retail and employment generation floorspace and greater job creation and job retention opportunities. However policy ETG2 in the East of England local plan outlines that this retail expansion will not be allowed until certain criteria have been met. These criteria are focused on ensuring a good balance of land uses in the area and crucially for this study, securing more sustainable travel patterns, greater permeability through the area, modal shift from the car to alternative modes of transport.

Thurrock's core strategy also highlights the current dominance of the private motor car and the need to secure more sustainable travel patterns to underpin the creation of

a new Regional Town Centre. Policy CSTP14 in the section 'Transport in the Thurrock Urban Area' set outs the intended approach to securing better transport for the Lakeside area through:

"Improving local accessibility and connectivity by public transport and pedestrian/ cyclist permeability throughout the area, including consideration of ways to reconnect the north and the south of the area, a high frequency service rail station in the south, and a personal rapid transit system"

Vision

The Council has developed an overarching vision for the Lakeside area as set out in an emerging Masterplan for the Lakeside Regional Town Centre and a supporting Investment & Delivery Strategy. A Lakeside Study area has been developed within which a number of development zones have been identified. A preferred spatial development option around the concept of an 'expanded core', developing westwards from the existing site of Lakeside has also been developed.

Crucial to realising the objectives of the preferred spatial development option is the requirement to enable sustainable movement between the development zones in the study area. Section 9.11.14 of the SALP sets out this key issue and which this study seeks to address:

"Fundamental to efforts to improve the sustainability of Lakeside and to encourage modal shift, will be the implementation of complementary measures which reduce severance within and between the Lakeside Zones for pedestrian and cyclists. Improving public realm and making the zones more permeable (i.e. making the movement between zones easier for pedestrians and cyclists) is central to achieving this aim."

About this study

This study presents the results of our analysis, information gathering and design work and is structured based on the requirements of the project brief as follows:

Chapter 2 presents the results of our baseline information gathering to understand the extent and location of current and future issues.

Chapter 3 presents the vision and key findings to date from the emerging Lakeside Masterplan led by David Lock Associates, including key movement networks, land uses and drivers for providing enhanced connectivity across and along West Thurrock Way.

Chapter 4 presents the identification of options and an evaluation of scheme components that aim to address the issues identified in chapters 2 and 3. These options are classified based on the scale and cost of intervention.

Chapter 5 presents sketch designs for key options outlined in chapter 4.

Chapter 6 presents costings for each option package and the preferred options to be delivered in an incremental phasing strategy up to 2025.

Chapter 7 presents our summary and conclusions.

Study Area

The masterplan area outlined in the brief encompasses the Lakeside Retail Park and shopping complex, bounded by the A13, M25, A126 and Hilltop Road.

For the purposes of this study, a core study area centred around West Thurrock Way has also been highlighted (opposite) and forms the basis for subsequent visibility and accessibility analyses.

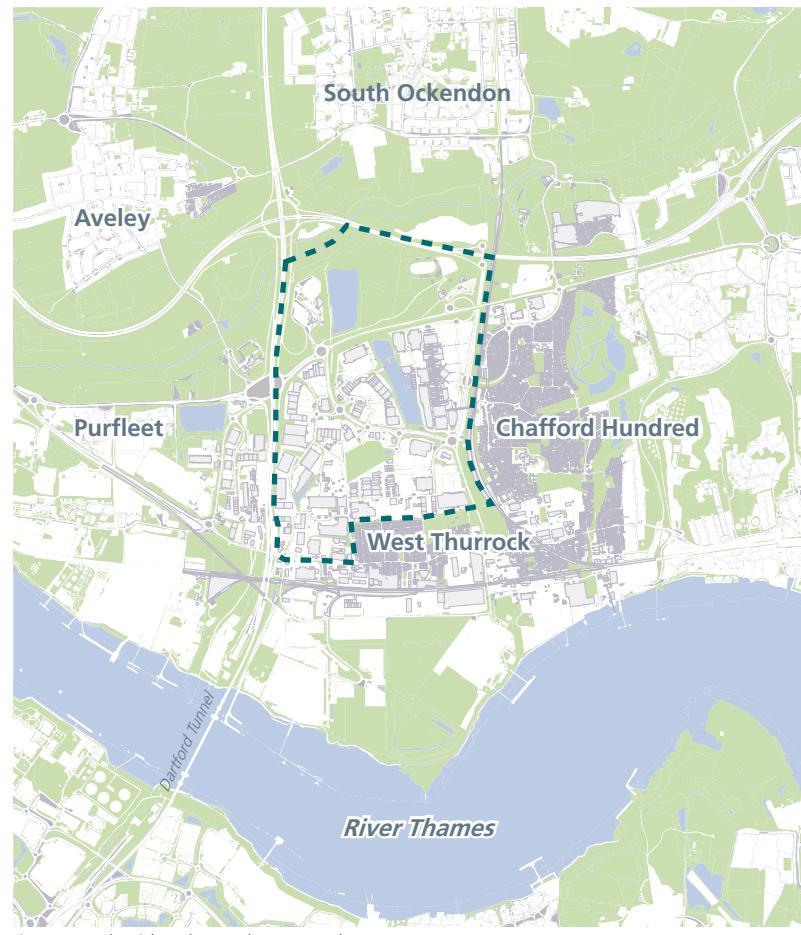
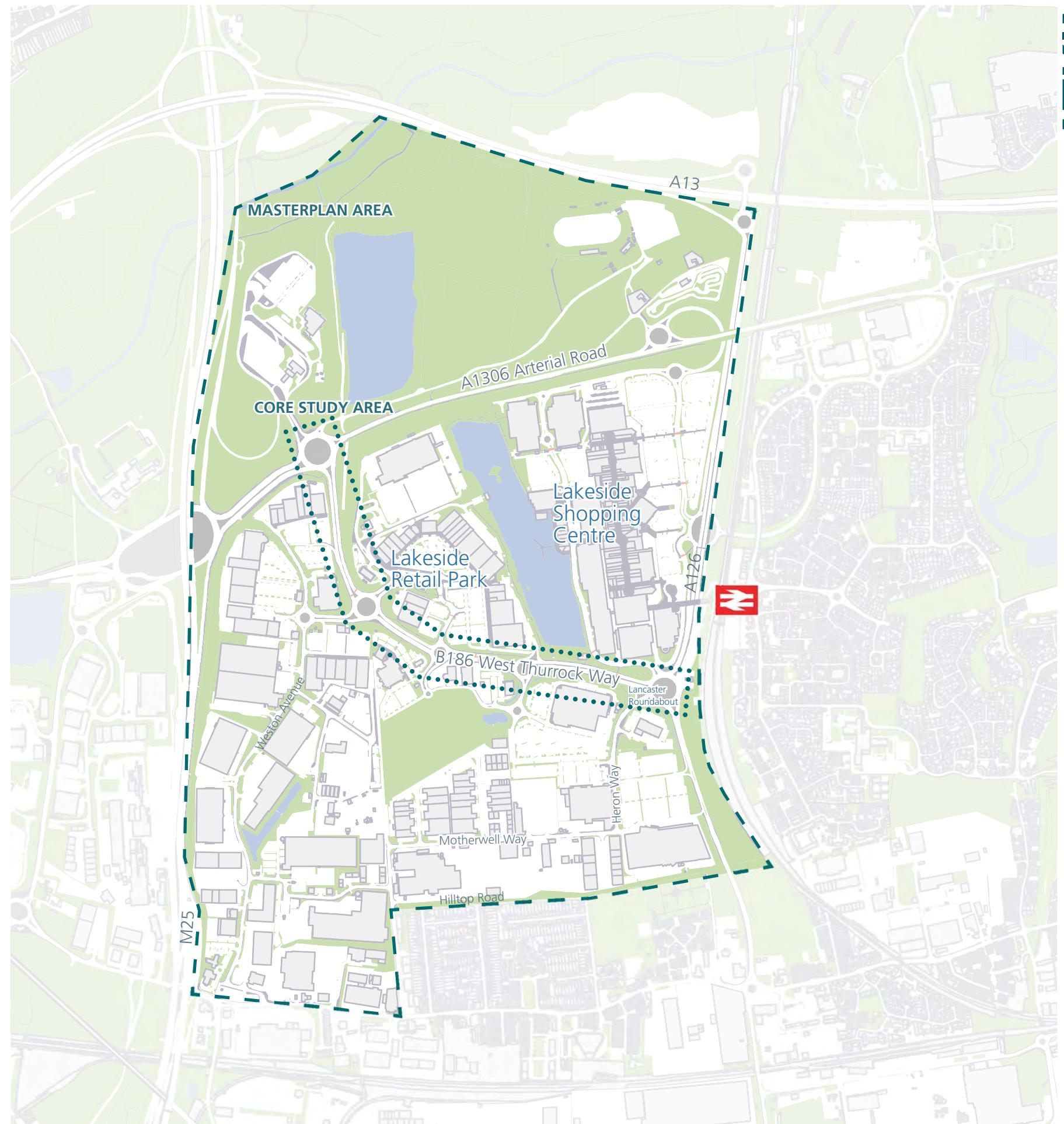


Figure 1 Lakeside, Thurrock Masterplan Area



Baseline review and assessment

This chapter summarises the issues identified with the existing West Thurrock Way environment

2

Pedestrian Connections

The street space available for pedestrians is an important factor in either encouraging or hindering walking. Connections between these spaces is also influential in determining the ease and permeability of the street for pedestrians. In West Thurrock, the topography of the area and cuttings for the major road network have resulted in a series of connections, often between different levels, linked in some places by bridges, surface crossings and underpasses.

Other areas are linked by footways alongside main roads with four formal crossing points on West Thurrock Way: three pelican crossings and one zebra crossing.

Car parks comprise a high proportion of the study area and pedestrian connections are provided on key routes to shops and supported with zebra crossings. Other pedestrian movements within these areas are generally on the carriageway or on grass verges.



Figure 2 Pedestrian Crossing over West Thurrock Way

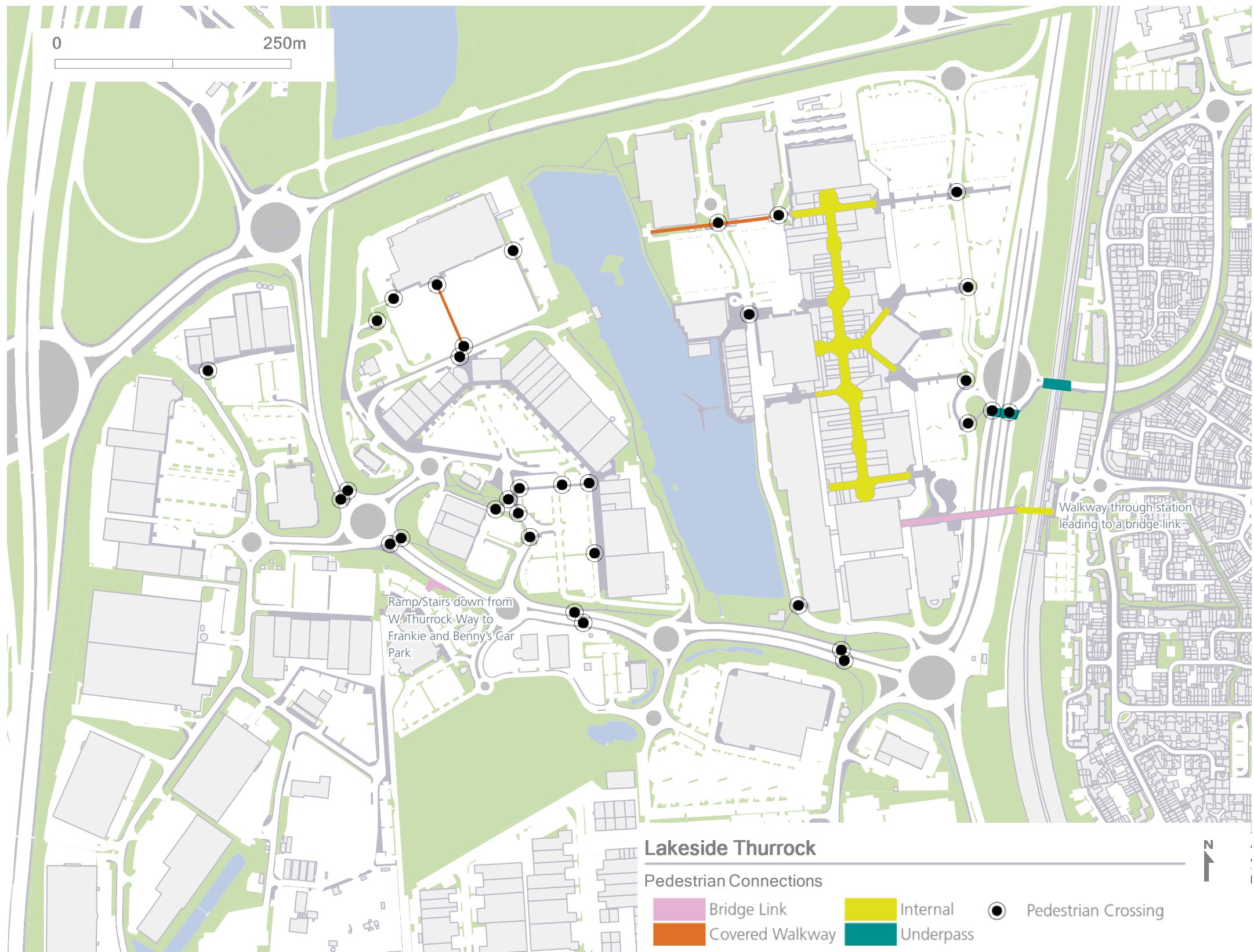


Figure 3 Pedestrian Connections across the West Thurrock Way Study Area

Key Drivers for Movement

The retail park and surrounding attractions are key drivers for pedestrian movement in the area. Major destination stores have been highlighted as likely significant nodes of activity, and other attractions outside the study area have been noted as peripheral drivers of pedestrian movement.

The location of car parks also represents a significant driver for certain movements as people walk between their car and retail entrances. This includes multi-storey car parks which generally have large expanses of inactive frontage but key entrances for movement.

The location of public transport infrastructure inherently plays a part in the movement of people through the study area, as pedestrians walk to and from bus stops and rail stations.

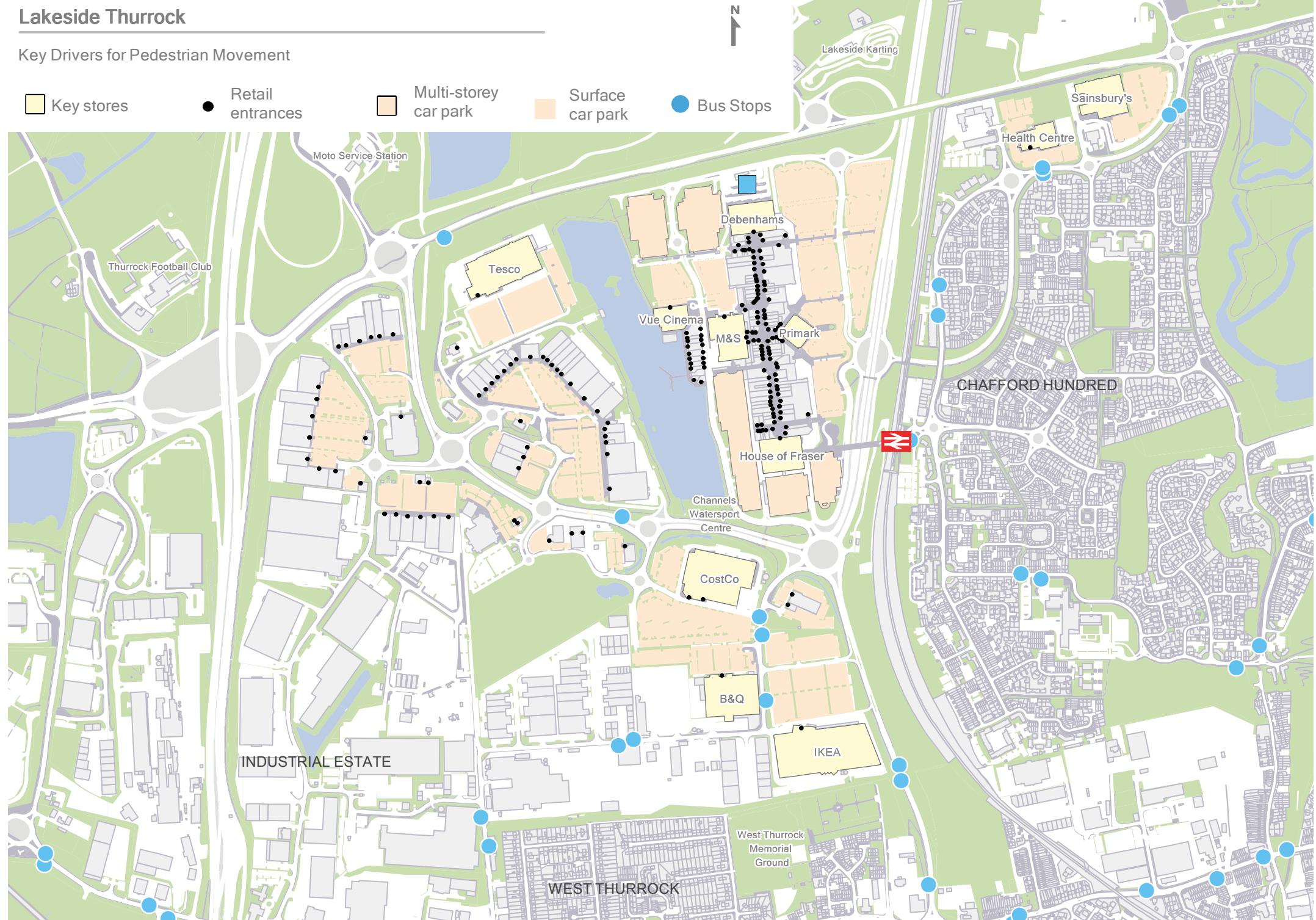


Figure 4 Key Drivers for Pedestrian Movement

Street Network Visibility

Street network visibility for pedestrians is the area directly visible from a designated point in square metres. This has been mapped by using Visibility Graph Analysis software at a 3m grid resolution for the footway areas of the site. The results opposite highlight how easy it is to see particular areas of the site, with the most visible areas for walking shown in red, through a spectral range to the least visible in blue.

The results show that the Lakeside Shopping Centre has moderate visibility internally, with lower levels at either end of the main hall. This is due to the slight kink (as noted at [1]) in the architecture of the building which restricts views from one end to the other. The shorter corridors perpendicular to the main central thoroughfare are inherently less visible.

Wider open spaces exhibit a higher field of visibility and therefore the central shopping park has highly visible footways [2]. The footway across the Lakeside car park is also highly visible as a result of its open aspect [3]. This improves the ease for pedestrians to navigate through the space. The retail outlets further west however have moderate visibility, as centrally located buildings sever sightlines and footway space is narrower.

The footways on West Thurrock Way highlight marked variations in visibility as one progresses west from the A126. The footways have relatively poor visibility until they open out onto the central retail space. Where trunk roads intersect the West Thurrock Way there is a temporary increase in visibility [5a & 5b], which improves navigational capacity for pedestrians.

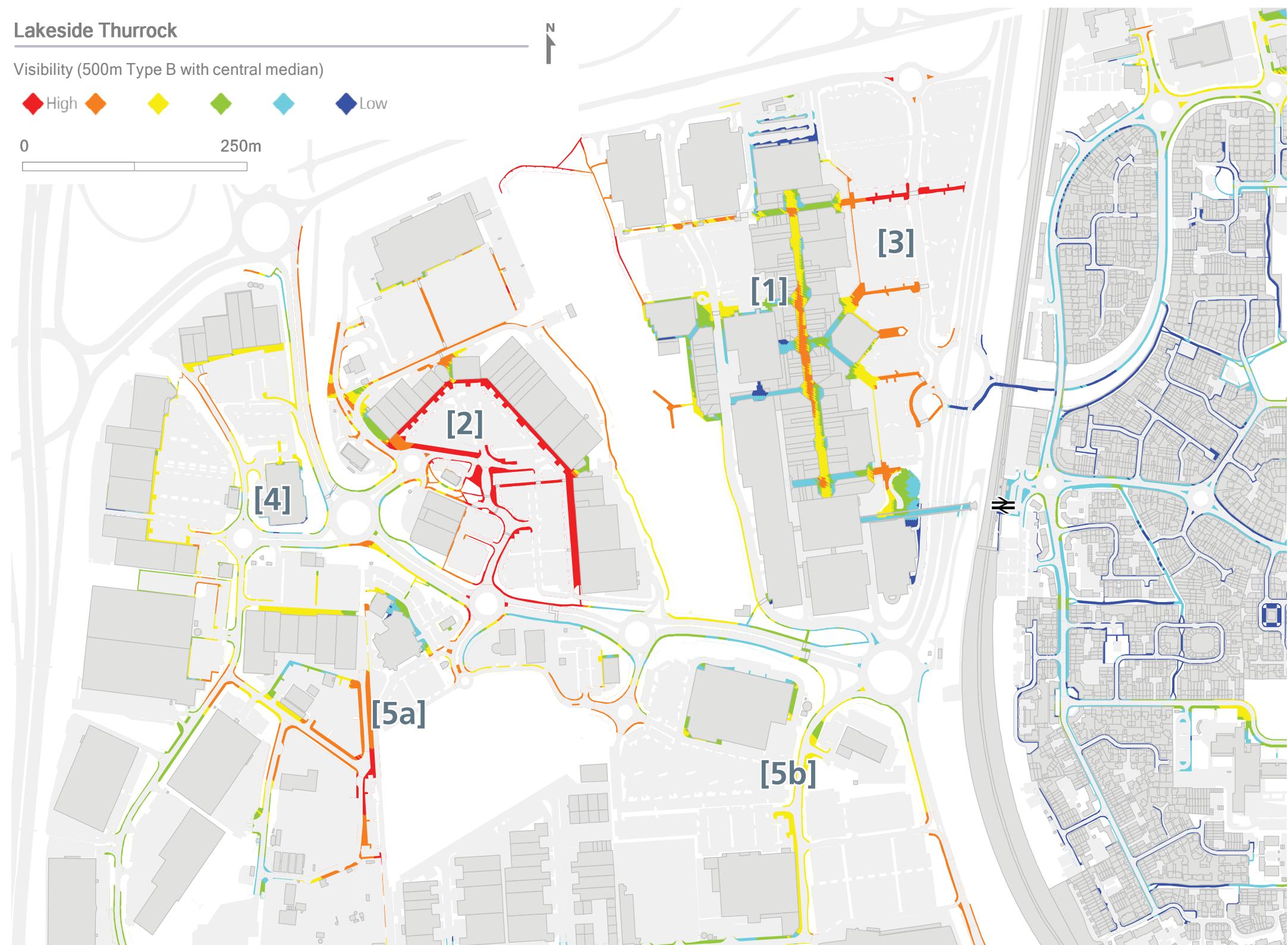


Figure 5 Street Network Visibility in Lakeside, Thurrock

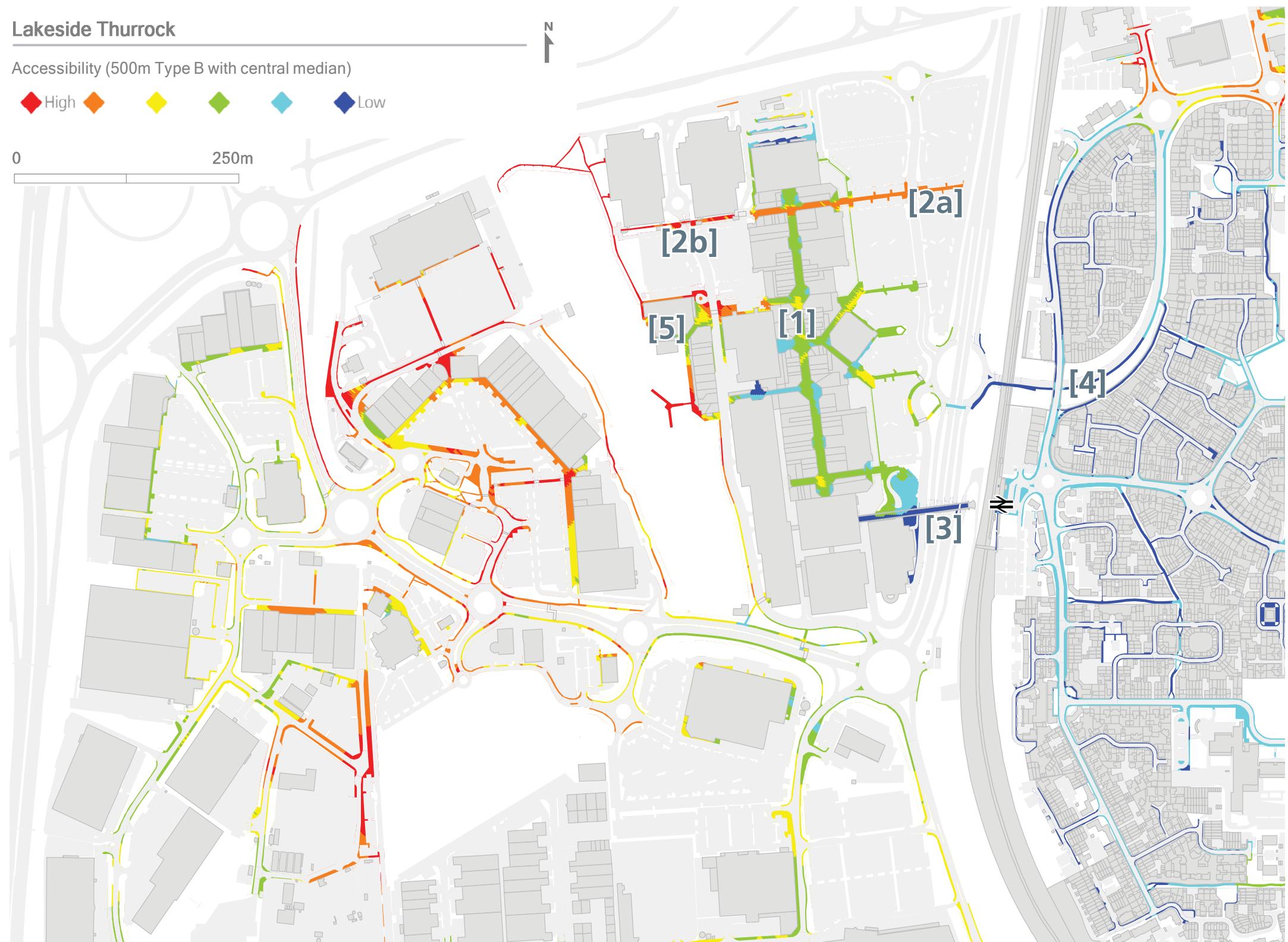
Street Network Accessibility

Street network accessibility for pedestrians is defined as the area of space in square metres that is accessible within one change of direction from each point in the street network. It has been calculated using Visibility Graph Analysis software with a 3m grid. This is a measure of how easy it is to walk within the masterplan site. The most accessible areas for walking are shown in red, through a spectral range to the least accessible in blue.

The results for the Lakeside Shopping Centre suggest that the internal circulation is poorly connected to the external network of footways [1]. The northern end of the centre appears most well integrated as a result of two entrances directly opposite one another [2a & 2b], connecting both sides of the building easily at ground level. The southern side of the centre and in particular the access bridge from the station, shows poor network accessibility, suggesting that the bridge is not well integrated with the public realm and main corridors within the shopping centre [3]. Routes from the east including the underpass are also not easily accessible [4].

Outside the centre, the paths around the north side of the lake are shown to be more easily accessible, with good direct links to the multi-storey car parks and public realm adjacent to the cinema [5]. The boardwalk area around the restaurants also shows good accessibility, while across the lake through the gap in the retail outlets, there is another highly accessible point.

The south side of West Thurrock Way is shown to be less accessible than the north, as most of the pedestrian routes from the shopping centre link to the north side of the carriageway. The central stretch of this road is most accessible with peak values next to the roundabout around the main retail area. Further west, the retail outlets are more detached and are less accessible for pedestrians.



Retail

As retail has such an important relationship with pedestrian activity, it is useful to identify the visibility of retail units within the street network to show where these key attractions for walking are concentrated.

Retail visibility analysis is a measure of how many shops are directly visible to pedestrians from the street network. Using a visibility graph analysis of the street network, the number of shop entrances visible within the immediate field of view can be calculated.

This analysis has been undertaken based on the number of different retail and food and drink entrances in view within the key shopping districts of the masterplan.

The results show that the close proximity of smaller store facades with the Lakeside Shopping Centre, coupled with a dual aspect long corridor arrangement, inherently produces a high number of retail outlets visible from a particular location. This is likely to encourage a core corridor of pedestrian movement [1]. Shorter, perpendicular corridors have lower numbers of visible retail units.

The open aspect and high number of retail stores fronting onto a large central space accounts for the high retail visibility seen in the central retail area [2]. Further west, fewer retail entrances are visible within a set field of view [3].

On West Thurrock Way, the retail visibility progressively increases from east to west, as the inward facing shopfronts of the Lakeside Centre are not visible while the more open architecture of the retail park becomes increasingly visible further west.

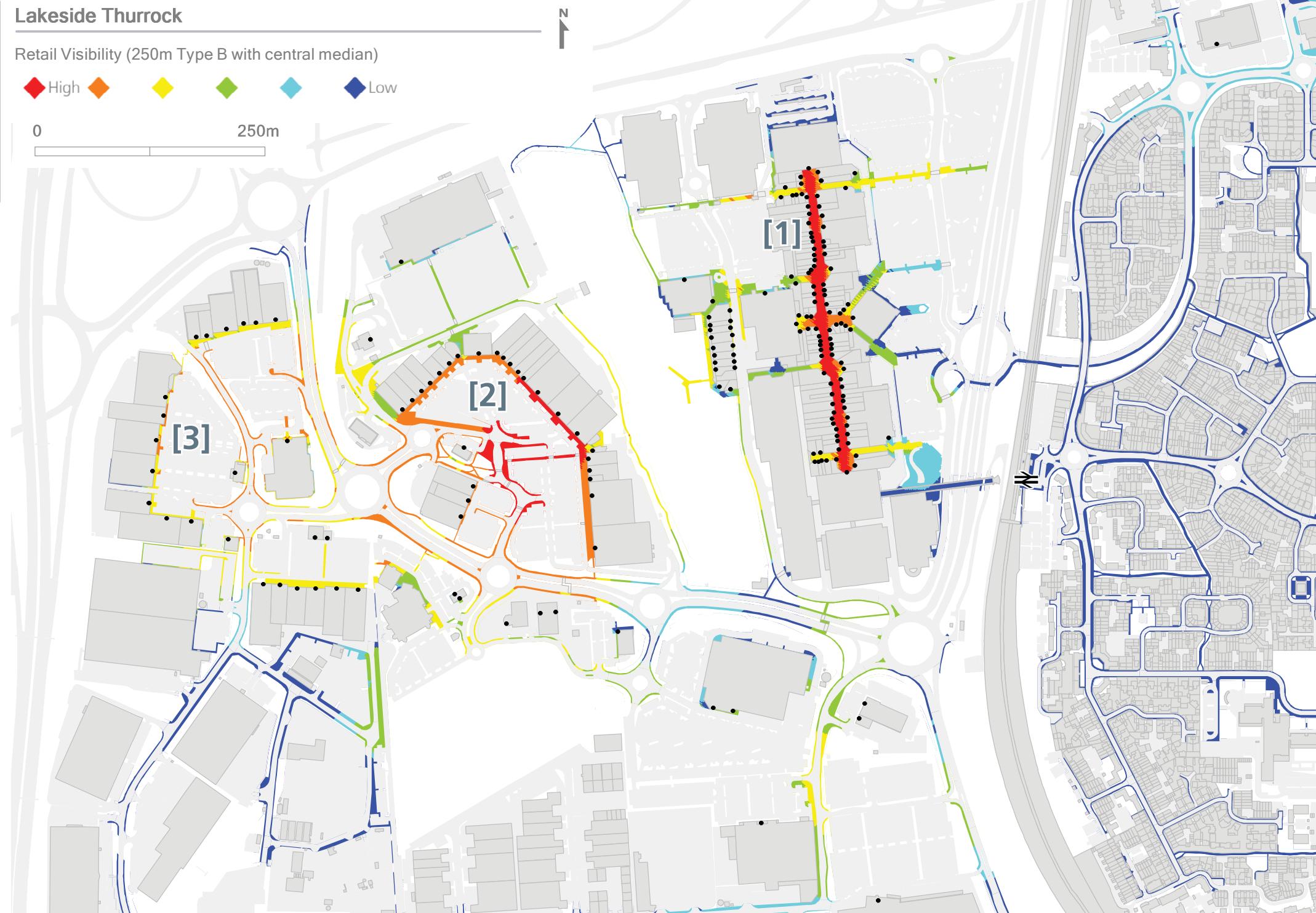


Figure 7 Retail Units in View in Lakeside, Thurrock

Retail (weighted)

Results have also been weighted with the size of each of the retail units (based on ground floor area).

For weighted retail visibility maps, areas shown in red oversee lots of shop floor space within a simple journey for pedestrians, compared to areas with fewer or no retail units in view, which are shown in blue.

The results show that based on ground floor area, the retail visibility is quite evenly distributed between the Lakeside Centre and external retail parks, with high visibility values. The relatively larger ground floor areas of retail units in the retail park to the west of Lakeside shopping centre account for this variation in the weighted values [1].

West Thurrock Way however remains generally low in retail visibility, especially towards the east end. The larger floor spaces occupied by Bannatyne's Gym and Sainsburys to the north east improve the attractiveness of this area in terms of visibility of retail, food and drink destinations [2].

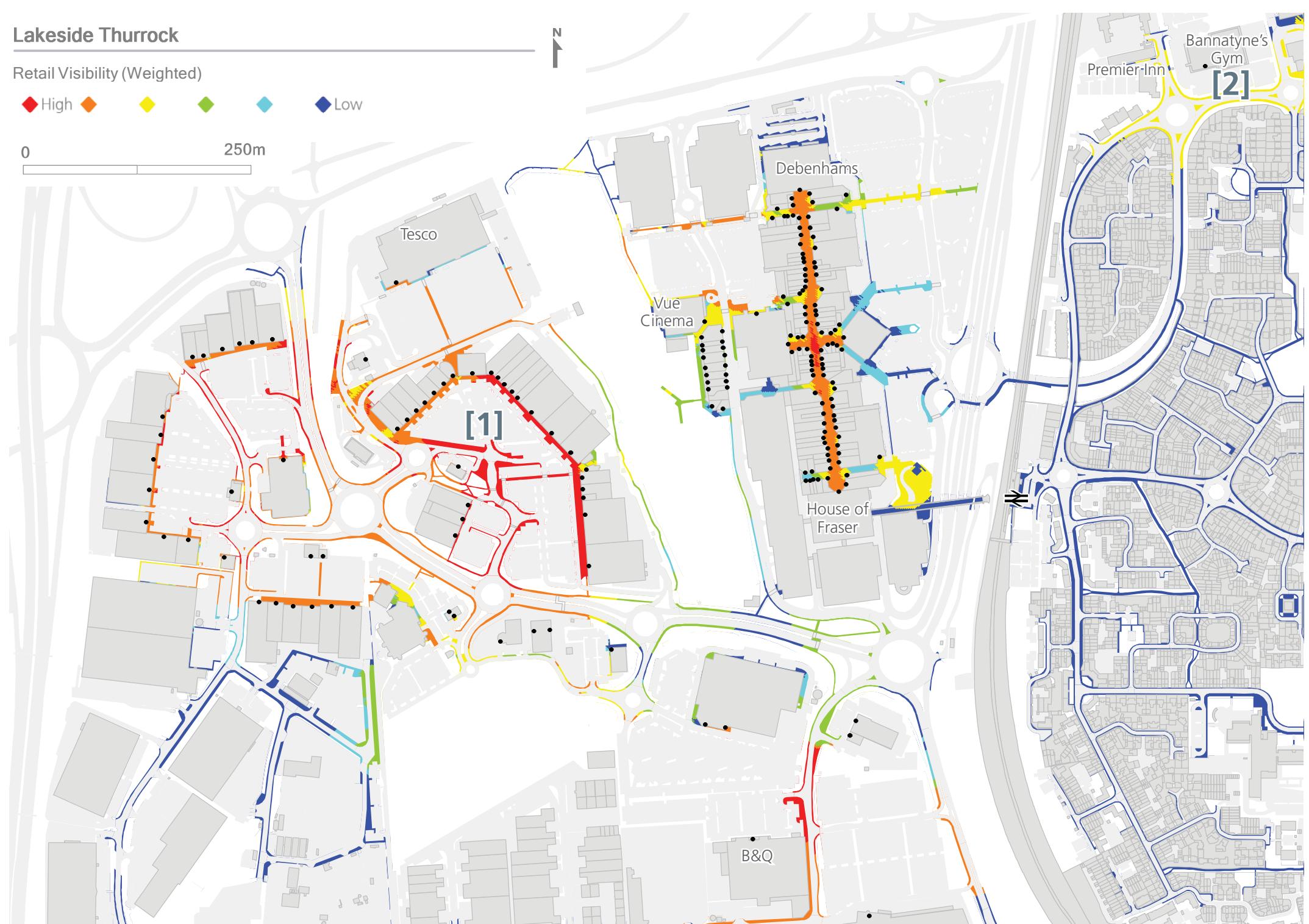


Figure 8 Retail Units in View (weighted by their ground floor area)

Site Analysis

Strengths

The Lakeside Shopping Centre and associated Retail Park's strongest advantage is its proximity to the M25, A13 and other major roads and the associated high levels of vehicle accessibility. It is an established and successful retail destination with a good range of mostly comparison retail outlets. The built environment of the Lakeside area is generally well maintained with fair to good standards of private estate management and public maintenance of highways. The proximity of Chafford Hundred rail station affords access to various towns in South Essex and London Fenchurch Street through the C2C service. The station has a new and relatively well used covered cycle parking facility. The bus station at Lakeside acts as a local bus interchange with connections to a variety of locations through the 13 services that operate through the station. The infrastructure connections between the station and the shopping centre are generally good, with a covered pedestrian footbridge across the A126.

Weaknesses

The Lakeside area is dominated by roads, vehicles and parking areas, with large scale buildings relatively isolated on large disconnected sites. The large parking areas disconnect the retail units with the West Thurrock Way frontage meaning pedestrians arriving in the area by non-car modes are often required to negotiate long, convoluted and occasionally hazardous routes to reach the retail and leisure units. Connections between Chafford Hundred station and the wider study area are poor with pedestrian routes across the wider study area dominated by carriageways and the ten roundabouts in the study area. Road and junction design in the study area is geared towards provision of highway capacity rather than the needs of pedestrians and cyclists. There is a lack of dedicated footways in certain locations as evidenced by unsupported pedestrian desire lines worn in grass verges at various locations. West Thurrock Way itself is a heavily trafficked road which serves to both sever and dissect the area. The existing formal pedestrian crossings on West Thurrock Way are not always located in the optimum locations to support pedestrian desire lines.

Strengths



There are good public transport links, with Chafford Hundred Rail Station connected to local buses.



The pedestrian footbridge links the rail station and the retail centre.



Cycle storage facilities at the station have been recently installed.

Weaknesses



Routes across the retail park are carriageway dominated with about ten roundabouts in the study area.



There is a lack of dedicated footways linking the different retail areas.



The Lakeside shopping centre has limited pedestrian accessibility at ground floor level.



Well planned new pedestrian routes will help reduce severance.



Pedestrian desire lines are evident across the site suggesting more could be done to design for existing flows.



Other pedestrian desire lines are not supported with signage or infrastructure.

Opportunities



Enhancing pedestrian facilities requires an understanding of where people want to go and how to best provide for these movements.



Retail units offer the primary form of signage for pedestrians but there is an opportunity to build on this with wayfinding.



Existing footway and cycle infrastructure could be rationalised to facilitate safer and easier movement and navigation.



There is potential to open up new routes for pedestrians and cyclists which capitalise on more scenic stretches.



The lake is a significant resource and an opportunity for enriching the pedestrian and shopper experience.



Existing routes can be convoluted and unattractive for pedestrians.

Threats



The large scale of the site and dispersed configuration of retail outlets, makes walking between areas unappealing.



Changes which make pedestrians and cyclists more comfortable could impact on capacity.



Land ownership may limit the potential for increased permeability in key sections of the site.

Opportunities

There is a significant opportunity to create a distinctive new character, civic identity and role for the new Lakeside Town Centre with a mix of land uses including convenience and comparison retail, leisure and community uses. Central to underpinning this vision will be the creation of new movement networks to support more sustainable trip patterns throughout the wider and core study areas. Ensuring the Arena site to the north of the study area is well connected to the wider Lakeside Basin area is critical. There is an opportunity to develop a more permeable and accessible pedestrian street network across the study area that meets the needs of existing and crucially future pedestrian movement. There is scope for bold and radical interventions including civilising sections of West Thurrock way through re-engineering the geometry of roundabouts and links and using the space released for enhanced pedestrian and environmental improvement facilities.

Threats

The case for dramatically enhanced pedestrian and connectivity infrastructure is linked closely to the incremental development of the Lakeside Regional Town Centre vision as captured in the emerging Lakeside Masterplan. Realising the vision of a new Regional Town Centre for Lakeside will be a challenge in the light of slow economic growth, multiple ownership of sites in the area and the fact some landowners appear content to maintain existing site uses. One of the biggest challenges to providing enhanced pedestrian connectivity is likely to be the requirement to maintain existing traffic flow rates and capacity, so as to avoid congestion and potential loss of accessibility to land uses in the area. The large scale and dispersed configuration of the retail outlets in the study area makes walking between areas unappealing. Given the current low levels of walking trips in the area and the high level of ambition for the area being articulated in the Masterplan, a bold and radical intervention approach for West Thurrock Way may be appropriate,

Existing Cycle Network

The cycle network map shows an abundance of off-carriageway routes across the site. On West Thurrock Way these take the form of shared use asphalt footways with some delineation between cycles and pedestrians at crossings, although lines have faded in some places. The pavements are regularly between 1.5m and 2.5m wide, with several narrower stretches limiting the ease at which cycles can pass pedestrians comfortably. The routes also frequently have large road signs or other street kit which can partially block the clearway.

Roads from the south including Heron Way are classified as advisory cycle routes. These are recognised as significant routes from West Thurrock and can be used by cyclists on-carriageway, but have no cycle specific infrastructure built in. Some limited signed routes are provided on the periphery of the study area but there is no cycle specific wayfinding within the retail park. No on-carriageway cycle lanes are provided within the site.

The crossing from Chafford Hundred has limited infrastructure to support cycles at the crossing itself, although does provide an off-carriageway approach and segregation from the roundabout at the A126 / Lakeside Shopping Centre access road. Formal cycle parking is provided to the east of the site but is lacking towards the more open plan retail units to the west.

Whilst cycling along the length of West Thurrock Way is generally possible (albeit challenging where the off road tracks narrow) connections with the wider networks and signage is generally poor. Cyclists are not well catered for in terms of crossing of access roads.

West Thurrock Way presents a challenging environment for cyclists in terms of poor road crossing facilities and poor connections with strategic routes. Despite this staff working at some of the retail units were observed to be using their cycles albeit in low numbers.

Data Source: Map derived from the "Thurrock Cycle Map" (originally produced by Thurrock Council & Department of Transport, 2012)

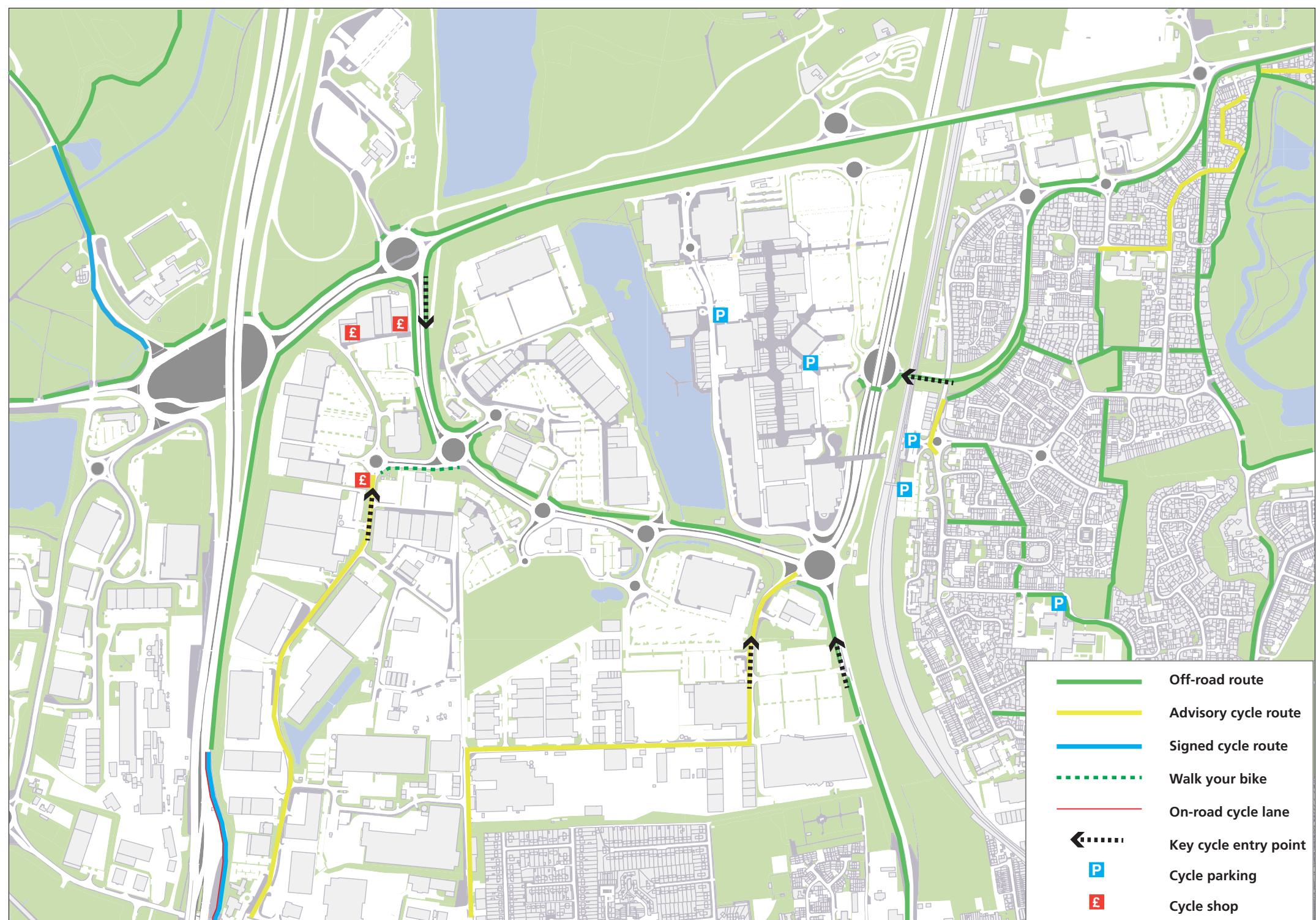


Figure 9 Existing cycle infrastructure

Data source: Thurrock Cycle Map, Thurrock Council, 2012

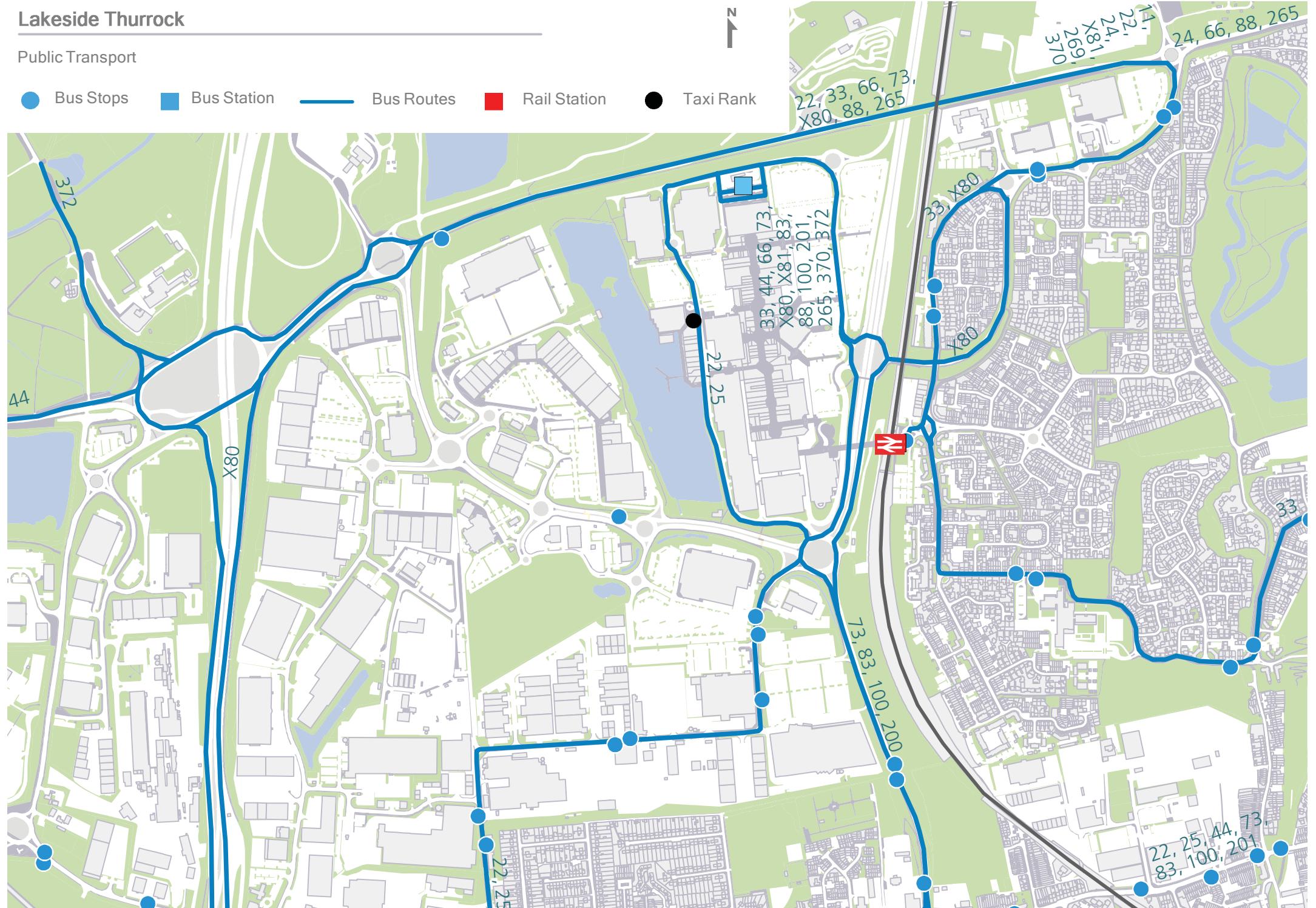
Public Transport

The bus network generally skirts around the periphery of the study area, N-S on the A126 and E-W on the A1306 Arterial Road. However many routes take a detour to stop at the Lakeside Bus Station, which is served by a large number of local bus routes: 22, 22a, 25, 33, 44, 66, 73, 73a, X80, X81, 83, 88, 100, 201, 265, 370, 372. The bus station is inherently a major route centre for the study area.

The bus map opposite has been derived from NapTAN (National Public Transport Access Node) and council's "Thurrock Transport Map" (2013). Bus stops have been used from the NapTAN data where there are located on routes recorded on the local bus route map.

Chafford Hundred is the only rail station in the immediate vicinity of the study area and is therefore the only source for rail access to the retail park. Trains to and from London Fenchurch Street and Southend Central are every 30minutes throughout the week.

Taxis in Thurrock are provided by private operators and regulated by the Council. Hackney carriages and private hire vehicles congregate at the west side of the shopping centre and most operators serve all of Thurrock with some licensed to drive as far afield as London's airports.



Bus stop Accessibility

The ease of accessibility to the bus network was calculated using Visibility Graph Analysis software with a 3m grid. This enables the proximity to an operational bus stop to be shown based on how many changes of direction are required: low accessibility is the result of numerous changes of direction from a particular location.

The Lakeside Bus Station has generally poor accessibility from the south as it is located around the back on the north side of the Lakeside Centre. The station is the only place with bus stop provision in the local vicinity of the shopping centre, and this accounts for the relatively low accessibility to bus services, in and around the Lakeside Centre.

There is notably a lack of bus stops on West Thurrock Way, most significantly towards the central retail area which is isolated from public transport connections. Herons Way has better provision of buses, served by the 22 and 25 bus routes with frequencies of up to every 20minutes.

Chafford Hundred is served by the 33 and X80, both of which terminate at the Lakeside Centre. This suggests that the shopping centre is well integrated with the wider area but that the specific location of the bus station is not especially accessible for the retail park as a whole.

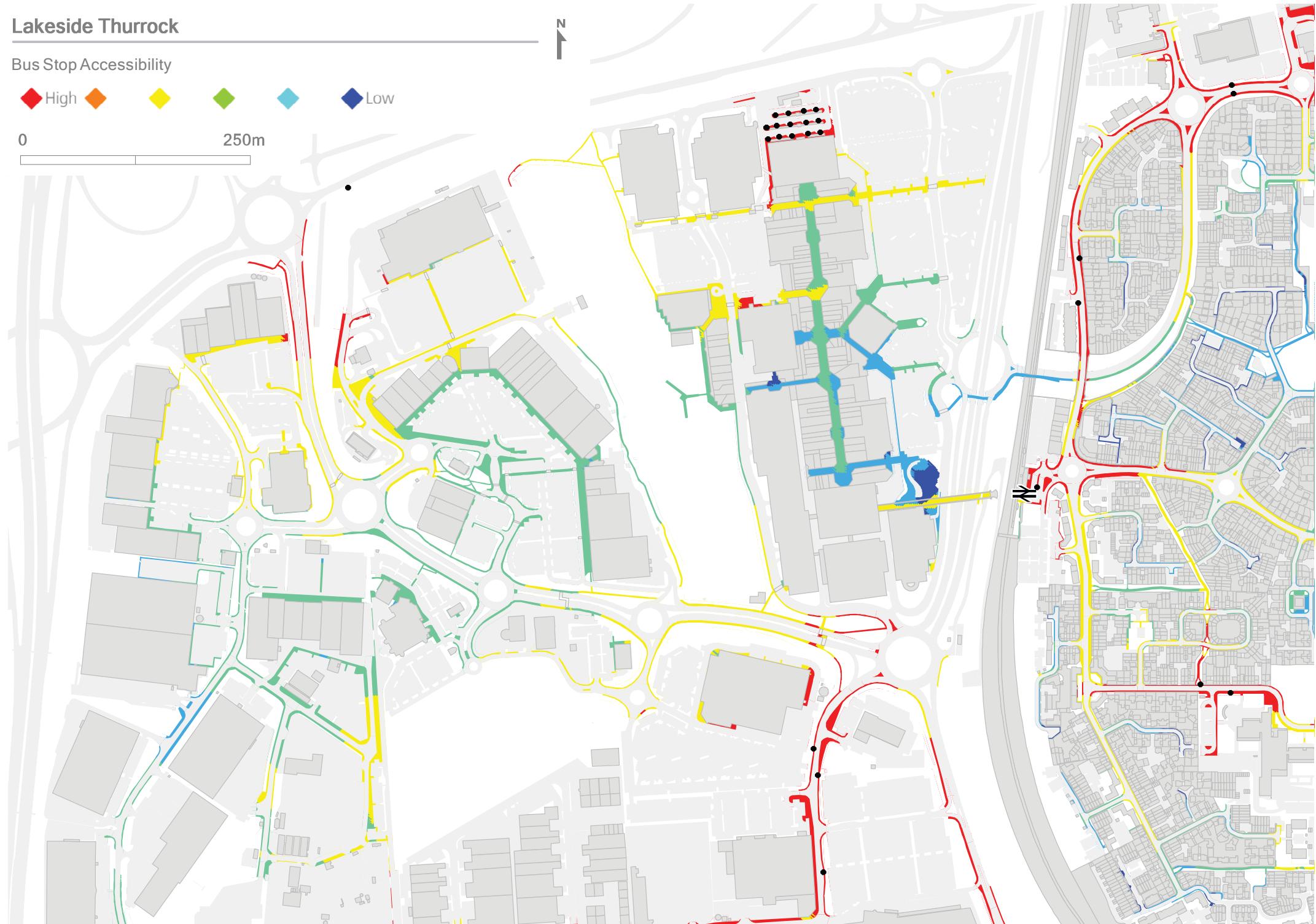


Figure 11 FATHOM model of bus accessibility

Rail station Accessibility

Visibility Graph Analysis was conducted at 3m intervals to assess the accessibility of rail infrastructure.

The accessibility results show that the radiating street network eastwards towards the town of Chafford Hundred provides relatively good accessibility to the station. However rail accessibility to the study area is severed by the A126, with low values shown immediately beyond the footbridge. Despite this well connected pedestrian link at the station side, the internal retail complex is spatially detached from the station, as a number of changes in direction are required. The only other pedestrian access across the A126 requires a convoluted route north and then back on the B186.

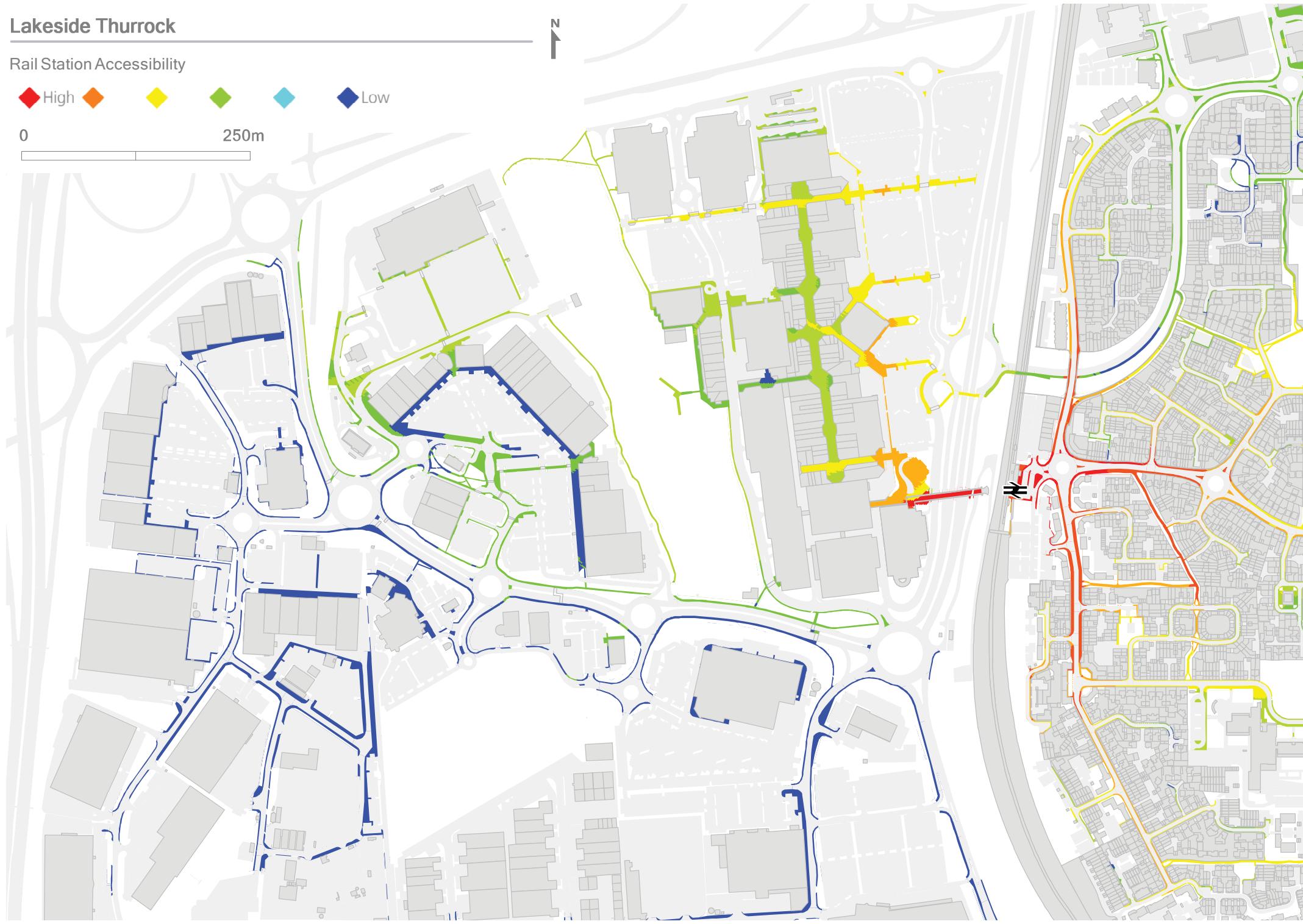


Figure 12 FATHOM model of rail accessibility

Accident Analysis

Accident data has been used from the STATS19 Road Accident dataset held by the Department for Transport (DfT). This records road accidents on the public highway which involve human injury or death. The details of which are recorded by police officers using a STATS19 report form. Details of the accident are noted such as the time, date, location and cause.

| | | | | | | | | | | | |
|---|--|--|--|--|--|--------------------------|--|--|--|--|--|
| ACCIDENT STATISTICS | | | | | | | | | | | |
| Sept 2011 | | | | | | | | | | | |
| Incident URN _____ | | | | | | | | | | | |
| Other ref. _____ | | | | | | | | | | | |
| 1.3 ACCIDENT REFERENCE | *FATAL / SERIOUS / SLIGHT | | | | | | | | | | |
| 1.9 TIME H H M M | DAY* Su M T W Th F S | | | | | 1.7 DATE D D M M 2 0 Y Y | | | | | |
| 1st Road Class & No. or (Unclassified - UC) (Not Known - NK) | 1st Road Name | | | | | | | | | | |
| Outside House No. or Name or Marker Post No. | at junction with / or metres N S E W * of | | | | | | | | | | |
| 2nd Road Class & No. or (Unclassified - UC) (Not Known - NK) | 2nd Road Name | | | | | | | | | | |
| Town _____ | Sector /Beat No. _____ | | | | | | | | | | |
| County or Borough _____ | 1.10 Local Auth No. (if known) _____ | | | | | | | | | | |
| Parish No. or Name _____ | 1.11 Grid Reference E — N ↑ Number _____ | | | | | | | | | | |
| REPORTING Name OFFICER BCU/Stn _____ | 1.2 Force Tel Number _____ | | | | | | | | | | |
| 1.5 Number of vehicles | 1.20a PEDESTRIAN CROSSING - HUMAN CONTROL | | | | | | | | | | |
| 1.6 Number of casualties | 1.21 LIGHT CONDITIONS | | | | | | | | | | |
| 1.14 ROAD TYPE | X | | | | | | | | | | |
| Roundabout 1 One way street 2 Dual carriageway 3 Single carriageway 6 Slip road 7 Unknown 9 | None within 50 metres 0 Control by school crossing patrol 1 Control by other authorised person 2 | | | | | | | | | | |
| 1.15 Speed Limit (Permanent) | 1.20b PEDESTRIAN CROSSING - PHYSICAL FACILITIES | | | | | | | | | | |
| 1.16 JUNCTION DETAIL | X | | | | | | | | | | |
| Not at or within 20 metres of junction 00 Roundabout 01 Mini roundabout 02 T or staggered junction 03 Slip road 05 Crossroads 06 Junction more than four arms (not RAB) 07 Using private drive or entrance 08 Other junction 09 | No physical crossing facility within 50m 0 Zebra crossing 1 Pelican, puffin, toucan or similar non-junction pedestrian light crossing 4 Pedestrian phase at traffic signal junction 5 Footbridge or subway 7 Central refuge — no other controls 8 | | | | | | | | | | |
| JUNCTION ACCIDENTS ONLY | 1.22 WEATHER | | | | | | | | | | |
| 1.17 JUNCTION CONTROL | X | | | | | | | | | | |
| Authorised person 1 Automatic traffic signal 2 Stop sign 3 Give way or uncontrolled 4 | Dry 1 Wet / Damp 2 Snow 3 Frost / Ice 4 Flood (surface water over 3cm deep) 5 | | | | | | | | | | |
| 1.23 ROAD SURFACE CONDITION | | | | | | | | | | | |
| 1.24 SPECIAL CONDITIONS AT SITE X | | | | | | | | | | | |
| 1.25 CARRIAGEWAY HAZARDS X | | | | | | | | | | | |
| 1.26 Did a police officer attend the scene and obtain the details for this report? X | | | | | | | | | | | |
| Subject to local directions, boxes with a grey background need not be completed if already recorded | | | | | | | | | | | |
| * Circle as appropriate | | | | | | | | | | | |
| UNCLASSIFIED | | | | | | | | | | | |

| | | | | | | | | | | | |
|--|--------------------|----|-------------|------|----|-------------|------|----|-------------|------|----|
| VEHICLE RECORD | | | | | | | | | | | |
| Sept 2011 | | | | | | | | | | | |
| MG NSRF/B | | | | | | | | | | | |
| 2.26 VEHICLE REGISTRATION MARK | 2.23 BREATH TEST X | | | | | | | | | | |
| Vehicle 001 | VEHICLE | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | | |
| Not applicable | 0 | | | | | 0 | | | | | |
| Positive | 1 | | | | | 1 | | | | | |
| Negative | 2 | | | | | 2 | | | | | |
| Not requested | 3 | | | | | 3 | | | | | |
| Refused to provide | 4 | | | | | 4 | | | | | |
| Driver not contacted at time of col* | 5 | | | | | 5 | | | | | |
| Overturned | 6 | | | | | 5 | | | | | |
| 2.24 HIT AND RUN X | | | | | | | | | | | |
| No | 1 | | | | | 0 | | | | | |
| Yes | 2 | | | | | 1 | | | | | |
| 2.25 WAS THE VEHICLE LEFT HAND DRIVE X | | | | | | | | | | | |
| Vehicle | 1 | 2 | 3 | 4 | | | | | | | |
| Not hit and run | 0 | | | | | | | | | | |
| Hit and run | 1 | | | | | | | | | | |
| Non-stop vehicle, not hit | 2 | | | | | | | | | | |
| 2.26 VEHICLE LOCATION AT TIME OF ACCIDENT RESTRICTED LANE/AWAY FROM MAIN C'WAY X | | | | | | | | | | | |
| On main carriageway not in restricted lane | 00 | | | | | | | | | | |
| M/cycle 50cc and under | 02 | | | | | | | | | | |
| M/cycle over 50cc and up to 125cc | 03 | | | | | | | | | | |
| M/cycle over 125cc and up to 500cc | 04 | | | | | | | | | | |
| Motorcycle over 500cc | 05 | | | | | | | | | | |
| Motorcycle - c unknown | 97 | | | | | | | | | | |
| Electric Motorcycle | 23 | | | | | | | | | | |
| Pedal cycle | 01 | | | | | | | | | | |
| Bus or coach (17 or more passenger seats) | 11 | | | | | | | | | | |
| Minibus (8-16 passenger seats) | 10 | | | | | | | | | | |
| Agricultural vehicle (include diggers etc) | 17 | | | | | | | | | | |
| Ridden horse | 16 | | | | | | | | | | |
| Mobility scooter | 22 | | | | | | | | | | |
| Tram / Light rail | 18 | | | | | | | | | | |
| Other 1 | 90 | | | | | | | | | | |
| vehicle 2 | 90 | | | | | | | | | | |
| 3 | 90 | | | | | | | | | | |
| 4 | 90 | | | | | | | | | | |
| 2.27 MANOEUVRES X | | | | | | | | | | | |
| Reversing | 01 | | | | | | | | | | |
| Parked | 02 | | | | | | | | | | |
| Waiting to go ahead but held up | 03 | | | | | | | | | | |
| Slowing or stopping | 04 | | | | | | | | | | |
| Moving off | 05 | | | | | | | | | | |
| U turn | 06 | | | | | | | | | | |
| Turning left | 07 | | | | | | | | | | |
| Waiting to turn left | 08 | | | | | | | | | | |
| Turning right | 09 | | | | | | | | | | |
| Waiting to turn right | 10 | | | | | | | | | | |
| Changing lane to left | 11 | | | | | | | | | | |
| Changing lane to right | 12 | | | | | | | | | | |
| O/taking moving veh on its offside | 13 | | | | | | | | | | |
| O/taking stationary veh on its offside | 14 | | | | | | | | | | |
| Overlaking on nearside | 15 | | | | | | | | | | |
| Going ahead left hand bend | 16 | | | | | | | | | | |
| Going ahead right hand bend | 17 | | | | | | | | | | |
| Going ahead other | 18 | | | | | | | | | | |
| 2.28 DIRECTION OF VEHICLE TRAVEL | | | | | | | | | | | |
| Vehicle 001 | FROM | TO | Vehicle 002 | FROM | TO | Vehicle 003 | FROM | TO | Vehicle 004 | FROM | TO |
| | | | | | | | | | | | |
| EXAMPLE | | | | | | | | | | | |
| 1 | 3 | | 1 | 3 | | 1 | 3 | | 1 | 3 | |
| Sept 2011 | | | | | | | | | | | |
| MG NSRF/C | | | | | | | | | | | |
| 2.9 DIRECTION OF VEHICLE TRAVEL | | | | | | | | | | | |
| 1. Using the example shown complete the FROM and TO boxes for the vehicles concerned, indicating direction of travel FROM and TO | | | | | | | | | | | |
| 2. If PARKED enter '00' | | | | | | | | | | | |
| Vehicle 001 | | | | | | | | | | | |
| Vehicle 002 | | | | | | | | | | | |
| Vehicle 003 | | | | | | | | | | | |
| Vehicle 004 | | | | | | | | | | | |
| CASUALTY RECORD | | | | | | | | | | | |
| 3.4 VEHICLE REFERENCE NUMBER | | | | | | | | | | | |
| Enter VEH No. which CASUALTY occupied (for pedestrians, code vehicle that struck them first) e.g. 001,002 etc. | | | | | | | | | | | |
| 3.5 SEX OF CASUALTY X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| Male 1 | 1 | 2 | 3 | 4 | 5 | 6 | | | | | |
| Female 2 | 1 | 2 | 3 | 4 | 5 | 6 | | | | | |
| 3.6 AGE OF CASUALTY (Estimate if necessary) | | | | | | | | | | | |
| For children less than a year enter 00 | | | | | | | | | | | |
| 3.7 CYCLE HELMET WORN X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| Not a cyclist 0 | 0 | 1 | 2 | 3 | 4 | 5 | | | | | |
| Yes 1 | 0 | 1 | 2 | 3 | 4 | 5 | | | | | |
| No 2 | 0 | 1 | 2 | 3 | 4 | 5 | | | | | |
| Not known 3 | 0 | 1 | 2 | 3 | 4 | 5 | | | | | |
| 3.8 AGE OF CASUALTY (Estimate if necessary) | | | | | | | | | | | |
| For children less than a year enter 00 | | | | | | | | | | | |
| 3.9 CASUALTY CLASS X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| Driver/Rider 1 | 1 | 2 | 3 | 4 | 5 | 6 | | | | | |
| Veh./pillion Passenger 2 | 1 | 2 | 3 | 4 | 5 | 6 | | | | | |
| Pedestrian 3 | 1 | 2 | 3 | 4 | 5 | 6 | | | | | |
| 3.10 CASUALTY HOME POSTCODE or Code: 1- Unknown 2- Non UK Resident | | | | | | | | | | | |
| Casualty 001 Casualty 002 | | | | | | | | | | | |
| Casualty 003 Casualty 004 | | | | | | | | | | | |
| Casualty 005 Casualty 006 | | | | | | | | | | | |
| 3.11 CASUALTY CLASS X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| Fatal 1 | 1 | 2 | 3 | 4 | 5 | 6 | | | | | |
| Serious 2 | 1 | 2 | 3 | 4 | 5 | 6 | | | | | |
| Slight 3 | 1 | 2 | 3 | 4 | 5 | 6 | | | | | |
| 3.12 PEDESTRIAN LOCATION X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| 3.13 PEDESTRIAN CASUALTIES ONLY | | | | | | | | | | | |
| PEDESTRIAN | | | | | | | | | | | |
| MOVEMENT X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| 3.14 SEAT BELT IN USE X | | | | | | | | | | | |
| Not applicable 0 | | | | | | | | | | | |
| Worn and independently confirmed 1 | | | | | | | | | | | |
| Worn but not independently confirmed 2 | | | | | | | | | | | |
| Not worn 3 | | | | | | | | | | | |
| Unknown 4 | | | | | | | | | | | |
| 3.15 CAR PASSENGER (not driver) X | | | | | | | | | | | |
| Not a car passenger 0 | | | | | | | | | | | |
| Front seat passenger 1 | | | | | | | | | | | |
| Rear seat passenger 2 | | | | | | | | | | | |
| 3.16 BUS OR COACH PASSENGER X (17 passenger seats or more) | | | | | | | | | | | |
| Not a bus or coach passenger 0 | | | | | | | | | | | |
| Boarding 1 | | | | | | | | | | | |
| Alighting 2 | | | | | | | | | | | |
| Standing passenger 3 | | | | | | | | | | | |
| Seated passenger 4 | | | | | | | | | | | |
| 3.17 LOCAL STATISTICS | | | | | | | | | | | |
| LOCAL STATISTICS | | | | | | | | | | | |
| 3.18 PEDESTRIAN CASUALTIES ONLY | | | | | | | | | | | |
| PEDESTRIAN | | | | | | | | | | | |
| MOVEMENT X | | | | | | | | | | | |
| DIRECTION X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| 3.19 PEDESTRIAN ROAD MAINTENANCE WORKER X | | | | | | | | | | | |
| UNCLASSIFIED | | | | | | | | | | | |
| 3.20 PEDESTRIAN | | | | | | | | | | | |
| MOVEMENT X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| 3.21 PEDESTRIAN | | | | | | | | | | | |
| MOVEMENT X | | | | | | | | | | | |
| DIRECTION X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| 3.22 PEDESTRIAN | | | | | | | | | | | |
| MOVEMENT X | | | | | | | | | | | |
| DIRECTION X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| 3.23 PEDESTRIAN | | | | | | | | | | | |
| MOVEMENT X | | | | | | | | | | | |
| DIRECTION X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| 3.24 PEDESTRIAN | | | | | | | | | | | |
| MOVEMENT X | | | | | | | | | | | |
| DIRECTION X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| 3.25 PEDESTRIAN | | | | | | | | | | | |
| MOVEMENT X | | | | | | | | | | | |
| DIRECTION X | | | | | | | | | | | |
| CASUALTY | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| 3.26 PEDESTRIAN | | | | | | | | | | | |
| MOVEMENT X | | | | | | | | | | | |
| DIRECTION X | | | | | | | | | | | |
| CASUALTY</td | | | | | | | | | | | |

Accident Data

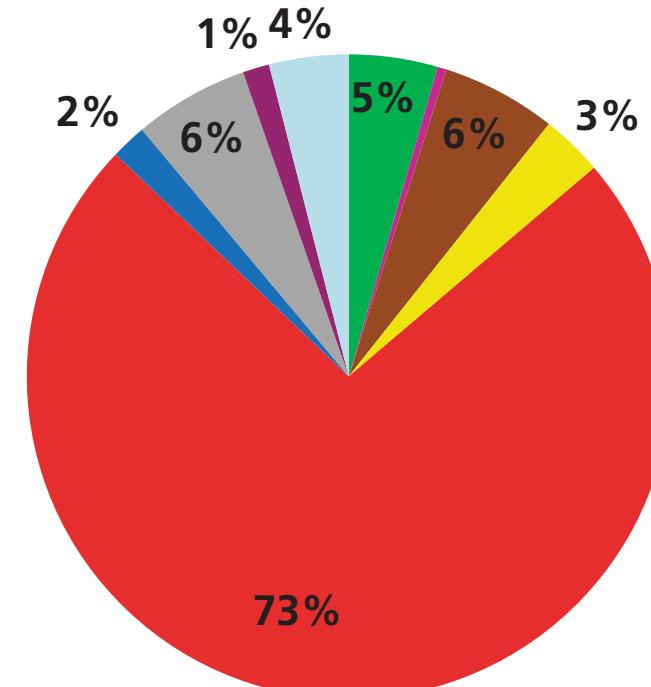
STATS19 data has been analysed from January 2008 to December 2012; a 5 year period. In total, 109 accidents were recorded in the study area over this time period for the study area shown in the Figure 17 on page 25.

The graph opposite shows the modes involved in all accidents. This means that for accidents involving two or more vehicles, each vehicle is included for example if a car and pedestrian collide, both modes have been considered. In total, 225 vehicles have been considered across 109 individual accidents. This also considers pedestrian casualties.

Cars dominate the modal share of vehicles involved in accidents. Interestingly, accidents involving cyclists were only recorded in 2010 and onwards with 2-3 accidents recorded in each of the years since. This could highlight that more cyclists are on the road in line with the national upward trend in cycling.

There is also a drop in accidents in 2009 which could be related to less vehicles on the road, perhaps due to the impact of the recession on retail activities.

Accidents by Mode



Accidents by Year

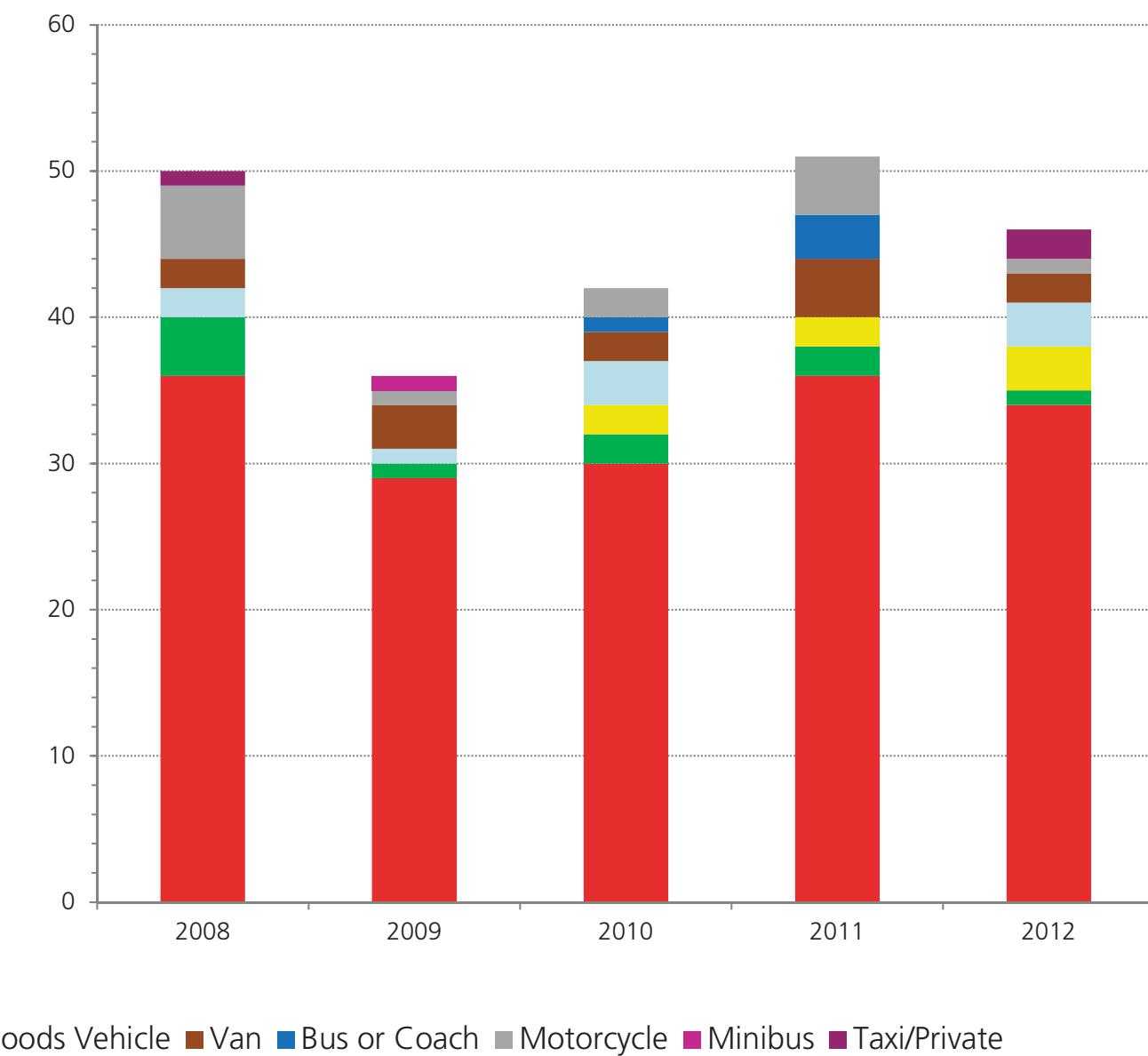


Figure 14 Accident Data - primary mode ("Vehicle 1") and year over a 5 year period (2008 - 2012)

Accident Location and Density

The maps on the opposite page highlight the location of accidents between 2008-2012. Figure 17 on page 25 shows the exact location of accidents mapped by the mode associated with "Vehicle 1" which was assumed to be the primary mode causing the accident. Figure 18 opposite highlights density of these accidents on a 20m grid.

From this, it is clear that accidents are particularly concentrated around the roundabouts on West Thurrock, particularly Lancaster Roundabout as highlighted by [1] on the map opposite. It is important that these junctions support all modes and are easy to navigate and in particular, for pedestrians, permeability across the study area.

The pie chart opposite shows the most common causes of accidents where more than 5 instances have occurred. 50% of causes relate to "poor judgement, poor manoeuvre, or poor observation" highlighting that more can be done to improve conditions and user behaviour. The data form used by police officers is shown opposite.

| RESTRICTED CONTRIBUTORY FACTORS | | | | | | | | | | | |
|---|--|---|---|--|---|--|--|---|---|---|--|
| MG NSRFID Sept 2011 | | | | | | | | | | | |
| 1. Select up to six factors from the grid, relevant to the accident. 2. Factors may be shown in any order, but an indication must be given of whether each factor is <i>very likely</i> (A) or <i>possible</i> (B). 3. Only include factors that you consider contributed to the accident (i.e. do NOT include "Poor road surface" unless relevant). 4. More than one factor may, if appropriate, be related to the same road user. 5. The same factor may be related to more than one road user. 6. The participant should be identified by the relevant vehicle or casualty ref no. (e.g. 001, 002 etc.), preceded by "V" if the factor applies to a vehicle, driver/rider or the road environment (e.g. V002), or "C" if the factor relates to a pedestrian or passenger casualty (e.g. C001). 7. Enter U000 if the factor relates to an uninjured pedestrian. | | | | | | | | | | | |
| Road Environment Contributed | 103 | 102 | 101 | 110 | 108 | 107 | 109 | 104 | 105 | 106 | |
| Vehicle Defects | Slippery road (due to weather) | Deposit on road (e.g. oil, mud, chippings) | Poor or defective road surface | Sunken, raised or slippery inspection cover | Road layout (e.g. bend, hill, narrow carriageway) | Temporary road layout (e.g. contraflow) | Animal or object in carriageway | Inadequate or masked signs or road markings | Defective traffic signals | Traffic calming (e.g. speed cushions, road humps, chicanes) | |
| 201 | 202 | 203 | 204 | 205 | 206 | | | | | | |
| Vehicle Defects | Tyres illegal, defective or under-inflated | Defective lights or indicators | Defective brakes | Defective steering or suspension | Defective or missing mirrors | Overloaded or poorly loaded vehicle or trailer | | | | | |
| 308 | 306 | 302 | 301 | 307 | 310 | 305 | 304 | 309 | 303 | | |
| Injudicious Action | Following too close | Exceeding speed limit | Disobeyed Give Way or Stop sign or markings | Disobeyed automatic traffic signal | Travelling too fast for conditions | Cyclist entering road from pavement | Illegal turn or direction of travel | Disobeyed pedestrian crossing facility | Vehicle travelling along pavement | Disobeyed double white lines | |
| 405 | 406 | 403 | 408 | 409 | 401 | 402 | 404 | 407 | 410 | | |
| Driver/Rider Error or Reaction | Failed to look properly | Failed to judge other person's path or speed | Poor turn or manoeuvre | Sudden braking | Swerved | Junction overshoot | Junction restart (moving off at junction) | Failed to signal or misleading signal | Too close to cyclist, horse or pedestrian | Loss of control | |
| 501 | 502 | 508 | 503 | 509 | 510 | 505 | 504 | 507 | 506 | | |
| Impairment or Distraction | Impaired by alcohol | Impaired by drugs (illicit or medicinal) | Driver using mobile phone | Fatigue | Distraction in vehicle | Distraction outside vehicle | Illness or disability, mental or physical | Uncorrected, defective eyesight | Not wearing dark clothing | | |
| 602 | 605 | 601 | 603 | 607 | 606 | 604 | | | | | |
| Behaviour or Inexperience | Careless, reckless or in a hurry | Learner or inexperienced driver/rider | Aggressive driving | Nervous, uncertain or panic | Unfamiliar with model of vehicle | Inexperience of driving on the left | Driving too slow for conditions or slow vehicle (e.g. tractor) | | | | |
| 701 | 703 | 706 | 707 | 708 | 705 | 710 | 702 | 704 | 709 | | |
| Vision Affected by | Stationary or parked vehicle(s) | Road layout (e.g. bend, winding road, hill crest) | Dazzling sun | Rain, sleet, snow or fog | Spray from other vehicles | Dazzling headlights | Vehicle blind spot | Vegetation | Buildings, road signs, street furniture | Visor or windscreens dirty, scratched or frosted etc. | |
| 802 | 808 | 803 | 801 | 806 | 807 | 805 | 804 | 809 | 810 | | |
| Pedestrian Only (Casualty or Uninjured) | Failed to look properly | Careless, reckless or in a hurry | Failed to judge vehicle's path or speed | Crossing road masked by stationary or parked vehicle | Impaired by alcohol | Impaired by drugs (illicit or medicinal) | Dangerous action in carriageway (e.g. playing) | Wrong use of pedestrian crossing facility | Pedestrian wearing dark clothing at night | Disability or illness, mental or physical | |
| 901 | 902 | 903 | 904 | | | | | | | *999 | |
| Special Codes | Stolen vehicle | Vehicle in course of crime | Emergency vehicle on a call | Vehicle door opened or closed negligently | | | | | | Other - Please specify below | |
| Factor in the accident 1st 2nd 3rd 4th 5th 6th Which participant? (e.g. V001, C001, U000) Very likely (A) or Possible (B) | | | | | | | | | | | |
| *If 999 Other, give brief details _____ (Note: Only use if another factor contributed to the accident and include it in the text description of how the accident occurred) These factors reflect the reporting officer's opinion at the time of reporting and may not be the result of extensive investigation | | | | | | | | | | | |
| RESTRICTED | | | | | | | | | | | |

Figure 16 STATS19 form for accident cause (Department of Transport)

Accidents by Cause

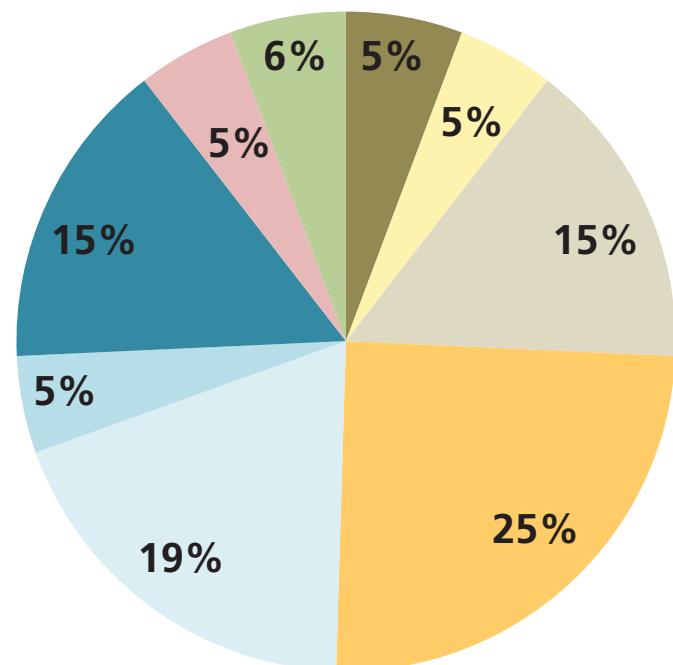


Figure 15 Accident causes (where 5 or more accidents have recorded the cause)



Figure 17 All reported traffic accidents (2008-2012 - 5 years)

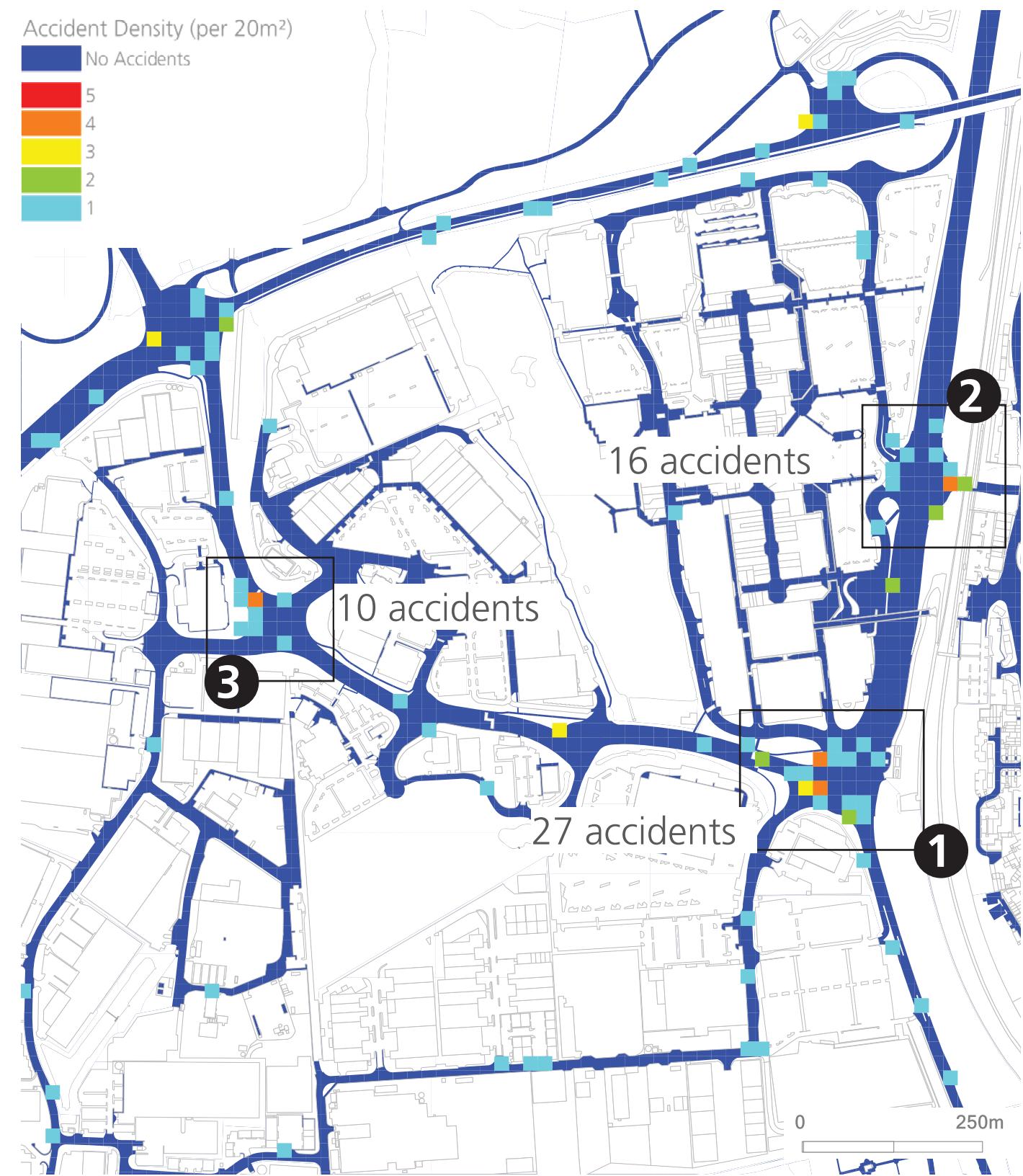


Figure 18 All reported traffic accidents (2008-2012 - 5 years)

Pedestrian / Cyclist Accidents

The image opposite shows the locations of accidents involving pedestrians and cyclists between 2008-2012.

Pedestrian accidents were recorded on the eastern approach to Lakeside on the approach from Fenner's Road and similarly on the approach from the south at Lancaster Roundabout. These junctions are key to connecting Lakeside to the surrounding area and it is important to support safe crossing points and encourage permeability on these connections to Lakeside.

To the North West, there are some accidents involving pedestrian or cyclists on the roundabouts on West Thurrock Way and close to the retail parks.

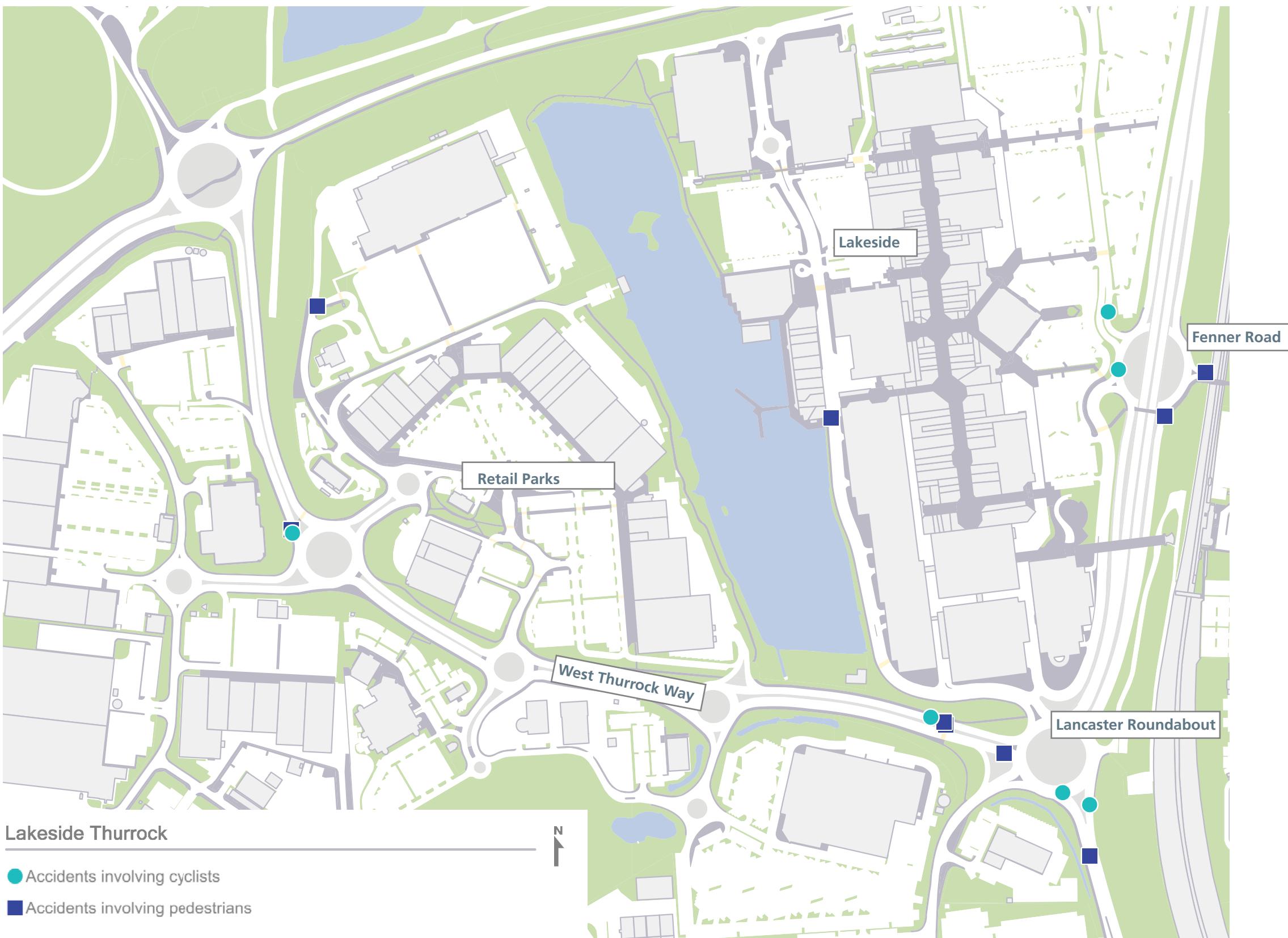


Figure 19 Reported pedestrian and cycle accidents (2008-2012)

Pedestrian Accidents

The map opposite shows accidents involving pedestrian casualties ranked by severity. The accidents are classed as either Fatal, Severe or Slight. No fatal accidents were recorded between 2008 - 2012.

- 1.** Follow a verbal exchange, vehicle 1 (motorcycle) drove off, riding over left foot of pedestrian and causing injury. Vehicle 1 did not provide details.
- 2.** Vehicle 1 (car) collided with pedestrian in carriageway.
- 3.** Pedestrian 1 walked out into the road without looking, and was hit by vehicle 2 (car) travelling s/bound. Sightlines may have been obstructed by a parked lorry.
- 4.** Pedestrian 1 was walking from the Chafford Hundred on the B146, and crossed the slip road leading to the A126. Vehicle 1 (car) left the roundabout on the same slip road and collided with pedestrian crossing the road.
- 5.** Vehicle 1 (car) was travelling southbound on the B146, and was looking to join the A126. Pedestrian 1 ran east across the slip road and was struck by vehicle 1.
- 6.** Vehicle 1 (taxi / private hire) was moving east and on the approach to the pedestrian crossing, the light changed and 2 pedestrians stepped onto the crossing and were both hit. The pedestrians walked off claiming to be uninjured and refused to exchange details.
- 7.** Vehicle 1 (goods vehicle) was travelling eastbound towards the A126 in lane 2 on West Thurrock Way. Heavy traffic in lane one left space at the pedestrian crossing. As vehicle 1 approached the crossing, showing a green light for traffic, pedestrian 1 ran out onto the road from the nearside and was struck by vehicle 1.
- 8.** Vehicle 1 was travelling from the A126 onto the B186. Pedestrian 1 was crossing the B186 and as vehicle 1 in lane 2 sees pedestrian in carriageway and starts to move to lane 1, pedestrian 1 steps back, hitting the front nearside of the vehicle. The pedestrian hit the windscreen and was thrown into the air.
- 9.** Pedestrian 1 was conducting traffic control on Heron Way at the junction with the Mercedes Benz Garage. Vehicle 1 travelling south on Heron Way overtook a stationary vehicle and collided with the pedestrian's right wrist. Vehicle 1 failed to stop.



Figure 20 Pedestrian Accident Severity (2008-2012)

Cycle Accidents

The map opposite shows accidents involving cyclists ranked by severity. The accidents are classed as either Fatal, Severe or Slight. No fatal accidents were recorded between 2008 - 2012.

- 1.** Vehicle 2 (car) was stationary at the zebra crossing on West Thurrock Way due to heavy traffic. Vehicle 1 (pedal cycle) crossed the carriageway from the nearside on the crossing, but collided with the nearside of vehicle 2 as it was ridden behind the motor vehicle.
- 2.** Vehicle 2 (pedal cycle) was crossing the slip road; a two lane carriageway, and had cleared the first lane. The cyclist went into lane 2 behind vehicle 1 (taxi/private hire) which was approaching the roundabout. Vehicle 2 struck vehicle 1 at the roundabout approach, with the cycle speed approximately 10mph. The cyclist was noted as wearing headphones and listening to loud music.
- 3.** Vehicle 1 (car) was coming from the direction of Grays and vehicle 2 (pedal cycle) from Sainsbury's. Both were heading towards the roundabout. As they approached, vehicle 2 pulled out, seeing the route was clear, and went round the roundabout towards Lakeside. Vehicle 1 also pulled out but did not see vehicle 2, resulting in a collision with the bike which caused the rider to fall off.
- 4.** Vehicle 1 (pedal cycle) was riding along cycle path on north side of West Thurrock Way towards London. Vehicle 2 (van) was in the process of joining West Thurrock Way from the trading unit, also on the north side of West Thurrock Way. Vehicle 1 skidded across access road and collides with vehicle 2, travelling south, and in the process of moving forward.
- 5.** Vehicle 1 (car) was travelling around the roundabout when it hit an unlit cyclist (vehicle 2), also riding on the roundabout.
- 6.** Vehicle 1 (car) was moving in slow traffic. Vehicle 2 (pedal cycle) crossed pelican crossing on a red pedestrian light and, not seeing vehicle 1, was struck by the car.



Figure 21 Cycle Accident Severity (2008-2012)

Traffic flows and patterns

Traffic flows in and around the Lakeside area including on West Thurrock Way were identified by SKM Consultancy as part of their Lakeside Modelling Report issued in July 2012. Two way hourly traffic flows during the weekday AM peak hours throughout the Lakeside study area and on key roads around the study area were identified as:

- 900 – 1000 PCU's per hour (pph) on West Thurrock Way on the section between Lancaster roundabout and TFI Friday's restaurant roundabout.
- 750 – 850 pph on West Thurrock Way on the section between TFI Friday's roundabout and Lakeside Leisure Park roundabout
- 750 – 850 pph on West Thurrock Way on the section between Lakeside Leisure Park roundabout and Lakeside Retail Park roundabout
- 1350 – 1450 pph on West Thurrock Way on the section between Lakeside Retail Park roundabout and the A1306 Arterial Road
- 800 – 900 pph on A1306 Arterial Road between West Thurrock Way and A126 junctions
- 1450 – 1600 pph on A126 between Lancaster roundabout and Fenner Road / Lakeside shopping Centre slip.
- 1200 – 1300 pph on A126 south of Lancaster roundabout
- 100 – 110 pph on Motherwell Way
- 250-300 pph on Weston Avenue south of roundabout entrance to the Junction Estate
- 8000-8500 pph on A13 between junction 30 of the M25 and junction with A126

Although, information on origins and destinations of traffic passing through the area was also not available it is clear from the traffic data that more traffic enters West Thurrock Way from the northern end of the road from the junction with the A1306 Arterial Road relative to the south-easterly end of the road at the Lancaster roundabout.

The SKM 2012 Lakeside modelling report indicates that West Thurrock Way along its entire length is currently operating below capacity, with the model estimate at below 70% of available capacity in both the AM and PM peaks. From our observations traffic flow on West Thurrock Way is currently generally good at all times and in this respect our observations are consistent with those noted by SKM in their work. However it should also be noted that there can be considerable queuing on the exits from the Lakeside Retail Park and Junction parks on the build up to the peak retail times at Christmas and during the New Year sales. The highway access and egress roads to / from Lakeside shopping Centre are also heavily congested during these times.

Figure 22 shows AM peak hour two way flows on key links throughout the wider study area taken from the Lakeside Traffic model.

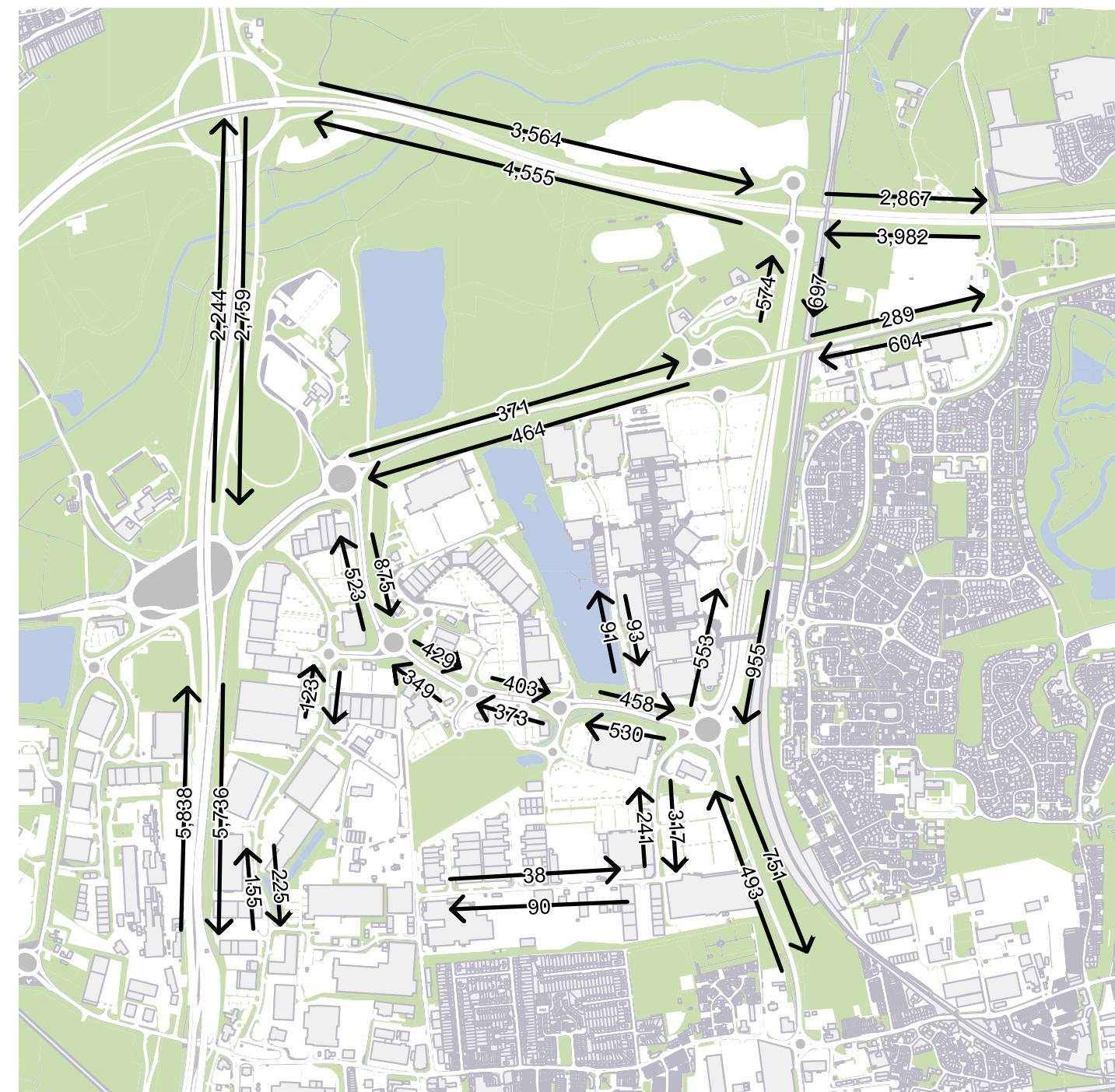


Figure 22 Peak hour AM observed flows in Lakeside area taken from Lakeside Traffic Modelling Report, 2012, SKM

Masterplan Integration and Case Studies

This chapter identifies key themes from the Lakeside Masterplan that influence the study recommendations and also considers a number of comparator project case studies relevant to West Thurrock Way

3

Integration with the Lakeside Masterplan

The Lakeside Masterplan

The Lakeside Masterplan developed by David Lock Associates is to be viewed alongside this integration feasibility study for West Thurrock Way, as a strategic masterplanning vision showing design opportunities which reflect the Council's ambitions and planning objectives for the area as a whole. The Land Parcel Plan work packages the West Thurrock Way as an integral component linking retail areas on either side of the road. It notes the contribution of the Feasibility Study for identifying short to medium term measures which can provide a step change for improving pedestrian and cycle conditions and perceptions of West Thurrock Way. This study recognises the significance of the masterplanning work and is informed by the overarching masterplanning objectives which look to identify strategic design options to improve connectivity across the study area. Where this study differs and supports the wider Masterplan is in its approach to identify and cost design options which specifically focus on issues of severance and connectivity on West Thurrock Way, while complementing and building on the Masterplan.

Masterplan elements relating to West Thurrock Way

Changes in Building Orientation and Density

The section of the Lakeside Masterplan which focuses on West Thurrock Way looks in the long term to change the existing character of the road by reorientating active frontages and by building new commercial and residential units which provide a more cohesive built line onto the street. More consistent and regular massing of buildings has the opportunity to provide an urban environment which functions at a more human scale than the existing conditions, which currently have buildings spread out thinly across the length of the road. This urban densification in turn contributes towards improved navigability for pedestrians and vehicle drivers, as there are more buildings as wayfinding reference points. Good urban design will also help in orientating people along key paths or towards active frontages. The overall aim is to provide a sense of space, scale and activity on West Thurrock Way more aligned to that of a typical high street, with greater opportunities for social transaction and an increased sense

of vibrancy across the public realm. The masterplan looks to reorientate the existing large retail unit frontages to the north of West Thurrock Way onto the lakeside and provide a more attractive environment for pedestrians. This flipping of frontages has the potential to turn an otherwise inward facing retail park, out onto the lake and West Thurrock Way, which also has significant benefits relating to greater accessibility and legibility.

Road Configuration

The masterplan currently shows a relatively wide central median strip in the region of 5m with soft landscaping along its length and on either side of the dual carriageway. Our Feasibility Study looks to build on the masterplan design approach by considering further options for how best to plan a more appropriate street cross section which fulfils pedestrian, cyclist and driver requirements. This can be achieved through the rationalisation of carriageway, footway and median strip widths, based on the masterplan's vision for land use changes in the area. The ambition for an increase in pedestrian footfall on West Thurrock Way inherently requires a forward thinking approach to reconfiguring the proportion of the road dedicated to different modes and how it operates at different times of day and across the seasons.

New Public Space

The design intent to decrease the perceived scale of West Thurrock Way and the current retail area by humanising the road is further demonstrated with the introduction of a focal public space at the south end of Alexandra Lake. Locating an open space here has the potential to better link the north and south footways on West Thurrock Way, while utilising the scenic prospect of the lake. Long term, a new public space at the Lakeside will help to link retail areas to the west with the proposed southern extension to the Lakeside Shopping Centre, and assist in reorientating how the Shopping Centre relates to West Thurrock Way. Furthermore it acts as a focal point for the vision to open up a new link to the south-west and along the west side of the lake.

WEST THURROCK WAY

DRAFT

September 2013
TRC003 / 001
Not to scale

Based on the Ordnance Survey's 1:5,000 map of 2008 with the permission of The Controller of Her Majesty's Stationery Office © Crown Copyright David Lock Associates, 50 North Thundersley Drive, Chelmsford, Essex, CM2 0PF Licence Number 100002533

David Lock Associates
Town Planning and Urban Design

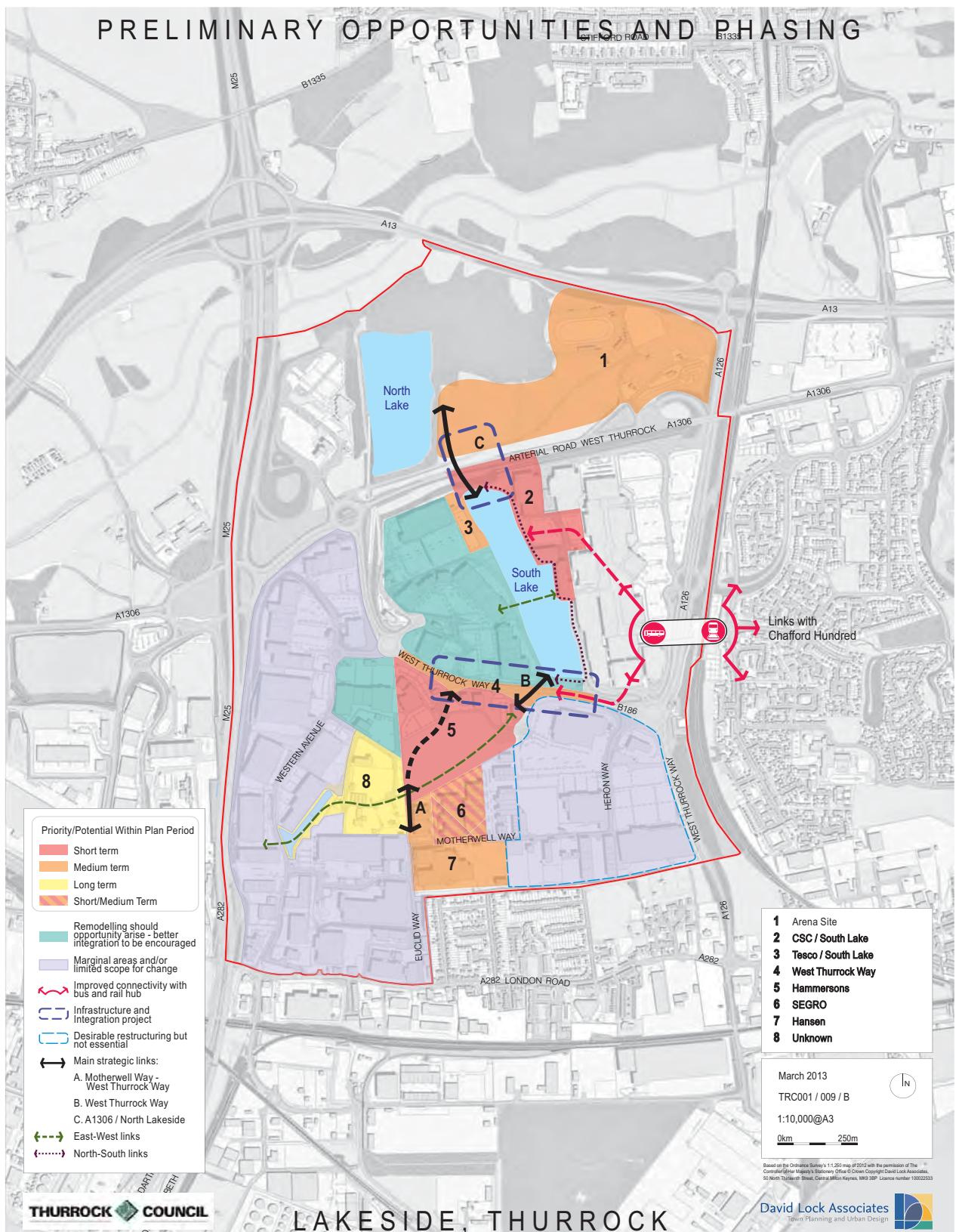


Fig. 24 - March 2013: Preliminary Opportunities and Phasing Plan centred on West Thurrock Way. Courtesy of DLA

New Strategic Connections within the Basin area

The proposed new connection linking West Thurrock Way to Euclid Way looks to provide improved permeability to the south and has the potential to relieve some capacity pressure on West Thurrock Way. A change in building scale here has the potential to create diversity in land use across the site and address the street to provide greater clarity to the structure of roads adjacent to West Thurrock Way.

The Lakeside Masterplan Preliminary Opportunities and Phasing Plan identifies a number of strategic links across the study area. These links, plus others identified in chapter 4, provide the basis for our focus on the various crossing options for West Thurrock Way identified and evaluated in Chapter 4.

The masterplan specifically suggests new pedestrian links on both sides of Alexandra Lake. On the East side adjacent to Lakeside shopping Centre the link forms part of a new continuous connection between the Essex Arena Site and the south of the Lakeside Basin. On the west side of the Alexandra Lake the pedestrian connection would be beneficial for improving permeability from the Lakeside Retail Park, while linking West Thurrock Way to the proposed new pedestrian bridge crossing over the lake. The potential benefits of this crossing in terms of accessibility improvements east-west and connections to the new north-south links are considerable. Key to achieving this vision will be the provision of appropriate crossings of West Thurrock Way in the right locations to support short and long term movements. A further improvement in connectivity is proposed for accessing the bridge to the rail station from West Thurrock Way, with a direct external link through the Shopping Centre. This reiterates the importance of potential new public space as part of the Masterplan, as a focal distributor for new links across West Thurrock Way.

The new Connections plan proposed under the Masterplan has been re-analysed using Atkins Spatial Accessibility software Fathom. The results and further description of the findings can be found later in this section.

Linking the Feasibility Study outputs to the ongoing masterplan development

The Feasibility Study looks to put forward a suite of improvements which tackle issues of severance across West Thurrock Way that can be phased into the masterplan. An appraisal process will assess which interventions are most appropriate for dealing with strategic and local connectivity issues. The Preliminary Opportunities and Phasing Plan identifies West Thurrock Way as a medium term priority within the planning period, with a short term priority development area to the south of the road between the TGI Friday roundabout to Lakeside Retail Park roundabout. It also highlights a 'main strategic link' from this development opportunity site across West Thurrock Way to the lakeside. This designation suggests that public realm improvements on West Thurrock Way are crucial for supporting any new development in the area and proposals to increase connectivity are integral to the overall strategic masterplanning objectives.

Chapter 4 identifies options for improved crossing facilities and measures to civilise the West Thurrock Way which can be phased into the masterplan as the plans progress. This enables a flexibility in determining which interventions are implemented when, directly correlated with the masterplan development proposals.

Measuring the accessibility of the enhanced connections included in the Masterplan

The street network accessibility can be re-analysed for any design proposals put forward in the emerging masterplan. These proposals include the creation of a focal public space at the south end of the lake, a new route S-W from West Thurrock Way to Euclid Way, a reorientation of retail frontages onto the lake, the strengthening of routes around the lake as a whole, and the removal of roundabouts on West Thurrock Way. Visibility Graph Analysis software would help to identify how these changes to the existing street network and urban form will impact on the visual accessibility of the site. It can also give an indication of how easy it is to navigate and walk within the masterplan based on the recalibrated spatial configuration of the new layout.

Case study examples relevant to West Thurrock Way

These case studies represent examples of approaches to tackle similar issues as those identified in chapter 2, on comparative roads to West Thurrock Way



Ashford Town Centre Ring Road Shared Space

In 2008 Ashford opened its shared space scheme to a mixed response of praise from urban design pioneers and horror from mobility and disability groups. It was the first of a number of planned (and some delivered) schemes that were seeking to bring the idea of shared space and 'naked streets' - to the UK.

Its aim was to 'humanise' the dual carriageway ring road that circled the town, breaking the barrier for pedestrians wanting to move across it from the suburbs to the centre. The scheme was a smorgasbord of design ideas, and took inspiration from a number of other schemes in the UK and around Europe, as well as introducing unique design ideas.

The monitoring that has been done since has shown that pedestrian accidents are down, and after a few teething issues, the scheme has been very successful.

Lessons For West Thurrock Way

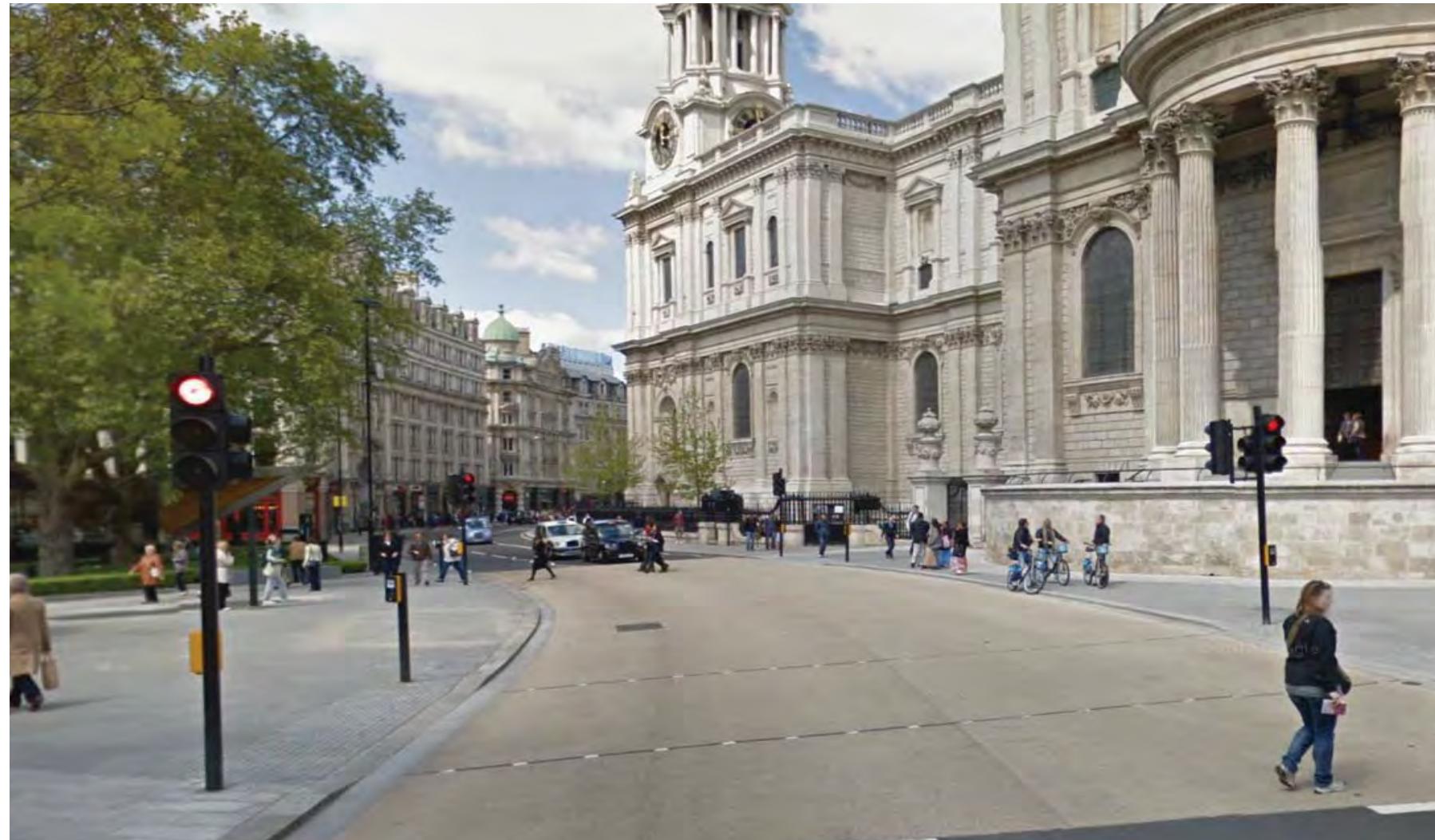
The use of 'shared space' schemes can be controversial, and the context is vital for ensuring their success. The key requirements are for low traffic speeds (and ideally low volumes), and high levels of pedestrian crossing movements to make them work. In the context of West Thurrock Way, it is unlikely in the short term that there would be the right level of pedestrian flow to make this type of approach successful.

A better approach would be to focus on a specific location where there will be high flows of pedestrian movement, and use an enhanced crossing type arrangement (see St. Paul's Cathedral, Barking Town Centre examples) rather than using a shared space arrangement along the whole route.

While it is hoped that in time the layout of the retail in West Thurrock will become more pedestrian orientated and less focussed on vehicular movement, by the nature of the retail offer there is not likely to be a significant number of small stores requiring individual front doors along the street, and it is these which stimulate cross-street movement desire lines.

Therefore, a focussed approach to crossing enhancement, coupled with the remainder of the road being improved to make it look more like a 'boulevard' character similar to what has been achieved on Westfield Avenue, with the focus put on those desire line crossing points, is a more appropriate response. However, some of the design features from Ashford, particularly the use of the central median, could be used as a design precedent on West Thurrock Way if space allows.





St. Paul's Cathedral Wide Crossing

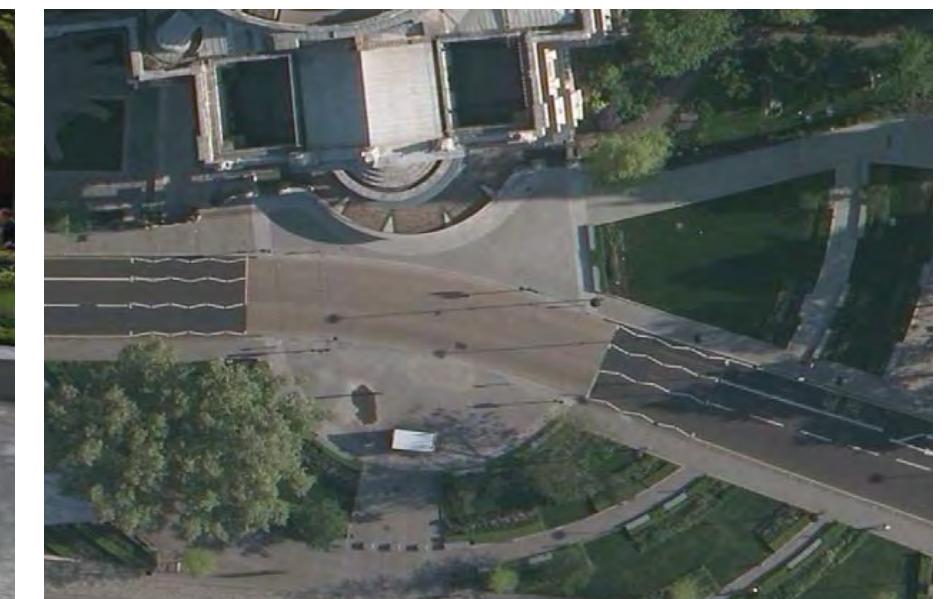
This crossing is an example of an alternative layout to a single, wide crossing. Rather than requiring an exception to the 10m maximum width rule, it uses two separate crossings, each a standard width (approximately 4m) in close proximity to each other, and set to the same timings. This means that when they turn red it effectively 'pedestrianises' a wide area of road to allow for larger groups to cross on this popular and busy desire line from the Millennium Footbridge to the Cathedral Churchyard.

Lessons For West Thurrock Way

A similar approach could be used on West Thurrock Way and has been included as part of Option C(ii) in the area around the southern end of the Lake.

This could be used in place of an underpass or bridge, providing an at-grade solution, which would normally be the preference in urban design terms, for this type of crossing. It would be in keeping with the sketch provided by DLA for their long-term masterplan layout.

The use of a different surface materials (anti-skid) top dressing is also a good cost effective way to change the character of the street and challenge existing perceptions - it was also the approach we took at Oxford Circus, and it has been used extensively across Westminster since, in public realm improvement projects. As shown in the photos, it works well both when viewed aerially and at ground level, plus it brings additional safety benefits. The road at the point of crossing is dual in one direction (bus lane) and single carriageway in the other, but could be applied to a full dual carriageway, or used in conjunction with a central median.





Barking Town Centre

Barking Town Centre has an area of public realm at the junction of Broadway and Clockhouse Way which has been designed to reflect its importance as part of a key route from the Town Centre to the Abbey Green open space.

The space uses natural stone on both footway and carriageway, and has been designed as a unified space, although it does have a traditional kerb (60mm upstand) unlike most of the Ashford Scheme. The road forms part of a bus route and is relatively busy, although it is only a single carriageway road.

Lessons For West Thurrock Way

It is an example of using high quality materials in both footway and carriageway to create a 'space', which is something that will be important on West Thurrock Way in the longer term. However the context of the Barking scheme, which sits on the edge of an open space at a road junction, is not directly applicable to West Thurrock Way, and therefore it cannot be directly transferred as an idea.

The principle of the design was going to be used in the Olympic Park at the junction of Waterden Road by the Copper Box, had the design for that not been changed to create a single rather than dual carriageway stretch of street past the Media Centre building.

The use of natural stone in the carriageway is something to explore at Lakeside, but it will need some consideration as to the road construction. It will need to be very hard-wearing, and when used elsewhere on highly trafficked streets the small module unit setts have failed and required replacement (Queen Street / Cannon Street, City of London).





Westfield Avenue, Stratford

Westfield Avenue is the name given to a new stretch of road that runs from the end of Waterden Road through to the Westfield Shopping Centre, and serves its many car parks, as well as having directly fronting major retail such as John Lewis. In future, the development site on the other side will be a mixture of commercial, retail and residential floorspace - 'The International Quarter'.

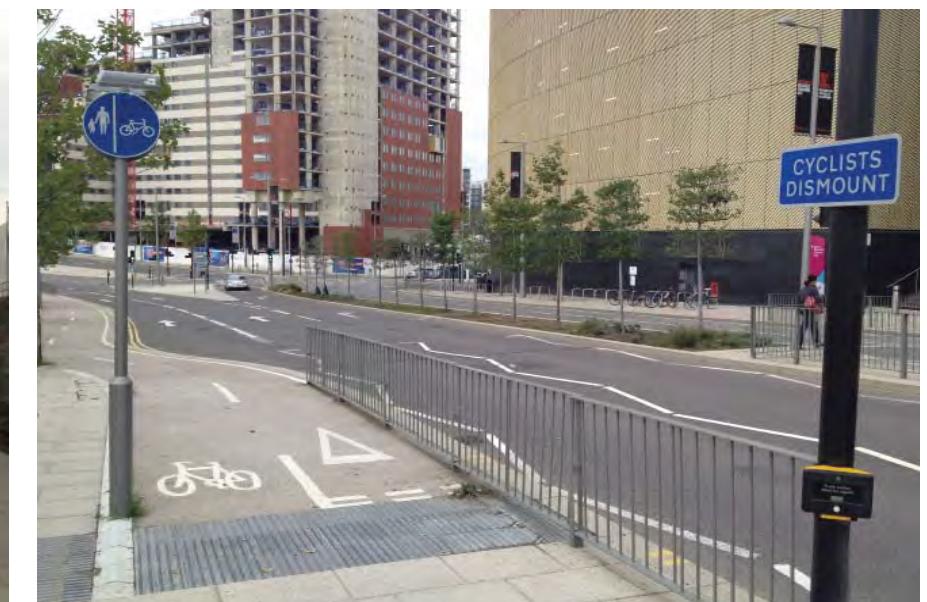
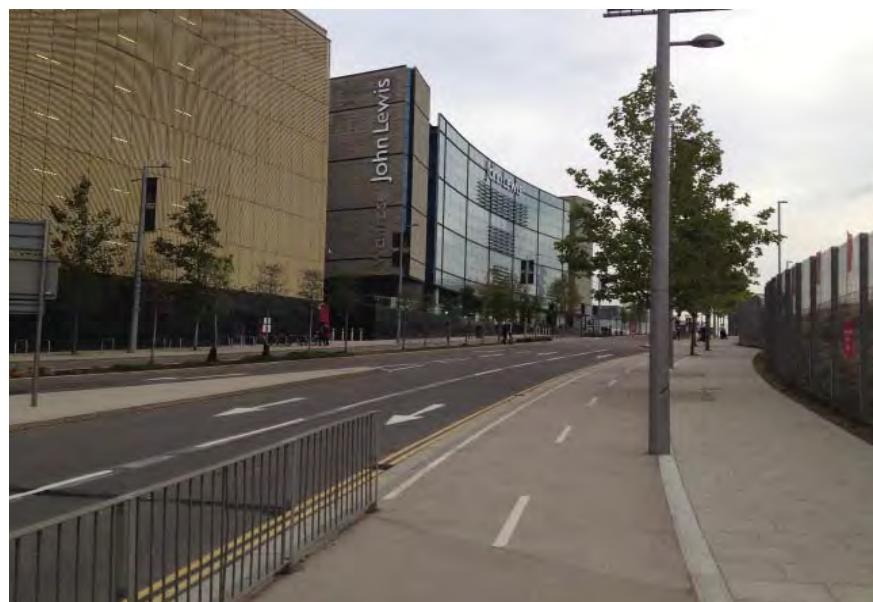
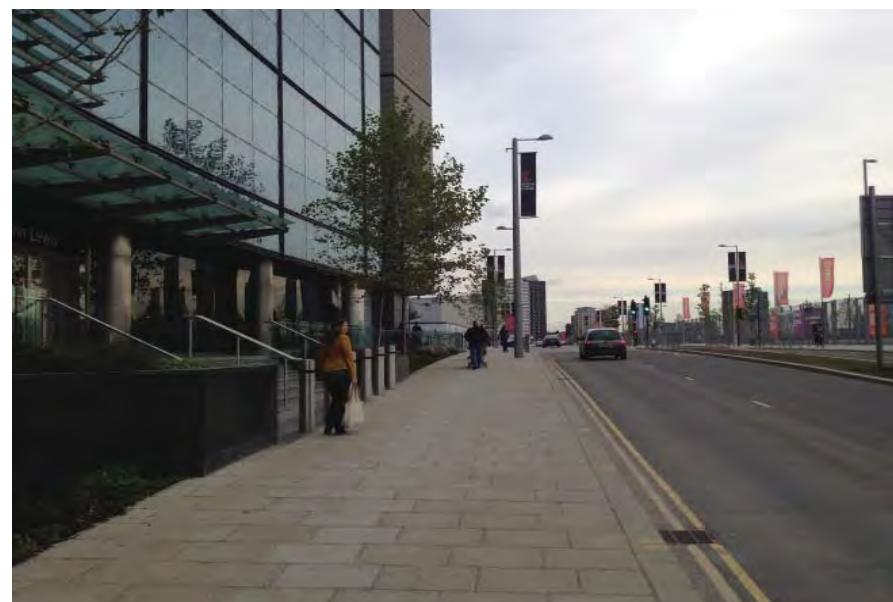
The use of guard railing at pedestrian crossings is unfortunate, as is the use of staggered crossings. Both of these features detract from the overall aesthetic of the street. However the principles - a dual carriageway with a planted central reservation and off-road cycle path are good precedents to use when looking at options for the majority of the West Thurrock Way.

Lessons For West Thurrock Way

The layout of the street at Westfield Avenue is directly comparable to West Thurrock Way, as a dual carriageway street, accommodating a bus route, and also with larger 'limited entrance' uses alongside the road. These lend themselves to designated crossings at key locations, rather than the continuous central reservation crossing. At the moment there is not back of footpath use on both sides, again in a similar situation to Thurrock, where there is scope to build the infrastructure first.

The volumes of traffic are also high, particularly at peak shopping times such as weekends and Christmas, while at other times the flows are lower, again similar to the Thurrock context. There are junctions rather than roundabouts used to accommodate entrances to car parks, and this is something that could also be looked at in Thurrock.

The use of a segregated cycle route is something that can be explored and integrated if space allows.





Waterden Road, Stratford

Waterden Road is the main access road to Westfield Stratford from the A12. It runs past the old Media Centre building, soon to become the iCity centre, and continues past the Copper Box to serve Westfield Car Parks. It is predominantly used by private cars, although it does also accommodate a bus route. The original design intent was that the road would be a dual carriageway in both directions, however agreement was reached that between the A12 and Copper Box junction, the road would in fact become single carriageway, with a parallel dedicated cycle and pedestrian footpath created instead (see image, left).

It was felt this would best provide the accessibility along the iCity development in the former media centre, as an alternative to the other option explored which was to retain the dual in both directions, but with one lane becoming 'multifunctional' - that is used as a bus lane and for parking (outside of 'peak' times - say Weekends and Christmas) which would also allow people to have better access to the park facilities on an Ad Hoc basis.

Lessons For West Thurrock Way

This is less applicable that the Westfield Avenue section, but shows an alternative approach to street design. It also provides flexibility as it could revert at a later time if flows required.

In the context of Thurrock, it is an example of how tree planting and surface treatments can be used to change the look and feel of a street, and to create a pedestrian and cycle friendly corridor through what will become, when completed, a densely developed commercial and residential quarter of the Olympic Park.

It is felt that a combination of these measures with some of the others shown would be the best way to improve West Thurrock Way in the short term, while also allowing for more dramatic changes in the longer term. Again, the use of junctions rather than roundabouts is an important aspect of the design.

