

3

The existing situation

...Context Analysis

3.1 Historical Context

This section forms an analysis of the study area using historic map information to illustrate how the area has changed and evolved, and what factors have led to the form and appearance we see today.

From an early time Newmarket Road has been used as a main route from the East to the city centre, being first established by the Romans in order to bring produce to the garrison from the large estates at Fen Ditton and Horningsea.



Figure 13: Photograph of St Andrew-the-Less (Abbey Church) showing the east gable (date unknown)

Barnwell Priory

Barnwell Priory, which was originally founded in the 11th Century at Castle Hill, but later moved to Riverside, has played a major role in shaping the area. However, there is little left now apart from the 12th century church of St Andrew-the-Less (Figure 13), a building known as the Cellarar's Chequer, and many relevant street names; Priory Road and Abbey Road being the most apparent. The 16th Century building of Abbey House stands on what used to be Barnwell Priory.

Victorian Era

The 1886, first edition Ordnance Survey (OS) Map shows the emergence of numerous brickyards, gas works, sewage works and areas used for refuse disposal. The Museum of Technology now occupies the Victorian sewage pumping station, and is one of the few remaining buildings from



Figure 14: 1886 OS Figure Ground Plan

this period, and as such has been designated a Scheduled Ancient Monument (SAM).

The growth of the railway in the 1840's separated the area from Coldham's Common and brought about the emergence of terrace houses built for railway workers to the north of Newmarket Road.

The 1901 OS Map of this area shows further development, including sand and gravel works. In addition to a fine grained pattern of streets a multitude of small passages on the southside of Newmarket Road, such as Leek Street, Browns Yard, Shamrock Passage and Dragon Yard all provided additional routes between Newmarket Road and the allotments and residential areas of Petersfield. These streets however are long gone, and today large 1960s/70s warehouses of poor quality stand in their place.



Figure 15: 1954 OS Figure Ground Plan

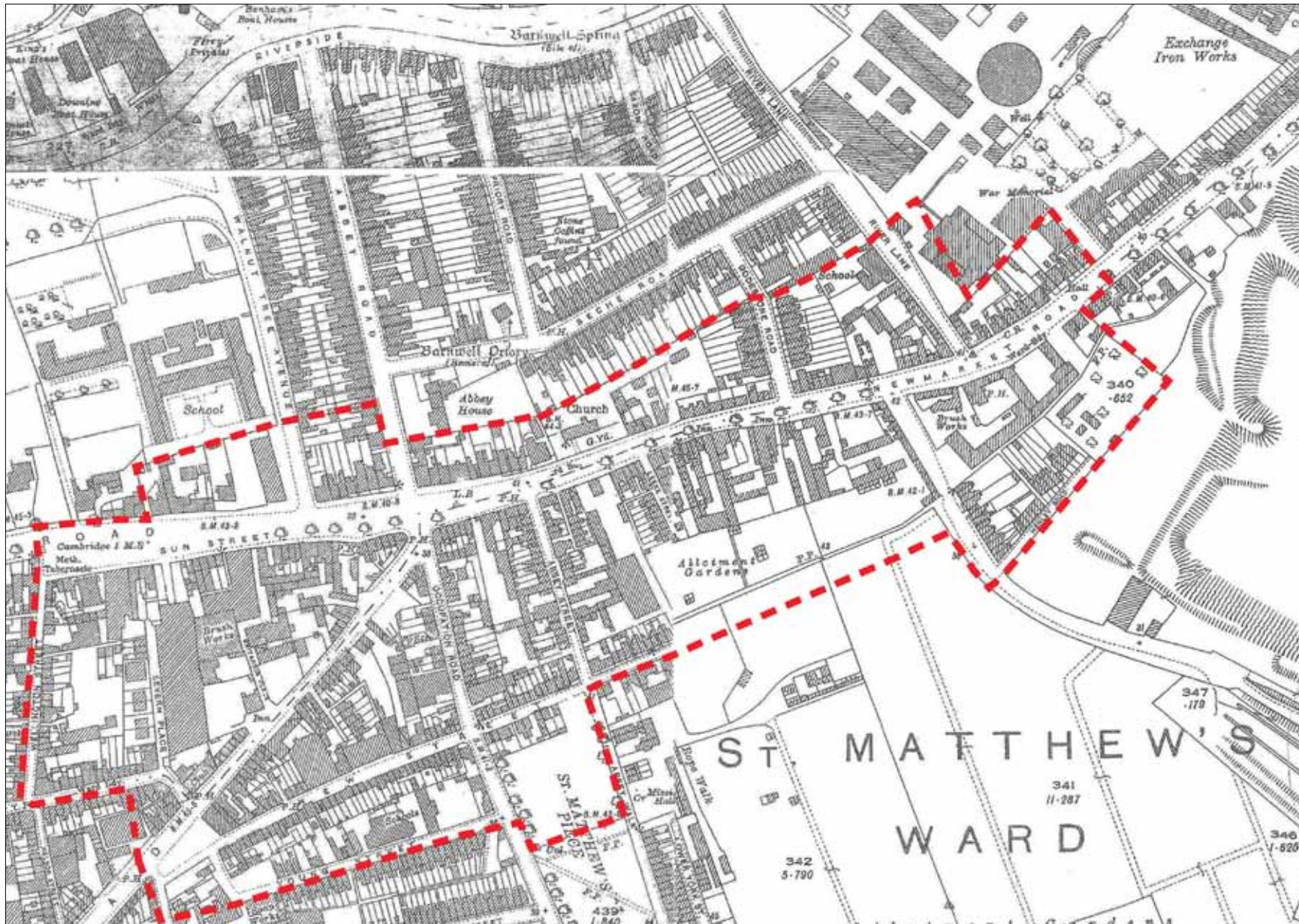


Figure 16: 1925 OS Plan showing the location of the Eastern Gate study area

20th Century

The 1925 (Figure 16) and 1939 OS maps of the study area illustrates the growth of the St Matthew's and Petersfield residential areas to the south of Newmarket Road including the development of Silverwood Close. Later, the 1945 OS Map reveals a departure from the characteristic fine urban grain with the emergence of larger buildings

'set in space', on the corner of Newmarket Road and Coldham's Lane.

The 1960s and 70s brought additional changes to Newmarket Road with the introduction of the roundabout and opening of Elizabeth Way Bridge in 1971 (see figure 19 & 20) which resulted in the removal of Victorian terraces



Figure 17: Photograph of the Newmarket Road Gas Works (Circa 1950)

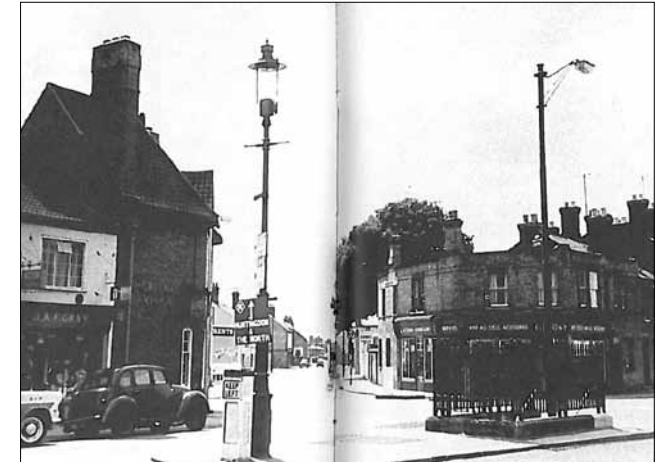


Figure 18: Photograph of East Road/Newmarket Road Junction before it was dualled in 1963



Figure 19 (above) and Figure 20 (right): Photographs showing the construction of Elizabeth Way Bridge in 1971

on Walnut Tree Avenue and buildings which enclosed the former Newmarket Road/East Road junction. The highway alterations have since resulted in increased vehicular priority and dominance of the study area causing the severance of the Riverside and Petersfield communities.

More recently the area has seen the redevelopment of the former gas, brick and tile works to the east of the study area, much of the land now forms part of the Cambridge retail park and Tesco Superstore.

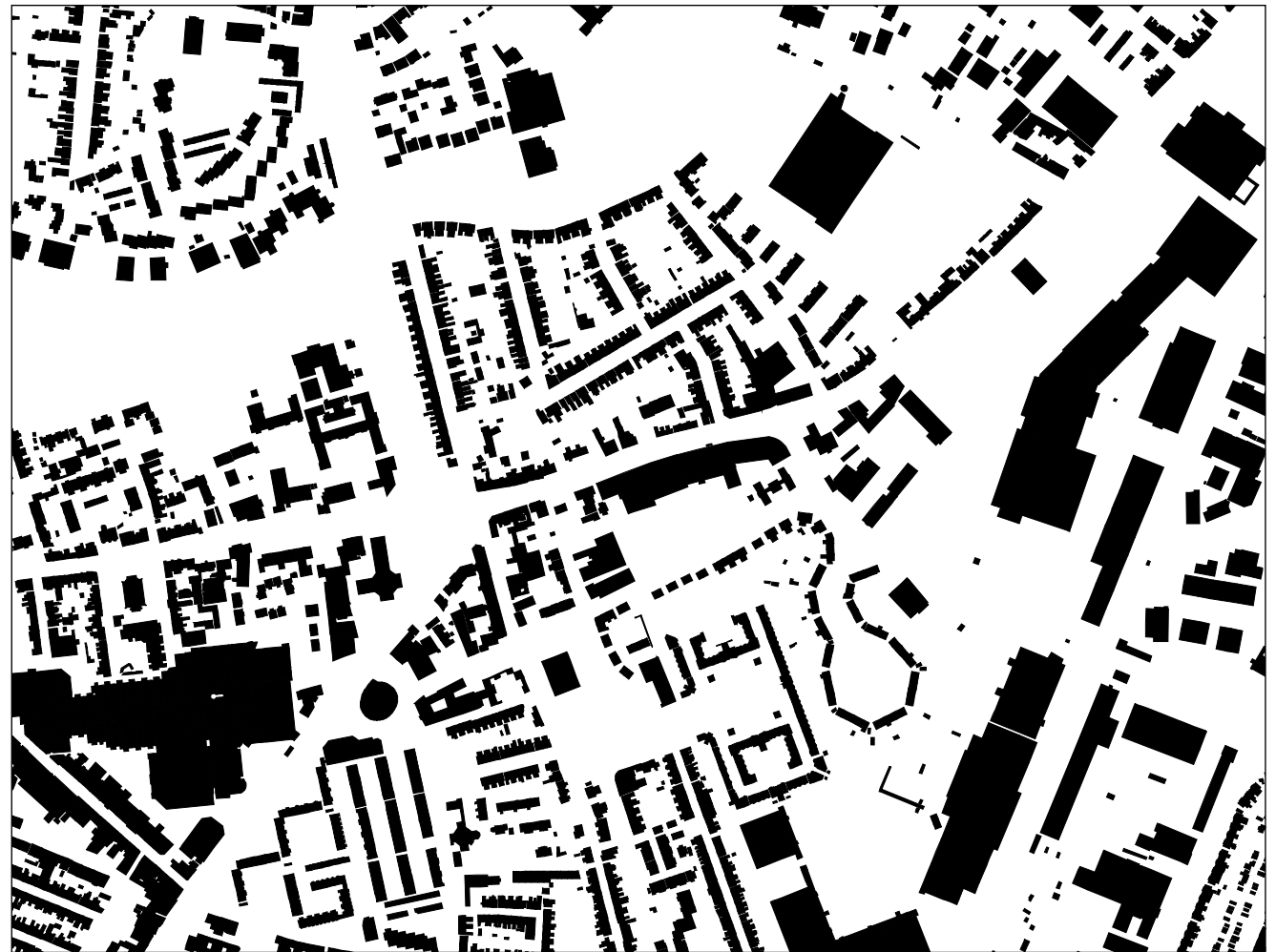


Figure 21: 2010 OS Map Figure Ground Plan

3.2 Existing Movement and Circulation

This section provides an analysis of the existing movement and circulation network and will form a basis for improvements in the study area.

Key elements of this analysis are as follows:

- The study area falls within the Cambridge City Council Air Quality Management Area.
- The study area is dominated by vehicular movements along the primary routes of East Road, Newmarket Road and Coldham’s Lane, and is hostile for pedestrians and cyclists.
- Inconsistent cycle lanes, bus lanes and narrow footpaths along Newmarket Road create a confusing environment for all users.
- Newmarket Road forms an actual and perceived barrier to pedestrian movement north and south of the study area, dividing neighbouring communities.
- Wide sweeping junctions encourage higher traffic speeds and reinforce vehicle domination.
- Hostile, busy junctions dominate the few vehicular entry points to residential communities, creating weak gateways.
- There is a lack of surface level, direct pedestrian/cycle crossings that pick up on key desire lines. Instead people are forced to use unpleasant and hostile routes such as the underpass and when crossing at Coldham’s Lane/Newmarket Road junction. This further divides communities.
- The arrangement of key ‘movement generators’ gives priority to vehicular traffic whilst pedestrians are

limited to indirect routes.

- Bus lanes along the length of Newmarket Road are considered ineffective as vehicles and taxi’s use them to navigate past congested traffic to access to some retail.
- Parking pressures within the New Street area has a negative effect upon the quality of the public realm. Local residents are concerned about the levels of commuter and shopper parking.



Figure 22: A lack of crossings at Coldham’s Lane junction creates a hostile and dangerous environment for pedestrians.



Figure 23: Coldham’s Lane/Newmarket Road junction is dominated by vehicles.



Figure 24: Pedestrian guardrails present barriers to movement.

-  Pedestrian crossings
-  Bus stops
-  Key movement generators
-  Pedestrian routes
-  Barriers to movement
-  One-way-traffic on New Street and Harvest Way
-  Busy junctions, some which lack pedestrian crossings
-  Cycle routes
-  Primary routes
-  Secondary routes
-  Tertiary routes
-  Gateways to residential neighborhoods are dominated by vehicles.
-  Traffic speed restriction measures

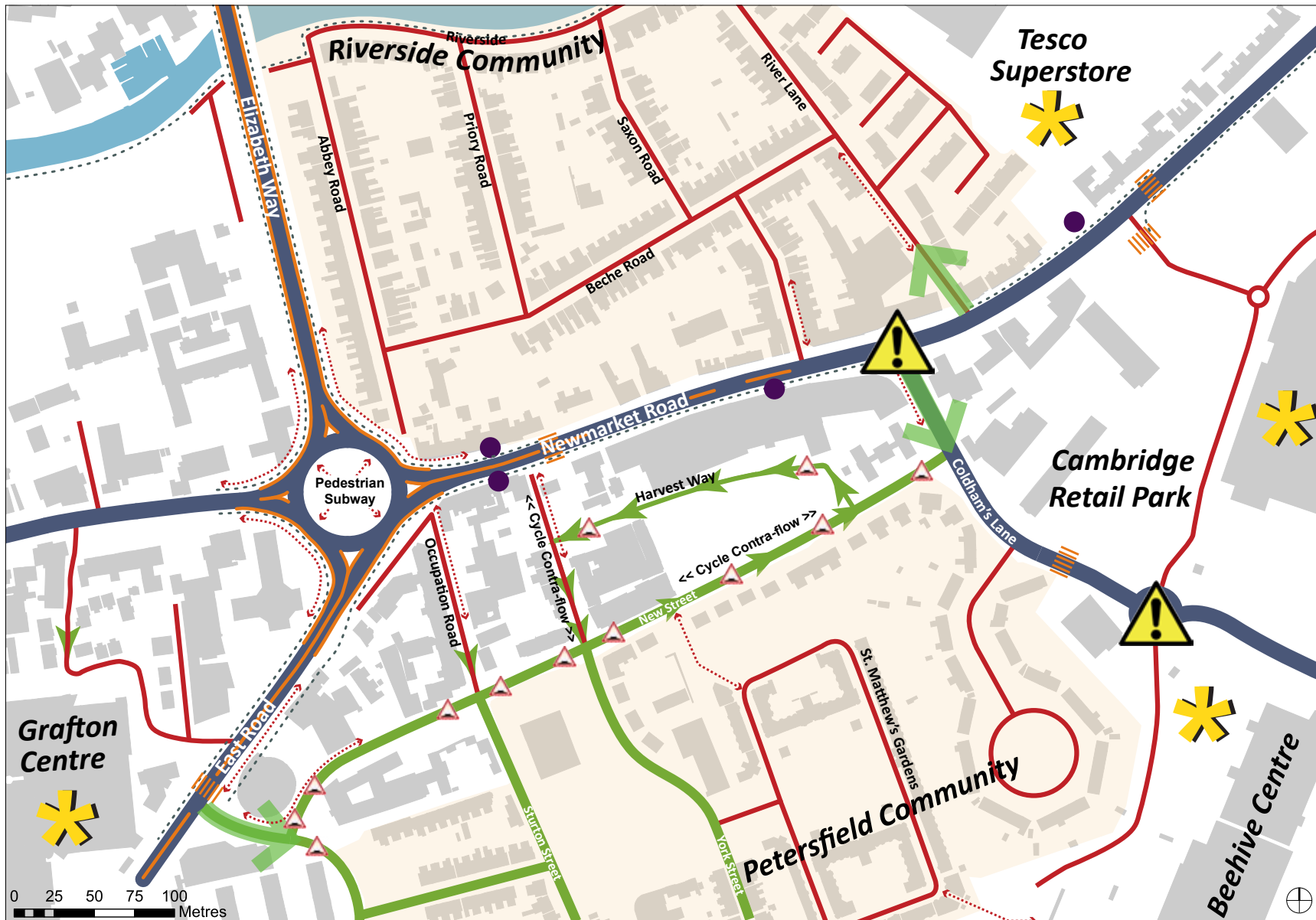


Figure 25: Existing movement & circulation

Cambridge City Council Air Quality Management Area

The primary local impacts on air quality in Cambridge are from road transport and domestic, commercial and industrial heating sources, as such an Air Quality Management Area (AQMA) was designated in the centre part of the City in August 2004, of which the proposed Eastern Gate study area falls within (see figure 27)

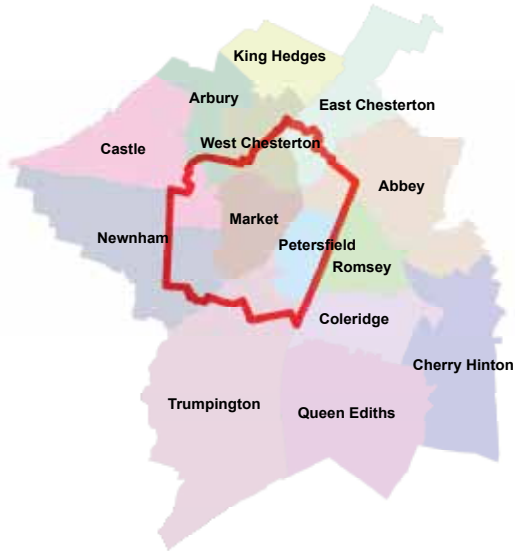


Figure 26: Cambridge City Council Air Quality Management Area

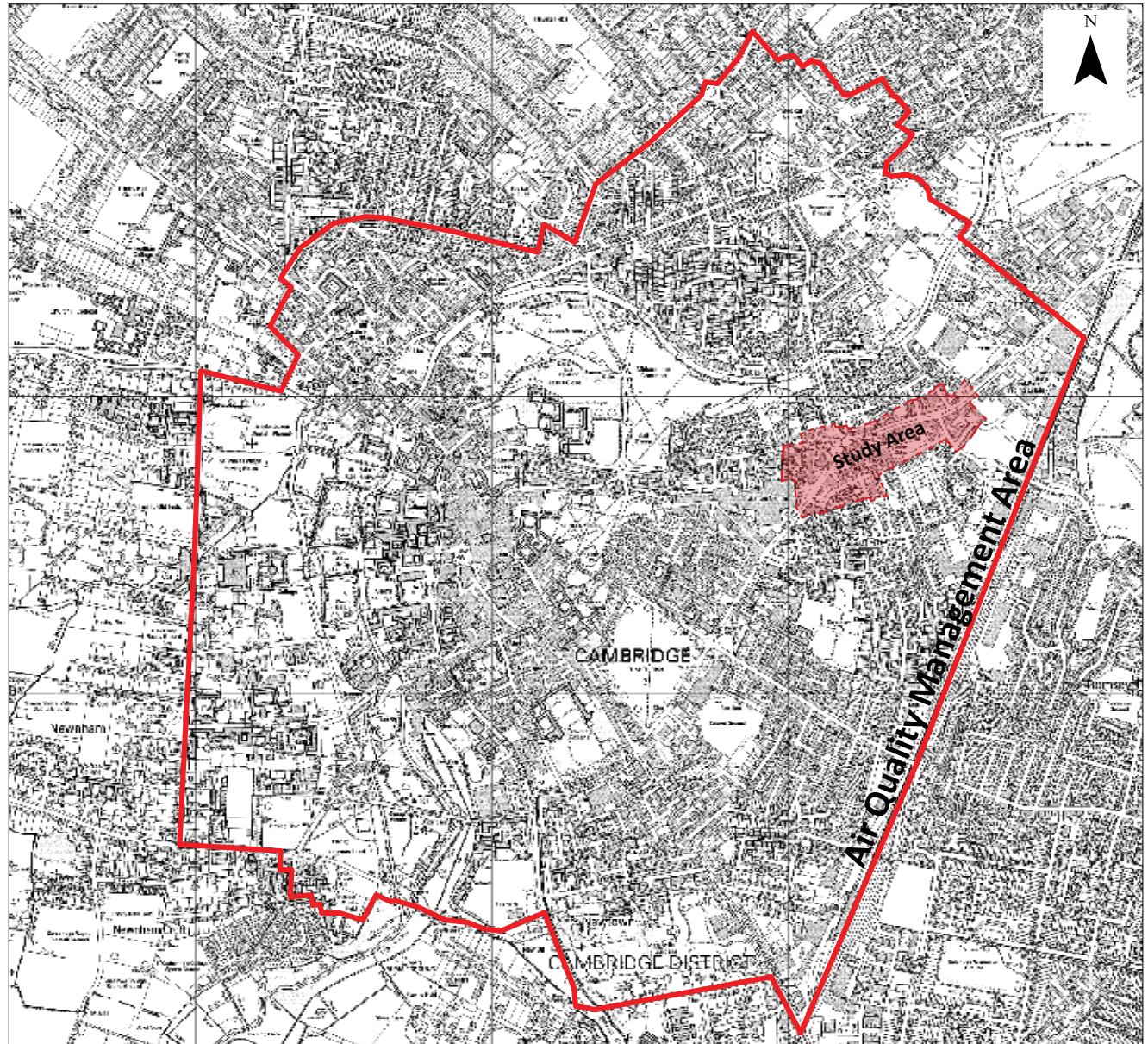
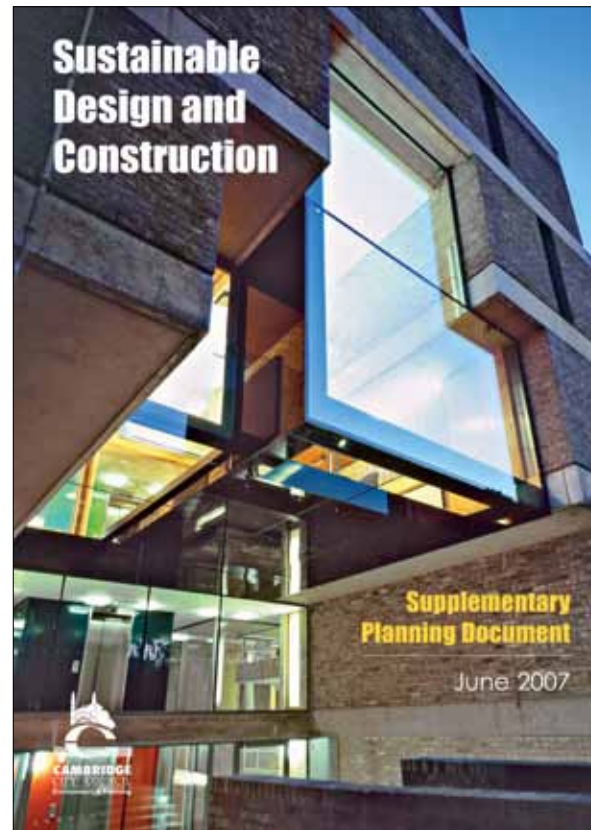
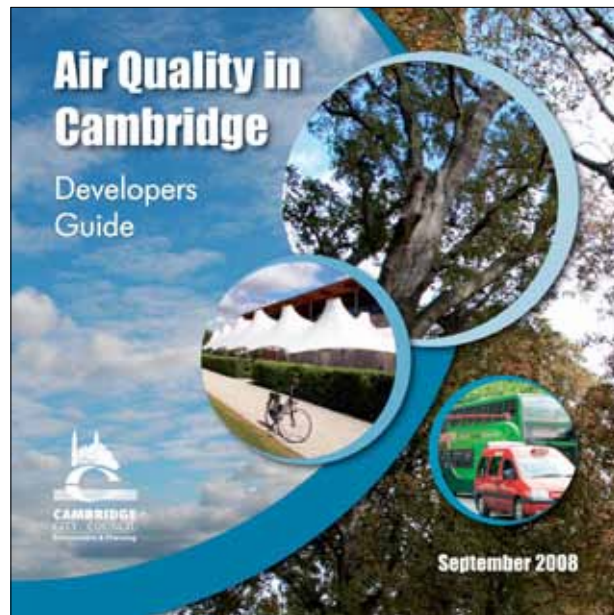


Figure 27: Proposed study in relation to the Cambridge City Council Air Quality Management Area



Cambridge City Council have produced guidance to assist developers consider and meet their air quality requirements as set out in the “sustainable design and construction document” published in 2007.

The “Air quality in Cambridge - developers guide” booklet has been designed to provide information on the way in which air quality and air pollution issues will be dealt with through the development control process.

It provides detailed step-by-step guidance so that developers and their agents or consultants can prepare all the necessary documentation prior to submitting a formal application, thus preventing delays and saving time.

Dealing with air quality through the development control process is just one of the ways the City Council are aiming to improve air quality in Cambridge.

Further information about air pollution in Cambridge can be found at www.cambridge.gov.uk/ccm/navigation/environment-and-recycling/pollution-noise-and-nuisance/air-pollution. In addition to the Sustainable Design and Construction SPD and Air Quality in Cambridge booklet, which can also be downloaded.

3.3 Surrounding Landuse & Activity

This section provides an analysis of the surrounding land use and the services found within and around the study area.

The adjacent maps illustrate the broad land uses and distribution of local services and facilities found within the study area. Key elements are as follows:

- Remnants of the historic high street survive to the east of Elizabeth Way roundabout. However, large footprint industrial uses on the southside of Newmarket Road dominate the historic ‘high street’, create blank frontages and generate little activity onto the street.
- Whilst a mix of uses does exist along Newmarket Road, the activity these uses generate is largely limited to commercial opening hours. There is to some extent a mix of uses occurring within buildings, such as flats above shops.
- A number of pubs exist within, and close to the study area.
- Groups of facilities (including Tesco’s, the Beehive Centre, Cambridge Retail Park and Cambridge United Football Club) to the east of the study area, are ‘people attractors’ and generate significant movement. The retail parks and football ground in particular have a city and sub-regional pull.
- A cluster of services located to the north of the Grafton Centre front Maids Causeway, serving residential areas to the west of study area.

- There is a greater dispersal of services and facilities to the south of the study area.

The adjacent walkable neighbourhood appraisal highlights facilities and services that are located within a 5 minute (400m) and 10 minute (800m) walking time. The walkable neighbourhood map (figure 29) illustrates:





- The river and railway create significant barriers to pedestrian movement further north and southeast of the study area.
- The hostile underpass, pedestrian guardrails and indirect crossings, which surround Elizabeth Way roundabout, limit the accessibility of the area and increase journey times and walking distances.
- The dominance of vehicular traffic on Newmarket Road makes informal crossings difficult and increases walking distances.
- Larger plot widths of industrial buildings fronting the southside of Newmarket Road form barriers to pedestrian movement and limit opportunities for permeability.



Figure 28 Land uses in the Newmarket Road area



Figure 29: Walkable neighbourhood

	400m Theoretical Walking Distance
	800m Theoretical Walking Distance
	400m Actual Walking Distance
	800m Actual Walking Distance

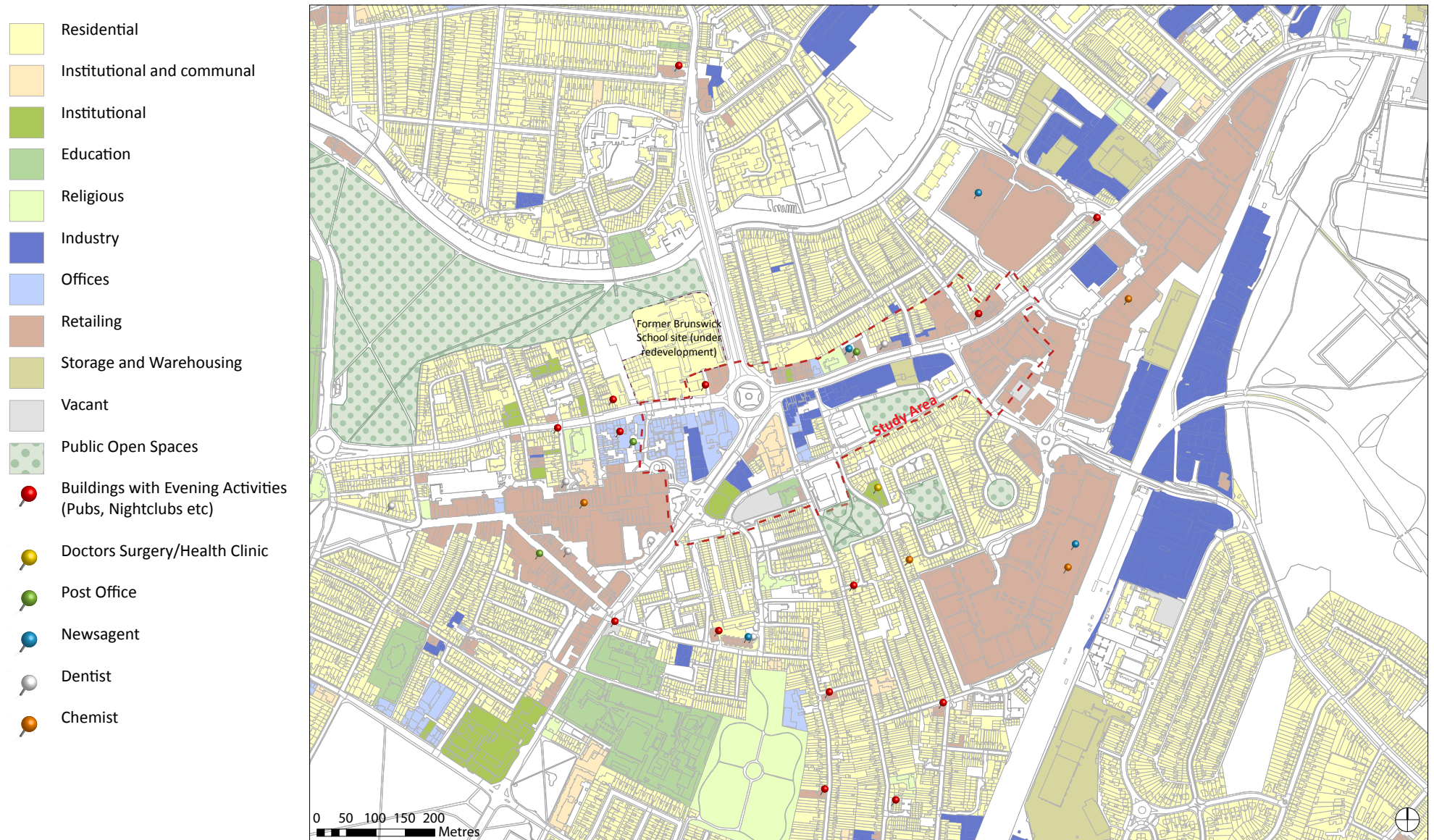


Figure 30: Surrounding land uses in the Eastern Gate study area

3.4 Legibility

A legibility assessment was undertaken for the study area in order to determine the ease with which people can understand the layout of a place. The assessment study applies techniques developed by Kevin Lynch in the 1960s for analysing an area based upon five key elements:

Paths – the major and minor routes of circulation, be it roads, footpaths, rivers or railways.

Edges – form the dividing lines or boundaries between districts such as edges of development, walls and railways.

Districts – areas which have common identifiable characteristics such as city residential areas, industrial estates and university campuses.

Nodes – are centres of activity where users congregate, such as busy junctions or bus stations.

Landmarks – form points of reference, which help people to orientate themselves in the city.

The main findings from the study are:

- Gateways form at entrances to the Petersfield and Riverside residential areas within New Street, Coldham’s Lane and River Lane.
- East Road forms a transition zone between differing land uses where the edge of the city centre and residential areas merge.
- Nodal points form at important junctions such as Elizabeth Way roundabout and Coldham’s Lane, but create a poor sense of arrival.
- The Crown Court forms a local landmark and acts as a reference for the user, aiding orientation. The



Figure 31: Eastern Gate area legibility study

- buildings also line the transition zone; demarcating the edge of the city.
- The Museum of Technology chimney (SAM) forms a landmark that can viewed from within and outside the study area.
- The residential areas of Petersfield and Riverside form

strong easily identifiable ‘Districts’.

- Large warehouse buildings and pedestrian guardrails form hostile edges and sever residential districts.
- East Road and Newmarket Road form ‘major pathways’, although vehicles dominate and form a barrier between communities.

3.5 Character Appraisal

A character appraisal has been undertaken of the study area in order to assess locally distinctive patterns of development and land uses. These factors help to distinguish different areas.

The appraisal shows clear variations in character across the study area with late 20th Century retail development to the east and mixed-use 20th Century retail, residential and office developments to the west.

Development on land to the north and south behind Newmarket Road is predominantly residential development. The addition of industrial warehousing and car showroom buildings in the 1960s and 70s along Newmarket Road has eroded the traditional street character. Poor modern infill developments along Newmarket Road interrupts the rhythm of the street, as a result 19th Century mixed-use development now form disjointed clusters.

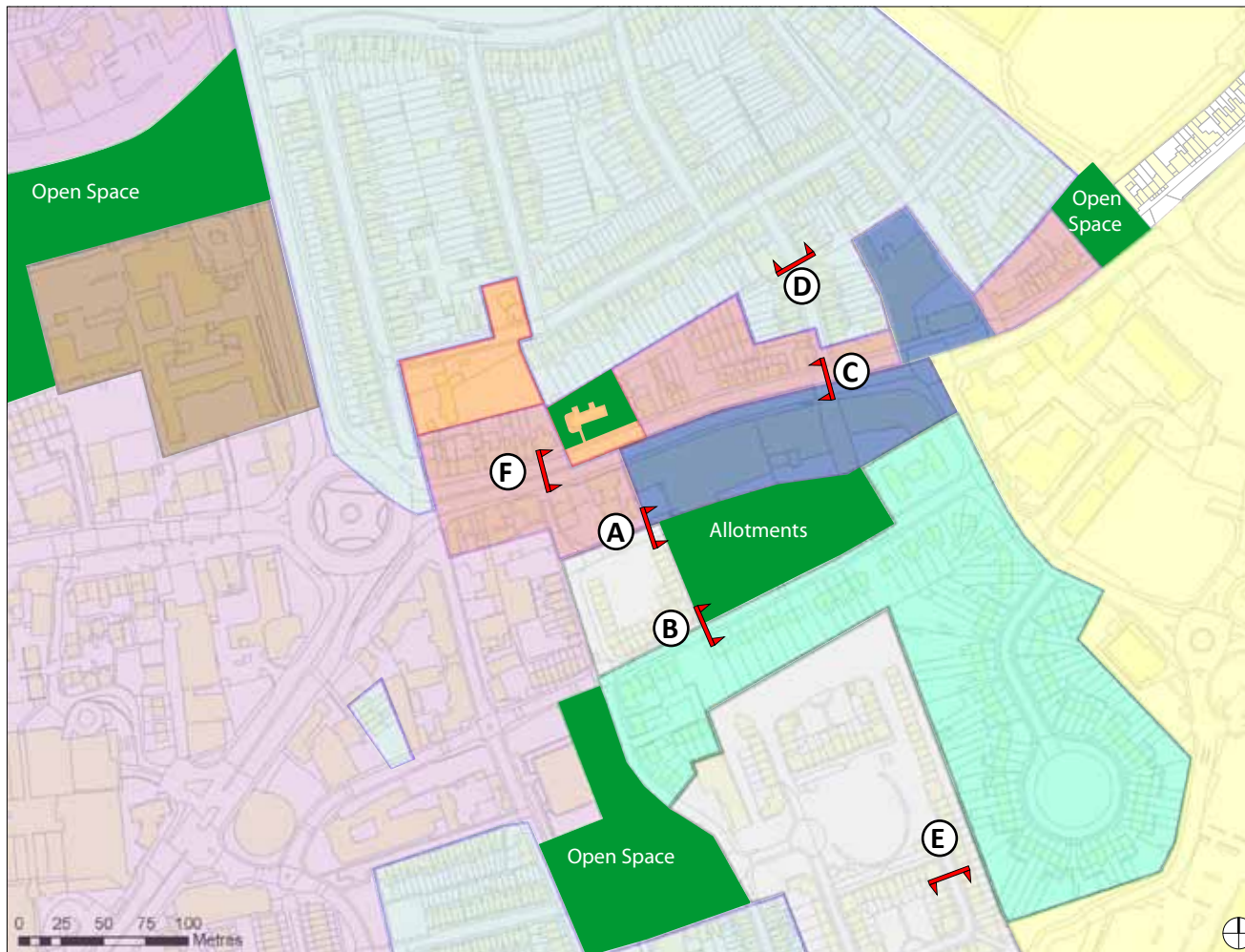


Figure 32: Character Appraisal












- | | | |
|--|---|--|
|  1. 19th Century terrace housing |  5. Industrial warehouse and garage showroom buildings |  9. Remnants of Barnwell Priory |
|  2. 20th Century housing |  6. 20th Century retail development |  Open space |
|  3. 19th, 20th & 21st Century mixed-use |  7. 19th Century mixed-use |  Cross section locations |
|  4. 1930s residential development |  8. Former Brunswick School site (currently under redevelopment) | |



Figure 33: Godesdone Road, looking north

Character Area 1: 19th Century Terrace Housing

- Continuous building lines with entrances fronting directly onto the street.
- Predominately residential with 2 storey Victorian terraces.
- Sense of rhythm created by continuous building lines, narrow building plots, frequency of doors and windows and repeated architectural details.
- On street parking.
- Finer grain of development and a higher degree of street enclosure.
- Narrow building plots—typically 5-6 metres wide.
- Typical street widths—7 metres wide.
- No or little front gardens resulting in no landscape to soften the street.



Figure 34: St Matthew's Garden

Character Area 2: 20th Century Housing

- Predominately late 20th century residential terraces.
- Typically 3 storey dwellings within St Matthew's Gardens (some with basements) with smaller 2 story terraces fronting Abbey Street.
- Undercroft parking provided at St Matthew's Gardens residential development.
- Sense of rhythm created by continuous building lines, narrow building plots, frequency of doors and windows, rooflines and architectural details.
- Infrequent on street parking fronting Abbey Street.
- Green space and landscaping incorporated into central area resulting in no landscape to soften the street scene.



Figure 35: New Street looking west towards the Crown Court

Character Area 3: 19th, 20th and 21st Century Mixed Use

- Land use consists of a variety of retail, residential and business uses
- Variations in building size, scale, plot widths and set backs resulting in a disjointed and jumbled appearance.
- Little sense of continuity between building typologies.
- Areas of poor quality, passive building facades.
- The Grafton Centre and Crown Court are prominent buildings, the latter acts as a local landmark.
- Landscaped areas limited to incidental, small open spaces.



Figure 36: Silverwood Close looking South West

Character Area 4: 1930s Residential Development

- Buildings typically dating from the 1930s interwar period.
- Predominantly 2 storey semi-detached residential developments fronting New Street, with small runs of bay windowed terrace housing located within Silverwood Close.
- Buildings set back from the street, providing front gardens to properties.
- Silverwood Close, a typical Cul-de-sac street, provides little permeability to the surrounding street network.
- Typical street width 6m.



Figure 37: Newmarket Road, looking east

Character Area 5: Industrial Warehouse and Car Showroom Buildings

- Land use consists of industrial, warehouse and car showroom buildings dating from the 1960's/70's.
- Predominately 2 storey developments with almost continuous blank facades.
- Lack of activity at ground level results in lack of natural surveillance.
- The large footprint buildings limit and restrict permeability from Newmarket Road through to Harvest Way.
- Area dominated by vehicle movements, noise and pollution.



Figure 38: Cambridge Retail Park

Character Area 6: 20th Century Retail Development

- Land use consists of predominately late 20th century, large scale, retail warehouse units.
- Building facades, with few windows create activity at ground floor level.
- Large expanses of car parking with little vegetation resulting in the area becoming dominated by vehicles.
- Large footprint adds to the overall bulk of the buildings.



Figure 39: Newmarket Road

Character Area 7: 19th Century Mixed Use

- Predominantly 19th/ early 20th century developments consisting of a mixture of small scale retail and residential properties.
- Typically 2 storey terrace properties, some of which show signs of neglect.
- Sense of rhythm created from narrow building plots, frequency of doors and windows, and repeated architectural details.
- Variety of building plot widths.
- Lack of street trees and vegetation.
- The scale of the road is out of proportion to that of buildings.



Figure 40: Former Brunswick School Site (image: Berkeley Homes)

Character Area 8: Former Brunswick School Site (currently under redevelopment)

- Education buildings dating back to the early 20th century
- Midsummer common surrounds the site to the north, with significant trees and vegetation
- Site now under redevelopment for the erection of 168 residential units, 251 student rooms, new vehicular and pedestrian access (including public throughfare through the site) and access to public open space (see figure 32).



Figure 41: Church of St Andrew-The-Less, Newmarket Road

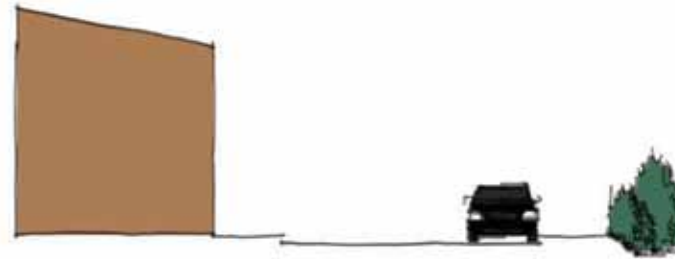
Character Area 9: Remnants of Barnwell Priory

- Church of St Andrew-the-Less (Abbey Church) and Cellarar's Chequer form the remains of Barnwell Priory.
- Significant street trees, vegetation and open space surround the church which gives positive addition to the street.
- 16th Century Abbey House.

Character area cross sections (Scale 1:200)

- Narrow street width – typically 6.8 m (kerb to kerb)
- On street car parking.
- Buildings composed of rear entrances to warehouses and industrial units.
- Broken frontage and a lack of surveillance weakens the areas overall character.

Section A-A (Harvest Way Looking East)



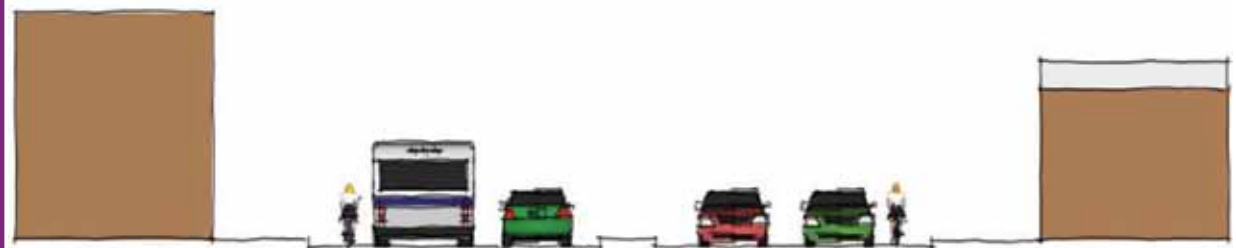
- Street width typically 7.7m.
- Residential housing with front gardens.
- Car parking on either side of street.
- Vehicle dominated space – obstructing views over allotments.
- High concentration of parked vehicles.
- Conventional traffic calming measures.
- High levels of vegetation located in front gardens and opposite the allotments.

Section B-B (New Street Looking East)



- Wide street widths – typically 16.5 m
- High traffic speeds – vehicle dominated
- Designated, but fragmented cycle lanes
- Predominantly 2-2.5 storey building heights
- Little vegetation, pedestrian guardrails in median strip
- High levels of traffic congestion and associated noise during peak times
- Lack of pedestrian crossing points makes pedestrian movement difficult and dangerous
- Sweeping curves at junctions

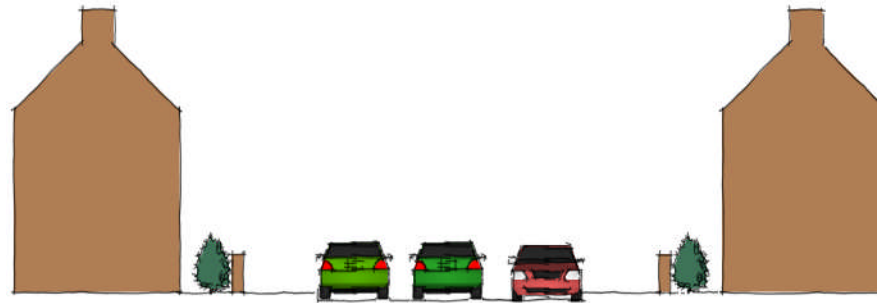
Section C-C (Newmarket Road looking West)



Character area cross sections (Scale 1:200)

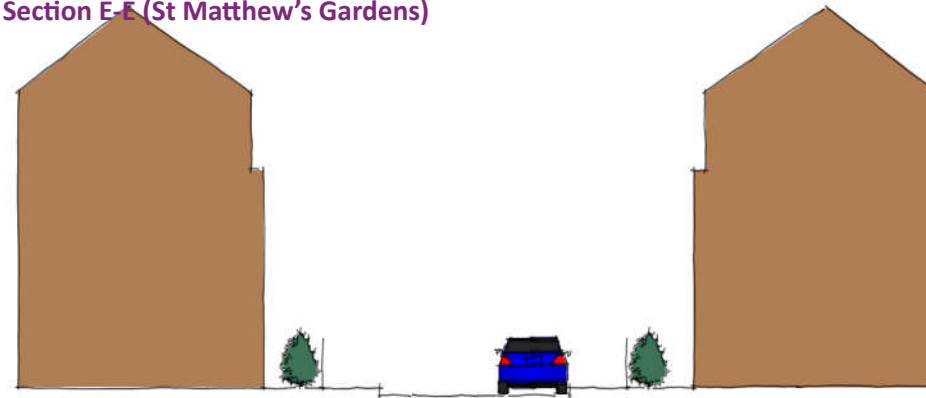
- Narrow Street width – typically 7 m
- 2.5 storey Victorian terrace housing
- On street parking either side of street
- Small front gardens with some vegetation
- Narrow building plots
- Low traffic speeds

Section D-D (Godesdone Road)



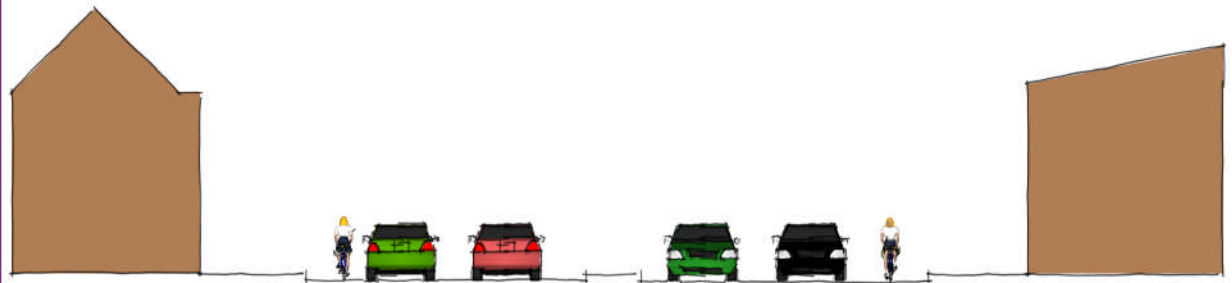
- Narrow street widths – typically 5 m
- 3 – 4 storey terrace housing with top floors set back
- Some on street parking – most parking provided underneath communal open space of St Matthew's Gardens
- Narrow front gardens with some planting

Section E-E (St Matthew's Gardens)



- Wide street widths – typically 16.5 m
- High traffic speeds – vehicle dominated
- Pedestrian guardrails and narrow staggered crossings
- Hostile for pedestrian and cyclist

Section F-F (Newmarket Road looking East)



3.6 Townscape Analysis

This section provides an analysis of the study area in terms of its urban form and visual appearance and how the components of the environment combine in a way that is distinctive to the area. Key elements are as follows:

- Views of the conservation area from Elizabeth Way bridge reveal the areas historic Victorian roofscape and fine urban grain.
- Large areas of negative, left over space which is ill-defined and poorly enclosed.
- Poor quality and passive frontages create hostile and uncomfortable edges.
- Poor quality buildings and standard highway solutions mask buildings of townscape interest and have eroded the qualities of place.
- The predominant domestic scale and use of the areas to the north and south of Newmarket Road is disrupted by poor quality warehouse buildings, with larger footprints and passive frontages.
- The frontage east of the roundabout and along the north side of Newmarket Road is characterised by historic retail buildings with narrow plot widths providing greater variety, interest and permeability.
- Pedestrian railings surrounding Elizabeth Way roundabout and Newmarket Road forms a barrier between the two residential areas, restricting north and south movements within the study area.
- The Crown Court forms a local landmark and a point of reference in the urban environment.

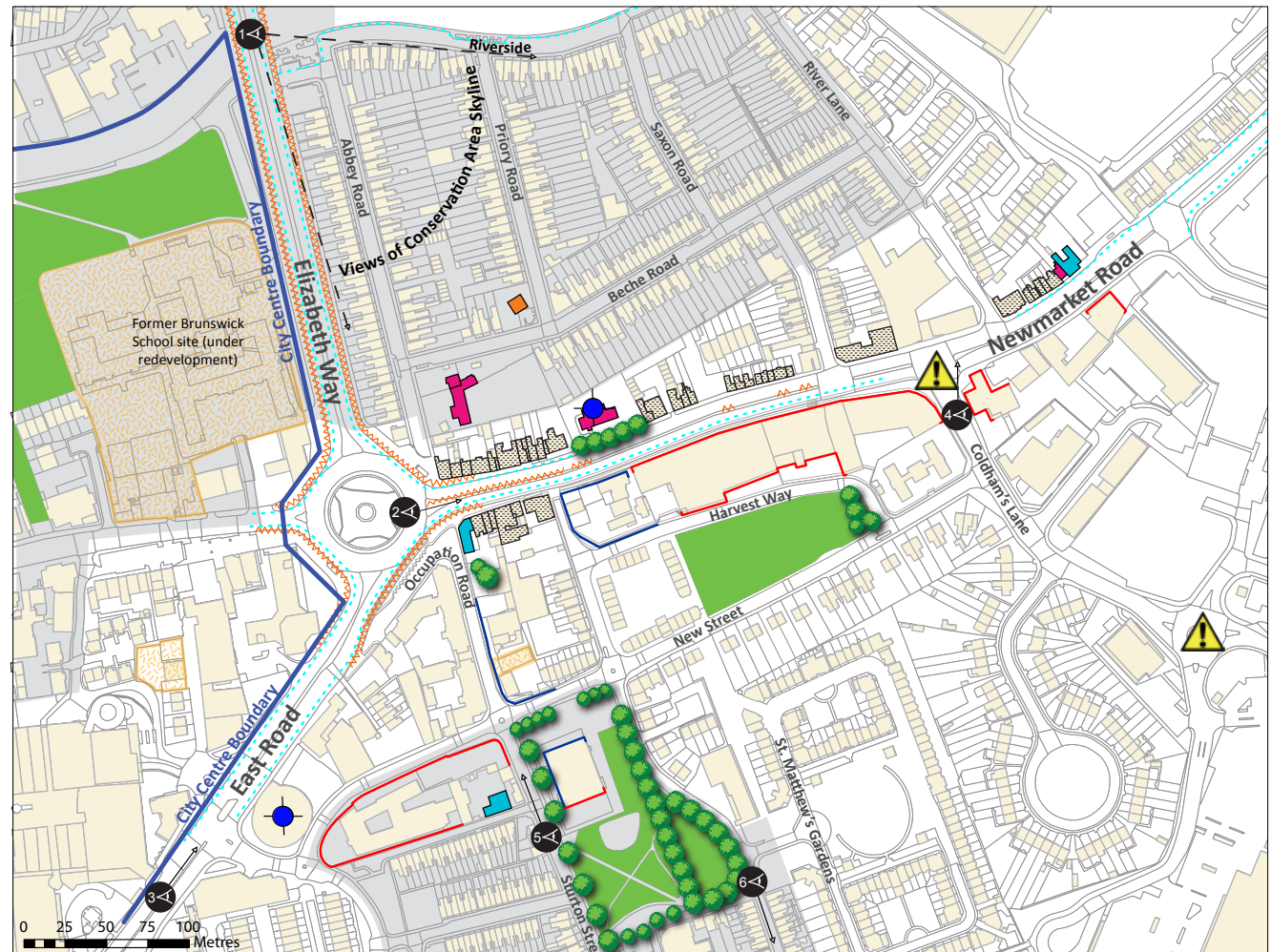
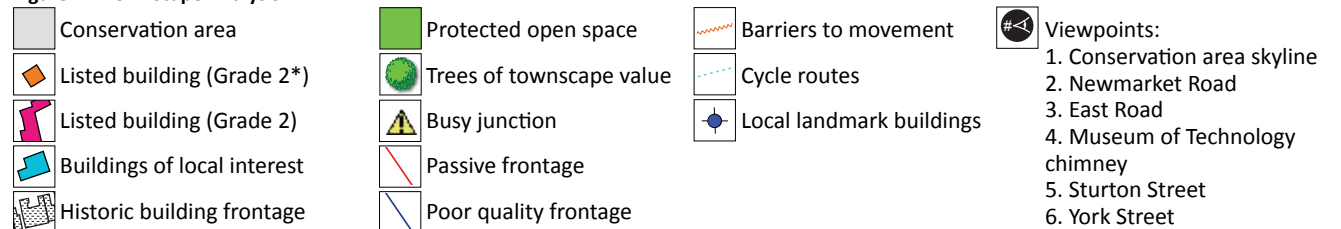


Figure 42: Townscape Analysis



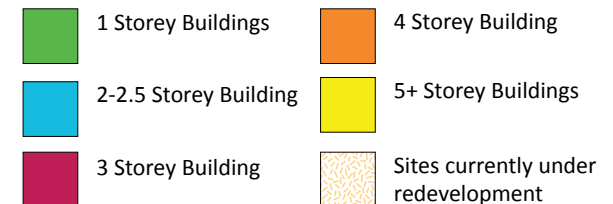
3.7 Existing Scale and Massing

This section provides an analysis of the arrangement, volume, size and shape of buildings as well as frontage/plot widths and dimensions of street blocks. The map (figure 43) illustrates the following key elements;

- The area predominantly comprises of residential housing with a domestic scale of 2-2.5 storeys, arranged in groups of terraces and semi-detached pairs.
- Larger scale industrial and retail buildings with wide plot widths front the southern side of Newmarket Road forming a barrier between the residential areas to the north and south.
- Taller buildings line east road and form a transition between the smaller domestic scale and edge of the city centre.
- The Crown Court forms the tallest built element within the study area and acts as a local landmark.



Figure 43: Existing Scale and Massing



Note: Building heights have been derived from Lidar data. Storey heights expressed are based on a typical residential floor to ceiling height of 2.7m.



< Figure 44: View over the riverside area, taken from Elizabeth Way bridge



Figure 45: View of the Cambridge Crown Court, taken from East Road >

3.8 Opportunities and Constraints

This section provides a summary of the context analysis, teasing out the key strengths, weaknesses and opportunities (refer to figure 49) the study area presents.

Strengths

- The area is well located for access to the City Centre.
- Retail uses front Maids Causeway and provide local centre services for nearby residents.
- Clusters of historical retail frontage still exist east of Elizabeth Way roundabout.
- The area contains buildings with strong landmark features that aid navigation through the area.
- Elevated views from Elizabeth Way bridge reveal the historic Victorian roofscape and finer urban grain of the riverside conservation area.
- Large areas of domestic 2-2.5 storey terraces within the Riverside and Petersfield neighbourhoods, form important character areas.
- Larger buildings lining East Road serve to mark the transition zone between the residential and City Centre uses.

Weaknesses

- The dominance of vehicles on Newmarket Road forms a barrier and restricts pedestrian movements between the residential districts of Petersfield, Riverside and Brunswick.
- Buildings of historic interest are masked behind the

heavy traffic, signs and signals associated with traffic engineering.

- Large warehouse and industrial buildings with poor quality, blank frontages contribute little to the townscape or public realm.
- Uses along Newmarket Road frontage that stretch activity beyond retail opening hours are not in abundance.
- The dominance of vehicular traffic on Newmarket Road makes informal crossings difficult to those on foot resulting in increased walking distances.
- Pedestrian railings surrounding Elizabeth Way roundabout and Newmarket Road form barriers between residential areas.
- Inconsistent cycle and bus lanes along the length of Newmarket Road enforces the priority of vehicular traffic.
- Narrow footpaths and wide sweeping junctions encourage higher traffic speeds.
- Dominance of car parking on residential streets north and south of Newmarket Road.
- Elizabeth Way roundabout currently lacks the qualities of a positive gateway into the city and severely limits pedestrian and cycle movement.





Figure 46: Clusters of historic retail frontage on Newmarket Road



Figure 47: Pedestrian railings form a barrier to movement



Figure 48: Wide sweeping junctions promote higher traffic speeds

-  Address the balance of vehicles and pedestrians and cyclists on Newmarket Road
-  Create new links between communities
-  Strengthen links between existing open spaces
-  Improve the "Eastern Gateway" to the City
-  Humanise the highway, green and soften routes - explore opportunities for street tree planting
-  Opportunities to create new and exciting spaces
-  Repair and reshape the built form - particularly on Newmarket Road
-  Enhance the setting of historically significant buildings and frontages

Summary of opportunities

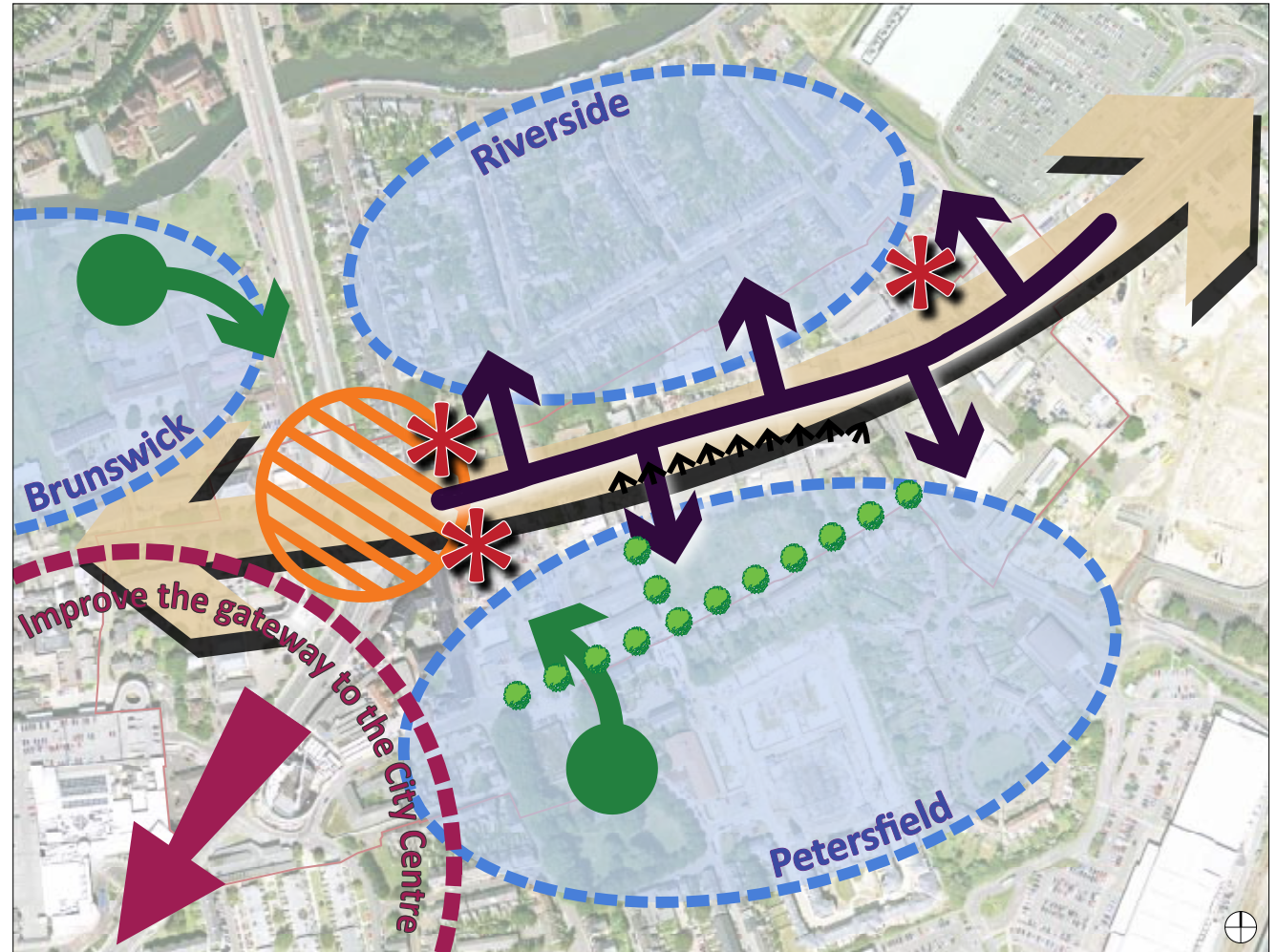


Figure 49: Opportunities

