Former Shredded Wheat Factory, Broadwater Rd, Welwyn Garden City

Residential led mixed-use development

TRANSPORT ASSESSMENT

Prepared by: Entran Ltd

On behalf of: Plutus Estates (WGC) Ltd and
Metropolitan Housing Trust

DATE: January 2018

THE WHEAT QUARTER

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WEST OF ENGLAND TRAVEL PLAN AWARDS GOLD AWARD

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Revision	Date	Notes	Author	Checked	Approved
V1	Dec 17	Draft	SOA	RLF	RAF
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Entran Limited
7 Greenway Farm
Bath Road
Wick
Bristol
BS30 5RL

T: 0117 937 4077

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1. INTRODUCTION

1.1. This Transport Assessment (TA) has been prepared by Entran Ltd in support of a planning application for the redevelopment of the former Shredded Wheat Factory to provide a residential led mixed-use development. The proposed development is known as the Wheat Quarter. Full details of the proposed development are contained in section 6 of this report.

1.2. The site falls within the jurisdiction of Welwyn Hatfield District Council (WHDC) who are the planning authority and Hertfordshire County Council (HCC) who are the local highway authority.

1.3. This TA has been developed following early discussions with the highway authority; it takes account of the comments received as well as local and national guidance.

1.4. Guidance published by the DfT and the DCLG in 2007 provided advice on the content and preparation of Transport Assessments and Transport Statements. It also assisted stakeholders to determine whether an assessment may be required and, if so, what the level and scope of the assessment should be.

1.5. Previous guidance on the assessment of traffic implications associated with development proposals was contained in the “Guidelines for Traffic Impact Assessment” published by the Institute of Highways and Transportation (IHT) in 1994. Since the IHT guidelines were produced, there has been a significant change in Government policy and general guidance regarding improved sustainability in transport. The fundamental difference between TAs and the old TIAs is that TAs seek to influence modes of travel and assess person-trips rather than vehicle trips, whereas TIAs were based on the principles of “predict and provide” for the private car.

1.6. The 2007 document brought the Guidance on transport assessment up to date with these changes in Government policy, and expanded it to address the assessment of the potential implications of development proposals on the entire transport system.

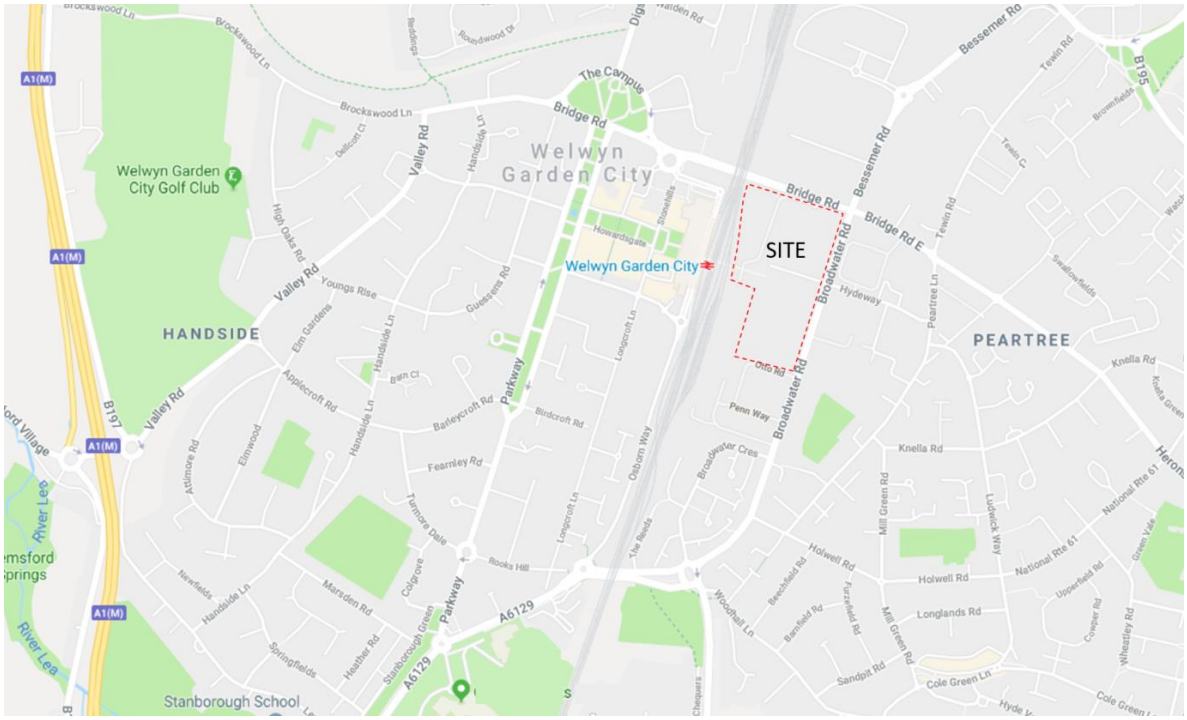
1.7. In 2014 DCLG published a suite of Planning Practice Guidance including advice entitled “Travel plans, transport assessments and statements in decision taking”. The 2007 guidance has been superseded by the PPG as current government guidance on the transport related effects of development but many highway authorities still refer to it as useful advice on detailed matters of transport assessment.

2. SITE LOCATION AND DESCRIPTION

2.1. The proposed development site consists of approximately 10.4 hectares (Ha) of brownfield land and is located on the eastern edge of Welwyn Garden City's town centre on Broadwater Road. The site is bounded by Bridge Road to the north, Broadwater Road to the east, residential developments to the south and the East Coast Mainline to the west.

2.2. The application red line boundary is included as **Appendix A** and a location plan is included as Figure 2.1 below:

Figure 2.1 – Site Location



2.3. The northern portion of the site was previously occupied by the Nabisco Shredded Wheat Factory and includes some distinctive silos, which are listed buildings. The production building is also a grade 2 listed building and has been closed since 2008. Full details of these buildings' history and current planning status are included in the Design and Access Statement and Planning Statement.

2.4. In addition to the East Coast Mainline a warehouse building of approximately 10,000m2 (known as Pall Mall) also abuts the western side of the site.

Means of access

2.5. The site currently takes vehicular access from Hydeway which has a junction with Broadwater Road. There are also a further five dropped-crossing (haulingway) style accesses from Broadwater Road. The site also shares access with the adjacent warehouse via a priority junction onto Bridge Road.

2.6. A short spur road links to a footbridge that connects the site to the Railway Station and to the Howard Shopping Centre on Howardsgate.

3. RECENT PLANNING HISTORY

3.1. The Welwyn Hatfield District Plan was adopted by Welwyn Hatfield Borough Council (WHBC) in 2005. WHBC adopted a supplementary planning document in 2008 to guide the redevelopment of the former Shredded Wheat Factory site. The SPD sets out design guidance for the site in respect of, amongst other things:

- Pedestrian network
- Cycle routes
- Public transport connections
- Vehicular routes, and
- Parking

3.2. WHBC's Draft Local Plan was submitted for examination in May 2017.

3.3. In 2015, Spen Hill Developments Ltd submitted a planning application for the redevelopment of the former Shredded Wheat Factory site. The scheme comprised:

- 850 dwellings (Use class C3, with potential to include 80 (C2) assisted living units)
- 2554m^2 hotel
- 6370m^2 office/research
- 572m^2 convenience/comparison retail
- 834m^2 healthcare
- 650m^2 crèche
- 1990m^2 restaurants/cafes
- 757m^2 community facilities
- 703m^2 gym/dance studio

3.4. The residential component comprised 259 one-bed units, 309 two-bed units 170 three-bed units and 89 duplexes.

3.5. The scheme included 1,092 cycle parking spaces and a total of 1,376 car parking spaces for the various land uses.

3.6. The approved planning application was supported by a Transport Assessment dated February 2015, prepared by Transport Planning Associates (TPA). The TA assessed the transport effects of the proposed development and suggested a range of transport improvement measures including extensive pedestrian and cycle facilities in Broadwater Road and Bridge Road west.

3.7. Planning permission was granted in August 2017 subject to a range of conditions and obligations, including the requirement for extensive off-site highway improvements.

4. LOCAL HIGHWAY NETWORK

4.1. Broadwater Road forms part of the A1000 which links the A1(M), to the north of Welwyn Garden City, to the A414 and Hatfield to the south, before continuing on to north London.

4.2. Broadwater Road has a width of approximately 8.0m and is subjected to a 30mph speed limit, which is enforced by speed cameras. There are a number of roads joining of roads joining Broadwater Road which provides access to residential areas; there are also a number of employments sites with direct access on to Broadwater Road.

4.3. Hydeway had a width of approximately 6.75m and provides access from Broadwater Road to the footbridge over the railway line. The proposed development site lies on both sides of Hydeway and as such there are currently no properties served directly by Hydeway.

4.4. Concrete bollards were positioned along Hydeway in October 2014 to prevent unauthorised parking which had been occurring, predominantly by commuters.

4.5. A significant number of Sheffield loop stands have been provided on the southern side of Hydeway. These are popular with commuters from the east of Welwyn Garden City who park their bicycles on Hydeway and cross the footbridge to the station.

4.6. Bridge Road is a dual carriageway that runs from the east to west, with access to the town centre via Hunters Bridge which crosses the railway and is subjected to a 30mph speed limit. The width of the carriageway varies from 14m to 15.5m as the number of lanes changes from single to two lanes in either direction. There is a central reserve for the majority of its length.

4.7. The junction between Bridge Road and Broadwater Road is a four arm signal controlled junction with two approach lanes on Bridge Road east and three approach lanes on the other three arms. The signals include uncontrolled pedestrian crossings with central refuges on each arm.

5. LOCAL TRANSPORT NETWORK

Pedestrian movement.

5.1. Acceptable journey distances on foot vary depending on the purpose of the journey, the environment in which the journey is taking place and of course the individual walking. Prior to being superseded by the National Planning Policy Framework (NPPF) PPG13 suggested that walking offers the greatest potential to replace short car trips for journeys less than 2km. The IHT guide 'Providing for Journeys on Foot' suggests that for journeys to work a desirable walking distance would be 500m, an acceptable walking distance would be 1km and the preferred maximum walking distance would be 2km, in line with the PPG13 advice.

5.2. The site is accessible to the town centre and surrounding areas and facilities through and extensive footway network, which includes the footbridge linking Hydeway to the railway station. The town centre and railway station are both within approximately 200m form the site, which is within the desirable walking distance for commuting and shopping.

5.3. There are footways along both sides of Broadwater Road, one with a grass verge between the carriageway and the footway, with the width varying from approximately 3.2m to 4m.

5.4. Bridge Road has footways along both sides of the carriageway, with the width varying from approximately 2.6m to 2.9m. The footways continue along Bridge Road East, although the width varies from approximately 2.3m on the north side and 3.9m on the south side.

5.5. Bessemer Road has footways of between 2.6m and 2.9m along both sides of the carriageway.

5.6. There are footways along both sides of Hydeway, with widths of between 2.4m and 2.5m.

5.7. The footbridge which provides access to the railway station has a width of approximately 3m and is currently accessed on the site-side via a flight of steps, restricting access for wheelchair users and, making access for those with pushchairs difficult.

5.8. There are currently two signal controlled pedestrian crossings within 100m walk of the site providing access across Broadwater Road (south of Hydeway and north of Otto Way) as well as uncontrolled crossings at the junction between Broadwater Road, Bessemer Road and Bridge Road. All formal crossing points, whether controlled or uncontrolled, have flush dropped kerns and tactile paving.

5.9. Overall, the footways in the area around the site are generally in a reasonable state of repair and street lighting is provided.

5.10. Figure 5.1 below shows five, ten and fifteen minutes walking isochrones from the site to the surrounding area. This demonstrates that a wide range of facilities and transport hubs are within easy walking distance from the site. This includes the Howards Centre, railway station and bus station. Additional retail, food and drink, pharmacy and health facilities are within easy walking distance as well as education and employment.

Figure 5.1 – Pedestrian isochrones.

5.11. It is evident that a comprehensive range of retail, employment, education, health and leisure facilities are within easy walking distance of the site, further reducing reliance on the car for short journeys. The site is extremely well located to promote travel on foot.

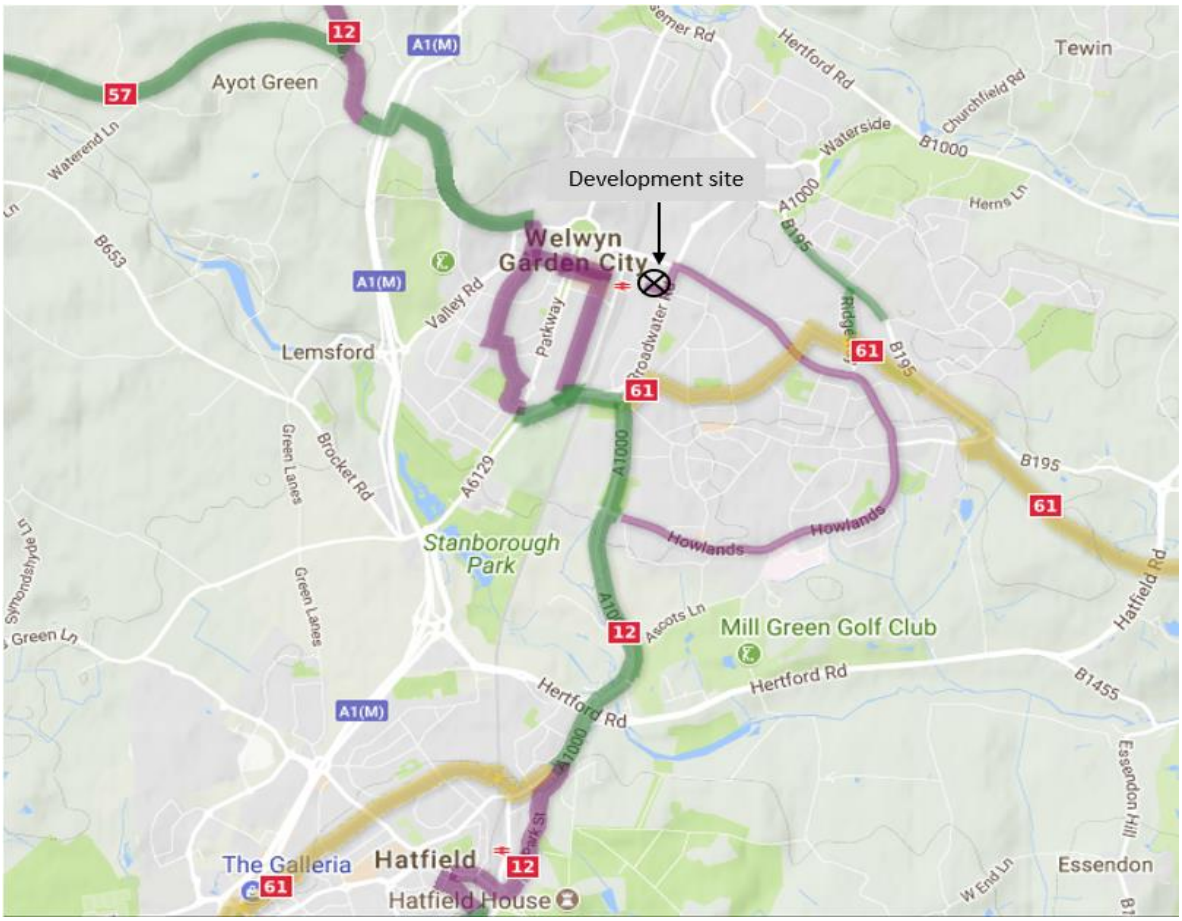
Cycle movement.

5.12. It is widely recognised that cycling has the potential to substitute for short car trips, particularly those that are less than 5km. The site lies within 5km of every point in Welwyn Garden City and as such all local facilities, such as schools, leisure and employment sites are all within an acceptable cycling distance.

5.13. Within the proposed development site, there is currently secure cycle parking for approximately 90 cycles along Hydeway. These stands are heavily utilised by commuters who park on Hydeway and then use the footbridge to access the railway station and Welwyn Garden City town centre.

5.14. Figure 5.2 below shows the site's proximity to the National Cycle Network. This demonstrates that a series of traffic-free (green) and lightly trafficked (purple) cycle routes provide access to a wider catchment by bike. The Great North Way, National Cycle Network Route 12 (NCN12) runs from Enfield Lock in north London to Spalding via Stevenage and Peterborough. NCN12 generally leads north to south and connects Route 61 (Cole Green Way) & 57; which lead east towards Hertford and west towards Harpenden respectively. The site benefits from the National Cycle Network as it is directly to the east and leads to Route 61 & 12.

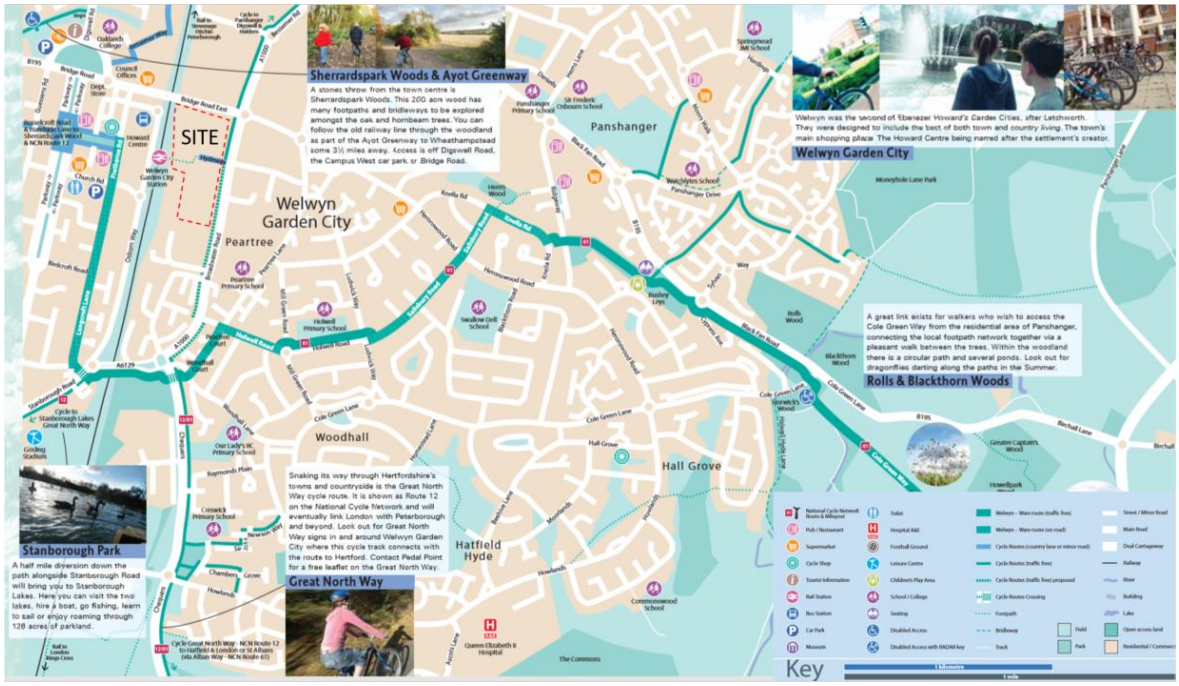
Figure 5.2 – Proximity to National Cycle Network



5.15. Hydeway (west) as it dissects the site is signed as an advisory cycle route to the station. The 'footway' on the southern side of Hydeway is signed as a cycle route. This is somewhat ambiguous as it should be signed as a shared cycleway/footway.

5.16. An extract from the WHBC Cole Green Way cycle map is shown in figure 5.3 below with the development site location indicated:

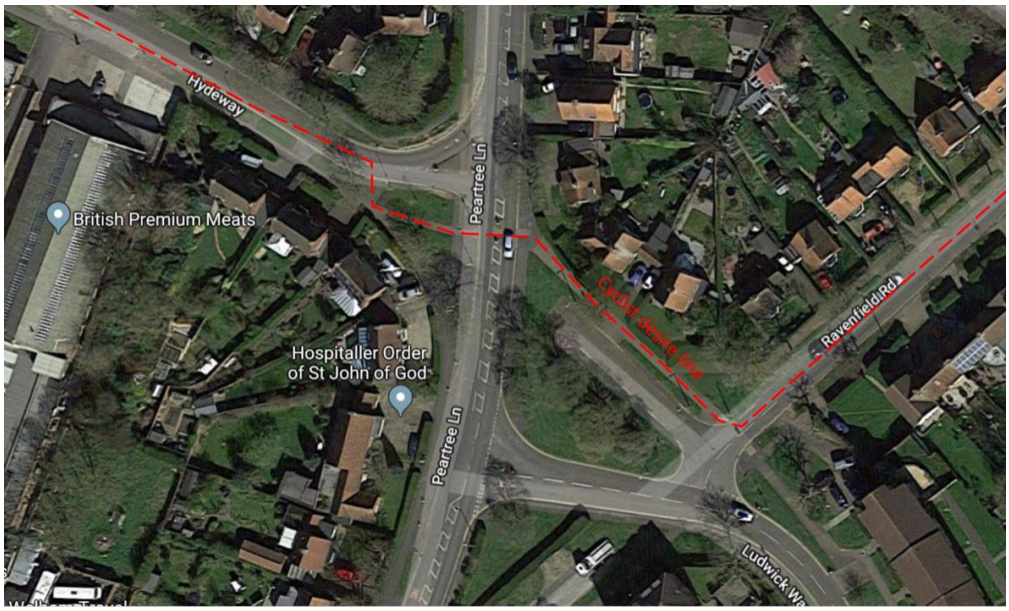
Figure 5.3 – Extract from Cole Green Way cycle map



5.17. This plan shows the existing traffic-free cycle routes in Welwyn Garden City and also shows a proposed cycle route running along the western side of Broadwater Road. This was proposed as part of the consented Shredded Wheat development.

5.18. Additional signage directs cyclist from the junction with Broadwater road, east along Hydeway (east) towards Bridge Road East. We understand from local ward Councillors that this results in cyclists using the footway between Peartree Lane and Ravenfield Road. This is illustrated in Figure 5.4 below.

Figure 5.4 – Cyclist desire line from Hydeway east



5.19. The combination of the National Cycle Network, local cycle routes, proposed routes and lightly trafficked residential roads make proposed development site a suitable location to promote travel by bike.

Public transport

5.20. The nearest bus stops are located Broadwater Road, Bridge Road and Osborn Road. The entire site is within 200m of six bus stops; these are served by 14 bus routes in total. Bus stop on Broadwater Road is served by the bus 601 with majority of the services severed by the bus stop of Bridge Road. The bus services, duration and frequency can be seen on table 5.1. Full, current bus timetables can be found at arrivabus.co.uk, centrebus.info, greenline.co.uk, tfl.gov.uk and unobus.info.

Table 5.1 - Bus route summary

No	Details	Duration	Frequency
201	Welwyn Garden City – Welham Green	0923 – 1004	1 trip per day (Tuesday and Friday)
203	Welwyn Garden City – Watton at Stone	1245 - 1323	1 trip per day (Thursday only)
206	Welwyn Garden City – Panshanger Circular	0845 - 1505	2 trips per day (Tuesday, Thursday & Friday)
242	Welwyn Garden City – Waltham Cross	0814 - 1840	2 hours
300	Hemel Hempstead - Stevenage	0540 - 1953	20 – 30 mins
301	Hemel Hempstead - Stevenage	0547 - 2348	20 – 30 mins
314	Welwyn Garden City – Hitchin	0740 - 0825	8 trips per day
315	Kimpton - Welwyn Garden City	0700 - 1825	4 trips per day
330	St. Albans – Welwyn Garden City	0800 – 1500	30 mins
366	Luton – Welwyn Garden City - Hatfield	0606 - 1907	1 per hour
388	Herford - Welwyn Garden City - Stevenage	0637 - 0825	1 trip (Schooldays only)
401	Welwyn Garden City – Panshanger Circular	0610 - 1950	20 – 30 mins
403	Woodhall and Haldens Circular	0721 - 1904	30 – 40 mins
404	Welwyn Garden City – South Hatfield	0900 - 1755	2 hours
405	Welwyn Garden City – South Hatfield	1000 – 1655	2 hours
601	Borehamwood – St Albans - Welwyn Garden City	0616 - 2026	20 – 30 mins
653	Welwyn Garden City – New Greens	0548 - 2247	20 mins
724	Heathrow Airport - Harlow	0315 - 2209	20 -30 mins

5.21. It is clear that the site is well served by frequent bus service which are located in close proximity to the site. The services in table 5.1 connect with the bus station allowing passengers to connect to the wider local bus network. The bus station is less than 500m walk from the site.

5.22. Works to improve the Bus station are due for completion at the end of March 2018. The new bus station layout will segregate pedestrians and buses in order to improve safety and ensure ease of access for all bus passengers. A custom designed bus shelter will be provided for all six bus stops and will contain seating, lighting and bus information.

Figure 5.5 – Artists impression of bus station improvements

Rail

5.23. The nearest rail station is Welwyn Garden City, located to the west of the site and accessed via the footbridge which connects the site to the town centre. The stations is served by the Great Northern Route (southern end of East Coast Main Line). Welwyn Garden City train station benefits from a bus terminus, taxi rank and secure, covered cycle parking. Trains from Welwyn Garden City provide a direct link to London King's Cross station to the south and Peterborough to the north. The journey times to main destinations can be found in Table 5.2.

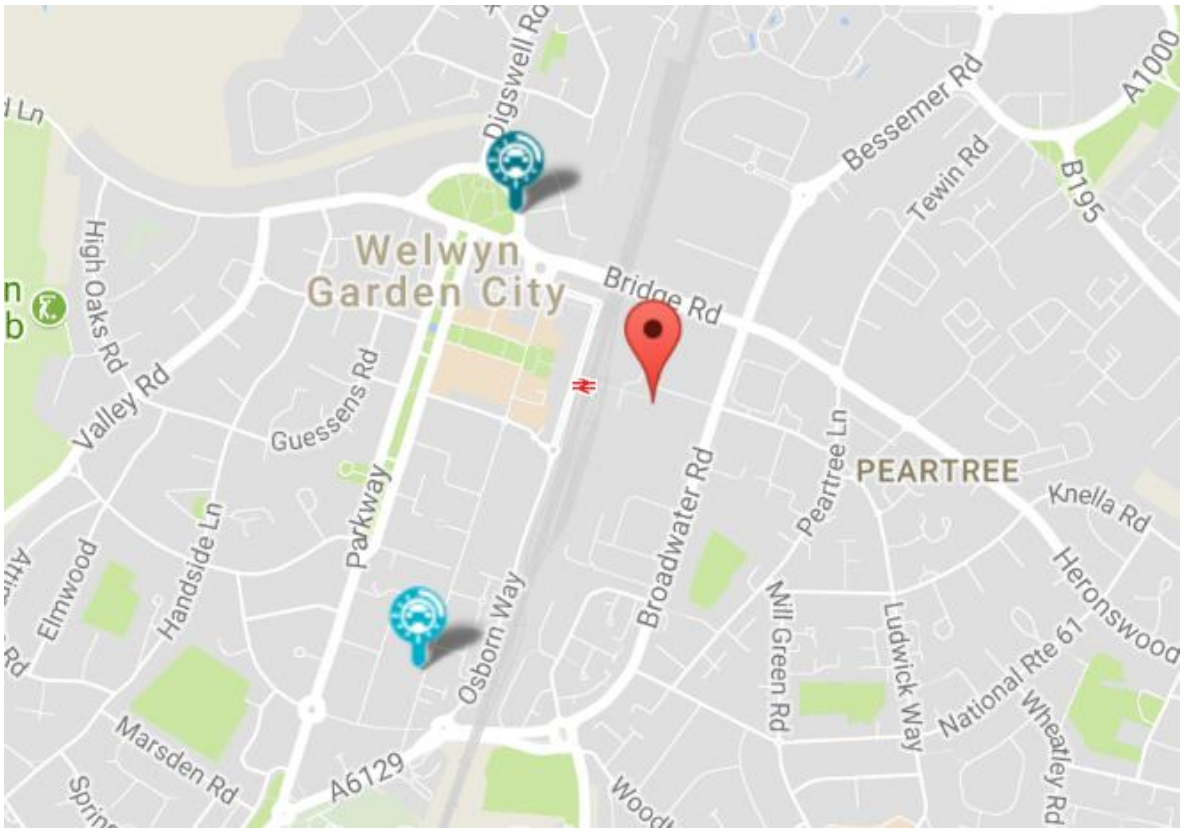
Table 5.2 - Train journeys from WGC train station

Destination	Duration
London King's Cross	23 mins
Moorgate	47 mins
Cambridge	57 mins
Peterborough	1hr 4mins
Stevenage	10 mins

Car Clubs

5.24. There are two Car Clubs operating in the Welwyn Garden City area including E-Car and Hiya Car. The closest of these is the E-Car space in the WHBC car park, the second is a Hiya car space is on Longcroft Lane, 1.1km (15 minutes' walk) from the site.

Figure 5.6 – Existing Car Club locations



Section conclusion

5.25. It is clear that ample opportunities exist to travel to and from the site by foot, by bike, or using local public transport. Some areas have been found that would benefit from improvements for pedestrians and cyclists but overall this is a good site to promote sustainable travel and reduce reliance on the private car.

6. DEVELOPMENT DESCRIPTION AND MEANS OF ACCESS

6.1. The proposed development comprises the creation of a mixed-use quarter including the erection of 1,340 residential dwellings of which 414 (31%) will be affordable dwellings (Use class C3); 114 extra care homes (use class C2); the erection of a civic building including health (D1), community use (D1), office (B1), retail (A1) and food and drink (A3-A5) uses. The alterations, additional and change of use of the Grade II Listed Building and retained silos provide flexible business space (B1), combined heat and power (Sui Generis), International Art Centre (D1) Gymnasium (D2), restaurant/coffee shop/bar (A1-A5), Crèche and Network Rail TOC building. The development includes car and cycle parking, access, landscaping, public art and other supporting infrastructure.

6.2. The development is generally sub-divided into two halves, north and south of Hydeway. The south site comprises residential development only whereas the north site represents the mixed-use area of the development with residential, commercial and community uses.

6.3. The proposed schedules of accommodation are included as **Appendix B.**

6.4. A set of architects' plans are included as **Appendix C.**

<u>Movement strategy</u>

6.5. The adopted SPD provides guidance on the approach to access, linkages and routes into and through the site, Figure 6.1 below shows the masterplan pedestrian and cycle links. This includes new or improved pedestrian and cycle links between the site and the town centre, across the railway, along Bridge Road and along Broadwater Road. These principles have informed the movement strategy for the development.

Figure 6.1 – SPD routes and linkages diagram

Routes and Linkages | Pedestrian Linkages | Cycle Linkages

Means of access

6.6. The movement strategy for the scheme is guided by the SPD and the previous planning permission. On both the north and south sites the central core is to be developed as a pedestrian realm with access for cyclists. Cycle parking locations have been chosen so that cyclists can park their bikes close to the entrance of whichever building they are visiting, but without the need to cycle directly through some of the public squares. As a general principle, movement corridors within these core areas are shares by pedestrians and cyclists but public squares are predominantly pedestrian realms.

6.7. Vehicular access is gained from Bridge Road and Broadwater Road via a number of existing and new cul-de-sac roads. The junction arrangements were agreed through a series of collaborative workshops with HCC and WHBC as part of the previous application. The agreed junction arrangements have therefore been retained as part of the current proposals. These predominantly shared space cul-de-sacs provide direct access to the parking areas but maintain the integrity of the pedestrian and cycle areas in the heart of the development.

6.8. For ease of reference, the site accesses are summarised below in Table 6.1 and illustrated in Figure 6.2.

Table 6.1 – Site accesses

Junction	Access
1	Bridge Road
2	Lind Grove
3	Hydeway
4	Middle
5	Broad Court
6	Southern

Figure 6.2 – Site access reference names and numbers

6.9. This closely matches the access descriptions from the consented scheme; however, Junction 5 was referred to in the TPA assessment as the 'Fourth access' from Broadwater Road. This was likely to cause confusion so as it is located opposite Broad Court it has been re-named for this assessment. It is important to note that all the access roads will remain private but will be subject to a statutory road naming process. The names given to these access in this report are therefore merely for ease of reference, and not intended as future road names. The accesses are described in greater detail below.

Bridge Road

6.10. The existing Bridge Road access will be retained. This will continue to serve the adjacent warehouse and will provide access to the northern part of the site for delivery and service vehicles as well a car park access. The junction will continue to operate as a priority junction allowing all movements.

Lind Grove

6.11. The Lind Grove access, which is the most northerly from Broadwater Road, will be a priority junction with Broadwater Road. The site access arm will be raised to provide a shared surface within the site.

6.12. The junction will provide access to a limited amount of surface level car parking.

Hydeway

6.13. The site currently takes access from Hydeway. The junction will remain a priority crossroads but will become a raised table junction. Within the site Hydeway will be completely remodelled to include a turning area with drop-off facilities for the station, 'echelon' parking along both sides, central parking/waiting suitable for taxis, a tree lined footway along the northern side and a tree lined cycleway along the southern side.

6.14. It has been agreed with the highway authority that existing public highway rights will be extinguished from Hydeway so that it becomes a private road, but that the footway/cycleway along the southern side is retained as a public right of way between Broadwater Road and the railway footbridge. This is illustrated in **Appendix D.**

6.15. Hydeway will provide access into the underground parking beneath blocks 6 and 7 as well as the undercroft parking beneath block 8.

Middle Access

6.16. The middle access from Broadwater Road, will be a priority junction with Broadwater Road. The site access arm will be raised to provide a shared surface within the site.

6.17. The junction will provide access to a limited amount of surface level car parking and the undercroft parking beneath block 9.

Broad Court

6.18. The site access immediately opposite Broad Court will be a priority junction with Broadwater Road. The site access arm will be raised to provide a shared surface within the site.

6.19. The junction will provide access to a limited amount of surface level car parking and the undercroft parking beneath block 10.

Southern access

6.20. The Southern Access into the proposed development from Broadwater Road will be a raised table priority junction, with Broadwater Road forming the main arms. The access road into the site will continue as a shared surface although a separate footway/cycleway will be provided adjacent to it, providing direct access into the south site's central pedestrianised landscape area.

6.21. The junction will provide access to a limited amount of surface level car parking as well as the undercroft parking beneath blocks 11, 12 and 13.

7. PARKING

7.1. As part of the Transport Assessment for the approved development, TPA produced a technical note explaining the parking strategy for the development. That technical note examined WHDC parking standards (including zonal approach), the objectives of the Framework Travel Plan, the differentials between the residential parking demand and commercial parking demand and the need for a Parking Management Plan. That technical note is included here as **Appendix E.**

7.2. The approved proposals provided an average of 1.02 parking spaces per dwelling across the site.

7.3. The principles of the approved parking strategy have been followed for this new proposal; however, the approach to residential car parking better reflects the new unit mix, and the commercial parking provision reflects the changes in proposed commercial uses.

Parking need and harm

7.4. If a development in an inaccessible location provides less parking than it *needs* then the residents' ability to travel would be limited, potentially resulting in social exclusion. That is not the case here. The accessibility audit described in Section 5 demonstrates that residents in the proposed development would have a genuine choice of modes of travel. These residents would not be reliant on a private car to travel to work, education, leisure, shopping or other journeys. The provision of a new Car Club as part of this development means that those residents who choose not to own a car would still have access to one as often as they like. (This is described further below). The issue of parking 'need' is fully addressed by the proposed development.

7.5. In most cases, if a development provides insufficient parking then vehicles may be displaced onto the surrounding highway network resulting in *harm* to the free flow of traffic or the amenity of local residents. In this instance, however, the residential roads surrounding the site are either privately maintained or covered by comprehensive, enforceable waiting restrictions. Figure 7.1 below shows 200m walking routes from the site. The existing waiting restrictions are considered sufficient to prevent any effect on the surrounding residential roads, but if concern is raised by local residents or Councillors then it would be a simple matter for the development to fund any traffic regulation orders (TROs) to reinforce the on-street waiting restrictions surrounding the site. This addresses the issue of harm.

Figure 7.1 – Side roads within 200m walking distance from the edge of the development site

Residential parking

7.6. Car parking associated with the residential components of the development is sub-divided into residents' spaces, car club spaces and visitor spaces. The adopted parking standards promote a progressive introduction of parking restraint depending on the accessibility of the area in which the site is located. The site falls within Zone 2 and should only provide 25-50% of the WHBC maximum standards.

7.7. A detailed review of Census data for the Peartree area indicates an average vehicle ownership per household in the region of 0.6 per dwelling. This represents unrestrained vehicle ownership so it is reasonable to therefore apply a 40% reduction to the baseline maximum resident's parking provision. Visitor and car club spaces will be provided in addition to this number.

DCLG research

7.8. In 2007 the then DCLG commissioned the research paper 'Residential Car Parking Research' which was used to inform PPS3. Whereas PPS3 has been superseded by NPPF this research document is very useful in providing an empirical background to increases or decreases in parking demand depending on proportions of allocated or unallocated spaces, or mixes of unit sizes and tenure. This is discussed below.

7.9. The DCLG research paper shows that if all parking spaces are allocated to individual dwellings then demand for parking spaces increases. This is, in part, a result of parking spaces being allocated to households who do not own a vehicle. In 2011 the Census data showed that around 40% of all households living in flats in the Peartree ward had no vehicle.

7.10. The lowest parking demand is achieved by having all spaces unallocated (i.e. first come, first served) but this is unpopular with some housing developers and is not accepted by some housing associations. The solution is to allocate parking spaces to households rather than to properties. This simply means that a parking space is available for the exclusive use of a household upon request, usually for a fee. This way, households without vehicles are not allocated parking spaces unnecessarily. Such a system requires a management company involvement but this is usually possible where flats are rented or leasehold as in this case.

Car clubs

7.11. Carplus is an independent body which promotes shared mobility including car clubs, 2+ sharing, bike sharing and taxi sharing. Part of Carplus' work is research, best practice and technical advice. They state that on average one Car Club vehicle removes the need for between 10 and 20 private parking spaces.

7.12. Recent developments in Hertfordshire which have included Car Clubs have suggested that each Car Club space would equate to at least 6 car parking spaces. This is well below the advice from Carplus but still demonstrates the benefits of providing Car Club spaces rather than allocated car parking spaces. Each Car Club spaces therefore equates to anything from 6 to 20 residential parking spaces.

7.13. The development will deliver a new community Car Club with a range of spaces across the site, including electric vehicle charging points (EVCP). Three Car Club operators have reviewed the proposed development, assessed the accessibility of the area and calculated the viability of a Car Club in this location. They have confirmed they would be pleased to provide new Car Club vehicles at a ratio of 6% for the residential development. The decision as to which company will operate the Car Club will be down to a commercial decision by the developer. The obligation to provide the Car Club will fall to the developer who will be required to let a contract with a commercial operator which would be expected to include:

- Free 3 year membership for new residents providing access to cars on site, the rest of Hertfordshire and the UK ;
- First car to be delivered by first occupation;
- Bespoke marketing material and membership certificates;
- Briefing of sales staff at the development on the car club and attendance at promotional events;
- 24/7 customer service team;
- 24/7 booking system including mobile booking site (IOS and Android) and iPhone app;
- Vehicle insurance;
- Vehicle maintenance;
- Creation of reports and statistics for the developer and Council;

7.14. This would be fully funded by the developer at no expense to the new occupiers. Importantly, the Car Club would also be available to local residents in the area thereby reducing parking demand beyond the development site itself. Further details of the Car Club are contained in the Framework Travel Plan.

7.15. The provision of the Car Club can be secured by appropriate planning condition.

7.16. In accessible areas Car Clubs allow residents who only require occasional use of a vehicle to make the choice not to own a vehicle themselves. Equally, many two-car households only use 1.1 cars on a regular basis so the provision of a Car Club allows them to own a single vehicle and use the Car Club as often as they like on a pay-as-you-go basis.

Parking space equivalence

7.17. The on-site Car Club will significantly reduce the private residential car parking demand, whilst still allowing residents the ability to use a car for those journeys where they cannot, or choose not to walk, cycle or use public transport. CarPlus suggest that each Car Club vehicle removes the need for anything between 10 and 20 private parking spaces; however, for a robust approach to parking provision, each space has been assessed as only being equivalent to 6 private spaces (lowest available figure). The total residential parking provision can therefore be defined in terms of 'spaces' and 'equivalent provision'. The 'equivalent provision' is the number of parking spaces that would be provided if a standard, less innovative approach was taken to parking without a Travel Plan and without such good Car Club provision on site.

7.18. For a robust assessment, the extra care units (C2) have been included in the figures for the residential accommodation (C3) even though the parking demand is expected to be lower. This will ensure a robust approach to residential parking provision.

7.19. Full car parking calculations are included as **Appendix F** and summarised below:

South site

7.20. The South site is purely residential, comprising **643 flats**; parking provision therefore comprises residents' spaces, visitor spaces and Car Club spaces. Visitor spaces are provided at a ratio of 10% and Car Club spaces are provided at ratio of 6%. For the proposed unit mix this equates to 369 residents spaces, 64 visitor spaces and 39 Car Club vehicles. The total provision is therefore 472 parking spaces and the **equivalent provision is 665 spaces**.

7.21. The maximum parking provision for this unit mix in this location equates to 1.057 spaces per dwelling, including visitor spaces. The proposed equivalent provision equates to 1.034 spaces per dwelling including visitor and Car Club spaces. This makes best use of land, promotes sustainable travel behaviour but ensures sufficient parking provision is made on site for the new residents.

7.22. The majority of parking across the south site is provided in the form of undercroft parking beneath podium landscape areas. This is in accordance with the 2008 SPD which requires parking to be provided sensitively and for undercroft parking to be considered in preference to on-street or open plan parking.

North site

7.23. The North site comprises residential and non-residential. The residential component comprises **811 flats**. In line with the south site methodology Car Club spaces are provided at ratio of 6%. Visitor spaces are calculated at a ratio of 10%, however, many of these can be considered dual-use spaces with the commercial uses.

7.24. For the proposed unit mix this equates to 426 residents spaces, 81 visitor spaces and 49 Car Club vehicles. The total requirement is therefore 556 parking spaces and the **equivalent provision is 799 spaces**.

7.25. The residents and Car Club spaces together equate to 475 spaces (excluding visitors). An additional 46 specific residents visitor parking spaces are provided, equating to a total provision of 521 dedicated residential parking. An additional 35 dual-use spaces are available for visitors outside peak commercial operating periods.

7.26. The maximum parking provision for this unit mix in this location equates to 0.975 spaces per dwelling. The proposed equivalent provision equates to 0.985 spaces per dwelling including visitor and Car Club spaces. This makes best use of land, promotes sustainable travel behaviour but ensures sufficient parking provision is made on site for the new residents.

Commercial

7.27. In addition to the residential parking provision a further 142 car spaces are provided across the North site. Of these 107 are dedicated commercial/community use parking spaces and 35 are dual-use spaces available for residential visitors outside peak commercial operating hours. This complies with the principles established for the approved development scheme and as set out in TPA's Technical Note 13.

7.28. It is important to recognise that whereas the B1 employment uses and arts centre will require dedicated parking provision (at 25-50% of WHDC maximum), other uses (such as convenience retail and crèche) are ancillary to the main development. The primary users of retail units such as convenience stores, sandwich shops, coffee shops, salons etc. will be residents living in the development or employees and visitors associated with the B1 and D2 uses. For this reason the non-residential parking demand is not simply a sum of the parts. The total peak demand for the B1 office, D1 health and community, D2 leisure and D2 arts equates to 142 parking spaces (at 25% of maximum).

7.29. The majority of parking across the north site is provided in the form of basement or undercroft parking. The large basement beneath blocks 6 and 7 dramatically reduces the need to provide on-street or open plan parking. In addition, the car park beneath blocks 2 and 3 is masked from the public squares by landscape structures such as tiered landscaping, steps and ramps. This is a common approach in major cities throughout the UK and Europe and ensures high quality parking provision but minimises the dominance of parking on the public realm. This is in accordance with the SPD requirement for parking to be provided sensitively.

Hydeway

7.30. In accordance with SPD and the approved development scheme Hydeway has been re-modelled to include 16 short-stay parking spaces, oriented at 45 degrees to the carriageway to facilitate a one-way system into and out of Hydeway. This reduces the overall corridor width of Hydeway (compared to parking at 90 degrees) and allows for a tree planting and landscaped areas. These short-stay spaces are expected to allow parking up to 15 minutes. This is sufficient for those collecting passengers arriving at the station and also for those visiting the convenience stores as part of a pass-by trip on their way to or from work (for example).

7.31. In addition, a new over-sized turning circle has been provided at the head of Hydeway. This facilitates the one-way operation but also allows cars to stop against the kerb to set down passengers who may work within the development site or be walking through to the station or town centre. The 'kiss-and-ride' facility was incorporated into the approved scheme and has been retained in the current proposals. The turning circle has been designed so that if a large car is setting down a passenger, another car can still pass on the inside.

7.32. A further six spaces have been provided down the middle of Hydeway. The proposal is that these spaces will be taxi spaces. Hydeway will become a private road so the provision of these spaces on private land will function in a similar manner to taxi rank spaces on Network Rail land at many rail stations. The operation of these spaces will be agreed and secured by means of the Car Parking Management Plan. This will be secured by planning condition.

Parking space details

7.33. All standard car parking spaces have been designed to be a minimum of 2.4m x 4.8m. Those spaces designed for to be suitable for disabled drivers have an additional 1m length and 1.2m width although these areas may be accommodated in the overall aisle width where appropriate. All aisles are a minimum of 6.0m wide where a vehicle is required to reverse into them.

7.34. All Car Club spaces and 20% of all other spaces will be provided with electric vehicle charging points (EVCP). Where practicable, a further 20% will have passive EVCP provision.

7.35. Undercroft residential parking areas in the south site and basement residential parking areas in the north site will have gates set back from the carriageway. These will be electronically operated either by keypad or transponder.

7.36. Vehicle swept path analyses demonstrating the operation of the car parking areas are included as **Appendix G**.

Cycle parking provision

7.37. Cycle parking provision for the proposed development will be provided in accordance with WHBC parking standards.

7.38. For the proposed residential uses cycle parking will be provided at a ratio of one space per dwelling. This has also been applied to the C2 units even though the adopted standard if for a lower ratio than this.

7.39. The total residential cycle parking provision across the Wheat Quarter will therefore be 1454 spaces. In line with local and national guidance the cycle parking has been disaggregated into smaller secure cycle stores close to the residential cores. Best practice suggests that smaller stores are more secure and more likely to be used. The decision to place them next to the residential cores not only makes the journey between store and apartment shorter, it also means that the residents are more likely to be sharing the cycle store with immediate neighbours and those who they meet on a daily basis. This also adds to a feeling of security and increases the usage of the cycle stores.

7.40. All cycle stores will be secure and well-lit. Figure 7.2 below is an extract from the Design and Access Statement and illustrates the disaggregation of residential cycle parking across the site.

Figure 7.2 – Residential cycle parking locations

7.41. The commercial cycle parking provision is divided into Long-stay and Short-stay. For the proposed commercial and community uses the long stay parking requirement is for one space per 10 members of staff on site. For the 'A' class uses, due to the size of the individual units this generally equates to a single space so the long-stay staff cycle parking will be incorporated into the back of house component of the units.

7.42. The B1 office has a requirement for 18 long-stay spaces so these will be provided in the form of 9 stands at ground floor level.

7.43. The D2 arts and leisure uses have a requirement for 11 long-stay staff spaces so these will be provided at ground floor level.

7.44. In addition to the long-stay spaces a total of 180 short-stay spaces will be provided across the development. Of these 100 spaces will be provided to serve the function of the existing Hydeway cycle parking. Around 20 of these will be provided on Hydeway itself as Sheffield loop stands and a further 80 will be provided beneath the new steps up to the footbridge. These will be in a variety of formats including lockers and stands.



7.45. A further 80 short-stay visitor space will be provided across the development, close to the entrances to the non-residential uses. These will be standard Sheffield loop stands, located in well-lit, well supervised areas.

8. FRAMEWORK TRAVEL PLAN

8.1. As stated in the introduction, this TA has been developed to seek to influence modes of travel to the proposed development rather than merely predicting travel patterns and providing mitigation.

8.2. The development will be supported by a four-part Transport Implementation Strategy (TIS) comprising:

- Framework Travel Plan;
- Delivery and Servicing Plan;
- Construction Logistics Plan;
- Car Parking Management Plan

8.3. These are described in the following chapters.

8.4. The development will be supported by a Framework Travel Plan (FTP) for residents, staff and visitors. The full FTP has been submitted in support of this application and is summarised below.

8.5. The development proposals present an opportunity for the FTP approved as part of the consented scheme to be reviewed an updated in accordance the DCLG Planning Practice Guidance note entitled "Travel plans, transport assessments and statements in decision taking" (2014).

8.6. The FTP provides a framework against which individual travel plans will be prepared for the residential element of the scheme. It is likely that individual non-residential operators such as the arts centre will develop their own TP under the aegis of the FTP. The employment use may be occupied by a single employer or a number of smaller businesses, therefore the need for commercial TPs must be flexible enough to accommodate different future circumstances. The provision of a FTP at the planning stage therefore secures the necessary obligations and procedures whilst allowing the individual TPs to be tailored to the needs of the development as it progresses.

8.7. The updated FTP includes an audit of sustainable travel options available to this site. It also includes details of mode-share targets following the implementation of the proposed development.

8.8. The FTP sets out clear objectives and targets and then lists a range of proposed measures. The measures are described as follows:

- **Hard measures** – these are infrastructure provision or improvements;
- **Soft measures** – these are management measure, incentives, marketing initiatives etc.;
- **Secured measures** – these are either existing measures or those to be delivered by the development;
- **Potential measures** – these are an 'arsenal' of measures available to the TP Co-ordinator if required, to be chosen according to survey feedback so that resources can be targeted towards those measures found to be most effective.

8.9. The FTP includes an action plan with a clear schedule of surveys, monitoring and reviews. It also explains how the FTP can be secured and enforced.

8.10. The TP will play a valuable role in supporting the Wheat Quarter's sustainability concepts and extend them to the way in which people travel to, from and within Welwyn Garden City.

8.11. The proposed development will provide appropriate infrastructure to encourage sustainable travel and will also provide information and incentives where practicable.

8.12. The effects of travel choices on our environment, our health and our quality of life are well documented. Sources describe how increases in road traffic have produced unsustainable levels of congestion and pollution. The effects can be felt at a local level through poor air quality, noise and busier roads and at a global level through suggested linkages to climate change. Journeys by road are becoming slower and more unreliable causing problems for business and stress to drivers.

8.13. There has been a significant increase in the proportion of individuals travelling to work by car. Over 80% of car journeys to work in Hertfordshire are driver only. Even a small modal shift in home-work-home journeys away from the car would result in a considerable reduction in traffic congestion at peak times.

8.14. Travel planning must be realistic and should not expect to remove car usage altogether. Instead, an effective travel initiative will maximise the use of sustainable travel to achieve more sensible and appropriate use of the private car. If every car commuter used an alternative to the car on just one day a week, car usage levels for commuting would be reduced by as much as 20% immediately, with commuter parking requirements also reduced by up to 20%. In an accessible location such as the Wheat Quarter, however, low-car or car-free housing is a realistic prospect.

Infrastructure

8.15. A key element of the proposed development is the introduction of appropriate infrastructure to encourage sustainable travel.

8.16. The Site is already highly accessible on foot, by bike and by bus and rail. The transport infrastructure surrounding the Site lends itself to encouraging these modes of travel. The development has therefore been designed to incorporate direct segregated pedestrian access into the site, and to provide secure cycle parking spaces for each dwelling.

8.17. In addition, improvements will be made to the pedestrian realm on Bridge Road and Broadwater Rod as well as links into the town centre to enhance the pedestrian and cycle environment around the site.

Car Club

8.18. Three car club operators have reviewed this site location and the proposed development and have agreed that they would be happy to provide a Car Club as part of this development.

8.19. The car club operator would provide the vehicles and operate the Car Club. Their offer would include:

- Free 3 year membership providing access cars on site, the rest of Hertfordshire and the UK ;
- First car to be delivered by first occupation;
- Bespoke marketing material and membership certificates;
- Briefing of sales staff at the development on the car club and attendance at promotional events;
- 24/7 customer service team;
- 24/7 booking system including mobile booking site (IOS and Android) and iPhone app;
- Vehicle insurance;
- Vehicle maintenance and valeting;
- Creation of reports and statistics for the developer and Council;

8.20. This would be fully funded by the developer at no expense to the new occupiers. Importantly, the Car Club would also be available to local residents in the area. The provision of the Car Club can be secured by appropriate planning condition.

Residents' Travel Pack

8.21. Unlike employment, retail or educational sites it is not possible to dictate to residents how they should travel. For this reason residential travel planning is based on the provision of infrastructure and information rather than the imposition of management procedures. In the case of this proposed residential development the introduction of appropriate infrastructure and the communication of relevant information are structured as a 'Residential Travel Information Pack'.

8.22. It will be the responsibility of the developer to ensure that residents are provided with an information pack containing details of the Car Club, public transport timetables and maps, as well cycling and pedestrian infrastructure when they move in to the flats.

8.23. The site's communal areas will be maintained by a management company. The management company will be obliged to provide an update to the 'Residents Travel Pack' once every twelve months in order that any new residents are made aware of their local transport options.

8.24. The information pack will include information and incentives for all purchasers/tenants. The information will enable the new residents to make informed decisions about their modes of travel. The incentives will be provided by the developer in the first instance and will be dependent on negotiating suitable packages with local shops and services. The likely content of the Residents' Travel Pack will be:

- Car Club membership and information;
- Cycle route information;
- Sustrans leaflets on the beneficial effects of walking and cycling ;
- Free or discounted reflective clothing i.e. cycle bib, arm bands etc.;
- Free or discounted bicycle locks/helmets;
- Developer to negotiate local cycle shop discount ;
- Details of local cycle groups;
- Details of BikeBUDi travel system ;
- Bus route/timetable information;
- Free bus 'taster' tickets;
- Rail timetable and route information;
- Details of car-sharing website (e.g. www.Liftshare.com);
- Details of CarBUDi travel system;
- Notice/message board in foyer of flats to allow people to car share/walk/cycle together (perhaps at night for safety);
- Developer to negotiate preferential rates at local car-hire company;
- Taxi company information – possible discount vouchers for a taxi company;
- Details of TaxiBUDi travel system;
- Supermarket home delivery details.

8.25. This list is not exhaustive or a prescriptive list of what will be in the travel pack but provides details of the likely content of the pack. Details of the final pack will be agreed in partnership with the Council.

9. DELIVERY AND SERVICING PLAN

9.1. This Delivery and Servicing Plan (DSP) highlights the implications of the proposed redevelopment with regard to existing and also proposed servicing constraints. This report takes into consideration the adopted methods of good design practice. This DSP has been prepared in accordance with the Freight Transport Association document *'Designing for Deliveries'* and the guidance document "*Managing freight effectively: Delivery and Servicing Plans'*.

9.2. A DSP will aim to provide consideration of consolidation and collaborative delivery arrangements to help reduce the impact of commercial goods and servicing vehicle activity in and out of premises/developments.

9.3. A refined version of this DSP will be prepared in partnership with XXDC prior to the proposed development being occupied; however, the structure, obligations and principles are included here for agreement prior to determination.

Orientation

9.4. The two parts to the development site include a number of cul-de-sacs, public squares and areas of privately maintained public realm. For ease of reference two orientation plans are included below as Figures 9.1 and 9.2. The service areas for the North site are described as locations A-I and the cul-de-sacs in the South site are referred to as CS1-CS6.

North site.

9.5. The servicing requirements that influence the residential components of the layout are refuse collection and daily deliveries. The layout has been tested for a 4-axle large refuse vehicle. This exceeds the requirement for a 3-axle refuse vehicle as dictated by WHBC. The layout has also been tested for daily deliveries (Post, supermarket deliveries, Amazon parcels etc.) using a 7.5t box van. Residential properties may also have occasional larger deliveries (removal vans, white goods) but these vehicles will operate in the same manner as the refuse vehicles.

9.6. The commercial uses also require deliveries. For the purpose of this servicing strategy we have assumed that the DSP will restrict commercial service vehicles to no larger than 10.7m rigid pantechnicons. These are adequate for the vast majority of commercial uses and have similar geometric requirements to the 4-axle refuse vehicle. For this reason, any swept path analysis of a 4-axle refuse vehicle is also suitable for the large commercial delivery vehicles. No 16.5m articulated vehicles will be permitted to service this site.

9.7. Unlike the south site, on the north site the same servicing areas will be used by all delivery vehicles of all sizes. The following notes therefore describe service areas by block; these areas are to be used by all service vehicles.

9.8. The north site refuse vehicle swept paths are included as **Appendix H.**

Figure 9.1 – North site servicing locations

9.9. Block 1 is serviced from location E at the southern end of Reiss Walk. This is an area of pedestrian realm which will be constructed as a strengthened footway. This area will be for set down and pick up only and will therefore operate as footway/cycleway for 90% of the time, but allow for occasional deliveries and collections. If necessary, the hours can be restricted in the DSP.

9.10. Block 2A is also serviced from location E.

9.11. Block 2B is serviced directly from the western service road in location J.

9.12. Block 2C requires a fire tender to gain access via Reiss Walk. Part of this route is therefore available for deliveries. In order to minimise vehicular use of Reiss Walk, service area D would only be available to refuse and recycling vehicles and occasional large residential deliveries (removal vans etc.) by prior arrangement. Daily deliveries for Block 2C would take place from location B; this requires an element of service management, either in the form of residential concierge or a secure area for parcel delivery and collection.

9.13. Block 3A is serviced from location A which allows a service vehicle to reverse off the access road and reach a point within 10m of the Block 3A bin store. This requires an area of landscaping on the inside of the bend to be no higher than 600mm in order to ensure adequate visibility for the reversing vehicle.

9.14. Block 3B can be adequately serviced from location B.

9.15. Block 4 can be serviced from locations B or D, depending on the internal building layout and occupier requirements. Location C is suitable for taxis or for crèche drop-off/pickup etc. Location C is not suitable for large deliveries.

9.16. Block 5 could potentially be serviced from location F (the head of Hydeway), or from the eastern side of Goodman Square; however, this is not preferred. Hydeway will serve many functions, including set-down for the station and a semi-formal taxi rank. The use of Goodman Square to service Block 5 would still leave residential block 7E without direct service access, thereby requiring a managed solution. The preferred option is therefore to allow limited service vehicles to location G. This area would be similar to area E, laid out as pedestrian realm but managed to allow service vehicle access.

9.17. Blocks 6A, 6C and 6F would be serviced from location I. Block 6E would be serviced from location B.

9.18. Blocks 6B and 6D would be serviced from location H. The original strategy included a turning head to the west of Block 6, however, this has an unacceptable effect on the Louis de Soisson's Gardens and setting of Block 4. The mews street between Blocks 6 and 7 has therefore been designed to allow turning half way along (this will be occasional use only).

9.19. Blocks 7A and 7D would also be serviced from location H.

9.20. Block 7B would rely on kerbside refuse collection directly from Broadwater Road. Daily deliveries from will use service location H or Hydeway (F) as the 15m carry distance would not apply to daily deliveries.

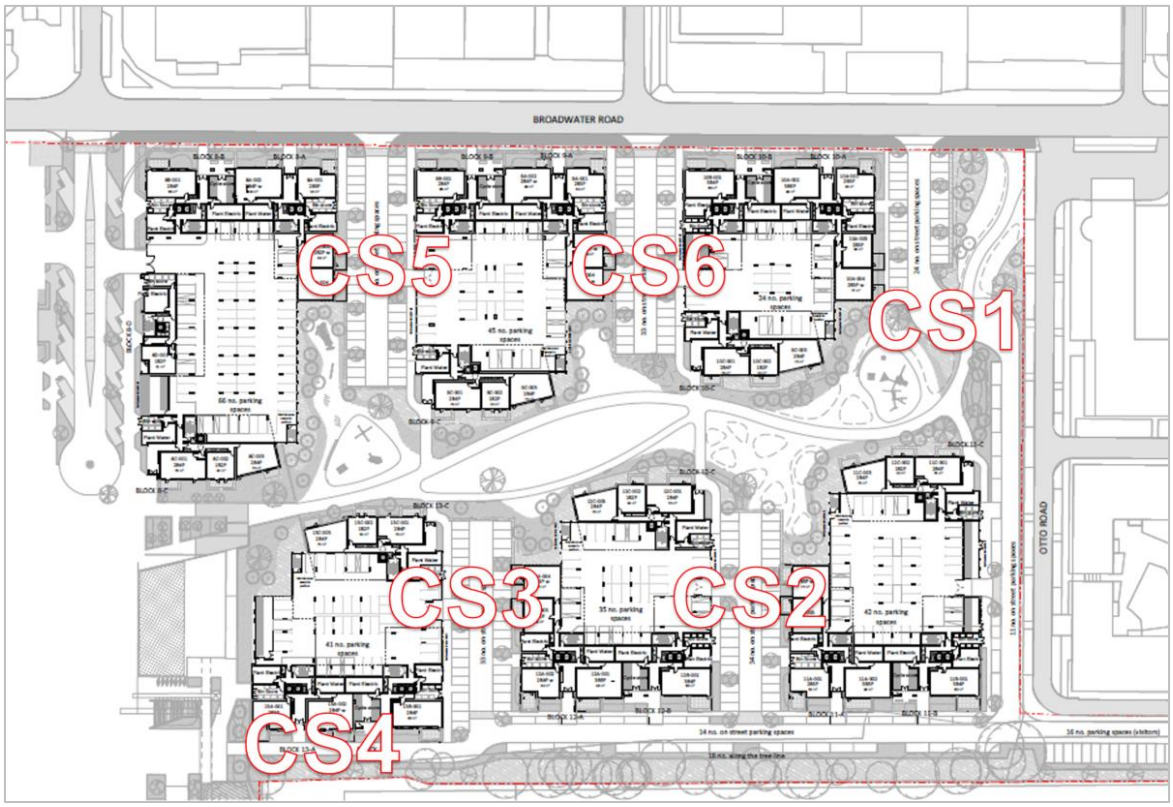
9.21. Block 7C would be serviced from Hydeway.

9.22. Blocks 7E and 7F would use service area G.

South site

9.23. The south site is residential in nature. The servicing requirements that influence the layout are therefore as described above for the north site residential uses.

Figure 9.2 – South site servicing locations



9.24. South site refuse collection swept path analyses are included as Appendix I.

9.25. Cul-de-sacs1, 2 and 3 (CS1-CS3) serve residential blocks 11-13. CS2 and CS3 do not have formal turning heads so the refuse vehicles use the parking entrances to turn. This allows a refuse vehicle

to reach a point within 15m of the bin stores for blocks 11 and 12, as well as 13B. The road CS4 has been down-graded to a Home Zone type area. This route is too long for a refuse vehicle to reverse its entire length to service block 13A. For this reason, as a service area is required in location E on the North site in any case this area can be used for Block 13A refuse collection (and any large deliveries).

9.26. CS5 (middle access) and CS6 (Broad Court) would operate in the same way as CS2 and CS3.

9.27. Whereas refuse and recycling may be collected weekly or every fortnight, the residential development will attract daily deliveries of post, groceries or parcels. Swept path analyses of a 7.5t box van are included as **Appendix J**. These vans can comfortably use the car parking areas for daily deliveries.

Emergency vehicle access

9.28. The internal layout has been assessed to ensure fire appliances (and other smaller emergency vehicles) can gain access to every residential core and every commercial access.

Refuse collection.

9.29. Refuse stores are provided at ground floor level with double-doors directly onto the building frontage. Residents will be able to bring refuse down to ground level where they will have easy access into the refuse stores. The refuse stores will have doors opening onto hard paved areas linking directly to the vehicle access routes. This arrangement ensures the bin stores are no further than 15m from the access roads or service locations. Refuse and recycling bins can be collected directly from the stores and wheeled to the vehicles.

Consolidation

9.30. Residents will be advised of the importance of consolidating deliveries where possible. New residents will be provided with information explaining how they can consolidate deliveries such as supermarket deliveries with their neighbours and how this can deliver cost savings. This accords with WHBC advice.

Hours of delivery

9.31. There are no restrictions on the hours of delivery to other residential or business premises in this area so there is no need for a general restriction on servicing hours. However, on the north site, service locations D and G serve as public realm during the day. Servicing in these locations will generally only be permitted between 7pm and 7am. Servicing in location G may be further restricted during any outdoor events or exhibitions held at the arts centre.

Route management

9.32. The site takes access from Broadwater Road (A1000). There are no height or weight restrictions on this road that would result in HGV diversion routes to or from the site.

9.33. As a principle, all drivers will be advised to use the highest category of road legally available to them and to avoid residential roads where practicable.

First time delivery

9.34. Provisions will be made for first time deliveries. This will ensure that there is a safe and secure location to drop parcels off if residents are unavailable to take receipt of goods at time of delivery. This will reduce the need for return visits.

Promotion of LGV rather than HGV

9.35. Residents will be advised of the benefits of promoting delivery by Light Goods Vehicles. New residents will be provided with a leaflet explaining what information should be provided to delivery companies to maximise the use of small vehicles for deliveries or to advise of appropriate servicing arrangements for larger vehicles. This accords with WHBC advice.

10. CONSTRUCTION LOGISTICS PLAN

10.1. Prior to commencement on site a Construction Logistics Plan (CLP) will be drawn up in partnership with HCC and WHBC and submitted for approval. The CLP will comply with the guidance document *'Building a better future for freight: Construction Logistics Plans'*.

10.2. The Wheat Quarter CLP will:

- Help the construction process comply with NPPF and the Traffic Management Act;
- Demonstrate that construction materials can be delivered, and waste removed in a safe, efficient and environmentally friendly way;
- Identify deliveries that could be reduced, re-timed or even consolidated, particularly during busy periods;
- Help cut congestion on Hertfordshire roads and ease pressure on the environment;
- Improve reliability of deliveries to the site;
- Reduce fuel costs.

10.3. The CLP must include:

- On-site management and design;
- Off-site management;
- Vehicle numbers;
- Vehicle types;
- Hours of delivery;
- Route management;
- Procurement strategy
- Operational efficiency;
- Waste management;
- Road trip reduction; and
- Targets and monitoring.

10.4. The CLP will be a stand-alone document but sit alongside the Framework Travel Plan, Delivery & Servicing Plan and Car Parking Management Plan in a four-part *Transport Implementation Strategy*.

11. CAR PARKING MANAGEMENT PLAN

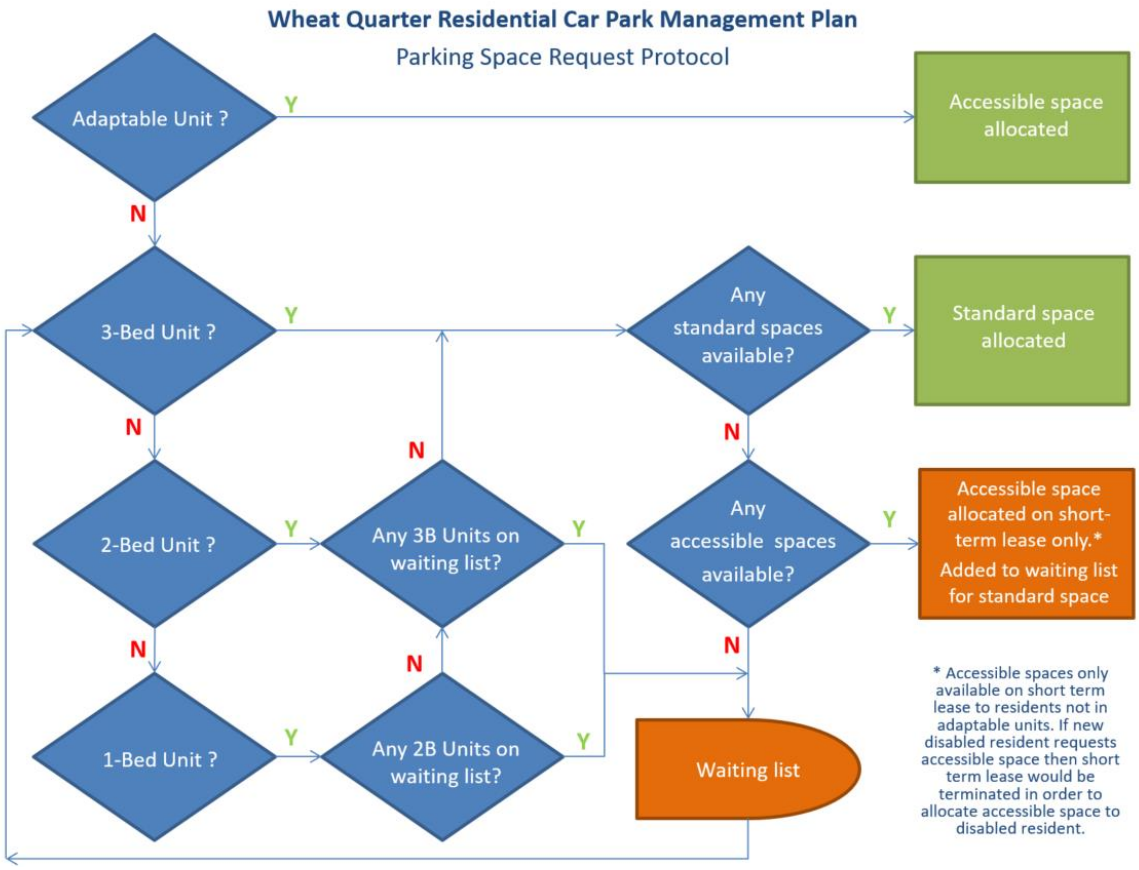
11.1. In line with the previously approved scheme, a Car Parking Management Plan will be prepared and implemented to ensure that only permitted vehicles are able to park within the residential car parks. The main principles of the plan will be:

- Parking spaces will be allocated to individual households;
- All residents vehicles will need to be registered with the Management Company;
- Any unregistered vehicles will only be permitted to park within visitor spaces for a limited time period before being fined, unless booked in by a resident;
- Car Club parking spaces will be provided as part of the development and managed by a private operator;
- All eligible residents will be provided with free Car Club membership for a minimum period of three years.

11.2. The undercroft and basement parking areas will have gates at their entrances. These will be set back from the access routes. The entire Wheat Quarter will be permeable and accessible to pedestrians and cyclists so there will be no perception of any gates communities, but he parking areas will be secure and only accessible by those authorized to do so.

11.3. Parking spaces will be allocated to households on request. Priority will be given to family units. Residents who require an accessible space will be allocated one. Surplus accessible spaces will be available to non-disabled residents on a short-term lease only. A draft allocations protocol is indicated below. The final protocol will be agreed with HCC and WHBC as part of the approved Car Parking Management Plan prior to first occupation.

Figure 11.1 – Draft residents parking space request protocol



11.4. All commercial parking spaces will be managed by the Management Company. It is anticipated that employment spaces will be permit-holder only spaces with an allocations protocol; however, as a proportion of the commercial spaces will be required for visitor parking a system of automatic number plate recognition (ANPR) is being considered, subject to viability. This system would be ideal to allow short-stay free parking (such as Hydeway) where a levy is then imposed for over-staying the maximum period. None of the roads within the site will be public highway and none of the parking areas will be managed by the local authority. The most appropriate means for operating such a system would therefore be to utilise a company such as ParkingEye who manage car parks using ANPR across a range of sectors throughout the UK.

12. TRIP GENERATION

12.1. The impact of the proposed development is determined by comparing the net increase in journeys between the lawful use of the site and the proposed development. Accordingly, the DfT Guidance on Transport Assessment (March 2007) advises at paragraph 4.7 that baseline traffic data should be derived as follows:

*"**Baseline transport data***

- *The quantification of person trips generated from the existing site and their modal distribution, or, where the site is vacant or partially vacant, the person trips which might realistically be generated by any extant planning permission or permitted uses;"*

12.2. The site is currently vacant so the baseline constitutes the trips which would be generated by the extant planning permission. These were set out in full in the TPA Transport Assessment in 2015 and agreed by the Highway and Planning Authorities.

12.3. The transport impact of the proposed development is therefore determined by comparing the journeys associated with the extant use of the site and those anticipated for the proposed use.

Residential

12.4. The 2015 TA prepared by TPA explored the predicted residential traffic generation in detail. It first established the predicted resident population of the proposed development, then established the likely working population. From this information the agreed methodology was to quantify journeys to work by mode and then to establish non-work journeys. The total trips were then distributed onto the highway network.

12.5. This agreed methodology was far more detailed than a conventional assessment of the TRICS database and resulted in a very precise, site related analysis. The same methodology has therefore been followed for this assessment.

12.6. As part of the current proposals, the predicted resident population has been calculated to inform a number of planning considerations including health and education.

12.7. Table 12.1 below shows the assessment of resident population for the proposed unit mix.

Table 12.1 – Resident population

			Owned/shared			Affordable rented			All
	Description	**Location**	**Flat 1B**	**Flat 2B**	**Flat 3b**	**Flat 1B**	**Flat 2B**	**Flat 3b**	**Flats 1-3B**
A	Tenure by bespoke accom type by number of bedrooms	Welwyn Hatfield	1985	2650	294	2783	1398	174	9284
B	All ages by tenure by bespoke accom type by # bedrooms	Welwyn Hatfield	2990	5288	850	3367	2922	477	15894
C= B/A	Average total occ by bespoke accom type by # bedrooms	Welwyn Hatfield	1.51	2.00	2.89	1.21	2.09	2.74	1.71
D	Tenure by bespoke accom type by # bedrooms	Shredded Wheat site (North Site)	466	314	31	0	0	0	811
E= C x D	Estimated total occupants by bespoke accom type by # bedrooms	Shredded Wheat site (North Site)	702	627	90	0	0	0	**1418**
F	Tenure by bespoke accom type by # bedrooms	Shredded Wheat site (South Site)	171	226	15	68	114	49	643
G= F x D	Estimated total occupants by bespoke accom type by # bedrooms	Shredded Wheat site (South Site)	258	451	43	82	238	134	**1207**
H	Tenure by bespoke accom type by # bedrooms	Shredded Wheat site (North & South Sites)	637	540	46	68	114	49	1454
I=H x D	Estimated total occupants by bespoke accom type by # bedrooms	Shredded Wheat site (North & South Sites)	960	1078	133	82	238	134	**2625**

12.8. The approved methodology then required an assessment of the working population. This is shown in Table 12.2 below.

Table 12.2 – Working population

Proposed dwellings	1454
Pax/dwelling	1.81
Expected residents	2625
16-74 residents	1856
% working from home	7.80%
% 16-74 unemployed	29.80%
Estimated working population	**1158**

12.9. It is important to note that the approved scheme included 850 dwellings and that that unit mix resulted in an expected resident population of 2023 resident, of whom 892 would be working adults. The proposed development now comprises 1454 dwellings, however, the higher density development has a very different unit mix and tenure and therefore only has a predicted population of 2625, of whom 1158 would be working adults.

12.10. The total number of units has risen by 71% but the adult working population has only risen by 30%.

12.11. It is also important to note that again, due to the different unit mix and parking allocation assumptions, the average parking per unit was slightly higher in the consented scheme than the current proposals. This is in part due to the higher proportion of one-bed units in the current proposal. The current proposal includes around 88% of the parking per unit compared to the consented scheme. It is therefore reasonable to apply a small level of suppression (12%) to the residential trip assumptions to take account of the slight reduction in overall parking provision.

12.12. Table 12.3 shows the residential vehicle trips associated with he consented scheme, based on a detailed assessment of working population and travel by mode and purpose.

Table 12.3 – Consented scheme residential vehicle trips

	AM peak			PM peak		
Use	**Arr**	**Dep**	**Total**	**Arr**	**Dep**	**Total**
Resi	0	253	253	235	0	235
School*	0	119	119	0	0	0
Other**	33	132	165	237	356	593
Total	**33**	**504**	**537**	**472**	**356**	**828**

* School trips generated by the residential development

** leisure and other trips generated by the residential development

12.13. When the above methodology is applied to the predicted resident population of the proposed development, the results are as shown in table 12.4 below.

Table 12.4 – Proposed scheme residential vehicle trips

	AM peak			PM peak		
Use	**Arr**	**Dep**	**Total**	**Arr**	**Dep**	**Total**
Resi	0	290	290	269	0	269
School*	0	136	136	0	0	0
Other**	38	151	189	272	408	680
Total	**38**	**578**	**616**	**541**	**408**	**949**

12.14. It is likely that the proportion of school trips per resident will in fact be lower for the proposed development than for the consented development so this direct translation of vehicle trips is likely to over-estimate the school trips. This is therefore a robust assessment.

12.15. The above calculation is based on a total residential development id 1454 dwellings. It has not sub-divided the proposed development into 1340 dwellings and 114 extra care homes. The predicted vehicle trips are again likely to be an over-estimate. This is therefore a robust assessment.

12.16. The above assessment, including the two areas of over-estimation, concludes that the proposed development would be expected to result in an overall increase of 27% in residential vehicle trips when compared to the consented scheme.

Non-residential

12.17. The trip generation associated with the approved non-residential uses were derived by interrogating the TRICS database. The types of commercial and community uses proposed as part of this current development have changed somewhat. There have also been a number of updates to the TRICS database since the TPA assessment. For this reason a new TRICS analysis has been undertaken for each of the proposed commercial uses. Full TRICS data is included as **Appendix K.**

12.18. As stated earlier in relation to parking provision, some of the proposed non-residential uses are expected to be purely ancillary to the residential accommodation and employment uses. For example the small convenience stores, coffee shops or sandwich shops will not be trip attractors in their own right. Their customers will be the 2,600 new residents, office staff or arts centre visitors. The same is expected of the cafes and bars, especially during the weekday morning and afternoon highway peak periods. The crèche is also primarily to serve the development as a whole, thereby reducing vehicle trips rather than generating any new.

12.19. Given the above, vehicle trips have been attributed to those non-residential uses that are deemed to be trip attractors in their own right. Table 12.5 represents the gross trip generation of each use.

Table 12.5 – Non-residential gross vehicle trip attraction.

Use	. GFA	Trip rate			Gross trips		
		AM	PM	Daily	AM	PM	Daily
A1 store	530	17.76	24.118	274.803	94	128	1456
A1 convenience	1340	-	-	-	-	-	-
A3 restaurant	710	-	-	-	-	-	-
B1 office	4654	1.85	1.648	12.297	86	77	572
B1 TOC	362						
D1 community	494	1.06	0.845	16.796	5	4	83
D1 Health	494	1.74	1.534	23.486	9	8	116
D1 Crèche	644	-	-	-	-	-	-
D2 Gym/Leisure	1242	-	-	-	-	-	-
D2 Arts gallery	1043	1.49	4.914	38.519	19	61	478
D2 arts exhib	1043	0.49	0.02	4.52	5	0	47

12.22. The TRICS trip rates above are based on stand-alone developments. The proposed mixed-use development includes a significant resident population who will be the primary users of many of the non-residential uses on the north site. It goes without saying that the employment uses (B1) and the arts centre will attract journeys from the wider community, but with a new population of 2600 residents, many of the trips associated with the commercial and community uses will originate within the development itself.

12.23. Table 12.6 below therefore demonstrates the resultant non-residential primary vehicle trips, originating from the wider community once the internal trips have been removed.

Table 12.6 – Non-residential net vehicle trip attraction.

Use	GFA	Primary trips	Trip rate		
			AM	PM	Daily
A1 store	530	10%	9	13	146
A1 convenience	1340	-	0	0	0
A3 restaurant	710	-	0	0	0
B1 office	4654	50%	43	38	286
B1 TOC	362	-	0	0	0
D1 community	494	20%	1	1	17
D1 Health	494	20%	2	2	23
D1 Crèche	644	-	0	0	0
D2 Gym/Leisure	1242	50%	9	31	239
D2 Arts	1043	80%	13	2	137
Total			**88**	**86**	**848**

12.26. Tables 12.7 below show the total peak hour vehicle trips associated with the approved scheme and the current proposal.

Table 12.7 – Combined residential and commercial traffic generation

	AM	PM
Approved scheme	728	1046
Proposed development	704	1035
Net change	-24	-11

12.27. Table 12.7 indicates that whereas the residential accommodation would result in an increase in peak hour vehicle trips, the change in commercial and community uses means that during the highway peak periods the total site traffic generation would be broadly similar to the consented scheme.

12.28. It is likely that some of the proposed commercial uses such as arts centre, leisure uses, community buildings and restaurants will have their peak periods later in the evening; however, as these development peaks fall outside the highway peak periods they would have a limited effect on highway operational capacity.

13. TRANSPORT EFFECTS

13.1. Section 12 of this assessment examines the agreed traffic generation associated with the consented scheme and the predicted traffic generation associated with the current proposals. It concludes that the residential accommodation would result in more traffic than the approved scheme but the commercial and community uses would generate slightly less than the consented scheme during the highway peak periods. The net effect would be peak hour traffic generation broadly similar to the approved scheme.

13.2. The transport Assessment prepared by TPA which supported the planning application for the approved scheme, included comprehensive detailed junction capacity analyses. That detailed work concluded that off-site junction improvements would be required to accommodate the traffic generated by the consented development. Given the findings of Section 12, it is now proposed that the current development will also deliver the same highway mitigation and highway improvements. These are described in detail in Section 14.

13.3. Notwithstanding the above, the distribution of development and car parking across the site is different in the current proposal resulting in a change in use of each of the proposed site accesses. For this reason, each of the site accesses has been assessed for operational capacity using the proprietary modelling software PICADY.

13.4. The wider distribution on to the highway network follows the methodology used by TPA; this is based on identified journey to work origins and destinations. The distribution from each of the six site

accesses follows the wider origins and destinations gravity model. The trip distribution and turning movements at each access are included as **Appendix L.**

13.5. The PICADY output files are included as **Appendix M** and summarised below.

Table 13.1 - Junction 1; Bridge Road

	AM Peak			PM Peak		
	Max RFC	Max Q (V)	Delay (s)	Max RFC	Max Q (V)	Delay (s)
Site access	0.54	1.1	28.83	0.57	1.3	35.62
Bridge Rd E	0.01	8.18	0.0	0.07	0.1	8.78

13.6. This shows junction 1 working well within capacity. There will be a minor delay on the side road (within capacity) but no delay or queuing on Bridge Road.

Table 13.2 - Junction 2; Lind Grove

	AM Peak			PM Peak		
	Max RFC	Max Q (V)	Delay (s)	Max RFC	Max Q (V)	Delay (s)
Site access	0.00	0.0	0.00	0.04	0.0	13.84
Broadwater Rd N	0.00	0.0	8.96	0.01	0.0	8.29

13.7. This shows junction 2 working well within capacity with no delays on Lind Grove or Broadwater Road.

Table 13.3 - Junction 3; Hydeway

	AM Peak			PM Peak		
	Max RFC	Max Q (V)	Delay (s)	Max RFC	Max Q (V)	Delay (s)
Site access left	1.11	12.9	289	1.27	19.4	450
Site access right	1.11	16.5	269	1.26	22.6	439
Broadwater Rd S	0.16	0.2	6.66	0.18	0.3	8.49
Hydeway E left	0.09	0.1	15.03	0.09	0.1	14.84
Hydeway E right	0.17	0.2	22.85	0.27	0.4	50
Broadwater Rd N	0.06	0.1	7.23	0.30	0.7	6.45

13.8. This shows Hydeway west (site access) operating over capacity during the highway peaks. The appropriate mitigation would be to widen the bellmouth to allow a two lane exit, segregating left and tight turning traffic. However, care has been taken to reduce the dominance of the car at this junction

and to improve facilities for pedestrians and cyclists travelling along Broadwater Road. For this reason, the decision has been taken to retain the single lane exit despite the modelled queue.

Table 13.4 - Junction 4; Middle access

	AM Peak			PM Peak		
	Max RFC	Max Q (V)	Delay (s)	Max RFC	Max Q (V)	Delay (s)
Site access	0.16	0.2	13.71	0.13	0.1	14.87
Broadwater Rd N	0.01	0.0	8.23	0.06	0.1	7.85

13.9. This shows junction 4 working well within capacity with no delays on the site access or Broadwater Road.

Table 13.5 - Junction 5; Broad Court

	AM Peak			PM Peak		
	Max RFC	Max Q (V)	Delay (s)	Max RFC	Max Q (V)	Delay (s)
Site access	0.10	0.1	10.61	0.09	0.1	13.92
Bridge Rd E	0.00	0.0	8.29	0.04	0.0	8.06

13.10. This shows junction 5 working well within capacity with no delays on the site access or Broadwater Road.

Table 13.6 - Junction 6; Southern access

	AM Peak			PM Peak		
	Max RFC	Max Q (V)	Delay (s)	Max RFC	Max Q (V)	Delay (s)
Site access	0.53	1.1	23.7	0.46	0.8	25.59
Bridge Rd E	0.01	0.0	7.73	0.19	0.3	7.34

13.11. This shows the southern access working well within capacity with no delays on the site access or Broadwater Road

13.12. This traffic impact assessment demonstrates that with the exception of Hydeway, all site access junctions will operate well within operational capacity during the highway peak periods. The delays on Hydeway will have no effect on the capacity of Broadwater Road but will result in some peak hour queues for traffic attempting to leave the private side road. The mitigation for this would be to widen Hydeway to allow for a two-lane exit; however, the preferred approach is to retain the single lane exit to the benefit of pedestrians and cyclists.

13.13. Off-site mitigation measures are required as designed and agreed as part of the previously approved development. The same off-site mitigation measures will be provided as part of the proposed development. As a result of this analysis it is clear that the proposed development would have no residual effect on the operational capacity of the public highway. The development would, as might be expected, benefit from its accessible location and ability to promote sustainable travel.

14. TRANSPORT IMPROVEMENTS

14.1. The previously approved development on the former Shredded Wheat factory site included a comprehensive range of transport improvement measures. Some of these were integral components of the development, some were dictated by the SPD and some were proposed as mitigation measures to address the transport effects of development.

14.2. The current Wheat Quarter proposal will deliver all of the off-site transport improvements agreed as part of the consented scheme. It will also fund some additional off-site improvements. These are set out below:

Road hierarchy

14.3. The access from Bridge Road will remain as a private road with a minimum width of 6m. A 2m footway will be provided along the western side of the carriageway.

14.4. The southern access from Broadwater Road will be a major access road with a width of 6.0m where cars are parked at 90 degrees and a minimum of 4.8m otherwise. The carriageway has localised widening on bends where necessary. In addition there will be a segregated footway provided through the central landscape area and to each of the residential blocks.

14.5. The three Mews / Streets, which form part of the internal road network, will all be shared surfaces with a width of approximately 6m.

14.6. All accesses from Broadwater Road will have raised entrance tables to assist pedestrian/cycle movement along Broadwater Road.

Broadwater Road improvements

14.7. The redevelopment proposals would reallocate the existing highway land along Broadwater Road so that there is greater provision for pedestrians and cyclists. The existing carriageway would be narrowed to 6.75m while a 4m foot/cycleway would be provided along both sides of the carriageway across the site frontage, where possible.

14.8. The narrowing of Broadwater Road would continue along its entire length, providing the opportunity to widen pedestrian and cycle facilities along the length of Broadwater Road as the area is redeveloped in the future, subject to land ownership.

14.9. The existing pedestrian crossing facilities along Broadwater Road will be retained, although the signalised crossing south of Hydeway will be relocated further north.

14.10. The proposed scheme is shown in TPA drawing 1309-14-PL109 included in **Appendix N.**

Bridge Road / Hunters Bridge improvements

14.11. Overall traffic calming measures proposed along Broadwater Road will be extended to include Bridge Road and Hunters Bridge so that the characteristics of these roads are changed from being vehicle dominant to an area which is more attractive to pedestrians and cyclists.

14.12. TPA drawing 1309-14-PL111 (included in **Appendix N**) shows the proposed traffic calming along Bridge Road. The proposals will narrow the highway land allocated to vehicles so that there is a single 3m lane in either direction. This in turn allows the foot/cycleways to be widened to 4m along both sides of the carriageway and a central pedestrian area of approximately 5.7m will also be provided.

Rail bridge

14.13. The existing rail bridge between the site and the railway station will be refurbished as part of the development. This will include demolishing the existing steps on the site side of the rail lines and replacing them with a new set of much wider steps directly onto the newly created public square. The stops will include provision to wheel bicycles up onto the bridge. A range of bespoke cycle parking facilities will be provided beneath the steps. A lift will also be provided to allow access for the mobility impaired or for those with pushchairs for example. The bridge itself will be refurbished in agreement with Network Rail. Full details of the bridge refurbishment are submitted in support of the planning application.

Broadwater Road / Bridge Road junction

14.14. The existing signalised crossroads of Broadwater Road / Bridge Road and Bessemer Road will be altered to a shared space 'octabout', as shown in TPA drawing 1309-14-PL106, included here within **Appendix N.**

14.15. The proposed octabout will operate along the same principals as a roundabout albeit on a less formal basis, as the intention is to introduce controlled uncertainty to drivers which will result in slower vehicle speeds and a more agreeable environment for pedestrians and cyclists.

Broadwater Road / Osborne Way / Stanborough Road junction

14.16. The Stanborough Road arm of the Broadwater Road / Osborn Way / Stanborough Road roundabout will be widened to 8.5m to increase the approach capacity.

Broadwater Road / A1000 Chequers roundabout

14.17. The Broadwater Road and A1000 Chequers arms of the Broadwater Road / Broadwater crescent / A1000 Chequers roundabout will be improved to increase the flare lengths on both arms to increase the entry capacity.

Hydeway west

14.18. The kerb radii on the entry to Hydeway west will be increased to improve entry / egress for HGVs. The radii on the western arm of Hydeway will also be altered and the whole junction will become a raised table.

14.19. Highway rights will be extinguished (stopped-up) from Hydeway west so that the road will become private in line with the other access roads into the Wheat Quarter. A 3m wide shared cycleway/footway will be provided along the southern side which will remain a public right of way between Broadwater Road and the new steps to the rail bridge.

Peartree Lane / Ravenfield cycle route

14.20. The existing pedestrian crossing over Peartree Lane at the eastern end of Hydeway will be upgraded to allow cyclists to cross and then to use the carriageway of the cul-de-sac section of Peartree Lane rather than the footway.

15. SUMMARY AND CONCLUSIONS

15.1. This Transport Assessment (TA) has been prepared by Entran Ltd in support of a planning application for the redevelopment of the former Shredded Wheat Factory to provide a residential led mixed-use development. The proposed development is known as the Wheat Quarter.

15.2. This TA has been prepared alongside a Transport Implementation Strategy which provides the opportunity to reduce dependence on travel by private car and seeks to influence travel to and from the site rather than merely assessing its impact.

WHBC adopted a supplementary planning document in 2008 to guide the redevelopment of the former Shredded Wheat Factory site. In 2017 planning permission was granted for a mixed use development comprising 850 dwellings (Use class C3, with potential to include 80 (C2) assisted living units), 2554m^2 hotel, 6370m^2 office/research, 572m^2 convenience/comparison retail, 834m^2 healthcare, 650m^2 crèche, 1990m^2 restaurants/cafes, 757m^2 community facilities, and 703m^2 gym/dance studio

15.3. Planning permission was granted subject to a range of conditions and obligations, including a requirement to implement a range of off-site highway improvements.

15.4. The site is very well placed to promote sustainable travel. A wide range of employment, retail, health, education and leisure facilities can be reached within walking and cycling distance of the site. In addition, a wide range of bus routes can be reached easily form the site. Welwyn Garden City rail station is immediately to the west of the site, reached via an existing footbridge over the railway. This is a good location to reduce reliance on the private car. The provision of a comprehensive mixed-use development further supports the objective to reduce the need to travel, especially by car.

15.5. The proposed development comprises the creation of a mixed-use quarter including the erection of 1,340 residential dwellings of which 414 (31%) will be affordable dwellings (Use class C3); 114 extra care homes (use class C2); the erection of a civic building including health (D1), community use (D1), office (B1), retail (A1) and food and drink (A3-A5) uses. The alterations, additional and change of use of the Grade II Listed Building and retained silos provide flexible business space (B1), combined heat and power (Sui Generis), International Art Centre (D1) Gymnasium (D2), restaurant/coffee shop/bar (A1-A5), Crèche and Network Rail TOC building. The development includes car and cycle parking, access, landscaping, public art and other supporting infrastructure.

15.6. The South site is purely residential, comprising 643 flats. Visitor spaces are provided at a ratio of 10% and Car Club spaces are provided at ratio of 6%. For the proposed unit mix this equates to 369 residents spaces, 64 visitor spaces and 39 Car Club vehicles. The total provision on the south site is therefore 472 parking spaces and the equivalent provision is 665 spaces.

15.7. The North site comprises residential and non-residential. The residential component comprises 811 flats. Car Club spaces are provided at ratio of 6%. Visitor spaces are calculated at a ratio of 10%, however, many of these can be considered dual-use spaces with the commercial uses. For the proposed unit mix this equates to 426 residents spaces, 81 visitor spaces and 49 Car Club vehicles, a total of 556 parking spaces (equivalent provision is 799 spaces).

15.8. The commercial parking on the north site comprises 142 spaces. Of these 35 are dual-use, available for residents' visitors in the evening, and 107 are for commercial staff and visitors.

15.9. In total the development includes 1135 car parking spaces including parking suitable for disabled drivers and electric vehicle charging points.

15.10. Cycle parking is provided for every dwelling, and for all the commercial and community uses. An additional 100 public cycle parking spaces are provided between Hydeway and the footbridge. The total cycle parking provision is 1681 spaces.

15.11. The Wheat Quarter development provides a new electric vehicle Car Club; residents would be offered Car Club membership as part of the Residents' Travel Plan so that those households who do not own a vehicle will still have access to one as and when they may need one. The Car Club would be

available to the wider community thereby reducing on-street parking pressure on the surrounding local roads.

15.12. The development will be supported by a four-part Transport Implementation Strategy comprising the Framework Travel Plan (FTP), Construction Logistics Plan (CLP), Delivery & Servicing Plan (DSP) and Car Parking Management Plan (CPMP). Final versions of the CLP, DSP and CPMP will be prepared (prior to commencement and occupation respectively) in partnership with HCC and WHBC.

15.13. A detailed assessment of vehicle trips has been carried out, comparing those associated with the approved scheme and those associated with the current proposals. This assessment has established that whereas there is a 71% increase in unit numbers, the change in density and unit mix means that there will only be a 27% increase in adult working population. Furthermore, the proposed commercial and community uses differ slightly from those in the approved scheme, to the degree that there will be a greater rate of internal linked trips and a lower proportion of travel during the highway peak periods. The development will generate more peak hour residential vehicle trips but fewer peak hour non-residential trips. The result on the wider highway network will be broadly the same as the approved scheme. The same off-site highway mitigation measures will therefore be required.

15.14. An assessment of the six site access junctions demonstrates that all site access junctions will operate well within operational capacity during the highway peak periods. The delays on Hydeway will have no effect on the capacity of Broadwater Road but will result in some peak hour queues for traffic attempting to leave the private side road. The mitigation for this would be to widen Hydeway to allow for a two-lane exit; however, the preferred approach is to retain the single lane exit to the benefit of pedestrians and cyclists.

15.15. The development will deliver a wide range of transport improvements. The internal layout of the scheme itself will provide a high quality, permeable environment for pedestrians and cyclists. This will include landscaped links and routes as well as new public squares.

15.16. The development will deliver extensive improvement works to Broadwater Road and Bridge Road, reducing vehicle speeds and providing improved facilities for pedestrians and cyclists. The junction of Broadwater Road and Bridge Road will be re-modelled as an ‘octobout’ in line with the previously approved scheme.

15.17. Hydeway will be completely remodelled to provide a ‘kiss-and-ride’ drop-off facility for car passengers heading to the station or town centre. A new taxi rank will also be provided as well as short stay parking for those collecting passengers from the station or popping to the local convenience store on their way to or from work.

15.18. The footbridge over the railway will be refurbished and provided with a new, wider set of steps on the site side, together with a new passenger lift.

15.19. The wide range of highways and transport improvements will mitigate the effects of the additional travel demand generated by the development and will significantly enhance the sustainable travel options for Welwyn Garden City as a whole.

15.20. For the reasons set out in this Transport Statement there is no reason why the proposed development should be refused on grounds of highway capacity or safety, impact on the transport network or sustainability. The provision of new homes, employment and community facilities at the Wheat Quarter offers an opportunity to enhance this area and have a positive effect on transport. It should be positively supported by the local highway authority.

Appendix A

Planning application red line

Appendix B

Schedules of accommodation

Appendix C

Architects' plans

Appendix D

Hydeway stopping-up plans

Appendix E

TPA parking technical note

Appendix F

Parking calculations

Appendix G

Car parking swept path analyses

Appendix H

North area servicing swept path analyses

Appendix I

South area refuse vehicle swept path analyses

Appendix J

South area daily delivery swept path analyses

Appendix K

TRICS data

Appendix L

Trip distribution

Appendix M

PICADY output files

Appendix N

Highway improvements