

LXB RP (No.3) Ltd

Sainsbury's and Marks & Spencer
Land West of Gallions Road, Charlton

Transport Assessment Report

March 2012

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1 INTRODUCTION

- 1.1 Vectos is retained by LXB RP (No.3) Ltd to advise on all transport aspects related to their proposal for the relocation of a Sainsbury's supermarket, a new Marks and Spencer (M&S) store and high street shopping, at land west of Gallions Road, Charlton, within the Royal Borough of Greenwich.
- 1.2 The site is situated between the A206 Woolwich Road to the south, Bugsby's Way to the north and Gallions Road to the east. It is currently used mainly for a mix of non-food retail and industrial uses, and has planning permission for further development.
- 1.3 The proposal involves the demolition of the existing buildings on the site and construction of a single building to accommodate Sainsbury's and M&S. In addition, a small number of retail units would be constructed along the Woolwich Road frontage.
- 1.4 The Sainsbury's supermarket would relocate from its smaller existing site less than one kilometre to the west, on Pear Tree Way. The existing Sainsbury's site would only retain a non-food planning consent.
- 1.5 In preparing this planning application, discussions have been held with key stakeholders including the highway authority (the Royal Borough of Greenwich (RBG)) and Transport for London (TfL). The proposals have also been subject to a public consultation event held on Friday 20th and Saturday 21st October 2011. The main comments in respect of transport related to the traffic impact on Woolwich Road and Bugsby's Way and provision of bus services to / from the site. Comments received have been considered in the context of the proposals.
- 1.6 The report has been prepared with the benefit of our knowledge and experience gained through working on similar developments throughout London.
- 1.7 The remainder of the report is set out as follows:
- Section 2 - Existing Situation
 - Section 3 - Development Proposals
 - Section 4 - Policy Context

- Section 5 - Multi-Modal Trip Generation
- Section 6 - Effects on the Highway Network
- Section 7 - Effects on the Public Transport Network
- Section 8 - Effects on the Walking and Cycling Networks
- Section 9 - Summary and Conclusions

2 EXISTING SITUATION

Site Location

- 2.1 The site is situated between the A206 Woolwich Road to the south, Bugsby's Way to the north and Gallions Road to the east. The strategic location of the site is shown in **Figure 1**, whilst the site's location in respect of the local area is shown on **Figure 2**.
- 2.2 The site forms part of the Charlton Business Park (Policy J3 of the Greenwich Unitary Development Plan) which comprises a number of retail, industrial and business uses. These include an Asda Supermarket, Makro Cash and Carry, Greenwich Shopping Park and Peninsular Retail Park. Charlton Business Park accommodates the Borough's main concentration of out-of-centre retailing, although many of the units are now coming to the end of their life, and are in need of regeneration.
- 2.3 Within the Draft Core Strategy the site lies within the proposed 'Charlton Riverside Strategic Development Location.'
- 2.4 Further south towards Charlton there are extensive residential areas. The Greenwich Peninsula lies to the north and west of the Site. It is home to the O2 Arena and Millennium Village and is a major regeneration site with outline consent for a mixed use development, which includes 10,000 new homes.

Site Description

- 2.5 The site currently comprises the following elements:
- Site with consent for 4,160 sqm of Open A1 retail floorspace, 6,715 sqm of Class B floorspace and 20 residential units, along with 207 parking spaces accessed from Bugsby's Way, in addition to;
 - Three non-food retail warehouses of 926 sqm, 1,141 sqm and 1,370 sqm, occupied by Dreams, Allied Carpets and Land of Leather, with around 93 parking spaces accessed from Bugsby's Way;
 - A non-food retail warehouse of 3,480 sqm, currently occupied by Wickes. The site has 142 parking spaces accessed from Gallions Road; and
 - A terrace of six residential dwellings.

- 2.6 The application site currently has three accesses from Bugsby's Way, five accesses from Gallions Road and two accesses from Woolwich Road. There are a total of 442 consented parking spaces on the site.

Local Highway Network

- 2.7 A description of the key vehicle routes in the vicinity of the application site is given in the following paragraphs. Each route described is subject to a speed limit of 30 mph.

A206 Woolwich Road

- 2.8 Woolwich Road links Greenwich to the west with Woolwich to the east. It is of strategic significance, forming part of the A206 which is designated as a London Distributor road and is routed between Deptford Bridge in the west and the M25 Junction 1a in the south and east. It connects with the A205 South Circular at Woolwich and the A102 Blackwall Tunnel Approach at Greenwich. Immediately south of the site, Woolwich Road forms a priority junction with Gallions Road.
- 2.9 Traffic surveys undertaken in October 2010 show that on Woolwich Road in the vicinity of the site, there are 23,547 two-way vehicles on an average weekday.
- 2.10 Single yellow line parking restrictions are in place on Woolwich Road on the section closest to the Site.

Bugsby's Way

- 2.11 Bugsby's Way is a dual carriageway which links Anchor and Hope Lane to the east with Peartree Way and Blackwall Lane to the west. It provides access to the various industrial and retail estates including the Greenwich Shopping Park and Peninsular Park on the southern side and the Meridian Trading Estate on the northern side.

Gallions Road

- 2.12 Gallions Road links Bugsby's Way and Woolwich Road. It is a two-way single carriageway road measuring 6 metres in width. Currently at its junction with Bugsby's Way to the north it operates as left in / left out. At its junction with Woolwich Road to the south all movements are permitted, but with a single lane traffic calming feature in place to discourage its attractiveness as a rat-running route.

Personal Injury Accidents

- 2.13 Accident data was obtained from TfL for the period between 01/01/2008 and 31/12/2010. Further details of each accident are included in a Technical Note at **Appendix A**.
- 2.14 In summary, within the study period there were 53 accidents in the vicinity of the site. Of these 48 were classified as slight, 5 were classified as serious and 0 were classified as fatal. Of the accidents 7 involved a pedestrian, 3 involved pedal cycles, 10 involved motorcycles and 33 involved motor vehicles only. A summary of the accident locations is shown at **Table 2.1**.

Table 2.1: Summary of Personal Injury Accidents

Junction	Number of Accidents	Severity	
		Slight	Serious
Woolwich Road / Gallions Road	8	7	1
Woolwich Road / Anchor and Hope Lane	6	6	0
Bugsby's Way / Peninsular Park Road	4	4	0
Bugsby's Way / Brocklebank Road	4	3	1
Pear Tree Way / Horn Lane	4	2	2
Bugsby's Way / Anchor and Hope Lane	3	3	0
Woolwich Road / Rainton Road	3	3	0
Woolwich Road / Fairthorn Road	3	3	0
Woolwich Road / Victoria Way	3	3	0
Woolwich Road / Rathmore Road	3	3	0
Bugsby's Way / Lombard Wall	3	3	0
Other Junctions	9	8	1
TOTAL	53	48	5

- 2.15 This shows that the greatest number of accidents occurred at the junction of Woolwich Road / Gallions Road. A number of the accidents at this junction involved vehicles performing a right turn manoeuvre.
- 2.16 Aside from the Woolwich Road / Gallions Road junction, the analysis of accident data does not indicate a specific problem or 'black spot' where physical improvement measures are required. Given the size of the study area and nature of the road network, the number and severity of accidents is not considered to be abnormal.

Accessibility

Bus Services

- 2.17 **Table 2.2** provides a summary of the bus services which are available within walking distance of the site. The bus routes are further illustrated on **Figure 3**.

Table 2.2: Existing Bus Services

Service	Route / Destination	Weekday Frequency	Saturday Frequency
161	North Greenwich to Chislehurst	8-12 mins	8-12 mins
177	Peckham to Thamesmead	8-12 mins	9-12 mins
180	Belvedere Industrial Estate to Lewisham	10-13 mins	10-14 mins
472	North Greenwich Station to Thamesmead Town Centre	4-8 mins	5-8 mins
486	North Greenwich Station to Bexleyheath	7-10 mins	7-10 mins
N1	Oxford Street to Thamesmead	N/A	

- 2.18 Table 2.2 shows that on weekdays, there are approximately 34 services per hour in each direction, resulting in a bus every two minutes. There is a similar frequency of services on Saturdays.
- 2.19 The nearest bus stops are located on Woolwich Road and Bugsby's Way. From the approximate location of the store entrances and following the most convenient walking routes, bus stops on Woolwich Road are approximately 175 metres away, whilst bus stops on Bugsby's Way are approximately 290 metres away. There are bus stops immediately outside the site on the northern side of Bugsby's Way and on the southern side on Woolwich Road.
- 2.20 Routes 167, 177, 180 and N1 are served by bus stops on Woolwich Road, whilst routes 472 and 486 are served by bus stops on Bugsby's Way.
- 2.21 There is a segregated southbound bus lane on Anchor & Hope Lane between Bugsby's Way and Woolwich Road, with bus priority measures incorporated into the signalised junction of Woolwich Road / Anchor & Hope Lane.

Rail Services

- 2.22 Charlton Rail Station is located approximately 540 metres from the site and provides regular services between central London and Kent. This is within an acceptable walking distance to be included in the Public Transport Accessibility Level (PTAL) assessment. The existence of this rail station provides a genuine opportunity for employees and some customers to visit the site by train.
- 2.23 Buses also connect with London Underground Jubilee Line services from North Greenwich station.

Pedestrians

- 2.24 It is commonly accepted that walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2 kilometres.
- 2.25 An 800 metre catchment includes other retail and industrial uses in the Bugsby's Way area and residential areas in Charlton to the south. The 2 kilometre catchment further includes the Greenwich peninsular and wider parts of Greenwich and Charlton. This is shown in **Figure 4**.
- 2.26 Within the vicinity of the site there are wide footways on both sides of Gallions Road and Bugsby's Way. There is a staggered pelican crossing on Bugsby's Way east of the site, offering pedestrians the opportunity to cross to the eastbound bus stop. There are further signalised pedestrian crossing facilities adjacent to Greenwich Shopping Park and Peninsular Retail Park. On Woolwich Road there are controlled pedestrian crossing points at the junction with Anchor & Hope Lane / Charlton Church Lane, offering a safe walking route to Charlton rail station.

Cyclists

- 2.27 It is commonly accepted that cycling also has the potential to substitute for short car trips, particularly those under 5km, and to form part of a longer journey by public transport.
- 2.28 Charlton, Woolwich, Greenwich and Blackheath are all located with a 5 kilometre distance from the site and therefore there is opportunity for customers and staff to travel to the site by cycle. This is shown on **Figure 5**.

2.29 In proximity to the site, Woolwich Road has on-road advisory cycle lanes on both sides and is proposed to form part of a Cycle Superhighway. There is also a National Cycle Network traffic-free route to the north of the site, located along the towpath of the River Thames from the Greenwich Peninsula continuing east towards Erith.

Public Transport Accessibility Level (PTAL)

2.30 For the majority of the site, the PTAL rating has been calculated as 3, which indicates a moderate level of accessibility by public transport. At the Woolwich Road frontage the PTAL increases to 4, reflecting the closer proximity to bus services on Woolwich Road and also Charlton rail station. PTAL is only one measure of accessibility and does not fully reflect the proximity of local facilities, bus catchments etc.

3 DEVELOPMENT PROPOSALS

Scheme Elements

3.1 The development proposals involve the demolition of existing retail and commercial units and residential properties and the erection of Class A1 retail development, internet distribution facility, associated servicing, car parking, landscaping and access arrangements. The retail development comprises the following elements:

- A Sainsbury's supermarket with A1-use floor area of 13,189 sqm Gross Floor Area (GFA) / 7,309 sqm Sales Floor Area. This includes a mezzanine level;
- A M&S store with A1-use floor area of 7,698 sqm GFA / 5,121 sqm Sales Floor Area. This can be broken down between 783 sqm of food use, 4,338 sqm of non-food use along with a café of 294 sqm; and
- 1,616 sqm of high street A1 / A3 units.

3.2 The architect's ground floor drawing is included at **Appendix B**.

3.3 The Sainsbury's supermarket would relocate from its smaller existing site less than one kilometre to the west, on Pear Tree Way. As part of these proposals, it should be noted that the planning consent for the existing Sainsbury's supermarket site will be amended to restrict it to non-food retail uses. This will reduce the volume of traffic travelling to / from the existing Sainsbury's site.

Site Layout

3.4 The site will be laid out so that the Sainsbury's supermarket and Marks & Spencer store front towards Gallions Road. The customer car park would be located between the stores and Gallions Road, with vehicular access to the customer car park also taken from a mini-roundabout on Gallions Road. In addition, a number of retail units will be provided fronting Woolwich Road, to create an active frontage, enhancing the public realm.

3.5 The Sainsbury's servicing yard and Goods on Line area would be located at the northern end of the site, with a separate access from Bugsby's Way. The Marks & Spencer service yard would be located at the southern end of the site, accessed from a dedicated servicing access on Woolwich Road.

3.6 Pedestrian access would be provided directly to Bugsby’s Way, Gallions Road and Woolwich Road.

Vehicular Access

3.7 Access to the customer car park would be from a new mini-roundabout junction on Gallions Road. This provides two approach lanes from the customer car park to ensure the efficient movement of traffic exiting the car park.

3.8 There are currently five separate accesses to the Development site on Gallions Road. Rationalising the existing five accesses into a single access junction improves the efficiency of traffic flows on Gallions Road.

3.9 The preliminary design of the proposed access is shown on **Drawing no. 110066B/A/01/D**.

Car Parking

3.10 A car park of 695 car parking spaces, accessed from Gallions Road, would be provided to serve both the Sainsbury’s and Marks and Spencer stores. It is envisaged that this would be broken down between the following:

- 564 [81.2%] standard car parking spaces;
- 30 [4.3%] active electric car parking spaces;
- 30 [4.3%] passive electric car parking spaces;
- 29 [4.2%] Parent & Child car parking spaces; and
- 42 [6.0%] disabled parking spaces.

3.11 The maximum parking standards for food and non-food retail land use are outlined in Table 6.2 of the London Plan. For sites with a PTAL of 2-4, the following car parking standards as shown in **Table 3.1** apply.

Table 3.3: London Plan Maximum Car Parking Standards

Size	Parking Provision
Food retail (over 2,500 sqm)	1 space per 18 – 25 sqm
Non-food warehouse	1 space per 30 – 50 sqm

3.12 The London Plan further includes standards for electric vehicle parking. The standard for retail uses is as follows:

“10% of all spaces must be for electric vehicles with an additional 10% passive provision for electric vehicles in the future.”

3.13 Policy M24 of the RBG Unitary Development Plan (UDP) sets out car parking standards for retail uses. These are displayed in **Table 3.2**.

Table 3.2: Greenwich UDP Maximum Car Parking Standards

Size	Parking Provision
Large shops > 500 sqm	<i>“The onus should first be on the developer to justify the scale of provision proposed by reference to parking spaces already available in the whole town centre; public transport accessibility; and the parking strategy determined for a town centre. Otherwise standards for retail uses as set out in the Mayor’s London Plan will apply.”</i>
Non-Food Retail Warehouses	<i>“The onus should first be on the developer to justify the scale of provision proposed. Otherwise standards set out [for large shops > 500 sqm] will apply.”</i>

3.14 Applying the London Plan car parking standards to the proposals would permit between 703 and 1,015 car parking spaces on the site, with the maximum broken down between 733 spaces for the Sainsbury’s supermarket and 282 spaces for the M&S store.

3.15 Further to this, TfL have requested that the parking standard from the middle of the range is applied, since the majority of the site has a PTAL of 3. TfL have further suggested that the food element of Marks & Spencer operates as ancillary to the non-food element and that the non-food retail parking standard should be applied to the whole Marks & Spencer store. This approach would permit a maximum of 805 spaces, with 613 spaces for the Sainsbury’s supermarket and 192 spaces for the Marks & Spencer store. The parking provision of 695 spaces falls well below these standards.

3.16 30 active electric parking spaces are proposed, 4.3% of the total. A further 4.3% of passive electric spaces are proposed. Although this is lower than the London Plan standards, it is anticipated that it will accommodate the likely demand. Use of electric parking spaces will be monitored through the Travel Plan and if observations suggest demand for active spaces is frequently exceeded, passive spaces will be converted to active spaces.

3.17 A car parking accumulation exercise has been conducted based on the predicted demand. The results for the car park (including both Sainsbury’s and Marks & Spencer) are shown in **Table 3.3**.

Table 3.3: Car Parking Accumulation

Time Period	Weekday		Saturday	
	Vehicles parked	% Occupied	Vehicles parked	% Occupied
07:00 – 08:00	24	3.5%	52	7.4%
08:00 – 09:00	107	15.4%	106	15.3%
09:00 – 10:00	257	37.0%	176	25.4%
10:00 – 11:00	312	44.9%	282	40.6%
11:00 – 12:00	339	48.8%	422	60.7%
12:00 – 13:00	360	51.7%	517	74.4%
13:00 – 14:00	323	46.4%	511	73.5%
14:00 – 15:00	307	44.2%	619	89.1%
15:00 – 16:00	277	39.9%	619	89.1%
16:00 – 17:00	268	38.5%	560	80.6%
17:00 – 18:00	218	31.4%	493	70.9%
18:00 – 19:00	202	29.0%	339	48.7%
19:00 – 20:00	120	17.3%	211	30.4%

3.18 This shows that there is anticipated to be a maximum parking demand of 619 spaces on Saturdays between 14:00 and 16:00, corresponding to the car park being 89.1% occupied. This demonstrates that the parking provision is appropriate to the parking demand, and would not result in any overspill parking.

3.19 Additional evidence to support the proposed parking provision is provided from parking accumulation surveys undertaken in November 2010 at the Sainsbury’s Crayford store. A copy of the survey data is included at **Appendix H**.

3.20 The Crayford store was extended in September 2010 to give a total Gross Floor Area of 15,000 sqm and 684 parking spaces dedicated to the Sainsbury’s store, of which 40 are designated as disabled spaces and 37 are designated as ‘Parent and Child’ spaces. These figures were collated on site by an independent survey company.

3.21 The extended Crayford store is a similar size to the proposed Sainsbury’s store and it is also located in South East London. However, it’s worth noting that the car park is designated

solely to Sainsbury's whilst the proposed Sainsbury's store would share it with Marks & Spencer.

- 3.22 The Crayford survey results show that the car park was up to 80% occupied with 544 vehicles parked at 14:30 on Saturdays. This suggests that at least 544 spaces would be required to accommodate the parking demand at the proposed Sainsbury's store alone. Based on this evidence, the proposed provision of 695 spaces for both the Sainsbury's and Marks & Spencer store is therefore appropriate.

Car Park Management

- 3.23 The car park will be managed to prevent inappropriate parking. This will incorporate the following measures:
- Hours of operation limited to Sainsbury's / M&S store opening hours;
 - Security gate control to prevent unauthorised use out of hours;
 - Duration of stay to be limited to avoid commuter parking, i.e. a maximum 3 hour stay; and
 - Penalty Charges to be applied to motorists failing to comply with regulations.
- 3.24 Responsibility for managing the car park will be shared between Sainsbury's and M&S. Both retailers will be responsible for the on-going management and implementation of the Car Park Management Plan.

Taxis

- 3.25 A taxi pick-up point will be provided within the car park adjacent to the Sainsbury's atrium lobby to allow collection of customers with shopping.

Pedestrians

- 3.26 Pedestrian access to the proposed development will be provided directly from Bugsby's Way, Gallions Road and Woolwich Road.
- 3.27 The layout of the site has been designed to ensure that pedestrian connectivity and permeability is maximised, offering new pedestrian routes through the site to both Bugsby's Way and Woolwich Road. This provides connections between residential areas in Charlton to

the south and retail uses in the Bugsby’s Way area. Further details on pedestrian links in the surrounding area are provided in **Sections 2** and **7**.

Cyclists

3.28 The proposals include for a total of 54 cycle parking spaces to serve the Sainsbury’s and M&S. 39 spaces would be provided for Sainsbury’s and 15 spaces for M&S. Cycle parking will be located close to the store entrances.

3.29 The cycle parking standards for out of centre locations are shown in **Table 4.2**.

Table 4.2: London Plan Cycle Parking Standards

Size	Parking Provision
A1 Food	1 space per 350 sqm
A1 Non-Food	1 space per 500 sqm

3.30 The relevant Royal Borough of Greenwich cycle parking standards are shown in **Table 4.4**.

Table 4.4: Greenwich UDP Minimum Cycle Parking Standards

Size	Parking Provision
A1 Food Retail	Out of town 1/350 sqm
A1 Non-Food Retail	Out of town 1/1,500 sqm with a minimum of 4 spaces

3.31 The London Plan standards would require a minimum of 54 cycle parking spaces, whilst RBG standards would require a minimum of 46 spaces. The proposed provision therefore accords with TfL and RBG standards.

3.32 Furthermore, the proposals facilitate the implementation of a continuous cycle route from Woolwich Road, along Gallions Road and Bugsby’s Way to connect with the Thames Path. The proposed pedestrian / cycle permeability of the site is shown in **Figure 6**.

Servicing

3.33 The proposed Sainsbury’s service yard will be accessed from Bugsby’s Way, operating as left in / left out.

- 3.34 The service yard for the M&S store and high street retail units would be from a dedicated servicing access on Woolwich Road, which is being constructed in association with the proposed Travelodge development. All vehicles exiting the service yard would turn left, with the right turn manoeuvre prohibited. Similarly the right turn into the access from Woolwich Road would be discouraged.
- 3.35 Swept Path Analysis of the Sainsbury's and Marks & Spencer service yards is included to demonstrate that vehicles up to the size of a 16.5m articulated vehicles are able to manoeuvre in / out. The output is included at **Appendix C**.
- 3.36 A Delivery and Servicing Management Plan (DSP) will be put in place setting out the servicing arrangements for the proposed development. This will ensure that delivery and servicing activity associated with the Sainsbury's and Marks & Spencer can take place in a safe, efficient and sustainable manor. Effective management will ensure that the potential for vehicle conflicts is avoided and that the proposals have the minimum impact on both the surrounding highway and pedestrian network.
- 3.37 The DSP will also include measures such as:
- Ensure that delivery vehicles remain in the service yard for as little time as possible and that vehicle engines are switched off whilst goods are being loaded / unloaded (i.e. whilst vehicles are stationary);
 - Time management of deliveries to ensure that the capacity of the site is not exceeded at any time. Allocated time slots may be considered if capacity is frequently exceeded; and
 - Service yard staff will be trained to assist vehicles manoeuvring to and from the site as necessary.
- 3.38 A Framework for the Delivery and Servicing Plan is included at **Appendix D**.
- 3.39 The predicted delivery schedule at the Sainsbury's supermarket is displayed in **Table 4.5**. This shows that there would be 12 – 18 deliveries daily.

Table 4.5: Sainsbury’s Delivery Schedule

Time	Sun	Mon	Tue	Wed	Thu	Fri	Sat
01:00	1	1	1	1	1	1	1
03:00	2	1	1	1	2	2	2
05:00					1	1	1
05:30		1	1	1			
06:00	3	2	2	2	2	2	2
08:00	1	1	1	1	1	1	1
10:00	1	1	1	1	1	1	1
12:00	1	1	1	1	2	3	3
13:00		1				1	
14:00	1	1	1	1	1	1	1
16:00					1	1	1
17:00	1	1	1	1	1	1	1
17:30					1	1	1
19:00	1	1	1	1	1	1	1
23:30	1	1	1	1	1	1	1
TOTAL	13	13	12	12	16	18	17

- 3.40 Table 4.5 demonstrates that deliveries would be spread throughout the day, with a small number of deliveries during the network peak periods.
- 3.41 At the Marks & Spencer store there will be between 4-7 deliveries daily.
- 3.42 In total, taking into account deliveries at both Sainsbury’s and Marks & Spencer, there will be between 16 – 25 deliveries daily. This is unlikely to have a material effect on the operation of the highway network.

Refuse & Recycling Collection

- 3.43 The refuse storage for the Sainsbury’s and M&S stores would be located in the relevant service yards. Refuse vehicles would enter the servicing yards in order to collect refuse.
- 3.44 Customer recycling facilities will be provided in the car park and recycling vehicles emptying the facilities would enter the car park via the proposed roundabout junction with Gallions Road.

Goods on Line

- 3.45 A Goods on Line (GoL) service would operate from the proposed Sainsbury's store. Approximately 22 delivery vans would be provided upon opening, potentially increasing to 43 over a five year period. It would be served from the proposed access to the Sainsbury's servicing yard on Bugsby's Way.
- 3.46 The Goods on Line area would be managed to ensure there would be no conflict with the main Sainsbury's servicing area.

Off-Site Highway Improvements

- 3.47 In addition to a new mini-roundabout on Gallions Road providing access to the customer car park, off-site highway improvements are proposed at the following junctions:
- Gallions Road / Bugsby's Way
 - Gallions Road / Woolwich Road
- 3.48 Further details and justification for the proposals are provided at **Appendix E**, with a summary provided in the following paragraphs.
- 3.49 The improvements have been subject to a Stage 1 Road Safety Audit. A copy of this along with the Designers Response is included at **Appendix F**.

Gallions Road / Bugsby's Way

- 3.50 It is proposed that the existing left-in / left-out priority junction of Bugsby's Way / Gallions Road is upgraded to all movements signals junction. This would permit the right turn movement from Bugsby's Way, so that development traffic from the north and west would not need to travel through the Bugsby's Way / Anchor & Hope Lane roundabout. Similarly it will be possible for vehicles departing from the Development to the east to travel on Bugsby's Way, thereby avoiding the junction of Gallions Road / Woolwich Road. The design for this junction is shown on **Drawing no. 110066B/A/05/B**, whilst the wider context of the proposals are shown on **Drawing no. 110066B/A/11**.
- 3.51 The junction would include pedestrian facilities on all approaches and a toucan crossing for cyclists on the western arm of Bugsby's Way. This would facilitate a new cycle link from

Woolwich Road along Gallions Road / Bugsby's Way / Lombard Wall to the Thames Path. The existing pelican crossing on Bugsby's Way east of the junction would be removed, owing to its proximity to the pedestrian facilities at the junction.

- 3.52 The proposals include a section of bus lane adjacent to the site, as well as a bus gate on Bugsby's Way on the westbound approach. This gives priority for buses, improving bus journey times. It also allows for the bus lane to be extended further along Bugsby's Way in the future, as is the intention of the Royal Borough of Greenwich.

Gallions Road / Woolwich Road

- 3.53 It is proposed that the existing priority junction of Gallions Road / Woolwich Road is upgraded to a signalised junction incorporating pedestrian crossing facilities on each approach. This provides new safe and controlled crossings for pedestrians on this section of Woolwich Road. The design for this junction is shown on **Drawing no. 110066B/A/04/B**, whilst the wider context is shown on **Drawing no. 110066B/A/10**.
- 3.54 The junction also provides advanced cycle stop lines and 1.5 metre cycle lanes to provide facilities for cyclists.
- 3.55 The proposal has been compared against TfL's justification for traffic signals contained within the document '*Design Standards for Signal Schemes in London*,' March 2010. The junction currently has a higher than average accident rate and high volume of vehicles turning out of Gallions Road across the day. The junction therefore meets the criteria for a new signalised junction.
- 3.56 Alternative non-signalised improvement options have been considered at this junction. Maintaining the existing priority junction layout would not provide the required traffic capacity. More importantly, additional traffic from the Development may exacerbate the accident record. Converting the junction to a roundabout would not be desirable for pedestrians or cyclists. Woolwich Road is a designated cycle route and a roundabout would be less safe for cyclists. With a roundabout there would also be no controlled crossing point for pedestrians, severing a key desire line to bus stops and Charlton rail station on the southern side of Woolwich Road.

Summary

3.57 In summary, these proposals give rise to the following benefits:

- Bus lane adjacent to the site on Bugsby's Way
- A relocated eastbound bus stop on Bugsby's Way
- Controlled crossing points for pedestrians at Bugsby's Way and Woolwich Road
- Continuous cycle route from Woolwich Road to Bugsby's Way and the Thames Path
- Better access and egress to the retail area from Bugsby's Way, encouraging traffic away from Woolwich Road which is an objective of LB Greenwich.

Travel Plan

3.58 As part of the development proposals, the developer is committed to implementing a Travel Plan to encourage the use of non-car modes of travel, and ensure the sustainability of the development. A Framework Travel Plan is provided with the planning application submission, outlining the measures the developer will put into place in order to achieve this. A copy is included at **Appendix G**.

3.59 The Travel Plan will be developed in accordance with guidance issued by Transport for London in February 2011.

4 POLICY CONTEXT

4.1 This section of the report considers the current and emerging planning policy guidance at National, Regional and Local level.

National Policy Guidance

National Planning Policy Framework (NPPF)

4.2 The National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied.

4.3 One of the 12 core land-use principles within the NPPF includes:

"[to] actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable."

4.4 Section 4 of the NPPF deals with 'Promoting sustainable transport.' Paragraph 29 states that:

"the transport systems needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel."

4.5 Paragraph 32 sets out the transport issues which should be addressed within Development Plans and decisions. These are:

- *"the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
- *safe and suitable access to the site can be achieved for all people; and*
- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."*

Regional Policy Guidance

London Plan (July 2011)

4.6 The London Plan, Spatial Development Strategy for Greater London (July 2011) sets out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.

4.7 One of the Mayor's six objectives for London is:

"A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling, makes better use of the Thames and supports delivery of all the objectives of this Plan."

4.8 The transport aspects of the London Plan, relevant to the proposed development, are discussed in the following paragraphs.

4.9 Policy 6.1 establishes the Mayor's strategic approach to transport. Of relevance it states that the Mayor will encourage the closer integration of transport and development by:

"a. encouraging patterns and nodes of development that reduce the need to travel, especially by car;

b. seeking to improve the capacity and accessibility of public transport, walking and cycling;

g. supporting measures that encourage shifts to more sustainable modes and appropriate demand management; and

i. promoting walking by ensuring an improved urban realm."

Local Policy Guidance

Royal Borough of Greenwich – Unitary Development Plan

4.10 The Greenwich UDP, adopted in July 2006, provides guidance on development within the Borough. The following paragraphs identify some of the policies which are relevant to the proposed development.

4.11 Policy TC16 refers to retail:

“Retail or indoor leisure developments or extensions on edge-of-centre or out-of-centre sites will only be acceptable where:

- ii. Proposals are, or will be made, conveniently accessible by a choice of modes of transport including walking and cycling.*
- iii. The proposal would not unacceptably impact on residential amenity, the environment, traffic patterns or road congestion.*
- iv. Parking provision is consistent with the relevant standards and principles in Policies M23, M24, M26 and M27.”*

Royal Borough of Greenwich – Draft Core Strategy

4.12 The Royal Borough of Greenwich has published its draft Core Strategy in November 2010. The final submission version of the Core Strategy will be published in early 2012.

4.13 Within the Core Strategy the site lies within the proposed ‘Charlton Riverside Strategic Development Location.’

4.14 There are two policies which are specific to transport as follows:

- Policy C3 Critical Transport Infrastructure
 - “advocate and work in partnership with relevant agencies to deliver improved public transport infrastructure.... Along the waterfront area at Charlton Riverside and the Greenwich Peninsula”*
 - “support improved links between residential areas in the south of the Borough and employment areas in the north, including at the Jubilee line at North Greenwich station”*
- Policy C4 Sustainable Travel
 - “The Council supports the development of an integrated and sustainable transport system that is extensive in coverage... All developments in the Borough should help with accessibility, safety and the use of public transport, reducing the use of the private car.”*

“Cycling and walking will be encouraged in the Borough. The needs of pedestrians, including those with disabilities, and cyclists should be prioritised in development and the design and layout of development should reflect this.”

Royal Borough of Greenwich – Charlton Riverside Supplementary Planning Document

- 4.15 In January 2012 Royal Borough of Greenwich published for consultation a draft Supplementary Planning Document (SPD) on the Charlton Riverside area. The SPD emphasises the need to promote sustainable forms of transport.
- 4.16 One of the strategic objectives is to *“connect into the transport network,”* with a detailed objective to improve the Thames Path, *“increasing safety and connectivity of the pathway.”*
- 4.17 Section 9 of the SPD deals with Connectivity and Movement. It notes that *“the study area is largely unwelcoming to pedestrians and cyclists.”* It remarks that formal pedestrian crossings are lacking at many of the roundabouts on Woolwich Road, *“leaving pedestrians to go out of their way to cross Woolwich Road safely.”*

Summary

- 4.18 The proposed development is in accordance with both regional and local transport policies. The majority of the site has a PTAL of 3, reflecting the opportunities to access the site by sustainable modes of transport. The proposed development is also accessible by walking and cycling, with cycle parking being provided and convenient access routes accommodating the desire lines from Woolwich Road and Bugsby’s Way. This offers connections to Charlton and the Greenwich Peninsula respectively.
- 4.19 Furthermore this proposal will improve the existing accessibility for pedestrians, cyclists and public transport users, through the provision of off-site highway improvements. In particular, a pedestrian / cycle link to the Thames Path will be provided and further controlled crossing points for pedestrians will be provided on both Woolwich Road and Bugsby’s Way.
- 4.20 This planning application also provides the opportunity for the production of a Travel Plan that will seek to maximise the uptake of sustainable modes of transport.

5 MUTLI-MODAL TRIP GENERATION

Methodology

- 5.1 This section of the report provides an assessment of the predicted level of trips to and from the site by all modes of transport, which will be used in turn to assess the effect of the proposals on road, public transport, walking and cycling networks.
- 5.2 The trip generation by each mode of transport has been estimated throughout a weekday and Saturday. The results provide an indication of the number of additional trips by all modes, including car, public transport, walking, and cycling, following the implementation of the development proposal.
- 5.3 The TRAVL database has been used as the starting point in estimating the person trip attraction to the Development, since site specific data for the existing Sainsbury’s supermarket can’t be accurately determined as the car park is shared with other retail units.
- 5.4 The Sainsbury’s and M&S elements have been considered separately. The high street retail units are not anticipated to attract any primary trips since the vast majority of trips would be linked to other trips to the proposed Development as well as other retail uses on Woolwich Road and Bugsby’s Way.
- 5.5 Further details on the multi-modal trip generation are provided at **Appendix H** and summarised in the following paragraphs.

Sainsbury’s Supermarket

Trip Rates

- 5.6 The daily trip rates obtained from TRAVL are shown in **Table 5.1**. Hourly trip rates throughout the day have been obtained using the profiles within TRAVL.

Table 5.1: Sainsbury’s Daily Person Trip Rates

Land Use	Weekday	Saturday
Use: A1 Supermarkets	190.1 per 100 sqm	212.5 per 100 sqm

- 5.7 Vectos's experience of working on planning applications for other Sainsbury's extensions demonstrates that the increase in trips is not pro-rata to the increase in floor area, i.e. a 50% floor area extension will not bring about a 50% increase in trips.
- 5.8 The proposed Sainsbury's supermarket comprises an increase in both retail and gross floor area compared to the existing store. A range of 'before and after' customer transaction data for Sainsbury's extensions during the period 2006-2009 has been examined to identify the average uplift in customer transactions pro-rata to the increase in sales area. This is provided in **Appendix H**.
- 5.9 A maximum potential customer transaction uplift factor of 37.56% has been applied, which gives an uplift factor of 53.34% in customer transactions relative to the existing store. This factor is based on the extension of the Hayes store since this entailed a similar size of extension.
- 5.10 It should be noted that this factor is higher than the typical uplift factors accepted elsewhere at other Sainsbury's extensions which are normally in the region of between 21-26% (as shown by the data in **Appendix H**). A higher factor has been applied because of the unique nature of the proposal, in terms of the scale of the extension and relocation from the existing site on Pear Tree Way.
- 5.11 Therefore, it is proposed to calculate the trip generation, assuming a 53.34% increase in floorspace on the existing store of 5,100 sqm GFA. This can be considered to be robust in the context of other Sainsbury's extensions.
- 5.12 In addition, the assessment has considered the impact of vans servicing the Goods on Line operation.

Mode Split

- 5.13 The mode split has been derived from a Household Survey which gives the mode split at the existing Sainsbury's supermarket. This is presented in **Table 5.2**.

Table 5.2: Proposed Sainsbury's Mode Split

Mode	Percentage
Car Driver	62%
Car Passenger	14%
Motorcycle	0%
Bus	15%
Rail	1%
Taxi	2%
Foot	6%
Cycle	0%
TOTAL	100%

Vehicle Trips

5.14 Supermarkets attract a variety of different trip types and in reality a minority of trips are new to the transport network. A new retail facility at the development site will lead primarily to a change in journeys rather than new journeys. In fact, the Retail Impact study assumes that all of the trade to the Sainsbury's supermarket will be drawn from elsewhere. Applying this logic to trips suggests that none of the vehicle trips will be new to the road network. However, to ensure that a robust assessment of the traffic impact has been undertaken, the vehicle trip types and resultant vehicle trips shown in **Tables 5.3** and **5.4** have been used, with further details in **Appendix H**.

Table 5.3: Sainsbury's Weekday PM Peak Hour Vehicle Trips

Trip Type	%	Arrivals	Departures	Total
Combined	15%	55	62	117
Diverted	16%	59	66	125
Pass-by	15%	55	62	117
Transferred	19%	70	78	148
Primary	35%	128	145	273
TOTAL	100%	367	413	780

Table 5.4: Sainsbury's Saturday Peak Hour Vehicle Trips

Trip Type	%	Arrivals	Departures	Total
Combined	20%	94	96	190
Diverted	16%	100	103	190
Pass-by	20%	94	96	190
Transferred	20%	119	122	241
Primary	34%	220	225	445
TOTAL	100%	627	642	1,269

5.15 **Tables 5.3** and **5.4** show that the store would attract 367 arrivals and 413 departures during the PM peak hour, and 627 arrivals and 642 departures during the Saturday peak hour.

Distribution

- 5.16 The catchment for the proposed Sainsbury's is anticipated to be similar to the existing supermarket, in accordance with the findings of the Retail Impact study.
- 5.17 The distribution of primary traffic to the Sainsbury's supermarket has been estimated based on the number of transactions and store card postcode data for shoppers at the existing Sainsbury's on Bugsby's Way. Further details are provided in **Appendix I**.
- 5.18 Diverted trips will divert from Woolwich Road and Bugsby's Way, in proportion to existing traffic flows. Diverted trips will return to their original route.
- 5.19 Pass-by trips will originate from Bugsby's Way and Woolwich Road, in the same proportions as diverted trips. However, after visiting the store, pass-by trips continue onwards to a different destination. Additional details on the distribution of diverted and pass-by trips are provided in **Appendix I**.
- 5.20 There are several other existing retail uses within the study area, from which trade will be drawn from and trips will subsequently transfer from. The proportion and distribution of trips to transfer to the proposed stores accords with the results of the Retail Impact study.

Marks & Spencer

Trip Rates

- 5.21 The daily trip rates obtained from TRAVL are shown in **Table 5.5**. Hourly trip rates throughout the day have been obtained using the profiles within TRAVL.

Table 5.5: Sainsbury's Daily Person Trip Rates

Land Use	Gross Floor Area	Weekday	Saturday
Food Retail	1,127 sqm	180.6 per 100 sqm	212.5 per 100 sqm
Non-Food Retail	5,891 sqm	70.0 per 100 sqm	132.1 per 100 sqm

- 5.22 During weekdays the daily trip rate for the food element at M&S is lower than Sainsbury's, since the opening hours are likely to be shorter.

Mode Split

- 5.23 For the Marks & Spencer store, the mode splits have been obtained from TRAVL. These are displayed in **Table 5.6**.

Table 5.6: Marks & Spencer Mode Split

Mode	Food Retail		Non-Food Retail	
	Weekday	Saturday	Weekday	Saturday
Car Driver	48%	46%	55%	55%
Car Passenger	19%	23%	23%	34%
Motorcycle	0%	0%	1%	1%
Bus	8%	7%	5%	2%
Rail	2%	1%	1%	0%
Taxi	0%	1%	0%	0%
Foot	22%	21%	14%	8%
Cycle	1%	1%	1%	1%
TOTAL	100%	100%	100%	100%

- 5.24 Again, the mode splits do not take account of the Travel Plan which will further increase the proportion of sustainable modes.

Vehicle Trips

- 5.25 Applying the person trip rates and mode split gives the vehicle trips arriving / departing the supermarket shown in **Tables 5.7** and **5.8**.

Table 5.7: Marks & Spencer Weekday PM Peak Hour Vehicle Trips

	% Food	% Non-Food	Arrivals	Departures	Total
Combined	65%	15%	36	41	77
Diverted	10%	15%	14	16	29
Pass-by	15%	5%	9	11	20
Transferred	0%	8%	23	27	50
Primary	10%	57%	22	26	48
TOTAL	100%	100%	105	120	225

Table 5.8: Marks & Spencer Saturday Peak Hour Vehicle Trips

	% Food	% Non-Food	Arrivals	Departures	Total
Combined	65%	15%	83	82	165
Diverted	10%	15%	46	44	91
Pass-by	15%	5%	23	23	46
Transferred	0%	8%	86	82	168
Primary	10%	57%	93	87	180
TOTAL	100%	100%	332	317	649

- 5.26 It's worth noting that TfL consider that the food element of the M&S store operates as ancillary to the non-food element. Hence, assuming a proportion of non-combined trips for the food element shows the analysis is robust.

Distribution

- 5.27 The Marks & Spencer catchment is broadly similar to the Sainsbury's catchment and therefore the Sainsbury's distribution / assignment for different primary, diverted and pass-by trip types will be applied to trips to the Marks & Spencer as well.

5.28 Transferred trips have been distributed according to the Retail Impact study.

High Street Retail Units

5.29 The high street retail units are not anticipated to attract any primary trips since the vast majority of trips would be linked to other trips to the proposed Development as well as other retail uses on Woolwich Road and Bugsby's Way.

Existing Site Uses

5.30 In the development case, it is proposed to adjust the trip generation to take account of the existing and consented uses on the site. However, the western part of the development site is no longer fully operational although it does have planning permission for further development. To ensure a robust assessment, it has not therefore been discounted from the traffic generated by the Development.

5.31 The eastern part of the development site is comprised of non-food retail uses. Since there are several separate access and egresses (five access points on Gallions Road and two on Bugsby's Way), the traffic generation has been determined from the TRAVL database. The predicted traffic generation for the Saturday has been adjusted down to match the existing parking provision of 235 spaces.

5.32 Assuming the western part of the site generates no traffic and the eastern part of the site does not generate more traffic than parking spaces, is a robust basis on which to determine the existing site traffic generation.

5.33 Existing site traffic will be distributed according to the development distribution.

5.34 The existing Sainsbury's store will only retain a non-food planning consent. Therefore, the additional traffic generated by the existing food consent will be removed from the road network in the development case.

Summary

5.35 The proposed approach to the multi-modal trip generation is, therefore, as follows:

- Derive person trip rates from the TRAVL database for the proposed Sainsbury's and Marks & Spencer

- For Sainsbury's, apply the trip rates to the extension to the store, since the increase in trips will not pro-rata to the increase in floor area
- Apply mode splits based on the Household survey for Sainsbury's and TRAVL for Marks & Spencer
- Remove traffic generated by the food consent at the existing Sainsbury's from the local road network
- Remove traffic generated by the existing uses from the local road network

6 EFFECTS ON THE PUBLIC TRANSPORT NETWORK

- 6.1 This section of the report sets out the predicted effects on the public transport network surrounding the development.
- 6.2 The multi-modal trip generation estimates that there would be a daily total of 2,480 public transport trips across a weekday and 2,659 trips on a Saturday. It is anticipated that the vast majority of public transport trips would be by bus given that bus services are available from Bugsby’s Way and Woolwich Road immediately outside the development.

Bus Trips

- 6.3 The bus passenger trip generation arising from the Development has been assessed and the detailed results are provided at **Appendix J**.
- 6.4 Bus passengers from the Development have been distributed according to the origins / destinations within Sainsbury’s store card postcode data for shoppers at the existing Sainsbury’s on Bugsby’s Way. This gives the distribution between different bus routes shown in **Table 6.1**.

Table 6.1: Bus Trip Distribution

Bus Route	Route	% Distribution
161	North Greenwich to Chislehurst	28%
177	Peckham to Thamesmead	11%
180	Belvedere Industrial Estate to Lewisham	20%
472	North Greenwich Station to Thamesmead Town Centre	19%
486	North Greenwich Station to Bexleyheath	22%

- 6.5 Table 6.1 illustrates that bus trips are distributed between five routes, minimising the impact on any single route. Using the distribution in Table 6.1 and the frequency of services on each route, the number of additional bus passengers per bus can be calculated. This has been averaged over the peak periods of 16:00 – 19:00 on a weekday and 11:00 – 17:00 on Saturdays. The results are shown in **Table 6.2**.

Table 6.2: Development Bus Trips Per Bus

Bus Route	Weekday Frequency (Buses per Hour)	Passengers per bus PM Peak Period (16:00-19:00)		Saturday Frequency (Buses per Hour)	Passengers per bus SAT Peak Period (11:00-17:00)	
		Arrivals	Departures		Arrivals	Departures
161	6	4	4	6	6	5
177	6	2	2	6	2	2
180	5	4	4	5	5	4
472	10	2	2	9	3	2
486	7	3	3	7	4	3

- 6.6 The results in Table 6.2 show that in the PM peak, there is likely to be a maximum of 4 additional passengers arriving and departing per bus on routes 161 and 180, whilst there will be an additional 3 passengers arriving and departing per bus on route 486. During Saturday peak hours, there are likely to be an additional 6 arrivals and 5 departures per bus on route 161, 5 arrivals and 4 departures on bus route 180, and just an additional 2 arriving and departing on bus route 177.
- 6.7 The results should be seen in the context of the capacity of a double-decker which is 90 passengers. The small increase in passengers per bus illustrated in Table 6.2 is therefore unlikely to have a material effect on any bus service, leading to the conclusion that bus patronage from the Development can be accommodated on the bus network.
- 6.8 It should be noted that this is a robust assessment of the number of new bus passengers which may be generated as a result of the planning application. The actual increase may be even lower when the following factors are considered:
- It does not take account of the transfer of customers who currently travel by bus to / from the existing Sainsbury’s site;
 - It does not take account of customers who may travel to the existing retail warehouses on the site; and
 - It does not take account of the bus passengers who may already be travelling on a bus and pass-by or divert to the site.

Bus Routes

6.9 Following a public consultation event and feedback from councillors and local residents, we have considered diverting or extending existing bus services in order to provide a direct bus link from the site to the Blackheath area, so that visitors would only need to take a single bus, rather than two. Although the Development site is already served by a high frequency of services, improving bus links to Blackheath would closer match the range of destinations served by the existing Sainsbury's store. The four options that have been considered in discussion with Transport for London are:

- Extend route 202 to terminate at North Greenwich instead of Blackheath;
- Divert route 132 through Blackheath and along Bugsby's Way;
- Divert route 161 through the Blackheath area; and
- Divert route 108 or 132 along Bugsby's Way and Woolwich Road.

6.10 Transport for London and London Buses are responsible for bus routing and changes would be subject to a separate public consultation process. Hence the developer is continuing to work with TfL to identify the most appropriate option.

Rail Trips

6.11 Charlton rail station is located approximately 540 metres, or a 7 minute walk from the site via Charlton Church Lane and Woolwich Road. There is therefore potential for a proportion of trips to the Development to occur via rail services. However, this is not expected to be a significant proportion of total trips and hence the Development is not anticipated to have a material impact on rail services.

Public Transport Accessibility Level

6.12 Site-specific PTAL calculations have been undertaken for the With and Without Development scenarios. The With Development scenario takes account of the proposed transport improvements, including the relocation of a bus stop closer to the site and enhanced walking routes to access the bus stops. A copy of the calculations is included at **Appendix K**.

6.13 This demonstrates that the Public Transport Accessibility Index (PTAI) increases from 12.44 in the Without Development scenario to 13.01 in the With Development scenario, although the

PTAL remains at 3. This shows that the proposed transport improvements have a positive effect on increasing PTAL and the attractiveness of travel to the site by public transport and bus services in particular.

Summary

6.14 This chapter has assessed the impact the Development would have on public transport networks in the vicinity of the site. This is summarised below:

- The site benefits from its proximity to a high frequency of bus services on both Woolwich Road and Bugsby's Way, connecting to a range of destinations in South East London;
- An assessment of the number of additional bus trips has been undertaken. This demonstrates that there would be a maximum of 6 extra passengers per bus (7% of the capacity of a double decker bus);
- Four potential bus route options have been considered to improve the bus connection to the Blackheath area. The developer is in discussion with Transport for London to identify the most appropriate option;
- The site benefits from its proximity to Charlton rail station, allowing for a proportion of trips to arrive / depart by rail services from Charlton station;
- The accessibility of the site to bus services will be enhanced by the proposals to relocate a bus stop and improve the walking routes to bus stops; and
- The proposals increase the PTAL score for the site from 12.44 to 13.01, increasing the attractiveness of travel by public transport.

6.15 Therefore, while this development proposal will lead to an increase in demand on existing public transport services in the vicinity of the site, the change in demand, when balanced against the proposed improvements and quantity of existing public transport services / opportunities, means that the additional trips associated with this development proposal will not have a noticeable effect on existing services.

7 EFFECTS ON WALKING AND CYCLING NETWORKS

- 7.1 This section of the report sets out the predicted effects on the walking and cycling networks surrounding the development.
- 7.2 The multi-modal trip generation estimates that on a weekday there would be a daily total of 1,459 walking trips and 42 cycling trips, which increases to 1,586 walking trips and 70 cycling trips on a Saturday.

Walking

- 7.3 The Development will have a number of access points for pedestrians, ensuring that walking is a convenient and attractive option for customers travelling from within walking distance. The permeability of the site for pedestrians and cyclists is shown at **Figure 6**.
- 7.4 It is expected that the majority of pedestrians will enter the site from the pedestrian access points linking directly to Woolwich Road and Bugsby's Way. The access with Woolwich Road accommodates the desire line to / from adjacent residential areas in Charlton, whilst the access with Bugsby's Way provides a convenient link to other retail units in the Bugsby's Way area, encouraging trips to be linked on foot.
- 7.5 The layout of the site has been designed to ensure that pedestrian connectivity and permeability is maximised, offering new routes for pedestrians through the site to both Bugsby's Way and Woolwich Road.
- 7.6 The junction improvements at Gallions Road / Bugsby's Way and Gallions Road / Woolwich Road include controlled crossing facilities for pedestrians on each approach. This not only improves the safety for pedestrians visiting the Development, but it also provides new connections which overcome the barriers of Bugsby's Way and Woolwich Road.

Pedestrian Environment Review System (PERS) Audit

- 7.7 A complete PERS audit of pedestrian facilities in the vicinity of the site has been conducted and the detailed results are included at **Appendix L**.

- 7.8 PERS is a tool that measures the quality of the pedestrian environment through subjective review, and provides an objective measure to pedestrian quality. The auditing process allows for an overall review of pedestrian accessibility to and from the site.
- 7.9 The PERS audit was used to specifically assess routes from the proposed site to public transport interchanges. In total three routes from the site were assessed:
- Between the site and Charlton rail station;
 - Between the site and bus stops on Woolwich Road; and
 - Between the site and bus stops on Bugsby's Way.
- 7.10 There are no significant issues with regards the existing environment for pedestrians surrounding the proposed site. Personal security and the provision of rest points scored positively for all routes. The directness of the routes score well, except for route the route to westbound bus stops on Gallions Road, where a lack of permeability means pedestrians will not follow the most direct route to reach westbound bus stops. Legibility scores poorly on all routes, largely because of a lack of signage on Gallions Road.
- 7.11 In the future, with development proposals in place, the permeability of the site will be improved and pedestrians will use a new dedicated footpath located at the front of the retail units, rather than using Gallions Road to reach Woolwich Road and Bugsby's Way. This will provide pedestrians with safer routes that improve the legibility and environment quality scores across the pedestrian environment. Some bus stops are proposed to be located closer to the site, and new crossing facilities on Woolwich Road will improve the permeability of the area.
- 7.12 Conclusions from the PERS audit state that the pedestrian environment surrounding the proposed development site is currently in a good condition, and will improve as a result of development proposals.

Cycling

- 7.13 Cyclists can use the vehicle access on Gallions Road to arrive / depart from the Development. As illustrated on **Figure 6**, this links directly to the footway / cycleway on Gallions Road and the on-road cycle lanes on Woolwich Road. However, the most direct points for cyclists to

access the Development will be via access points on Woolwich Road and Bugsby's Way, since cycle parking would be provided at the perimeter of the Development site.

- 7.14 A high level of good quality, secured cycle parking will be provided for both the Sainsbury's supermarket and Marks & Spencer store, thus further encouraging travel by this mode.
- 7.15 A shared footway / cycleway is proposed on the eastern side of Gallions Road between Woolwich Road and Bugsby's Way. This provision accords with the anticipated level of usage, providing sufficient facilities for pedestrians and cyclists. It is also an improvement on the existing situation which provides no facilities for cyclists on Gallions Road or Bugsby's Way.
- 7.16 The toucan crossing proposed on the eastern arm of the Gallions Road / Bugsby's Way junction provides the only facility for cyclists to cross Bugsby's Way, since Bugsby's Way currently has no cycle infrastructure. Not only does this improve accessibility to the development, but it also removes a barrier for cyclists between Greenwich Peninsula to the north and Charlton to the south.
- 7.17 Furthermore, the proposals facilitate the implementation of a continuous cycle route from Woolwich Road, along Gallions Road and Bugsby's Way to connect with the Thames Path.

Summary

- 7.18 This chapter has assessed the impact the Development would have on walking and cycling networks in the vicinity of the site. This can be summarised as follows:
- The Development will be readily accessible to pedestrians and cyclists since the proposals maximise the permeability by these modes;
 - The proposals improve the environment for pedestrians / cyclists in the Bugsby's Way area as a whole, providing new routes and safe crossing points;
 - A PERS audit has been undertaken and this shows that the proposals significantly enhance the environment for pedestrians;
 - Facilities for cyclists will be provided to encourage travel to the site by bicycle. The level of additional trips is not forecast to present any safety or operational issues to cyclists; and
 - The Travel Plan that accompanies this application will help to encourage walking and cycling for both residents and employees at the Development.

8 EFFECTS ON THE HIGHWAY NETWORK

Methodology

- 8.1 This section of the report summarises the methodology used to assess the impact on the highway network associated with the proposed Development.

Study Area

- 8.2 It is proposed that the study area includes the following junctions:

- Gallions Road / Site Access;
- Bugsby's Way / Pear Tree Way;
- Bugsby's Way / Gallions Road;
- Bugsby's Way / Anchor & Hope Lane;
- Anchor & Hope Lane / Woolwich Road / Charlton Church Street;
- A206 Woolwich Road / Gallions Road;
- A206 Woolwich Road / Victoria Way; and
- A206 Woolwich Road / Pear Tree Way / Blackwall Tunnel Slips.

Traffic Surveys

- 8.3 A complete set of traffic surveys was undertaken in October 2010 and this has determined that the network peak hours which will be used as the basis for assessment are as follows:

- Weekday PM peak hour: 16:45 – 17:45
- Saturday peak hour: 15:00 – 16:00

Assessment Years

- 8.4 The opening year for the Development is anticipated to be 2013/14. Due to the congested nature of the transport network in London during peak hours, it is not considered that background traffic flows will increase. As a result no traffic growth has been included within this assessment. Instead, specific committed developments will be considered on an individual basis.

Assessment Scenarios

8.5 The following scenarios have been assessed to determine the traffic impact of the Development:

- **Observed Scenario:** based on the 2010 survey flows
- **Without Development Scenario:** Observed traffic flows + Committed Developments
- **With Development Scenario:** Observed traffic flows + Committed Developments + Development traffic flows – Existing site traffic flows – Existing Sainsbury's Non-Food traffic flows

Committed Developments

8.6 The assessment considers the predicted trip generation of committed developments in the vicinity of the site where there would be a traffic impact within the study area. Following discussions with officers at LB Greenwich, this includes the following developments:

- A DIY unit of 2,463 sqm on Brocklebank Road on Charlton;
- A 120 bedroom Travelodge hotel and 1,446 sqm retail unit on Woolwich Road;
- 283 residential units at 40 Victoria Way;
- Cruise Terminal, Enderby Wharf;
- 741 consented residential units, part of the Greenwich Peninsula Masterplan; and
- 4,160 sqm retail floorspace, 6,715 sqm industrial floorspace at the Schrodgers Site, Bugsby's Way (Without Development Scenario Only).

8.7 The Schrodgers site forms part of the Development site and is therefore only included in the Without Development Scenario.

8.8 The breakdown on traffic flows is provided on **Traffic Figures 1 to 18**.

Results

8.9 Stand-alone junction assessments have been carried out at nine junctions on the wider highway network. Further details of the analysis are included in a Technical Note at

Appendix L, along with the modelling output. A summary is provided in the following paragraphs.

Car Park Access

- 8.10 The proposed vehicular access mini-roundabout on Gallions Road has been assessed in ARCADY and the results are shown in **Table 8.1**.

Table 8.1: ARCADY results – Site Access – With Development

Movement	Weekday PM Peak (16:45–17:45)		Saturday Peak (15:00–16:00)	
	RFC	Q	RFC	Q
Gallions Road (North)	0.23	1	0.38	1
Gallions Road (South)	0.36	1	0.60	2
Site Access	0.26	1	0.48	1

- 8.11 The results demonstrate that the site access would operate within capacity in the weekday PM and Saturday peak With Development scenarios. The maximum RFC recorded was 0.60 on the Gallions Road (south) approach in the weekday PM peak hour. This demonstrates that the design of the junction can accommodate development traffic with no minimal queuing and delay on Gallions Road. The ARCADY output is included in **Appendix L**.

Bugsby’s Way / Peartree Way

- 8.12 The results for the roundabout junction of Bugsby’s Way / Peartree Way show that it would operate within capacity in both the With and Without Development scenarios. Indeed, the junction performs better in the With Development scenario with lower RFC’s on each approach. This is because the With Development scenario results in a redistribution of traffic with the relocation of the existing Sainsbury’s store and the transfer of trips from existing retail units on Bugsby’s Way. In addition, the Without Development scenario assumes that the consented scheme for the site is built and this results in a greater proportion of traffic using Bugsby’s Way as opposed to Woolwich Road.

Bugsby's Way / Gallions Road

- 8.13 In the Without Development scenario the junction would operate as a left-in / left-out priority junction. The junction would be upgraded to an All Movements signalled junction in the With Development scenario.
- 8.14 In the Development scenario, the junction operates within capacity with a maximum cycle time of 62 seconds. The maximum DoS is recorded for the 88.7% for the Gallions Road approach during the Saturday peak hour.

Bugsby's Way / Anchor & Hope Lane

- 8.15 The ARCADY assessment results for the junction of Bugsby's Way / Anchor & Hope Lane demonstrate that the junction would operate with ample spare capacity during both peak hours. Similarly there are no capacity issues in the With or Without Development scenarios with maximum queues of just 2 vehicles on any approach.

Anchor & Hope Lane / A206 Woolwich Road / Charlton Church Lane & Woolwich Road / Gallions Road

- 8.16 In the Observed scenario the junction of Anchor & Hope Lane / A206 Woolwich Road / Charlton Church Street records a maximum DoS of 90.0% during the Saturday peak hour for the Woolwich Road (east) Left Ahead movement. The corresponding queue is 21.9 PCU's. Two other links are approach 90.0% DoS during both the weekday PM and Saturday peak hours which are Charlton Church Lane Left and Woolwich Road (west) Left Ahead.
- 8.17 In the Observed scenario the junction of Woolwich Road / Gallions Road operates as a priority junction with a maximum RFC of 0.824 and a queue of four vehicles during the weekday PM peak hour for the Gallions Road movement.
- 8.18 In the With Development scenario the junction of Woolwich Road / Gallions Road will be signalised and linked to the junction of Anchor & Hope Lane / A206 Woolwich Road / Charlton Church Lane, given their proximity.
- 8.19 In the With Development scenario both junctions would operate within Practical Reserve Capacity on each link with a cycle time of 98 seconds during the PM peak hour and 91 seconds during the Saturday peak hour. Similar queues occur during both peak hours with

the longest queues occurring during the weekday PM peak hour for the Woolwich Road (east) Left Ahead with a queue of 27.7 PCU followed by Woolwich Road (west) Left Ahead with a queue of 23.3 PCU.

- 8.20 It is concluded that with the proposed cycle times, traffic from the Development can be accommodated at both junctions.

A206 Woolwich Road / Victoria Way

- 8.21 The junction of the A206 Woolwich Road / Victoria Way currently operates close to capacity with a maximum RFC of 0.946 during the weekday PM peak hour on the Victoria Way approach. The junction performs better in the Saturday peak hour with a maximum RFC of 0.638 for the Victoria Way approach.

- 8.22 In the With and Without Development scenarios the junction operates over capacity on the Victoria Way approach during the PM peak hour. There is a difference of just a single vehicle on the Victoria Way approach, but there is a more significant increase on the Woolwich Road ahead movements as a result of the Development.

- 8.23 There is a committed improvement at this junction to relocate the zebra crossing on Woolwich Road (east) further from the junction with Victoria Way. This will improve the safety at junctions for pedestrians.

- 8.24 It is considered that there is little scope to further improve the junction within the adopted highway boundary. There are alternative routes available to Woolwich Road such as Charlton Church Lane and Rathmore Road for local traffic and in reality traffic will reassign to an alternative route rather than wait in a queue.

A206 Woolwich Road / Pear Tree Way / A102

- 8.25 In the Observed scenario, the signalised gyratory of the A206 Woolwich Road / Pear Tree Way / A102 operates within theoretical capacity on each approach with a maximum cycle time of 52 seconds during both the PM peak and Saturday peak hours.

- 8.26 A comparison of the With and Without Development scenarios reveals that with the cycle time maintained at 52 seconds, overall there is not a significant difference between the two scenarios in either the PM peak or Saturday peak hours, with each approach operating

within theoretical capacity. Similarly, the results show that the queues on each link are generally less than 10 PCU's.

- 8.27 However, there are differences on individual links arising from the redistribution of traffic, particularly since the junction is located close to the existing Sainsbury's store on Pear Tree Way. For example, the capacity of the Southbound from Pear Tree Way links increases in the With Development scenario whilst the capacity of the Woolwich Road (east) links decreases.

Summary

- 8.28 At the majority of the junctions traffic from the development can be accommodated within theoretical capacity.
- 8.29 At the site access junction the results show that traffic from the Development can be accommodated within the proposed mini-roundabout layout.
- 8.30 The results for the roundabout junctions of Anchor & Hope Lane / Bugsby's Way and Bugsby's Way / Pear Tree Way and the signalised gyratory of the A206 Woolwich Road / Pear Tree Way / A102 show that these junctions would operate better in the With Development scenarios compared to the Without Development scenario, since traffic will transfer from the existing Sainsbury's store and retail units on Bugsby's Way.
- 8.31 Highway improvements are proposed at the junctions of Gallions Road / Bugsby's Way and Gallions Road / Woolwich Road. The results show that with the improvements in place, sufficient traffic capacity is provided to accommodate traffic from the Development, with both junctions operating within practical reserve capacity.
- 8.32 In the With and Without Development scenarios the Victoria Way / Woolwich Road junction is the only junction which operates over capacity, on the Victoria Way approach to the junction. Although the modelling results indicate queuing would occur on this approach, in reality what happens when a queue starts to form at a junction on a regular basis, is that drivers will seek to minimise their inconvenience by choosing alternative routes, opting to travel at different times (peak spreading), choosing alternative modes of transport or simply not choosing to travel at all.
- 8.33 In addition, from studies undertaken elsewhere, it should be remembered that primary new trips would only account for a small percentage of the total trips generated, ranging from

0.8% to around 7.8%. The reason for this low figure is relatively simple, people do not decide to start buying food just because a foodstore is built. They currently shop at existing facilities and change to the new store for various reasons, including convenience, range of goods available or just because it's new.

- 8.34 Therefore, in view of this it is considered that the traffic impact assessment is robust and that in conjunction with the mitigation measures proposed, the impact of the Development traffic on the local highway network is acceptable.

9 SUMMARY AND CONCLUSION

Summary

- 9.1 LXB RP (No.3) Ltd are proposing to demolish existing retail and commercial units and residential properties; in order to erect a Class A1 retail development, internet distribution facility, associated servicing, car parking, landscaping and access arrangements. The Development will be occupied by a 13,189 sqm Sainsbury's supermarket and 7,698 sqm Marks & Spencer store. There will also be a small number of high street retail units on Woolwich Road.
- 9.2 Vehicle access to the 695 space customer car park will be from a mini-roundabout junction on Gallions Road. Gallions Road connects with Bugsby's Way to the north and the A206 Woolwich Road to the south.
- 9.3 Access to the servicing and Goods on Line area for the Sainsbury's supermarket will be provided from a left-in / left-out junction on Bugsby's Way. For the Marks & Spencer store, the service access will be provided from Woolwich Road.
- 9.4 A Delivery & Servicing Management Plan will be implemented at the Sainsbury's supermarket and Marks & Spencer store, in order to ensure the efficient operation of deliveries.
- 9.5 It has been demonstrated that the site is accessible by walking, cycling, bus and rail services. Bus services are available from Bugsby's Way and Woolwich Road, whilst Charlton rail station is within walking distance. The site has a Public Transport Accessibility Level of 3.
- 9.6 The development proposals aim to improve the urban environment by increasing the permeability for pedestrians and cyclists within the site and across the existing local area.
- 9.7 The proposals include off-site highway improvements at the junctions of Bugsby's Way / Gallions Road and Bugsby's Way / Woolwich Road. This provides enhanced facilities for pedestrians, cyclists and bus users, as well as increasing the traffic capacity.
- 9.8 With regards the traffic impact, it has been demonstrated that the site access would operate within capacity. With the proposed highway improvements, the majority of junctions on the wider highway network would also be able to accommodate traffic from the development. In

any case, if a part of the highway network experiences queuing or delay drivers will simply choose an alternative route. In this respect the Development benefits from being accessible from both Bugsby's Way and Woolwich Road.

- 9.9 A Travel Plan will be implemented at the Development, to minimise travel by Single Occupancy Vehicles. A Framework Travel Plan has been produced and is appended to this document.
- 9.10 We therefore consider that the Development is in accordance with relevant policy guidance and that the transport demand generated by the proposed land uses can be successfully accommodated by the local highway, public transport, walking and cycling networks.
- 9.11 Overall, it is considered that the proposals facilitate a significant investment in transport infrastructure, benefitting not only visitors to the Development, but also those already living and shopping in the wider area.

Conclusion

- 9.12 In conclusion, it is considered that the Development proposals are reasonable and appropriate for the location and that there are no traffic or transport reasons why it should not be granted planning permission.