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Former Powergen Site, Bulls Bridge, North Hyde Gardens
Transport Assessment
FM Conway

May 2012

QM

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Contents

1	Introduction	1
2	Existing Conditions	3
3	Proposed Development	20
4	Transport Policy	22
5	Accessibility	28
6	Future Baseline Traffic Conditions	35
7	Trip Generation, Distribution and Assignment	38
8	Traffic Impact	43
9	Construction Traffic Impact	49
10	Summary and Conclusions	52

Appendix A	Transport Assessment Scoping Note
Appendix B	LBH Pre-application response
Appendix C	Traffic Surveys
Appendix D	Personal Injury Accident Data
Appendix E	Proposed Development Masterplan
Appendix F	FM Conway Trip Generation and HGV Photomontage
Appendix G	Signalised Junction Assessment - LinSig Detailed Output

Figure 1	Site Location and Local Highway Network
Figure 2	Traffic Survey Locations
Figure 3	2010 Baseline AM Peak Traffic Flows
Figure 4	2010 Baseline PM Peak Traffic Flows
Figure 5	Personal Injury Accident Plot
Figure 6	Accessibility to Local Facilities
Figure 7	Pedestrian and Cycle Facilities
Figure 8	Public Transport Plan
Figure 9	2016 Baseline + Committed Dev AM Peak Traffic Flows
Figure 10	2016 Baseline + Committed Dev PM Peak Traffic Flows
Figure 11	Proposed Development Vehicle Trip Distribution
Figure 12	Proposed Development Flows AM Peak
Figure 13	Proposed Development Flows PM Peak
Figure 14	2016 Baseline + Committed Dev + Development Flows AM Peak

Figure 15 2016 Baseline + Committed Dev + Development Flows PM
Peak

1 Introduction

1.1 BACKGROUND

1.1.1 WSP has been commissioned FM Conway Ltd to provide transportation and highways advice in support of a proposed planning application for the redevelopment of the Former Powergen site, Bulls Bridge, North Hyde Gardens, Hayes.

1.1.2 This Transport Assessment (TA) details the transportation and highways implications of developing the site. It has been developed in accordance with national guidance, provided in the DfT / DCLG 'Guidance on Transport Assessment' (March 2007).

1.1.3 WSP issued a Scoping Note in April 2011 to the London Borough of Hillingdon (LB Hillingdon) and Transport for London (TfL) as Highways Authorities in order to agree on the preferred methodology and approach to the TA. A copy of the Scoping Note is included within Appendix A.

1.1.4 A draft version of this Transport Assessment was issued to LB Hillingdon for comment in November 2011. Pre-application comments were received from LB Hillingdon on 12 December 2011 prior to a full review of the pre-application contents. The comments raised by LB Hillingdon, which are detailed within Appendix B, are addressed within this revision of the Transport Assessment.

1.2 SITE AND DEVELOPMENT PROPOSALS

1.2.1 As shown on Figure 1, the site is located in Hayes, west London and falls under the administration of the London Borough of Hillingdon. The site is approximately 3.1 hectares in area and was formerly used by Powergen. All buildings for the previous use on the site have now been demolished.

1.2.2 The site is bounded to the north by the Paddington to Bristol railway line, whilst the Grand Union Canal forms the site's southern border and the Grand Union Canal's Paddington branch forms the site's western boundary.

1.2.3 The development proposal is for an aggregate recycling facility, asphalt storage and production plant, and wet waste plant; together with associated ancillary structures and facilities, car and HGV parking, and landscaping. A detailed description of the development is to be confirmed.

1.2.4 FM Conway is a leading infrastructure service company with over 50 years of experience in delivering vital services in transportation, the built environment and open spaces for public and private sector clients.

1.3 PREVIOUS PERMISSION

1.3.1 The site has been subject to numerous planning applications for various industrial / commercial developments. In 2001 a planning application was submitted by Michael Sparks Associates (13226/APP/2001/849) for the erection of buildings for use within classes B1(c), B2 and B8. These classes respectively represent Light Industry, General Industry and Storage and Distribution. The planning application was granted permission in November 2008. This permission has recently expired, but detail has been utilised in this Transport Assessment in order to demonstrate a net traffic impact when compared to the proposed development.

1.4 REPORT STRUCTURE

1.4.1 The Transport Assessment is set out in the following sections:

- **Section 2** details the site location and existing conditions in the vicinity of the site, including the make-up of the highway, together with an analysis of Personal Injury Accident data;
- **Section 3** details the development proposals including the proposed provision of car, HGV and cycle parking;
- **Section 4** provides an overview of national, regional and local policies in relation to the site and the development proposals;
- **Section 5** considers the accessibility of the site to services and facilities. The distance and time in which these destinations can be accessed by non-motorised modes is also identified;
- **Section 6** explores the existing traffic conditions in the area without inclusion of the development, and consideration of the trip generation for committed developments;
- **Section 7** outlines the trip generation of the proposed development. The methodology used to distribute trips is presented and traffic flow diagrams establish the development traffic impact across the network;
- **Section 8** assesses the capacity of key links and junctions on the local highway network in the proximity to the site;
- **Section 9** considers the impact of construction vehicles on the local highway network; and
- **Section 10** summarises the findings of the Transport Assessment.

2 Existing Conditions

2.1 OVERVIEW

2.1.1 This section details the existing conditions of the site in context of the transport network. Consideration is given to the highway network in the proximity of the site and details of the traffic surveys used during the compilation of this TA are included.

2.1.2 An analysis of the personal injury accident data has also been undertaken for the local highway network to identify any safety issues.

2.2 EXISTING SITE INFORMATION

2.2.1 As shown on Figure 1, the development site is located in Hayes, West London, approximately 700m north of junction 3 of the M4 motorway. The site is currently unoccupied as all the buildings associated with Powergen have been demolished.

2.2.2 The Great Western railway line which extends from London Paddington to Bristol runs to the north of the site. South of the site is the grand union canal, the Paddington branch of which provides a western boundary to the site.

2.2.3 Access to the site can be gained via North Hyde Gardens beneath the A312 flyover. North Hyde Gardens has a junction with North Hyde Road to the south and Nestle's Avenue from the west. The A312 runs north-east from its junction with the M4 700m to the south and intersects with a number of roads, including the A40, before it merges into the A404 and A4005 in Harrow.

2.2.4 The site is within an industrial and business area within the Hayes/West Drayton corridor on the eastern boundary of the Borough. Local industry includes the Nescafe Coffee factory, a Volvo Truck and Bus Centre and a British Airways Component Engineering plant.

2.3 LOCAL HIGHWAY NETWORK

2.3.1 The local highway network in the vicinity of the site is comprised of roads of a variety of classifications. Local roads of significance are discussed below, further details of the pedestrian and cycle facilities of these roads can be found in Section 5. Figure 1 shows the local highway network.

NORTH HYDE GARDENS

2.3.2 North Hyde Gardens is a single carriageway road providing access to the proposed development site along with its adjacent uses including Volvo Truck and Bus Centre, Nestle Coffee Factory and National Grid substation. North Hyde Road is subject to a 30mph speed limit although given its use by HGVs and its geometry this speed is not generally achieved.

2.3.3 Towards its southern end, North Hyde Gardens has a junction with Nestle Avenue. This junction is closed for general access; a gate is in place to allow access for the emergency services.

2.3.4 North Hyde Gardens forms a signal controlled junction with the A437 North Hyde Road. Vehicles exiting North Hyde Gardens are restricted to a left-only movement. The junction has four arms although the fourth arm to the south, Watersplash Lane, is a cul-de-sac serving approximately five dwellings and a public house. As such, there is very little vehicular traffic entering and exiting Watersplash Lane. Watersplash Lane is demand dependent and without traffic entering or exiting, the stage associated with the arm will not be called. For this reason Watersplash Lane is not included in most cycles resulting in the junction effectively operating as a signal controlled T-junction.

2.3.5 On site observations indicate that the junction operates within capacity and does not exhibit signs of significant queuing or delay during the AM highway peak period of 07:45 – 08:45. Given the existing uses served by North Hyde Gardens, generating mainly HGV traffic by nature, it is evident the existing junction is able to accommodate significant HGV movements into and out of North Hyde Gardens.

NESTLE'S AVENUE

2.3.6 Nestle's Avenue is a single carriageway residential road, subject to a 30mph speed limit, connecting North Hyde Gardens with Station Road. Nestle Avenue is subject to a no-entry restriction from North Hyde Gardens.

2.3.7 Nestle Avenue is subject to the previously detailed no-entry restriction from North Hyde Gardens. The road allows for a two way traffic flow, with a turning area near to the junction with North Hyde Gardens.

2.3.8 The majority of dwellings on the road have driveway parking provision, but vehicles are parked on one or both sides of the road at various points.

A437 NORTH HYDE ROAD

2.3.9 A437 North Hyde Road is a single carriageway road running in an east-west alignment connecting the A312 The Parkway to the east with the A4020 Uxbridge Road to the northwest. West of its junction with the A312, the A437 North Hyde Road is subject to a 30mph speed limit.

2.3.10 East of Watersplash Lane there is a crossing facilitating pedestrian movement between the north and south of North Hyde Road. The crossing includes a pedestrian refuge island in the centre of the carriageway.

2.3.11 The A437 North Hyde Road forms a signal controlled roundabout junction with the main A312 The Parkway and Hayes Road to the east of the site. The junction is fully signalised on all approaches and is of critical importance as it acts as the main conduit for traffic to and from the M4 motorway at Junction 3 to the south.

2.3.12 During a site visit the junction was observed to be operating within capacity exhibiting no signs of significant queuing or delay. Morning peak hour traffic was observed to be cleared by the junction within a single cycle.

2.3.13 The North Hyde Road arm of the roundabout has a signal controlled pedestrian crossing and also cycleway facilities.

A312 THE PARKWAY

2.3.14 A312 The Parkway is a dual carriageway road running in a north-south alignment connecting with the M4 motorway at junction 3 to the south and the A4020 Uxbridge Road to the north. The A312 is the main route for strategic traffic into and out of Hayes and Southall. In the vicinity of the site, the A312 is subject to a 40mph speed limit.

HAYES ROAD

2.3.15 Hayes Road is a single carriageway road running in an east-west alignment connecting the A312 The Parkway to the west and the centre of Norwood Green to the east. In the vicinity of its junction with the A312 The Parkway Hayes Road is subject to a 40mph speed limit.

2.4 TRAFFIC SURVEY DATA

2.4.1 Surveys at key locations on the local highway network have been undertaken in order to establish existing traffic conditions. Figure 2 shows the junctions at which counts have been obtained. The survey data itself can be found in Appendix C.

2.4.2 The following junctions were surveyed on Tuesday 14 September 2010 by Count On Us:

- A437 North Hyde Road / North Hyde Gardens signal junction; and
- A437 North Hyde Road / A312 the Parkway / Hayes Road signalised roundabout.

2.4.3 Two ATCs were also deployed by Count On Us. These were located on A312 The Parkway and North Hyde Road. These ATCs were in place for two periods, the first between 13 September 2010 and 18 September 2010 and the second period between 24 September 2010 and 4 October 2010. This represents a total ATC survey period of 17 days.

2.4.4 The resultant baseline traffic conditions are shown in Figures 3 and 4 for the AM (07:45 – 08:45) and PM (17:00 – 18:00) highway peak hours respectively.

2.5 ROAD SAFETY

2.5.1 Personal Injury Traffic Accident data has been obtained from Transport for London for the five year accident period from 1 November 2006 to 31 October 2011 for the following roads and junctions:

- North Hyde Road (west to junction with Station Road);
- North Hyde Gardens;
- Nestle's Avenue;
- Hayes Road (400m east from the roundabout junction with North Hyde Road and Hayes Road);
- A312 The Parkway (600m north and 450m south of the roundabout junction with North Hyde Road and Hayes Road);
- Station Road;
- North Hyde Road/ North Hyde Gardens signal junction
- North Hyde Road / Station Road signal junction;

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- North Hyde Road/ Old Station Road priority junction; and
 - North Hyde Gardens / A312 The Parkway / Hayes Road signalised roundabout junction;

2.5.2 It should be noted that the accident data does not confirm the presence of streetlighting in the accident location only the current light conditions. Figure 5 plots the locations of personal injury accidents.

2.5.3 Analysis of the data indicates that a total of 164 personal injury accidents were recorded within the study area during the three year period. This comprises 147 slight, 16 serious injury accidents and one fatal accident. 39 accidents involved vulnerable road users including 19 pedestrians, 12 pedal cyclist and 8 motorcyclists. A summary of the accidents and their locations is shown in Table 2.1 below and the entirety of the data is in Appendix D.

Table 2.1: Summary of Personal Injury Accidents

Location	Severity			Vulnerable Road Users		
	Slight	Serious	Fatal	Peds	Motor Cycle	Pedal Cycle
North Hyde Road	8	1	0	2	1	0
North Hyde Gardens	3	0	0	0	0	1
Nestle's Avenue	0	0	0	0	0	0
Hayes Road	19	2	0	0	0	2
A312 The Parkway	19	1	0	0	3	0
Station Road	2	2	0	2	0	0
North Hyde Road /North Hyde Gardens signalised junction	1	0	1	0	1	0
North Hyde Road / Station Road signalised junction	23	3	0	5	1	1
North Hyde Road / Old Station Road priority junction	3	0	0	1	0	0
North Hyde Road / A312 The Parkway / Hayes Road signalised roundabout junction	40	4	0	1	3	0
North Hyde Road / Harold Avenue priority junction	3	0	0	1	0	0
North Hyde Road / Crane Gardens priority junction	2	0	0	1	0	0
North Hyde Road / Roseville Road priority junction	4	0	0	2	0	0
North Hyde Road / Wyre Grove priority junction	2	1	0	1	1	0
North Hyde Road/ Cranford Park Road	1	0	0	0	1	0
North Hyde Road / Hyde Way priority junction	2	0	0	0	0	0
North Hyde Road / Fairey Avenue priority junction	5	1	0	0	1	1
North Hyde Road/ Sutherland Avenue priority junction	0	1	0	0	0	0
Nestle's Avenue / Station Road priority junction	2	0	0	1	0	2
Nestle's Avenue / Harold Avenue priority junction	2	0	0	1	0	1
Hayes Road / Christopher Road priority junction	5	0	0	1	0	0
Hayes Road / Bulls Bridge Ind. Est. priority junction	1	0	0	0	0	0
Total	147	16	1	19	12	8
	164			48		

2.5.4 A full assessment of the accidents is provided below to identify any highways safety issues that may be intensified as a result of the proposed development. Accidents at junctions and link roads have been assessed separately. Particular focus is placed on identifying any trends and accidents involving vulnerable road users.

North Hyde Road

2.5.5 A total of eight slight accidents and one serious accident occurred on North Hyde Road. The slight accidents are detailed as follows:

- A pedestrian was injured when they used a point of North Hyde Road other than a marked crossing to cross the road. They stepped out from behind a vehicle and were struck by a car which was heading west. The accident took place in daylight, but it was raining at the time. The road surface was classified as flooded.
- A pedestrian was injured when they ran into the path of a car travelling westbound, in dry and fine conditions.
- Two vehicles were involved in an accident travelling west along North Hyde Road in darkness and dry road conditions. The lead vehicle applied its brakes. The following vehicle was unable to do the same in a short enough time and collided with the rear of the first vehicle.
- In dark and dry conditions, an accident took place between two vehicles heading east. The vehicle which was ahead started slowing down and was struck at the rear by the vehicle behind.
- An accident occurred between two vehicles travelling west in slow moving traffic along North Hyde Road, when the driver of one vehicle sneezed, causing them to hit the vehicle in front. The incident occurred in light, fine and dry conditions.
- A vehicle travelling westbound changed lanes in slow moving traffic and collided with a motorcycle travelling in that lane.
- A slight accident involved a vehicle moving into the oncoming lane and colliding with two parked cars, the reasons for this manoeuvre were unknown. The accident occurred in the dark, with fine and dry weather conditions.
- A vehicle travelling northbound along North Hyde Gardens hit the rear of the vehicle traveling in front, when it followed too closely and failed to look properly.

2.5.6 The serious accident occurred during dry and light conditions. A driver travelling west on North Hyde Road lost control of their car and then collided head-on with two oncoming cars.

North Hyde Gardens

2.5.7 Three slight accidents took place on North Hyde Gardens. The first took place in snowy conditions in daylight. Two vehicles were heading south along the road when the one nearing the junction first began to slow. The vehicle following swerved, but collided with the rear of the first vehicle. The second occurred where a car reversed into a cyclist. The third occurred when a vehicle turning right out on Nestles Avenue drove head on into a car travelling northbound on North Hyde Gardens. The second and third took place in the dark.

Nestle's Avenue

2.5.8 No accidents were recorded on Nestle's Avenue.

Hayes Road

2.5.9 Over the five year period, a total of 19 slight and two serious injury accidents were reported at this junction. The slight injury accidents were as follows:

- A vehicle heading east was struck by one vehicle attempting to make an inappropriate right turn in the road. Road conditions were dry and this accident took place in daylight.
- In dark and wet conditions a vehicle braked suddenly causing the vehicle behind, who was trying to undertake, to collide with the rear of the vehicle.
- A vehicle turning right travelling from the east failed to look properly and collided with a second vehicle travelling eastbound in excess of the speed limit.
- A vehicle pulling out of a private driveway to head east collided with a vehicle heading west along Hayes Road. Stationary vehicles either side of the entrance of the drive are deemed to be a contributory factor to the accident. Conditions at the time the accident occurred were dark and wet.
- A car travelling east along Hayes Road disregarded a red traffic signal and struck a car which was turning north into the Tesco store car park. This happened in dark and dry conditions.
- In daylight and dry road conditions an accident took place between two vehicles heading east along Hayes Road. The first car braked suddenly, and the following vehicle was unable to brake sufficiently in time to prevent from colliding with the rear of the first.
- Heading west along Hayes Road, a vehicle struck the rear of another which had braked sharply in response to a third vehicle pulling out of the Murco petrol station on the south of the road. The weather was dry and light when this occurred.
- Two parked cars were struck in an accident involving a third car which was attempting to park in a parking bay. The vehicle attempting the manoeuvre pushed into the rear of one vehicle which in turn went into the rear of another vehicle. The accident occurred in the dark, with dry road conditions.
- A goods vehicle heading west along Hayes Road was struck from behind by a car which was not maintaining a reasonable distance behind while both were in slow moving traffic. Conditions at the time of the accident were dry and light.
- A vehicle heading west attempting to change lane collided with another vehicle in the original lane. The accident took place in darkness on a dry road.
- Defective traffic signals at the Tesco junction on Hayes Road and a failure to assess the situation properly from two drivers caused an accident. One vehicle was heading east at the crossroads and one north and the vehicles collided as they passed through the junction. This accident happened while it was raining and with a wet road surface. It was daylight at the time.
- A further accident occurred at the junction of Hayes Road and the Tesco store. A vehicle travelling west along Hayes Road disregarded the traffic signal and collided with a vehicle making a right turn to head south, correctly obeying the filter light. The conditions at the time were light and dry.

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- A distraction within the vehicle was one of the causes of a collision involving three cars. Two cars were stopped queuing to reach the roundabout junction with the A312 The Parkway and North Hyde Road. A third car collided with the second of the cars which in turn shunted the first. This took place in dry and light conditions.
 - Two vehicles collided in darkness and dry conditions at the Tesco store junction on Hayes Road. A vehicle pulled out of the junction to the north, turning right to head west. In doing so the driver disregarded a red traffic signal, and then collided with a vehicle which was travelling east along Hayes Road. The driver of the vehicle which did not follow the instruction from the traffic lights was found to be under the influence of alcohol.
 - Two cars were involved in an accident as one vehicle travelling west stops at the traffic signals, the second vehicle fails to stop and hits the rear of the first vehicle.
 - A vehicle stopped at the traffic signals to allow an emergency vehicle to pass, the vehicle traveling behind failed to stop and hit the rear of the first vehicle. The accident took place in dark but dry conditions.
 - A car turning right out of the garage forecourt collided with a vehicle travelling west on Hayes Road. The incident occurred in fine and dry weather.
 - An accident occurred involving a cyclist when a car carried out an illegal manoeuvre to turn right out of a garage forecourt onto Hayes Road and hit a cyclist travelling westbound. The incident occurred at night in fine and dry conditions.
 - A slight accident occurred involving a cyclist, where a car turning right across static traffic collides with a cyclist filtering on the nearside of traffic.

2.5.10 The first serious accident involved a car travelling west which lost control on a wet road surface whilst pulling away from traffic lights. The car hit the central barrier of the road and overturned. This accident happened during daylight and no other vehicles were involved.

2.5.11 The second serious accident involved a vehicle making a right turn to head west on Hayes Road colliding with a vehicle already travelling east. The accident happened on a wet surface in daylight.

A312 The Parkway

2.5.12 Twenty accidents were recorded on the section of the A312 The Parkway in the study area. Nineteen accidents were recorded as slight and one as serious. The slight injury accidents are detailed below:

- Heading north, a stationary vehicle was struck from behind by a vehicle which had failed to slow adequately. The vehicle which was hit then struck the car in front, which was also stationary. Conditions at the times of this accident were light and dry.
- In an accident which took place in daylight and icy road conditions, a vehicle heading north applied its brakes as a result of a vehicle changing lanes in front. The first vehicle was then hit from behind by another which was following close behind.
- A motorcyclist suffered a slight injury when the vehicle in front changed lanes. The motorcyclist swerved to avoid this and was dismounted from their vehicle. The vehicles were heading south when this took place and conditions were light and dry.

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- An accident occurred involving three vehicles heading south on the A312 The Parkway collided when the rearmost vehicle hit the vehicle directly in front. This vehicle then in turn hit the one in front of it. This accident happened in daylight, in dry conditions. A similar incident occurred between two vehicles travelling on the A312 The Parkway in a southerly direction in fine and dry conditions.
 - Heading north on the link, a car struck the rear of another car during normal traffic flow conditions. The road at the time was dry and the accident took place in daylight.
 - A single motorcycle had an accident whilst heading south on the A312 The Parkway. In dry and light conditions, the rider lost control of the vehicle and then came off of it.
 - Two vehicles were heading south along the A312 The Parkway in separate lanes. One of the vehicles (a light good vehicle) changed lanes and collided with the other vehicle (a car) which was travelling next to it. This occurred in dry and light weather.
 - Two vehicles were involved in an accident in daylight in snowy, wet conditions. Both vehicles were heading south and as the vehicle on front began to slow down, the second vehicle did not manage to do so in time.
 - Heading south on the link, one vehicle clipped a stationary vehicle parked in a lay-by/ hard shoulder. The incident took place during frosty/ icy condition in the dark.
 - Two vehicles were involved in an accident travelling southbound on The Parkway, when a heavy goods vehicle failed to stop and hit a stationary car. The incident occurred in fine and dry weather.
 - An incident occurred when a driver of a vehicles foot slipped off the clutch causing it to hit the rear of another vehicle which was pushed into the back of another. The accident occurred in fine dry conditions.
 - Three vehicles travelling south on The Parkway are involved in an accident when one car in lane three undertakes car two in lane two, car two swerves to avoid car three and hits the central reservation and rebounds into vehicle two. The conditions at the time of the accident were light but wet.
 - An incident occurred between three vehicles travelling northbound, one vehicle attempts to undertake the second vehicle in slow moving traffic, in the process they clip the second vehicle causing them to overturn, forcing the second vehicle into a third vehicle.
 - A car travelling northbound on The Parkway collides with a car that has run out of fuel in lane one. The incident occurred in the dark when the weather and conditions were fine.
 - One incident involved the driver of a vehicle having a black out and causing them to lose control and hit a roadside bollard. The weather was fine and dry.
 - There are two instances where vehicles travelling southbound on the A312. The Parkway where the front vehicles brakes suddenly and the vehicle behind fails to stop and hits the rear of the first vehicle.
 - Heading southbound on A312 The Parkway an accident occurred between four vehicles including three cars and an HGV. One of the cars swerves to avoid an accident hitting the rear of the second vehicle which pushes into the third, and the third pushes into the fourth. The incident took place during fine and dry weather conditions.

2.5.13 The serious accident took place in dry and light conditions when a motorcyclist heading south was dismounted from their vehicle. A vehicle in front of the motorcyclist changed lanes in front of the motorcyclist causing them to swerve. The motorcyclist then hit a kerb which caused them to come off of the vehicle.

Station Road

2.5.14 Two serious and two slight incidents took place on Station Road over the past 5 year period, these included:

- 30m north of the junction, on Station Road, a pedestrian attempted to cross the road after emerging from behind a parked vehicle. A vehicle heading south struck the pedestrian. Road conditions were dry and this incident occurred in daylight.
- At the junction of Station Road and Keith Road a vehicle failed to signal and turned right into the path of an oncoming vehicle causing a serious accident. The accident took place in daylight in fine conditions.
- The first slight incident involved a pedestrian stepping out in front of a car travelling south to north in dark conditions.
- The second slight incident involved a vehicle travelling too close to the vehicle in front, causing a collision with the rear of the vehicle. The incident took place in dry and light conditions.

North Hyde Road / North Hyde Gardens signalised junction

2.5.15 A fatal accident took place at this junction. This occurred in daylight and with dry road conditions. A motorcycle was heading east along North Hyde Road and passed the junction as a car pulled out to head east. The vehicles collided which resulted in the death of the motorcyclist.

2.5.16 Three vehicles were involved in an accident at this junction travelling west to east on North Hyde Gardens. The incident occurred when the driver of one of the vehicles failed to see the lights were on red causing them to drive into the back of a stationary vehicle waiting at the lights, which in turn was pushed into the stationary car in front.

North Hyde Road / Station Road signalised junction

2.5.17 26 accidents took place at this junction with 23 of them being slight and three serious. The slight accidents are detailed as follows:

- Nine instances occurred in dry, light conditions of vehicles attempting right turns crossing the path of and colliding with another vehicle travelling straight ahead.
- One vehicle travelling south to north on Station Road collided with an emergency vehicle travelling north west to south east on North Hyde road, the accident occurred in dry light weather conditions.
- One vehicle turning from Station Road (South) to North Hyde Road (west) failed to look properly and hit a car travelling north on North Hyde Road.
- A car failed to stop at the traffic signals travelling southbound on North Hyde Road colliding with a vehicle turning right from North Hyde Road (south) to Station Road (north).

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- A pedestrian was struck while on the footway by a car in good weather conditions as it made the turn from Station Road into North Hyde Gardens. The accident occurred in darkness.
 - One vehicle turning from Station Road (north) into North Hyde Gardens (west) collided with a car heading south-to-north on Station Road. This took place in darkness in dry weather.
 - There was an accident between two cars in light, wet conditions when two vehicles turning right from Station Road (north) into North Hyde Road (west) collided.
 - A vehicle turning from Station Road (north) to North Hyde Road (east) hit a vehicle travelling from Station Road (south) to North Hyde Road (west) when the respective traffic signals they were using went green. Conditions were dark and wet and it was raining at the time the accident occurred.
 - A bus which ignored a traffic signal struck a car which was making a right turn from North Hyde Road east to Station Road (north). The accident occurred during light, dry conditions.
 - A car turning right from North Hyde Road (west) to Station Road (south) and a car travelling north-to-south on Station Road both had their visibility obscured by a bus waiting to turn from North Hyde Road (west) to Station Road (south) and subsequently collided. The accident took place during daylight in dry conditions.
 - A car pulled away from the traffic lights at Station Road (north) braked suddenly. Resultantly, the car behind collided with its rear. Conditions were dry and light.
 - An accident which took place in icy road conditions during darkness involved a pedestrian running into the road who was struck by a car which despite braking, was unable to avoid a collision. This occurred on a pedestrian crossing.
 - A pedestrian who attempted to cross the road from behind a parked vehicle and not on a designated crossing was struck by a car. The accident took place in daylight in dry conditions.
 - A cyclist was crossing the road and failed look properly causing them to collide with a passing car. The accident occurred in the dark in fine weather conditions.
 - A slight accident occurred between three vehicles, as two cars waiting stationary alongside each other in heavy traffic on North Hyde Road were shouting across to each other, the passenger of one car opened the door and hit a motorcyclist.

2.5.18 The first serious accident which took place in daylight in dry conditions involved a pedestrian who stepped into the road from behind a parked vehicle and was struck by a car which was pulling away from the traffic lights on North Hyde Road (east).

2.5.19 The second involved a vehicle travelling from North Hyde Road (east) to North Hyde Road (west) across the junction. The driver failed to see the traffic signal was against them and was struck by a vehicle heading from north to south on Station Road. This accident occurred in dry and light conditions.

2.5.20 The third serious accident occurred as a pedestrian was hit by a car whilst crossing the road as the pedestrian was in a hurry and failed to look at the signals, and used the crossing facilities incorrectly. The accident occurred in dry light conditions.

North Hyde Road / Old Station Road priority junction

2.5.21 Three slight injury accidents occurred at this priority junction, one of which involved a pedestrian. These were:

- A car which was stopped in a queue of traffic at the traffic lights at North Hyde Road (east) junction with Station Road was struck from behind by another car in the vicinity of the Old Station Road junction. This occurred in dry conditions during daylight.
- In dark but dry conditions a vehicle whose driver was under the influence of alcohol attempted an illegal turning manoeuvre into Old Station Road and collided with a vehicle approaching the junction.
- The third accident to take place at this junction happened in dry and light conditions and involved a pedestrian crossing at a place other than a designated crossing facility. The pedestrian stepped into the path of a vehicle travelling west along North Hyde Road and was struck by the vehicle.

North Hyde Road / A312 The Parkway / Hayes Road signalised roundabout junction

2.5.22 40 slight and four serious injury accidents were reported at this junction. Three accidents involved motorcyclists. The slight accidents are described below:

- A vehicle travelling from North Hyde Road to The Parkway (south) and disobeyed a red traffic signal causing them to collide with a vehicle travelling north to south on Parkway, during wet weather conditions.
- During light but wet conditions, an HGV collided with the rear of a car waiting to negotiate the junction, which in turn impacted the car in front of it.
- In conditions which were dry and light, a vehicle changed lanes approaching the Hayes Road arm of the junction. As it did so, it collided with a vehicle which was stationary in that lane.
- A vehicle negotiating the junction changed lanes into the path of another vehicle resulting in a collision between the two. The accident took place in the dark in wet weather. Three similar incidents took place in light and dry conditions.
- Two cars collided as they entered the junction from North Hyde Road. This accident took place in the dark. The road condition was dry.
- Three accidents occurred involving two vehicles negotiating the roundabout collided in dry conditions during darkness.
- A motorcyclist was injured when a car changed lanes in front of them causing the motorcyclist to hit the rear of the car. The conditions this accident took place in were light and dry.
- Two vehicles collided when one cut across the other in order to exit the junction at Hayes Road. The accident took place during daylight and in dry conditions.
- An accident occurred between a Light Goods Vehicle (LGV) and Heavy Goods Vehicle (HGV) circulating the roundabout as one vehicle changes lane into the path of the other in order to turn left.
- In dry and light conditions, one vehicle travelling from the A312 The Parkway (north) to Hayes Road moved left into the path of a second vehicle which was travelling from the A312 The Parkway (north) to A312 The Parkway (south), resulting in a collision.

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- A car collided with the back of a motorcycle which had to brake in order to avoid an accident. Both vehicles were turning from Hayes Road to A312 The Parkway (north) and the road condition was wet. The accident took place in day light.
 - Two accidents occurred in dry and light conditions in which a vehicle collided with the rear of a stationary vehicle as both attempted to cross the junction from A312 The Parkway (south) to A312 The Parkway (north), one of which involved a heavy good vehicle. Another similar accident occurred on this arm in wet weather between two vehicles.
 - Four accidents occurred between two vehicles heading from A312 The Parkway (north) to A312 The Parkway (south), when the rear vehicle collided with the back of the front vehicle, two of these incidents occurred in the dark, and one in wet conditions.
 - A vehicle was struck from behind by another which was travelling with excessive speed as they negotiated the junction, travelling from A312 The Parkway (south) to A312 The Parkway (north).
 - Three accidents occurred where a car stopped at the North Hyde Road arm of the junction was hit from behind by another car which failed to halt in time. These accidents occurred in daylight in dry conditions. A similar accident occurred on this arm which resulted in a rear end shunt between two vehicle in the dark.
 - Two incidents have occurred involving three vehicles which collided at the Hayes Road arm of the junction in which a car approaching the junction collided with the back of a stationary vehicle which then impacted the stationary vehicle in front of it. Conditions at the time of the accidents were dry and light. A further accident involving two cars also occurred under these conditions at this arm of the junction.
 - An incident occurred on the Hayes Road arm of the junction involved three vehicles where the driver of the approaching car loss control of the vehicle and was travelling too fast for the conditions hit a stationary car which forced it into the path of a Heavy Goods Vehicle travelling on the roundabout. The incident occurred in fine and dry weather.
 - In daylight and dry conditions a travelling north-to-south across the junction passed through a red traffic signal and struck a vehicle which was heading west-to-east.
 - An accident which occurred on the Hayes Road arm in dark and rainy conditions involved a car colliding with the rear of the car in front as it slowed to stop at the junction.
 - A further accident at the Hayes Road arm took place in wet conditions during daylight when a car braked for emergency vehicles and was impacted by the car behind who failed to slow. In similar conditions at the same arm of the junction, a car collided with the rear of another which was stationary.
 - A stationary vehicle waiting to turn on to the A312 The Parkway from North Hyde Gardens was struck from behind by another vehicle which had breached the speed limit and failed to brake in time. Conditions at the time were dry, but dark.
 - A car travelling north to south on The Parkway failed to stop and give way on approach to the roundabout causing it to collide with a car travelling south to east on the roundabout. The accident occurred in fine weather in the light.

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- One car travelling on the roundabout from North Hyde Road to Hayes Road clips a car in lane one when turning left from lane two. The accident occurred in dark in fine and dry conditions.
 - A car stopped suddenly at the Hayes Road arm of the junction to avoid an accident was hit from behind by another car which failed to halt in time. This accident occurred in daylight in dry conditions.
 - An accident occurred when a light goods vehicle turned left towards The Parkway (north) across the path of a car travelling from North Hyde Road to Hayes Road.

2.5.23 The four serious injury accidents are summarised as follows:

- A motorcyclist who was stationary at the traffic lights on the Hayes Road arm of the junction was impacted by a car from behind. The weather was dry and the accident took place in daylight.
- A car with a driver under the influence of alcohol failed to slow sufficiently in time to avoid impacting the rear of a car which was slowing arriving at the junction from the A312 The Parkway arm. Road conditions were dry and the accident occurred in darkness.
- A driver proceeding north to the junction on A312 The Parkway fell asleep at the wheel and struck the rear of a car queuing for the junction. The shunting effect resulted in four vehicles ahead of the second to be impacted from behind. A passenger in the second car received serious injury. This accident took place in darkness, in dry conditions.
- A pedestrian failed to look properly whilst crossing the road into the path of a car. The incident took place in fine and dry weather, in the day light.

North Hyde Road / Harold Avenue priority junction

2.5.24 A total of three slight injury accidents occurred at the junction of North Hyde Road and Harold Avenue.

2.5.25 The first involved a pedestrian who attempted to cross the road at a point other than a defined crossing. The pedestrian walked into the path a vehicle was taking and was struck by the vehicle. This accident took place in dry and light conditions.

2.5.26 The second accident occurred in dark and wet conditions and involved three vehicles, two of which were stationary at traffic lights waiting to proceed east. The third vehicle, following the first two, applied its brakes but skidded hitting the rear of the second car which in turn hit the rear of the first.

2.5.27 The third accident took place in light and fine conditions when a vehicle jumped a queue of traffic waiting on North Hyde Road (north) to turn right and hit a vehicle turning right from Harold Avenue to North Hyde Road.

North Hyde Road / Crane Gardens priority junction

2.5.28 Two accidents classified as slight severity were recorded at this junction. The first of the accidents took place during daylight in dry conditions. A car heading east along North Hyde Road overtook a stationary car at which point it left the road and then impacted the rear of a stationary car.

2.5.29 A second accident occurred at this junction. This accident involved a pedestrian who stepped into the road, not at a pedestrian crossing, who was struck by a car which was heading west along North Hyde Road. The accident occurred in daylight, in dry conditions.

North Hyde Road / Roseville Road priority junction

2.5.30 Four slight injury accidents took place at this priority junction. Pedestrians were involved in two of them. The accidents are detailed below:

- A pedestrian was injured when they attempted to cross North Hyde Road. They were obscured from the view of car drivers behind parked or stationary vehicles. When the pedestrian stepped into the road they were hit by a car heading west along North Hyde Road. The conditions at the time of this accident were dry and fine.
- In dark and dry conditions, a pedestrian attempted to cross North Hyde Road. The pedestrian was hit by a bus which was turning out of the junction from Roseville Road to head west along North Hyde Road.
- One vehicle (a bus) was involved in an accident which took place in dry and light conditions. As the bus was about to negotiate the junction to turn east into North Hyde Road it applied its brakes. As it did so, a passenger stood up and fell over.
- One car was travelling too fast westbound on North Hyde Road and failed to stop hitting the rear of a stationary vehicle.

North Hyde Road / Wyre Grove priority junction

2.5.31 One serious and two slight injury accidents have been reported at this junction. The first slight accident involved three vehicles heading west along North Hyde Road. When the vehicles began to slow, the front of the last vehicle collided with the rear of the second vehicle. The second vehicle then collided with the rear of the front vehicle. The conditions at the time of the accident were light and dry.

2.5.32 The second slight accident was caused by sudden braking by a car, which caused a motorcyclist travelling behind to brake suddenly causing them to skid and fall off their motorcycle.

2.5.33 The serious accident involved a child crossing the road at a location with not pedestrian crossing facilities provided, and failed to look properly. The pedestrian was hit by a car travelling northbound on North Hyde Road.

North Hyde Road / Cranford Park Road priority junction

2.5.34 One slight injury accident has occurred at this junction, involving a car and a motorcyclist. The car turned right from North Hyde Road and hit an overtaking motorcyclist. The incident took place in the light with fine and dry weather.

North Hyde Road / Hyde Way priority junction

2.5.35 A slight injury accident took place at this junction when a vehicle travelling east along North Hyde Road was struck in the side by a vehicle performing a U Turn in the road. This accident took place in dry and light conditions.

2.5.36 A second slight injury accident took place at this junction when a vehicle travelling west on North Hyde Road hit a car reversing out of a private drive. The accident took place in fine dry weather.

North Hyde Road / Fairey Avenue priority junction

2.5.37 Five slight injury accidents and one serious injury accident were reported at the junction of North Hyde Road and Fairey Avenue. These are described below:

- In darkness and with a wet road surface a car which was proceeding west too quickly for the conditions along North Hyde Road failed to stop in time when the driver spotted a car stationary ahead. Resultantly, the second car collided with the rear of the first.
- A second accident in dark and wet conditions occurred at this junction. Three vehicles were involved, two of which were travelling west on North Hyde Road, the third was stopped, waiting to make a right turn. The first of the two vehicles going straight ahead stopped to allow the vehicle to make the turn, the second did not. Consequently the all three vehicles collided.
- A vehicle heading west along North Hyde Road failed to notice a vehicle headed in the same direction which had been held up and consequently impacted the rear of that vehicle. This accident took place in daylight, in dry conditions.
- A motorcyclist was injured in an accident in dark and icy conditions. The motorcycle was following behind a car heading west along North Hyde Road which braked suddenly. The motorcyclist did the same on an icy patch. Following this, the motorcyclist hit the kerb and fell off their motorcycle.
- A vehicle attempted to reverse from Fairey Avenue on to North Hyde Road. As it did so it was impacted by a vehicle travelling east along North Hyde Road. This accident occurred in daylight. At the time, it was raining and the road surface was wet.
- The serious incident occurred between a car and a cyclist, as the car failed to look properly turning right on to North Hyde Road and struck a cyclist travelling northbound.

North Hyde Road / Sutherland Avenue priority junction

2.5.38 A serious incident occurred at this junction involving a vehicle that lost control due to aggressive driving, and travelling too fast for the conditions. The incident took place in the dark in wet conditions.

Nestle's Avenue/ Station Road priority junction

2.5.39 Two slight accidents occurred at this junction in fine and dry weather between a car and a cyclist, one occurred in the dark due to the car failing to give way to a cyclist, the other occurred in the light when the driver of a car failed to see the cyclist.

Nestle's Avenue / Harold Avenue priority junction

2.5.40 Two slight injury accidents occurred at this junction. The first involved a pedal cycle travelling north along Nestle's Avenue was struck by a goods vehicle turning left into Harold Avenue. Conditions at the time of the accident were dry and light.

2.5.41 The second accident involved a pedestrian of secondary school age who crossed the road between parked vehicles, stepping into the path of a car travelling southbound.

Hayes Road / Christopher Road priority junction

2.5.42 This junction has experienced five slight injury accidents. The first injury accident took place at this junction involved two vehicles both heading west. The rear vehicle was over the speed limit and failed to stop in time to prevent a collision with the car in front, which was stationary.

2.5.43 The second injury accident took place at this junction involving a Heavy Good Vehicle and a car both travelling east. The HGV changed lanes from two to one and collided with a car in lane one. The third injury accident occurred when a bus travelling west pulled out from the kerb into the side of an overtaking car. The fourth accident occurred when a car turning right onto Hayes Road collides with a vehicle travelling from the right. The fifth accident involved a pedestrian, who was crossing the road where a pedestrian crossing was not provided was hit by a car turning right out of Christopher Road.

Hayes Road / Bulls Bridge Industrial estate priority junction

2.5.44 One slight injury accident occurred at this junction. Two vehicles joining Hayes Road from the Bulls Bridge Industrial estate collided while moving away from them junction after the rear vehicle misjudged the speed of the front vehicle and collided with their rear. This accident happened in dry and daylight conditions.

Personal Injury Accident Summary

2.5.45 This analysis of accidents in the vicinity of the site has demonstrated that there are no patterns to the accidents which have occurred and that the geometry of the roads and junctions studied is not a consistent contributing factor. The recorded accidents have taken place during day and night and in various weather conditions.

2.6 SUMMARY

2.6.1 This section has detailed the current situation at the site and in the vicinity. The local highway network has been described and a study of Personal Injury Accidents has not found a discernible trend.

3 Proposed Development

3.1 OVERVIEW

3.1.1 This Section details the development proposals at the Bulls Bridge site and considers factors affecting transport to and from the site.

3.2 BACKGROUND

3.2.1 The development proposals are for an aggregate recycling facility, asphalt storage and production plant, and wet waste plant; together with associated ancillary structures and facilities, car and HGV parking, and landscaping.

3.2.2 FM Conway is a leading infrastructure service company with over 50 years of experience in delivering vital services in transportation, the built environment and open spaces for public and private sector clients.

3.2.3 Currently the company operates from two principal sites, at Dartford and a new, state of the art asphalt manufacturing plant at Erith. Bulls Bridge is to be developed combining aspects of both Dartford and Erith.

3.2.4 At Dartford c250,000 tonnes of highways materials are recycled per annum. One of the company's objectives is that nothing should go to landfill. Materials are only accepted from the company's own contracts with public and private sectors clients. All inbound materials are stacked and then crushed, screen, sorted or washed as appropriate into secondary aggregate for re-use. The secondary aggregates may be despatched back on to site in the form of:

- Single size or graded materials such as sharp sand, washed aggregate, ballast, Type 1 or Type 4;
- Ready mixed concrete. This is despatched using the company's own fleet of volumetric mixers; and
- As a raw material in the manufacture of asphalt, currently this takes place at Erith.

3.2.5 At Dartford, there is also a wet waste treatment plant for handling gulley waste. The principle of this activity will be replicated at Bulls Bridge.

3.2.6 At Erith, the company owns and operates one of the most modern asphalt manufacturing plants in the country. The facility is less than two years old and has the ability to produce asphalt materials with a high content of recycled secondary aggregate. Apart from the recycled secondary aggregate brought in by road from Dartford, the majority of the aggregate required at Erith are brought in by ship using the company's own jetty. Initially at Bulls Bridge, asphalt products will be manufactured and brought across from Erith for storage and then next day despatch, but as the business becomes established a standalone asphalt plant will be built on site with a capacity of up to 300,000 tonnes per annum. This will be smaller than the asphalt plant at Erith.

3.2.7 The company have several Term Maintenance Contracts with a number of London Boroughs that incorporate a range of infrastructure services. These include public works, the maintenance of highways, bridges & structures, and the provision of traffic management, street lighting, street cleaning and professional services. Bulls Bridge will be a new and strategic operating centre from which all of these services will be provided.

3.2.8 Given the nature of the business and the requirements of both public and private sector clients the activities at Bulls Bridge will be need to be a 24/7 operation, however, most of the activities will be confined to the normal working week (Monday to Saturday afternoon).

3.2.9 It will be a number of years before the proposed aggregate recycling and asphalt manufacturing plant at Bulls Bridge reach their full capacity. By the time it reaches full capacity up to 79 new jobs will have been created.

3.3 SITE ACCESS AND SITE LAYOUT

3.3.1 A copy of the site masterplan is attached at Appendix E and can be considered in association with Figure 1 which shows the site location.

3.3.2 Vehicular access to the site will be gained from North Hyde Gardens via an existing access road. The internal layout is accessed via a one way loop around the site.

3.3.3 The north eastern corner of the site is dedicated to the storage of inbound highways materials for recycling. The area at the southern border of the site will be the location of the asphalt plant and associated functions, while along the western edge of the site a number of uses are proposed. These uses include office space, car parking, and equipment storage area and a workshop.

3.4 PARKING PROVISION

3.4.1 The masterplan for the proposed development, included at Appendix E, illustrates that all 'operational' vehicles (tippers, mixers and utilities vehicles) will be parked within the main compound area. The operational parking breaks down further, with 23 spaces for asphalt and term tippers and 4 term muck bays. FM Conway have confirmed that this level of parking is sufficient to accommodate all operational vehicles that may be on site at any given time.

3.4.2 Staff and customer car parking in the order of 72 spaces (plus four disabled bays) is located to the west of the site within two designated parcels as indicated on the masterplan, attached at Appendix E. Due to the nature of the business which will be conducted at the proposed development and the wide range of vehicles which will be used, the use of typical parking standards in determining parking provision is not appropriate and FM Conway have therefore provided the above proposals based on their similar operations.

4 Transport Policy

4.1 INTRODUCTION

4.1.1 This Section sets out an overview of transport policy to provide context for the assessment of the transport issues of the development proposals. Relevant local, regional and national policy guidance has been examined and reviewed.

4.1.2 The recent change of Government has seen certain policies associated with regional government repealed. Although at the time of writing all policies discussed below remain in effect, they may be subject to alteration.

4.2 NATIONAL POLICY

CREATING GROWTH, CUTTING CARBON: MAKING SUSTAINABLE LOCAL TRANSPORT HAPPEN

4.2.1 *Creating Growth, Cutting Carbon* is the DfT White Paper published in January 2011, which sets out plans for transport to become an engine for economic growth through careful investment in sustainable transport. A key aim is to:

- Encourage sustainable local travel and economic growth by making public transport and cycling and walking more attractive and effective, promoting lower carbon transport and tackling local road congestion.

4.2.2 It aims to encourage more sustainable transport choices through returning decision making to the local level where they know what works. It realises that for some journeys, car is the only viable mode and therefore low emission vehicles are important in addressing that demand, together with car sharing and car-pooling opportunities.

4.2.3 However it is recognised that for many shorter journeys (those less than 5 miles), walking, cycling or using public transport can be a viable alternative. Giving people choices will encourage modal shift thereby improving not only the environment, but also health.

THE FUTURE OF TRANSPORT: A NETWORK FOR 2030

4.2.4 In July 2004 the Government set out its policy for the future of transport in the White Paper *'The Future of Transport: A Network for 2030'*. The White Paper considers the factors likely to impact travel and transport in the period to 2030 and details the action the government intend to take. The increased demand for travel is considered, as is the consideration of getting the right balance between the benefits of transport, but not impacting people and the environment.

4.2.5 An important objective of the White Paper is:

"Balancing the need to travel with the need to improve quality of life. This means seeking solutions that meet long term economic, social and environmental goals."

4.2.6 To achieve the objective, the content of the paper is based around three major themes:

- Sustained investment;
- Improvements in transport management; and
- Planning ahead.

4.2.7 The White Paper, drawing upon these three central themes, attempts to provide a long term national strategy which sets out a sustained programme of investment and innovation for tackling Britain's transport challenges.

4.2.8 Government policy on development, and its links with transportation and accessibility, is reflected within the White Paper and has been reinforced in the Planning Policy Guidance Notes (PPGs) and Planning Policy Statements (PPSs).

NATIONAL PLANNING POLICY FRAMEWORK, DCLG, MARCH 2012

4.2.9 Adopted on 27 March 2012, the Department for Communities and Local Government's (DCLG) National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied.

4.2.10 The NPPF replaces all previous Planning Policy Guidance Notes and Statements, becoming the definitive national planning guidance from which local planning authorities can, in collaboration with their communities, produce local plans appropriate to the character and needs of their area.

4.2.11 The NPPF posits that the key to its success is the following statement from Paragraph 14:

*"At the heart of the National Planning Policy Framework is a **presumption in favour of sustainable development**, which should be seen as a golden thread running through both plan-making and decision-taking."*

4.2.12 Transport forms one of the 12 core land use planning principles set out by the NPPF. The transport principle directs that locations which are sustainable, or which can be made sustainable, should become the focus for significant development. Opportunities to utilise sustainable modes of travel to their fullest, such as public transport, walking and cycling should be actively taken and these modes are considered within this Transport Assessment. Paragraph 7 of the NPPF notes three 'dimensions' of sustainable development:

- Economic,
- Social, and
- Environmental.

4.2.13 Transport is able to contribute significantly to a development's adherence to these, through means such as providing infrastructure to support economic growth, enhancing accessibility to services and fulfilling the social needs of people and providing solutions which minimise pollution and environmental impact.

4.2.14 This Transport Assessment also demonstrates how the proposed development accords with Paragraph 29 of the NPPF which details transport as having:

"... an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives."

4.2.15 This Transport Assessment demonstrates how the proposed development fulfils the requirements set out in paragraph 32 of the NPPF, to account for:

- The opportunities for sustainable transport modes to be used, reducing the need for major transport infrastructure; and
- Provision of safe and suitable access to the site for all people.

4.2.16 Travel Plans are noted in Paragraph 36 of NPPF as an important mechanism to facilitate measures to increase sustainability. As such, there is a requirement for developments which create a “*significant*” amount of trips to produce a Travel Plan. Accompanying this Transport Assessment is a Workplace Travel Plan which supports the proposals and ensures the transport strategy is monitored and managed.

4.2.17 WSP, on behalf of FM Conway, has maintained a dialogue with LB Hillingdon and Transport for London regarding the proposed development at Bulls Bridge, displaying a proactive approach to working with the local highway authority as desired by the NPPF.

4.3 LOCAL POLICY

TFL TRANSPORT ASSESSMENT BEST PRACTICE

4.3.1 Transport for London has produced guidance on production of Transport Assessments to ensure that it meets their requirements. It states that: “*A transport assessment is an inclusive process that should cover all aspects of movement by people and vehicles. It should be able to demonstrate how developments affect demands for travel and how all travel demands and servicing requirements will be met*”.

THE LONDON PLAN

4.3.2 Adopted in July 2011, the London Plan’s purpose is to provide policies to which London Borough’s own local development documents must conform and to which any planning decisions in London are based upon. A number of the policies within the draft plan concern the transport aspects of development.

4.3.3 Transport in Outer London

- *Ensuring adequate transport capacity and infrastructure will be particularly important in planning effectively and sustainably for growth in outer London. The particular issues arising there – lower development densities and the implications of this for the viability of public transport services and the likely continued importance of the private car there should be recognised (Paragraph 2.36).*

4.3.4 In the case of Bulls Bridge, consideration will be made to stimulating use of alternative modes of transport amongst staff, however it is recognised that the nature of the proposed development means it a high proportion of vehicle movements associated with the site will come from Heavy Goods Vehicles.

4.3.5 Policy 6.1a notes that developments should minimise the requirement to make a journey. There is an emphasis on reducing car journeys in particular.

4.3.6 The criticality of striking the right balance between providing enough parking at a development and providing too much is discussed in policy 6.13a. While a reasonable level of parking supports a development, the provision of too much can discourage people from walking or cycling.

THE MAYOR’S TRANSPORT STRATEGY

4.3.7 Formally adopted in May 2010, the Mayor’s Transport Strategy sets out the Mayor’s vision for transport in London for the period 2009 - 2031. It describes how Transport for London (TfL) and its partners, including the London boroughs, will deliver that vision.

4.3.8 The strategy outlines several transport challenges to be addressed, including improving quality of life, enhancing safety and security on the transport network, and addressing transport impacts on climate change.

4.3.9 The strategy includes elements that take into account the needs of business as part of transport planning, and also the provision of enhanced journey planning information across London.

4.3.10 Promoted in the strategy and its policies is the necessity for TfL, the DfT and other transport operators and government bodies to work together in order to facilitate a sustainable increase in London's population and employment. Part of the strategy for achieving this will be to create improvements in accessibility. Where necessary, new infrastructure for walking and cycling will be created and improvements to public transport will be sought.

4.4 LOCAL POLICY

LONDON BOROUGH OF HILLINGDON LOCAL DEVELOPMENT FRAMEWORK

4.4.1 LB Hillingdon is currently in the process of establishing a Local Development Framework which will guide and inform on planning decisions within the Borough. The Pre-Submission Core Strategy for the LDF was scheduled for Examination in Public in March 2012.

4.4.2 The Pre-Submission Core Strategy identifies seven aspirational points which are essential to maintain the prosperity of the borough until and beyond 2026. Of these seven points, those which have relevance in the context of the development at Bulls Bridge are:

- Improved environment and infrastructure is supporting healthier living and helping the borough mitigate and adapt to climate change;
- Economic growth has been concentrated in Uxbridge, Heathrow and the Hayes/West Drayton Corridor, without ignoring local centres;
- Improved accessibility to local jobs, housing and facilities is improving the quality of life for residents; and
- Hillingdon has a reliable network of north/south public transport routes and improved transport interchanges.

4.4.3 The strategy notes that despite the shape of the borough being north-south, public transport provision in this orientation is not as comprehensive as public transport which is oriented east-west across the borough. The number of trips made by foot in recent times has diminished, while cycle usage has seen a marginal increase.

4.4.4 The Bulls Bridge development intends to encourage the use of walking and cycling as modes to access the site, this may include an onward journey using public transport.

LONDON BOROUGH OF HILLINGDON – UNITARY DEVELOPMENT PLAN

4.4.5 Adopted in 1998, the Unitary Development Plan (UDP) informs and guides decisions regarding the granting of planning permission. In anticipation of the Local Development Framework being adopted, only key policies from the UDP were retained following September 2007.

4.4.6 The UDP has been produced with a number of underlying principles. These are:

- To maintain and improve the environment;
- To meet community needs;
- To maintain a strong local economy;
- To provide access to opportunities to all residents; and
- To reduce travel demand.

4.4.7 The Bulls Bridge development will adhere to these criteria, redeveloping the former Powergen site in such a way that the impact on the environment and the surrounding commercial and residential uses will be minimised.

4.4.8 Noted within the UDP are plans to increase the amount of cycle signage and facilities in the borough and to increase the levels of public transport usage.

4.4.9 The UDP considers the positive effect on congestion which can be obtained by affecting a modal shift from private vehicles to public transport, walking or cycling.

4.4.10 By implementing a Travel Plan, the Bulls Bridge development will encourage staff and visitors to consider using sustainable modes of transport in order to reach the development.

4.4.11 In section PR10, the Bulls Bridge site is specifically noted. It suggests that any proposals for the land should take into account the following:

- The need for planned comprehensive treatment for the whole site;
- The need for improvements to the junction of North Hyde Gardens and North Hyde Road;
- Measures to ameliorate the impact of traffic on residents;
- Adequate access arrangement for Nestles;
- Conservation area and canalside enhancement; and
- The contribution of the proposal to the economic enhancement of Hayes.

4.5 PARKING STANDARDS

4.5.1 Parking standards are contained in Hillingdon's UDP. These have been updated since they were originally issued and take into account guidance including the London Plan of 2004 and the 2005 amendment to the Town and Country Use Classes. Table 4.1 below outlines the parking standards applicable to the proposed development at Bulls Bridge.

Table 4.1 Hillingdon UDP Parking Standards of relevance to Bulls Bridge

Use Class	Car Parking Standard (Maximum)	Cycle Parking Standard (Minimum)
B1 (a)	1 space per 100m ²	1 space per 50m ²
B1 (b), B1 (c), B2 and B8	2 spaces plus 1 space per 100m ² for all floorspace in excess of 235m ²	B1 (b), B1 (c) and B2: 1 space per 75m ² B8: 1 space per 250m ²

Source: LB Hillingdon – Unitary Development Plan

4.6 SUMMARY

4.6.1 The above relevant policy and guidance forms the basis for undertaking this Transport Assessment. The proposed development at Bulls Bridge accords with the policies detailed. The proposed development is committed to achieving a modal shift from single occupancy car journeys to sustainable transport modes, in line with national and local requirements.

5 Accessibility

5.1 OVERVIEW

5.1.1 The site is accessible to various facilities and services located in the Hayes area. Many are within reasonable walk and cycle distances. While the development's primary use for aggregate recycling will require some use of HGVs and other vehicles for some of its trips, the possibility exists to use sustainable modes for trips associated with the development's employees or visitors. .

5.1.2 PPG 13: Transport recognises that walking and cycling are of significant importance at the local trip level, offering the greatest potential to replace short car trips where they are under 2 kilometres for walking and 5 kilometres for cycling. As discussed in Section 2, PPG 13, along with other Government guidance and policy, focuses on the need for land use and transport planning to be integrated in a manner which promotes sustainable development with good access to local facilities.

5.1.3 In respect of the above, this Section considers access to local amenities which may be used by those on the site, and also discusses the networks and facilities of sustainable travel modes which may be used near the site.

5.2 LOCAL AMENITIES

5.2.1 As shown on Figure 6, there are local amenities within a reasonable walking distance which could be utilised by employees of the site.

5.2.2 A Tesco Extra supermarket is located on Hayes Road, approximately 900m from the site by foot, the equivalent of an 11 minute walk or a four minute cycle. In addition to food products the store also includes a customer restaurant.

5.2.3 A parade of shops is situated on the A437 North Hyde Road, approximately 700m to the south of the site, the equivalent of an eight minute walk or a three minute cycle. The parade comprises approximately 15 shops of a variety of purposes. Of most relevance to employees at the site would likely be the Newsagent, two food takeaway stores and the restaurant.

5.2.4 The above demonstrates that the proposed development would be well served by good retail facilities for employees to make use of during breaks. The location of these facilities is shown on Figure 6.

5.3 PEDESTRIAN AND CYCLE FACILITIES

5.3.1 This section considers the pedestrian and cycle facilities in place near to the site. Figure 7 plots the location of these facilities.

NORTH HYDE GARDENS

5.3.2 Footway is situated on one or more sides of the road in many places, with streetlights in place the length of the road. There is one pedestrian crossing located on the road located at the junction with the A437 North Hyde Road. Two refuge islands plus the footway at the side of the road all feature dropped kerbs and tactile paving.

5.3.3 Cyclists require awareness when using this road as it is subject to regular HGV use during the course of the day.

NESTLE'S AVENUE

5.3.4 Nestle's Avenue has no vehicular access at its junction with North Hyde Gardens, but pedestrian access is still possible and there are two lanes allowing access by cycle. Footway of a good width is present on both sides of the road.

5.3.5 Trees growing from the footway are well maintained and provide a pleasant environment for walking. The presence of the trees does result in some narrowing of the footway, but their width ensures there no inconvenience is caused.

5.3.6 Nestle's Avenue has junctions with a number of other roads. All of these feature crossings with dropped kerbs and tactile paving. From east to west, these roads are:

- Gordon Crescent;
- Nestle Factory;
- Harold Avenue;
- Black Rod Close;
- Viveash Close;
- Sandow Crescent; and
- Station Road.

5.3.7 At the western end of Nestle's Avenue, there is a junction with Station Road. From this junction there is a footway leading 150m north to Hayes and Harlington rail station.

A437 NORTH HYDE ROAD

5.3.8 The eastern end of the A437 North Hyde Road forms a roundabout junction with the A312 The Parkway and Hayes Road. On the A437 North Hyde Road arm of the roundabout, there is a toucan crossing allowing movement of pedestrians and cyclists.

5.3.9 There is access to a pedestrian and cycle subway which passes under the A312 The Parkway, giving safe access to Hayes Road.

5.3.10 As the A437 North Hyde Road moves west from its junction with the A312 The Parkway and Hayes Road, there is footway of a reasonable width on both sides of the road. In certain areas, such as the junction with North Hyde Gardens, guard rail has been installed, aiding pedestrian safety.

5.3.11 Approximately 10m west of the junction with North Hyde Gardens, there is a pedestrian crossing of the A437 North Hyde Road situated at traffic lights. Dropped kerbs and tactile paving are located on either side of the road and in the pedestrian refuge island which is present.

5.3.12 The area near the parade of shops on the south of the road has a very wide footway, accommodating the flow of a number of pedestrians in opposing directions at any one time. The footway near the shops has guard rail in places except for in two places. The first location is a toucan crossing south-to-north across the road. In the second instance a bus stop is situated opposite Sutherland Avenue. The area outside the shops has several cycle stands.

5.3.13 The A437 North Hyde Road has junctions with several other roads in this area. At the Watersplash Lane junction there are no crossing facilities present, however this road serves only a minimal number of vehicles and is therefore less dangerous in terms of traffic volume. Other junctions feature dropped kerbs and in some instances, tactile paving.

5.3.14 North Hyde Road continues westwards from Wyre Grove for 1.2km. Detail on this has not been included as it has been assumed that the parade of shops which end at Wyre Grove will be as far as the majority of pedestrians from Bulls Bridge will walk.

A312 THE PARKWAY

5.3.15 The A312 The Parkway features footway and cycleway which is segregated from the carriageway by guard rail. This is in place from the junction with the M4 to the south of the site.

5.3.16 North of the junction with the A437 North Hyde Road and Hayes Road, there is continuous footway. There is no longer guard rail in place to separate pedestrians and cyclists from traffic. Instead, there is wide footway, of which approximately two thirds is tactile and a different colour.

5.3.17 Streetlighting is in place for the entire section of the A312 The Parkway near the site.

HAYES ROAD

5.3.18 Hayes Road is accessible by pedestrians and cyclists heading to or from the Bulls Bridge site by using the previously discussed subway which runs underneath the A312 The Parkway.

5.3.19 After walking out of the subway it is possible to either continue walking along the northern side of the road, or to cross immediately to the southern side using a Toucan crossing. On the northern side, a footway provides access to the Tesco Extra store. This section of Hayes Road has streetlighting.

5.3.20 Hayes Road continues eastwards from the Tesco Extra store for a further 600m. Detail on this section of Hayes Road has not been included as it has been assumed that the majority of pedestrians from Bulls Bridge will not require a destination further than Tesco.

ADDITIONAL CYCLE FACILITIES

5.3.21 There are currently no Sustrans recognised National Cycle Routes within the vicinity of the site. An extension to National Cycle Route 6 is proposed. This would run alongside the Grand Union canal, which borders the site. The proposed addition to the route would meet the existing sections of Route 6 at Cowley in the west and Northolt in the east.

5.4 PUBLIC TRANSPORT SERVICES

5.4.1 As shown on Figure 8, the site is located 1.4km from Hayes and Harlington railway station and 690m from the nearest bus stop. All bus and rail services are summarised below.

BUS SERVICES

5.4.2 Figure 8 illustrates the existing bus services and stops in the vicinity of the site. Figure 8 also shows the nearest bus stop to the site is located on the A437 North Hyde Road, 690m to the south, the equivalent of a nine minute walk. The 195 service operated by First Group serves this stop.

5.4.3 A further service is accessible from Roseville Road, which is south of the A437 North Hyde Road. Metrolink operate the E6 service from this stop. Table 5.1 below shows the major destinations served by the two services near to the site and also their frequency during the AM and PM peaks.

Table 5.1: Bus Services near to the Bulls Bridge site

Service	Stop location	Route	Frequency of Buses		Earliest Departure (from stop location)	Latest Departure (from stop location)
			AM Peak	PM Peak		
195 Eastbound	A437 North Hyde Road (690m from site)	Charville Lane Estate – Hayes Station – A437 North Hyde Road – Bulls Bridge Tesco – Southall Station - Brentford	5	5	05:34	00:45
195 Westbound	A437 North Hyde Road (750m from site)	Brentford – Southall Station – Bulls Bridge Tesco – A437 North Hyde Road – Hayes Station – Charville Lane Estate	5	5	05:27	00:39
E6 Southbound	Roseville Road (790m from site)	Greenford Station – Yeading – Hayes Station – A437 North Hyde Road – Bulls Bridge Tesco	6	6	05:44	01:25

Source: Traveline / Operator Timetables

5.4.4 As Table 5.1 above demonstrates, the bus network presents good opportunities for sustainable travel to and from the site. The 195 and E6 routes visit the nearby railway stations of Hayes and Harlington, Greenford and Southall, making the combination of rail and bus an attractive option for commuting to or visiting the site.

5.4.5 Both services also stop at the Bulls Bridge Tesco store, ensuring a convenient mode of access to that store.

5.4.6 A number of bus services stop at Hayes and Harlington railway station. These are shown in Table 5.2 below.

Table 5.2: Bus Services Available from Hayes & Harlington Railway Station

Service Number	Route
90	Northolt - Hayes – Feltham
140	Heathrow Central – Hayes – Northolt – Harrow – Harrow Weald
195	Charville Lane Estate – Southall – Brentford
350	Hayes – West Drayton – Heathrow Terminal 5
696	Hayes – Yeading – Ruislip Manor
698	West Drayton – Hayes – Ickenham
E6	Greenford Station – Bulls Bridge Tesco
H98	Hounslow – Harlington – Hayes End
U4	Hayes – Hillingdon Hospital – Uxbridge
U5	Uxbridge – West Drayton – Hayes & Harlington

Source: Traveline

RAIL NETWORK

5.4.7 As shown on Figure 8, Hayes and Harlington railway station is located 1.4km from the site. This equates to a walking time of 18 minutes or a cycling time of six minutes. The station lies on the Great Western main line which connects London Paddington to Bristol.

5.4.8 Use of the station in 2009/10 was 2.247 million passengers. On weekdays, the station is staffed between 06:00 and 22:00 and similar staffing is present over the weekend.

5.4.9 120 car parking spaces are present at the station although none of these have been allocated for disabled users. The station is managed by First Great Western which also operates a number of the services which call there. The Heathrow Connect service which operates between London Paddington and Heathrow Airport also calls at Hayes and Harlington.

5.4.10 Destinations served by trains from the station include:

- London Paddington;
- Heathrow Airport;
- Slough;
- Reading;
- Didcot Parkway; and
- Banbury.

5.4.11 Table 5.3 below provides a summary of the service frequencies to major destinations.

Table 5.3: Direct Service Frequencies for Hayes and Harlington

Destination	Frequency		Journey Time (mins)
	AM Peak	PM Peak	
London Paddington	6	6	21
Heathrow Airport	2	2	12
Slough	5	4	8 - 16
Reading	3	3	36 - 48
Didcot Parkway	1	0	68
Banbury	0	1	125

Source: National Rail Enquiries

5.4.12 As shown in Table 5.3 there is some variance in the journey times from Hayes and Harlington to other destinations. This is as a result of some services calling at stations on the route which other services do not visit.

5.5 LONDON UNDERGROUND

5.5.1 To travel to other areas in London and to National Rail stations that have nationwide routes, access to the London Underground is convenient from the site. A London Paddington bound train can be caught from Hayes and Harlington station. By changing at Ealing Broadway or the London Paddington terminus several Underground lines can be accessed. These are presented in Table 5.4 below.

Table 5.4: London Underground Lines accessible from Ealing Broadway and London Paddington

Station	Underground Lines Accessible
Ealing Broadway	District
	Central
London Paddington	Bakerloo
	Circle
	District
	Hammersmith and City

Source: Transport for London

5.6 TRAVEL PLAN

5.6.1 National and Local policy advocates the production of Travel Plans for new developments likely to impact on the transport network of the area surrounding a development site.

5.6.2 In accordance with this, a Travel Plan has been produced for Bulls Bridge. This will take into consideration National and Local guidance on the creation of Travel Plans, including TfL's 'Guidance for Workplace Travel Planning for Development'.

5.6.3 With respect to both national and local policy guidance and best practice, the overarching vision for the Travel Plan is to:

“Manage car travel to and from the site through promoting and encouraging the use of alternative, more sustainable modes of transport”.

5.6.4 The Travel Plan contains a number of measures to encourage the use of sustainable transport modes to access the site. These include measures to promote the use of public transport, with the site being located near to bus routes and to Hayes and Harlington station.

5.6.5 The shift pattern at Bulls Bridge requires employees to start and finish shifts at times which may not tie in with public transport availability. The Travel Plan will target these employees to use car sharing.

5.6.6 In addition to using other measures to increase the sustainability of travel to and from the development, the Travel Plan will also specify mode share targets and a time period during which the targets must be attained.

6 Future Baseline Traffic Conditions

6.1 OVERVIEW

6.1.1 This Section provides a review of the future baseline traffic conditions on the local highway network in relation to traffic growth and committed development traffic flows.

6.2 TRAFFIC GROWTH

6.2.1 Traffic growth on the local highway network is calculated based on the assessment years being used for a development. The DCLG / DfT 'Guidance on Transport Assessment' states at paragraph 4.47 *"In addition to the opening year, on or two further assessment years should be considered. For the local transport network, a development should be assessed with regard to the LDF, and for a period of no less than five years after the date of registration of a planning application. Should the development take place over a longer period, it would be appropriate to extend the length of the assessment period. For the SRN, the future assessment year should normally be ten years after the date of registration of a planning application for the development"*.

6.2.2 In line with the Guidance assessment will be undertaken for the following years:

- 2010 (Base Year); and
- 2016 (anticipated year of full operation).

6.2.3 To provide an estimate of traffic growth, a factor from the computer program TEMPRO (Version 6.2, dataset 6.2) has been derived. TEMPRO Version 6.2 automatically combines the data with NTM.

Table 6.1 below sets out the growth rates derived using this methodology.

Table 6.1: NTM / TEMPRO Growth Factors 2010 – 2016

Road Classification	AM Peak	PM Peak
Urban Minor	1.035	1.035
Urban Principal	1.036	1.036

6.3 COMMITTED DEVELOPMENT

6.3.1 In WSP's Scoping Note of April 2011, attached at Appendix A, clarification was sought from LB Hillingdon as to the requirement for any consented development in the vicinity of the site to be considered in this assessment. LB Hillingdon has requested that the following committed developments be included for assessment:

- Southall Gasworks (Planning application: 58414/APP/2009/430),
- Asda (Planning application: 32157/APP/2011/872).

SOUTHALL GAS WORKS SITE

6.3.2 The Southall Gas works development site is an application for 37 hectares of mixed use development, including planning consent for 5,850sqm GFA foodstore. The development site is located to the east of the A312, Hayes By-pass.

6.3.3 For the purpose of this assessment reference is made to a Transport Assessment prepared by Savell Bird and Axon (October 2008). The appendices associated with the Southall Transport Assessment which detail the traffic flows and trip distribution of the development were not obtainable for this study. The Asda site (proposed Retail and Industrial/ Warehouse Unit) Transport Assessment includes an analysis of the Southall TA traffic flows and provides assumptions associated with the traffic distributions. To remain consistent with previous studies the same traffic flows and principals have been applied to this assessment, with the exception of the Hayes Road/ North Hyde Road junction which was not assessed as part of the Asda study and therefore distribution has been taken from the employment distribution used in this assessment and described in detail in section 7 below.

ASDA SITE

6.3.4 The development scheme comprises an A1 retail unit of 7,998sqm gross external area and 7,311sqm of industrial/warehouse unit (land use B1c, B2 or B8). The retail unit will be occupied by Asda and will front onto Station Road, with a petrol filling station adjacent to Millington Road. The industrial/ warehouse unit will be located west of the Asda food store.

6.3.5 For the purpose of this assessment reference is made to a Transport Assessment prepared for the site by Royal Haskoning on behalf of British Steel Pension Fund and Asda Stores Ltd (March 2011). Section 6 of the report details the development trips and distribution for both the retail and industrial elements of the site.

6.3.6 For the retail part of the site the assessment recognises in section 6.6.10 that 95% of the ASDA traffic is likely to already be on the highway network as per TfL's travel Plan guidance (March 2008). The assessment uses the assumption that approximately 5% of total trips will be new trips to the highway, with the remaining transferring from other stores, on the basis that there is currently significant trade leakage from the site's primary catchment area to out of centre foodstores currently. This results in the redistribution of trips on the network and most significantly for this study a reduction of trips at the North Hyde Road/ North Hyde Gardens signalised junction.

6.3.7 The industrial element of the site assumes traffic distribution is the same as those for the present occupiers of the site.

6.3.8 The combined development trips result in an overall reduction in trips to the North Hyde Road/ North Hyde Gardens Signals, with increases at the Station Road/Millington Road/ Bedwell Gardens Signals, as shown in Table 6.2 below. As the ASDA site traffic flows cause a reduction of trips at some junctions the ASDA site flows have been excluded from the assessment to ensure the assessment remains robust.

Table 6.2: ASDA site development trips compared to 2012 base

JUNCTION NAME	TRAFFIC FLOW SCENARIO / PEAK HOUR PERIOD											
	2012 Base (inc. committed dev)				2012 Base + Development				% Traffic Impact			
	AM	PM	SAT	SUN	AM	PM	SAT	SUN	AM	PM	SAT	SUN
Station Rd / Millington Rd / Bedwell Gardens Signals	1226	1056	989	936	1429	1451	1493	1595	16.6%	37.4%	51.0%	70.3%
Station Rd / North Hyde Rd Signals	2264	2394	1987	1946	2335	2557	2179	2172	3.1%	6.8%	9.7%	11.7%
Dawley Rd / North Hyde Rd / Bourne Ave Roundabout	2864	2758	2180	2286	2984	2957	2391	2544	4.2%	7.2%	9.7%	11.3%
Station Rd / Clayton Rd Roundabout	914	969	891	913	946	1020	966	1002	3.5%	5.3%	8.4%	9.8%
Station Rd / High St Signals	1724	1534	1276	1301	1791	1640	1413	1459	3.8%	6.9%	10.7%	12.2%
Dawley Rd / Station Rd Roundabout	1959	1922	1222	1234	1988	1969	1262	1281	1.5%	2.4%	3.3%	3.8%
North Hyde Rd / North Hyde Gardens Signals	1806	1985	1727	1532	1763	1907	1590	1369	-2.4%	-3.9%	-8.0%	-10.6%

Source: ASDA site TA.

6.4 2016 BASELINE TRAFFIC CONDITIONS

6.4.1 The growth rates shown in Table 6.1 have been applied to the 2010 baseline AM and PM peak traffic flows shown in Figures 3 and 4. This produces the 2016 baseline traffic flows which are combined with committed development flows shown in Figures 9 and 10 for the AM and PM peaks respectively. These traffic flows have been used in conjunction with the proposed development flows and are discussed further in Section 8.

7 Trip Generation, Distribution and Assignment

7.1 TRIP GENERATION

7.1.1 In order to ascertain the impact that the proposed development may have on the local highway network, it is appropriate to determine the trip generation.

7.1.2 Given the bespoke nature of the development, the TRICS and TRAVL databases do not provide comparable sites, the closest resemblance of the development site contained in TRICS would be that of a Civic Amenity Site or Landfill site. Both of these site categories deal with the recycling and/ or disposal of domesticated waste, whilst the proposed development will deal with the recycling of aggregate, the storage and production of asphalt, and include a wet waste plant. For sites extracted from TRICS peaking occurs at 12:00-13:00 and 14:00-15:00 for recycling sites and at 11:00-12:00 and 14:00-15:00 for Landfill sites. These peaks differ to the behaviour for other sites owned by FM Conway which are similar in operation to the proposed development, which demonstrate peaking at 06:00-07:00 and 15:00-16:00. Therefore the trip generation has been provided by FM Conway, based on the operation of their similar sites (e.g. their existing operations at Dartford and Erith). Trip Generation data provided by FM Conway is attached in Appendix F of this report, in addition to a photomontage showing the HGV types which will be based on site.

7.1.3 The anticipated trips within the 24 hours of site operation have been provided by FM Conway and are based on the level of trip generation calculated for operation of this development, and their experience of site operations at Dartford and Erith. Due to the nature of the site's 24 hour shift pattern relatively low numbers of trips are anticipated to occur within the recorded highway peak hours of 0800 - 0900 and 17:00 - 18:00. Table 7.1 below fully represents the site's anticipated 24 hour trip generation profile, as calculated based on the data provided by FM Conway. The recorded highway peak periods are highlighted for ease of reference.

Table 7.1: 24 Hour Trip Generation

Hour	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	
HGV Arr.	5	5	4	2	5	8	23	24	5	12	14	18	
HGV Dep.	5	5	4	2	11	21	38	34	4	11	16	15	
Car Arr.	0	0	0	0	6	14	24	18	6	0	0	0	
Car Dep.	0	3	2	2	0	0	3	0	0	0	0	0	
Hour	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	24hr Total
HGV Arr.	14	21	26	23	9	0	0	5	5	6	7	6	247
HGV Dep.	13	11	12	13	3	0	0	5	5	6	7	6	247
Car Arr.	0	0	0	0	0	3	3	2	2	0	0	0	78
Car Dep.	0	0	12	24	20	6	6	0	0	0	0	0	78

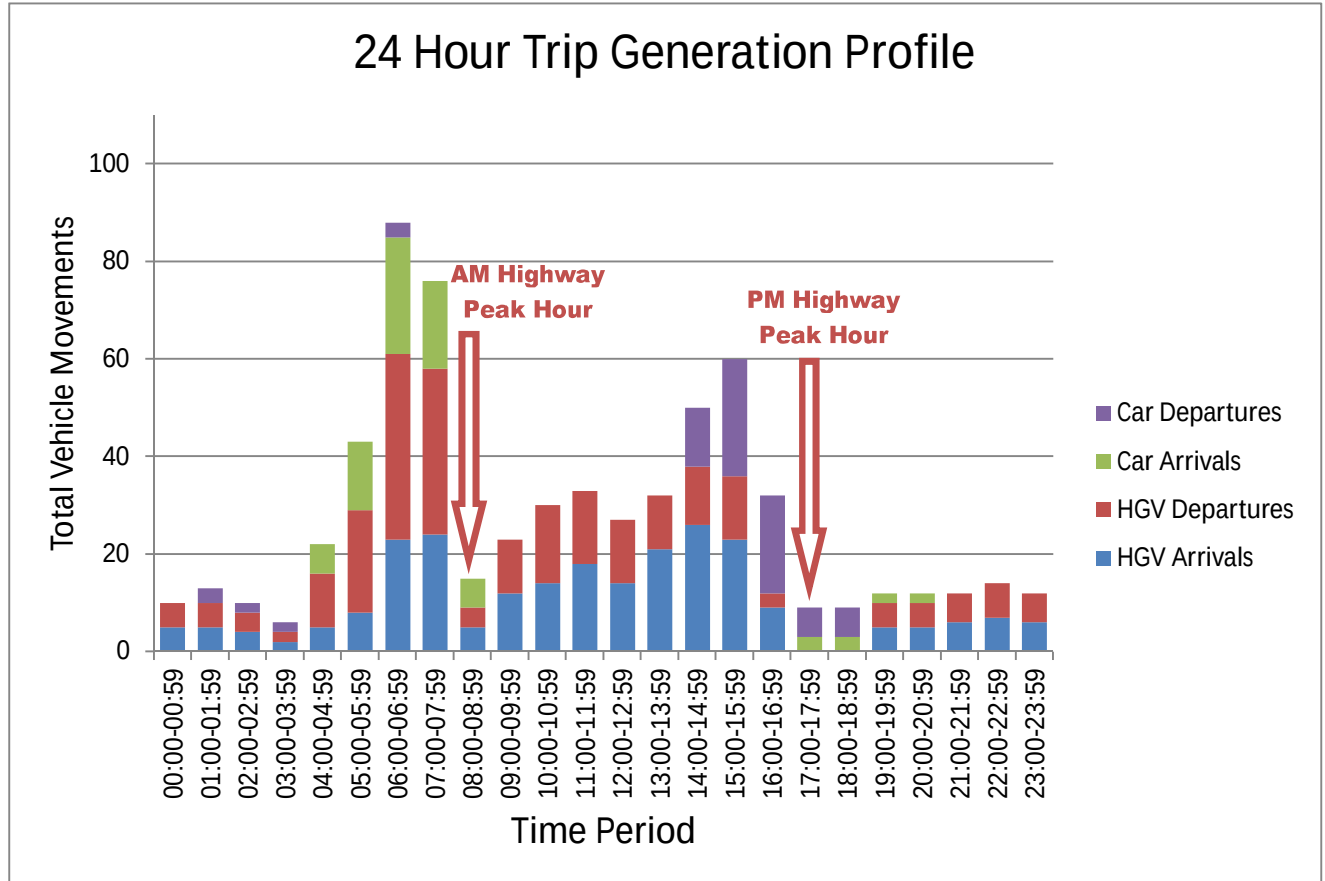
Source: Data supplied by FM Conway

7.1.4 FM Conway are actively seeking to minimise the number of trips relating to the proposed development which are made in the peak hours. It is recognised that the additional traffic using the highway network in the peak hours can result in significantly increased costs in terms of fuel and time.

7.1.5 The highway peak periods highlighted in Table 7.1 above have been determined via analysis of the Manual Classified Traffic Counts, as detailed in Section 12. At the request of LB Hillingdon, further analysis of Automatic Traffic Counts (ATCs) has been undertaken. Analysis of the ATC surveys carried out on 14 September 2010 at A312 The Parkway and North Hyde Road revealed the flow profile to remain relatively flat throughout the day (between 06:00 and 19:00) with no clearly defined peak periods or follow the classic two peak period profile. The AM and PM peak periods used for this analysis have been taken from the MCC traffic surveys conducted in September 2010 which showed the highest flows for the AM peak (07:00-10:00) and PM peak (16:00-19:00) periods on the local highway network to be 07:45 - 08:45 and 17:00 – 18:00 respectively.

7.1.6 As shown in Table 7.1, the proposed development is expected to generate a total of 15 and 9 vehicular movements during the AM and PM peaks respectively. A visual breakdown of the expected trip generation profile of the site is shown in Chart 7.1 below, with AM and PM highway peak hour traffic generation highlighted. In terms of vehicular traffic, the peak hours specific to the development will be 06:00 – 07:00 as the AM peak and 15:00 – 16:00 as the PM peak.

Chart 7.1: 24 Hour Trip Generation Profile



7.2 TRIP DISTRIBUTION

7.2.1 Employee vehicular trips associated with the development have been distributed and assigned to the network based on analysis of the 2001 Journey to Work Census statistics. The source for this census analysis is the 'Townfield' ward within which the site is located, and which also encompasses the local area of Hayes Town and comparable industrial use within the Hayes/West Drayton Corridor.

7.2.2 Using this ward as the destination, it is possible to establish origin statistics of employees commuting to the ward. These statics have then been applied to the estimated light vehicle (car) trip generation of the proposed development (as set out above) in order to ascertain trip distribution of employee's car journeys.

7.2.3 In analysing the census data, relative to the ward of 'Townfield', commuter trip origins have been filtered into district areas. Areas which are further away from the site act as an origin for a minimal number of trips and can therefore be considered as a whole (e.g. Inner London) whereas areas closer to the site, such as within Hillingdon, have been broken down further in order to ensure accurate assignment. A summary of proposed Census data analysis, relative to employee trip origins is provided in Table 7.3 below.

Table 7.3: Origin Distribution for Work Trips to Townfield Ward

Area	Sub Area	Trip origin %
England	Rest of England	7%
South East	SE Region	21%
London	Inner London	3%
	Outer London	13%
Hillingdon	Barnhill	4%
	Botwell	4%
	Brunel	2%
	Cavendish	1%
	Charville	4%
	Eastcote and East Ruislip	1%
	Harefield	1%
	Heathrow Village	1%
	Hillingdon East	2%
	Ickenham	1%
	Manor	1%
	Pinkwell	3%
	South Ruislip	1%
	Townfield	8%
	Uxbridge North	1%
	Uxbridge South	1%
	West Drayton	2%
	West Ruislip	1%
	Yeading	3%
	Yiewsley	2%
Ealing	Dormers Wells	1%
	Greenford Broad	1%
	Lady Margaret	1%
	Northolt Mandeville	1%
	Northolt West End	1%
	Norwood Green	1%
	Southall Broadway	1%
	Southall Green	1%
TOTAL:		100%

7.2.4 Due to the unique nature of the site's production and distribution, the distribution and assignment of HGVs has been undertaken separately based on information provided by FM Conway, relating to activity at similar sites and on the expected operational logistics of this specific site. In this regard FM Conway has identified the key distribution and delivery locations associated with the site's production. HGV trip distribution has been assumed to be evenly split between these locations.

7.2.5 A summary of the HGV trip distribution is provided in Table 7.4 below.

Table 7.4: HGV Trip Distribution

Distribution Location	% of HGV Trips
Richmond	9%
Hillingdon	9%
Hammersmith	9%
Fulham	9%
Hounslow	9%
Barnet	9%
Kingston	9%
Ealing	9%
Surrey	9%
Middlesex	9%
Hertfordshire	9%
TOTAL	100%

7.3 ASSIGNMENT

7.3.1 Having derived distribution, manual traffic assigned has been undertaken for the local highway network.

7.3.2 Trips to each area considered in the trip distribution exercise have been assigned to the most direct route to reach their destination. For example, any traffic leaving the site with a destination of Barnet would travel to the east on the A437 North Hyde Road and then north on A312 The Parkway.

7.3.3 Based on the above methodology, Figure 11 illustrates the percentage of development traffic assigned to different routes on the local highway network for the proposed development for both inbound and outbound trips. Figures 12 and 13 then show this applied to the trips generated by the proposed development in the AM and PM peaks.

8 Traffic Impact

8.1 INTRODUCTION

8.1.1 This section discusses the methodology used in the derivation of the local highway network future year flows. This section also considers how the increased flows that will result of a period of time through background growth and through the operation of the development will impact the highway network in the vicinity of the proposed development.

8.1.2 Finally, a comparison of the peak hour trips generated by the proposed development against the trips generated by the previous permission will be undertaken.

8.2 ASSESSMENT SCENARIOS

8.2.1 Two assessment scenarios will consider the impact of traffic on the highway network near the proposed development. An operational year of 2016 has been assumed for the site, therefore the scenarios to be investigated are:

- 2016 Baseline Conditions (as discussed in Section 6); and
- 2016 Baseline Conditions + Proposed Development.

8.2.2 Through the assessment of these conditions it is possible to differentiate between the impact that each development creates on the local highway network and a comparison between the previous permission and proposed development can be undertaken.

8.3 BASE CONDITIONS AND PROPOSED DEVELOPMENT

8.3.1 Preparation of these flows was achieved by assigning the trips generated by the proposed development in the AM and PM peak periods as defined in Section 7 to the network using the methodology also detailed in Section 7.

8.3.2 The development flows on each link were then added to the 2016 baseline flows for the corresponding link. Figure 14 illustrates these flows in the AM peak and Figure 15 shows the PM peak.

8.4 COMPARISON WITH PREVIOUS PERMISSION

PREVIOUS PERMISSION TRIP GENERATION

8.4.1 As detailed in Section 1, planning permission was granted in 2008 for the erection of buildings for use within classes B1 (c), B2 and B8 of the Town and Country Planning (Use Classes) Order 1987 (as amended). The planning application was accompanied by a Transport Assessment produced by Mott McDonald, which assessed three development scenarios and concluded that the development would not generate a significant increase in traffic.

8.4.2 The trip generation of the previous permission is summarised in Table 8.1 below:

Table 8.1: Net Trip Generation Relevant to Previous Planning Permission

	AM Peak			PM Peak		
	Arrivals	Depts	Total	Arrivals	Depts	Total
Scenario 1	203	58	262	72	164	236
Scenario 2	150	38	188	41	137	178
Scenario 3	36	7	43	21	92	113

8.4.3 The number of trips generated in the local AM and PM peak periods by the proposed development compares extremely favourably in comparison with the previous permission. Table 8.2 below shows a comparison of these figures.

Table 8.2: Trip Generation of Previous Permission and Proposed Development

Development	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)		
	Arrivals	Depts.	Total	Arrivals	Depts.	Total
Previous Option 1	203	58	262	72	164	236
Previous Option 2	150	38	188	41	137	178
Previous Option 3	36	7	43	21	92	113
Proposed Development	11	4	15	3	6	9

8.4.4 A further comparison which can be undertaken is the addition of the above flows on to the 2016 two-way base flows on North Hyde Gardens. The resultant flows and the associated change from the 2016 baseline are shown in Table 8.3 below

Table 8.3: 2016 North Hyde Gardens Two-Way Baseline Flows including Previous Permission or Proposed Development

Development		AM Peak (08:00 – 09:00)	% Increase from Baseline	PM Peak (17:00 – 18:00)	% Increase from Baseline
2016 Baseline		143	-	109	-
2016 Baseline + Previous Permission	Option 1	405	183%	345	217%
	Option 2	331	131%	287	163%
	Option 3	186	30%	222	104%
2016 Baseline + Proposed Development Facility		159	11%	118	8%

Source: Consultant calculated

8.5 REASSIGNMENT OF HGV TRIPS ON HIGHWAY NETWORK

8.5.1 As a result of the location of the proposed development in the west of London, FM Conway would be able to effect a reduction in the number of annual HGV miles covered by using the proposed development instead of their Erith site in the east of London.

8.5.2 The level of redistributed trips has not been party to detailed assessment, but the benefit in the reduction in HGV mileage is of note when considering an application for the site.

8.6 ANALYSIS

8.6.1 Both the proposed development and all three variations of the previous permission represent an increase in the number of vehicles trips made when compared to the base figure. However there are significant differences between each use.

8.6.2 The proposed development will be managed in such a way that vehicle movements are virtually all scheduled to take place outside the typical highway network peak hours, instead spread throughout the rest of the day in order to minimise impact on local links and junctions.

8.6.3 The land use classes included in the previous permission can broadly be expected to generate trips in the typical commuting pattern of arrivals in the morning and departures in the evening. This could be managed to a certain extent via the use of a Travel Plan, but even these measures would not facilitate large enough changes in travel patterns to replicate those of the proposed recycling facility.

8.6.4 The number of movements generated by the Previous Permission, for options 1, 2 and possibly 3 would likely see an impact on the operation of the North Hyde Gardens / A437 North Hyde Road signalised junction during the peak hours. The proposed development would send only two vehicles through this junction in the AM peak, and only six movements in the PM peak, a number which would not impact on current capacity.

8.6.5 Although the impact of the proposed recycling facility on the local highway network is negligible in the AM and PM peak periods, to demonstrate there is no effect on the existing signalised junction operation a formal junction assessments has been undertaken below.

8.7 JUNCTION ASSESSMENT

8.7.1 To determine the impact of the development traffic on the local highway network, LB Hillingdon have requested that a LinSig assessment is undertaken for the signal junctions of North Hyde Road / North Hyde Gardens / Watersplash Lane and North Hyde Road / The Parkway A312. Due to the proximity of the junctions and their interaction, a composite LinSig model has been produced.

8.7.2 The LinSig has been modelled using signal timings obtained from TfL including the UTC plans. Saturation flows have been measured from OS mapping using RR67 methodology. Link lengths and cruise times were also calculated from OS mapping measurements. The results of the analysis are detailed in Table 8.4 below and with full detailed LinSig output included in Appendix G.

8.7.3 At the junction of North Hyde Gardens / North Hyde Road / Watersplash Lane, the Watersplash Lane approach has been included in the model but is not run in any stage. Watersplash Lane is a short cul-de-sac with circa 5 houses and a side access to The Crane public house. As such, any traffic using this approach would likely be infrequent and have a negligible effect on the junction capacity due to this phase not being called very often. The approach runs on a demand dependant basis, given the low demand this phase has being excluded from this analysis.

8.7.4 The results from 2016 plus committed plus development scenario indicate that the addition of the development traffic has a negligible impact on junction performance, when compared to the 2016 plus committed scenario. In most cases the degrees of saturation remain the same, typically any increases being 1-2%. The same is true of queuing, but most arms remain unaffected by the development traffic.

8.7.5 To ensure a robust approach and account for all eventualities, a LinSig assessment has also been undertaken with all peak hour HGV traffic flows doubled. I.e the AM peak hour accommodates 10 HGV arrivals and 8 departures. Table 8.4 below includes the results of this assessment and demonstrates that in most cases the degrees of saturation remain the same or at worst experience a very minor increase. It is therefore evident that the operation of the junctions is not anticipated to worsen with the addition of development traffic.

Table 8.4: LinSig junction assessment results

Lane Description	2010 BASE AM			2015 + COM AM			2015 + COM + DEV AM			2015 + COM + DEV AM - V2			2010 BASE PM			2015 + COM PM			2015 + COM + DEV + PM		
	Opp Int (%)	Mean Queue (pcul)	Max Queue (pcul)	Opp Int (%)	Mean Queue (pcul)	Max Queue (pcul)	Opp Int (%)	Mean Queue (pcul)	Max Queue (pcul)	Opp Int (%)	Mean Queue (pcul)	Max Queue (pcul)	Opp Int (%)	Mean Queue (pcul)	Max Queue (pcul)	Opp Int (%)	Mean Queue (pcul)	Max Queue (pcul)	Opp Int (%)	Mean Queue (pcul)	Max Queue (pcul)
North Hyde Road (W) Left Ahead	101.60	17.5	23.1	109.00	28.3	31.5	110.90	31.5	111.40	32.5	104.50	21.3	108.30	27.2	115.70	40	116.60	41.4			
North Hyde Road (W) Right Ahead	102.40	20.4	25.9	109.00	32.8	38.4	111.40	38.4	112.00	39.9	98.50	15.2	104.20	23.8	109.50	34.8	109.50	34.8			
The Parkway (N) Left Ahead	144.10	209.7	232.4	150.80	240.4	243.0	151.4	243.0	151.80	244.0	146.10	220.6	150.60	242.6	152.30	250.2	152.40	250.8			
The Parkway (N) Right Ahead	142.20	191.6	201.2	148.70	207.2	210.4	149.5	210.4	149.80	211.0	144.20	189.2	148.70	207.2	150.30	213.7	150.30	213.7			
Hayes Road Left Ahead	65.80	8.2	8.3	68.30	8.3	8.3	68.30	8.3	68.30	8.3	65.90	8.2	68.10	8.3	68.30	8.4	68.30	8.4			
Hayes Road Right Ahead	43.80	4.3	4.5	45.30	4.5	4.5	45.30	4.5	45.30	4.5	57.60	6.2	59.60	6.4	59.60	6.4	59.60	6.4			
Hayes Road Left Ahead	0.70	0.1	0.1	0.70	0.1	0.1	0.70	0.1	0.70	0.1	1.20	0.1	1.20	0.1	1.20	0.1	1.20	0.1			
The Parkway (S) Left Ahead	99.60	30.8	42.5	103.40	45.5	48.5	104.00	48.5	104.00	48.7	120.10	129.8	124.50	194	125.50	160.4	125.40	160.3			
The Parkway (S) Right Ahead	98.70	28.6	41.8	102.30	44.6	47.0	103.40	47.0	103.60	48.2	119.50	134.2	123.80	189.7	124.90	165	124.60	163.9			
North Hyde Road Ahead	56.00	11.3	11.6	60.00	12.1	12.7	62.1	12.7	62.70	12.7	51.40	10.9	52.40	11.2	54.80	11.6	55.10	11.7			
Hayes Road (E) Ahead	52.40	6.2	6.7	54.40	6.7	6.7	54.40	6.7	54.40	6.7	54.70	6.7	56.60	7	56.70	7.2	56.80	7.2			
Hayes Road (E) Ahead	24.10	2.1	2.2	25.00	2.2	2.2	25.00	2.2	25.00	2.2	31.90	3.1	33.10	3.2	33.10	3.2	33.10	3.2			
North Hyde Gardens Left	15.40	0.9	0.9	16.00	0.9	0.9	22.70	1.3	24.30	1.4	24.30	1.4	25.80	1.5	26.80	1.5	27.50	1.6			
North Hyde Road (E) Left Ahead Right	42.40	15.6	16.2	45.40	17.2	17.7	47.20	17.7	47.90	17.8	38.60	14.6	39.40	15.1	41.20	15.1	41.20	15.1			
Watersplash Gardens (Not run)	0.00	0	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0			
North Hyde Road	37.40	0.3	0.3	40.40	0.3	0.3	40.30	0.3	40.30	0.3	37.40	0.3	38.10	0.3	39.30	0.3	39.90	0.3			
North Hyde Road (W) Ahead Left	65.60	9.1	9.7	70.40	10.4	10.4	70.50	10.4	70.50	10.4	61.60	8.4	63.80	8.7	66.60	10	68.50	9.9			
North Hyde Gardens	5.40	0	0	5.60	0	0	6.90	0.0	7.40	0.0	1.40	0	1.40	0	1.30	0	1.30	0			

8.8 SUMMARY

8.8.1 The proposed redevelopment of the former Powergen site to an aggregate recycling facility will introduce significantly less vehicular traffic onto the local road network than the three options of the previous permission during the peak periods.

8.8.2 The proposed development generates 15 vehicular trips in the AM peak period and 9 two-way trips in the PM peak period. The impact which the PM peak trips will have on the local roads and junctions is barely tangible. As such it is suggested that the proposed development represents a more favourable option than the different permutations of the previous permission.

9 Construction Traffic Impact

9.1 INTRODUCTION

9.1.1 This chapter sets out the anticipated impact of construction traffic as well as the measures which could be introduced to limit the impact of construction traffic on the local network.

9.2 TRAFFIC GENERATION

9.2.1 During the construction of the proposed development it will be necessary for various plant, equipment and material to be transported to the site. Construction is assumed to commence during 2012 and would continue until 2016.

9.2.2 An estimation of the number of vehicle movements associated with Phase 1 of the development has been prepared by FM Conway which details the anticipated numbers of both light and heavy vehicles which will be required. Phase 1 is comprised of five stages as follows:

- Stage 1:
Mobilisation, delivery of plant, welfare and security to site.
- Stage 2:
Level existing bund and stabilise.
- Stage 3:
Install drainage system;
Install ducting and substation (energy supply for phases ii and iii); and
Concrete slab key areas.
- Stage 4:
Install road system to asphalt hot storage system;
Deliver and install hot storage system;
Build weighbridge office and install weighbridge;
Erect site boundary lighting; and
Erect site fence.
- Stage 5:
Install aggregate wash plant and water treatment system.

9.2.3 Based on the above stages, FM Conway Ltd have anticipated the maximum number of vehicles required on a daily basis, as summarised in Table 9.1 below. Table 9.1 also displays the number of weeks anticipated for the completion of each stage.

Table 9.1: Phase 1 Daily Construction Vehicles

Phase 1 Construction Stage	Cars/Vans	HGVs	Number of Weeks for Stage Completion
Stage 1	4	8	2
Stage 2	6	4	6
Stage 3	8	11	4
Stage 4	16	18	8
Stage 5	4	4	4

Source: FM Conway

9.3 CONSTRUCTION TRAFFIC MANAGEMENT PLAN

9.3.1 Upon completion of construction of the proposed development, there will be one access to the site from the local highway network via North Hyde Gardens.

9.3.2 The final construction vehicle routing will be subject to review and finalisation by the principal contractor and confirmed in a final Construction Traffic Management Plan (CTMP).

9.4 PARKING

9.4.1 On-site parking for construction workers' vehicles will be restricted to a minimum to encourage car sharing. This will only be made available to those construction personnel who need to carry heavy equipment or materials to the site. Where possible the impact of employee traffic would be minimised by employing local labour, using local businesses to supply materials and encouraging car sharing to site.

9.4.2 Parking will be managed to result in no impact on local roads from construction workers parking their vehicles.

9.5 DELIVERIES

9.5.1 Where possible, all on-site deliveries will be pre-arranged and booked as part of the efficient operation of construction work. This will mean that vehicles are not caused to wait prior to entering the site.

9.5.2 The construction vehicle access routes proposed above avoid using minor roads as far as possible, and have specifically avoided residential roads adjoining the sites.

9.5.3 The form of delivery management of vehicles will be set out at the tender stage and reinforced on site.

9.5.4 These measures will ensure that delivery vehicles will have minimal impact on surrounding residential roads to the site. In addition, waiting vehicles will be avoided through strict management of delivery times.

9.6 STRATEGY

9.6.1 In order to minimise the amount of construction vehicles using the public highway, the following factors will be considered:

- Wherever possible, and excavator spoil will be used on-site;
- Where possible, demolition material to be recycled on-site;
- Prefabrication of construction components off-site will reduce the volumes of material deliveries of smaller components; and
- Where possible, cast units will be used to reduce the requirement for concrete, reinforcement, pumps, formwork, scaffolding, deliveries etc.

9.6.2 To further minimise the impact of development on the local highway; the following will be undertaken:

- All construction traffic entering and leaving the site will be controlled. Vehicles making deliveries to the site or removing spoil or demolition material etc, will travel via the designated CTR, which avoids sensitive locations;
- Construction traffic would be controlled as far as possible to times outside the peak traffic hours;
- Exceptional loads would be restricted to outside of peak hours; and
- The demolition and construction process will be 'environmentally aware', with focus upon housekeeping, good quality hoardings and landscaping, wheel washers and a clean work face.

9.6.3 The constructors will be required to follow the considerate constructor's scheme.

9.6.4 It would be expected that the working hours of the site would be subject to the general restrictions specified by LB Hillingdon.

10 Summary and Conclusions

10.1 SUMMARY

10.1.1 WSP has been commissioned by FM Conway Ltd to provide transportation and highways advice in support of a proposed planning application for the redevelopment of the Former Powergen site, Bulls Bridge, North Hyde Gardens, Hayes.

10.1.2 The proposed development is to establish an operating centre complimentary to FM Conway's existing aggregate recycling and asphalt manufacturing facilities at Dartford and Erith in east London. This will include an aggregate recycling facility with a capacity of up to 250,000 tonnes per annum and asphalt plant with a capacity of up to 300,000 tonnes per annum, although it will be a number of years before the proposed facilities reach their full capacity.

10.1.3 The proposed development will also be the operating centre for the provision of support services to a number of Term Maintenance Contracts which the company hold with different London Boroughs. Given the nature of these, the site will be operational 24/7 although the majority of activities and associated HGV movements will be confined to the normal working week (Monday to Saturday afternoon)

10.1.4 The site benefits from a previous permission for the erection of buildings for use within classes B1(c), B2 and B8. The planning application was granted permission in November 2008.

10.1.5 The proposed development would benefit from reasonable links to public transport with Hayes and Harlington railway station situated 1.4km away and the nearest bus stops to the site being just under 700m which is a nine minute walk or three minute cycle. Hayes and Harlington railway station provides access to a host of destinations in the south-east and also direct access to stations which are part of the London Underground network.

10.1.6 Bus service frequencies from the nearby stops are good, with services starting early in the morning and running until after midnight. A good range of destinations are accessible by bus including Hayes and Harlington railway station, making sustainable, multimodal journeys to the proposed development a realistic possibility.

10.1.7 Accident data for the last five years in the vicinity of the site has been examined. Whilst there were 164 recorded accidents in the study area, the majority of these did not occur on links or at junctions which will form part of the typical access route for the proposed development. In those accidents which occurred, the geometry of the road is not considered to be a significant contributory factor. As there will be no redesign of access in order to facilitate the proposed development, this situation will not be negatively impacted.

10.1.8 Traffic surveys have been undertaken in order to ascertain the current traffic flows on the local highway network. Appropriate methodology has been used to growth these flows to their anticipated 2016 levels. These 2016 baseline flows were combined with committed development (gasworks site) flows and the impact on the local network has been assessed in combination with the proposed development.

10.1.9 A comparison with the trip generation of the three options of the previous permission has been undertaken, which demonstrates that during the AM and PM peak periods the proposed development generates significantly less vehicle trips. In the AM peak, the proposed development generates 15 trips, with 9 trips in the PM peak.

10.1.10 Although the impact of the proposed recycling facility on the local highway network is negligible a LinSig assessment has been undertaken at the request of LB Hillingdon. Analysis of the signal junctions at North Hyde Road/ North Hyde Gardens/ Watersplash Lane and North Hyde Road/ The Parkway A312, has revealed the development traffic to have a negligible impact on junction performance compared to the 2016 plus committed development.

10.1.11 As a result of the location of the proposed development in the west of London, FM Conway would be able to effect a reduction in the number of annual HGV miles covered by using the proposed development instead of their Erith site in the east of London.

10.1.12 A Travel Plan has been prepared for the proposed development which contains a number of measures designed to increase the modal shift away from single occupant vehicle trips towards sustainable travel modes. The Travel Plan also details the management of the Plan including responsibilities for undertaking actions and the requirements for monitoring.

10.2 CONCLUSIONS

10.2.1 In conclusion, the site has been shown to be accessible to local facilities and to sustainable travel modes. The proposals have been shown not to have a significant impact on the local highway network and signalised junction operation.

10.2.2 The proposals accord with national and local policies, locating development within a sustainable location, on a brownfield site. A Travel Plan provides and supports a number of initiatives which are designed to stimulate modal shift from private car to more sustainable modes.

10.2.3 When compared to the previous permission, the proposed development has significantly less impact on the local highway network in the peak hours.

Appendices, Figures & Tables

Appendix A Transport Assessment Scoping Note

Appendix B LBH Pre-application response

Appendix C Traffic Surveys

Appendix D Personal Injury Accident Data

Appendix E Proposed Development Masterplan

Appendix F FM Conway Trip Generation and HGV Photomontage

Appendix G Signalised Junction Assessment - LinSig Detailed Output

