

## **Chapter 7: Traffic and Transport**

| TRAFFIC AND TRANSPORT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| AUTHOR                | Vectos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SUPPORTING APPENDIX   | ES Volume 3: Appendix: Traffic and Transport:<br>Annex 1: Transport Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| KEY CONSIDERATIONS    | This Environmental Statement (ES) Chapter has considered the implications of the Proposed Development on the highway network in accordance with the IEMA Guidelines for the Environmental Assessment of Road Traffic. A Transport Assessment (TA) which has considered the implications of the Proposed Development on the transport network and includes proposals to improve access by sustainable modes of transport and mitigation has been prepared and submitted in support of the planning application.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CONSULTATION          | <p>An EIA Scoping Report was prepared and submitted to Gravesham Borough Council (GBC) on the 11th August 2022 requesting a Scoping Opinion from GBC. A copy of the EIA Scoping Report is provided in <b>ES Volume 3, Appendix: EIA Methodology – Annex 1</b>. A Scoping Opinion was received on 16th September 2022, as provided in <b>ES Volume 3, Appendix: EIA Methodology – Annex 2</b>. The Scoping Opinion noted that any EIA should be completed in line with DfT Circular 02/2013 “The Strategic Road Network and the Delivery of Sustainable Development”. The Scoping Opinion requested that consideration was given to the potential for the viability of the proposed Ebbsfleet Central development to be affected by the proposals. In addition, the Scoping Opinion requested that the Lower Thames Crossing was considered within the Tier 2 cumulative assessment and as such a qualitative review of this is included within the traffic and transport assessment.</p> <p>Furthermore, a traffic and transport scoping meeting with highways officers at the LPA took place on 08/07/2022. The key points raised included the following:</p> <ul style="list-style-type: none"><li>- Scope of junctions / traffic counts;</li><li>- Proposed highway layout;</li><li>- Parking; and</li><li>- Strategic Modelling.</li></ul> |

ASSESSMENT METHODOLOGY

Guidance

- 7.1 Guidance for preparing an assessment of the likely significant effects of a Proposed Development on traffic and transport is provided within the following documents:
- Guidelines for Environmental Impact Assessment<sup>1</sup> (Institute of Environmental Management and Assessment (IEMA)); and
  - Guidelines for the Environmental Assessment of Road Traffic<sup>2</sup> (Institute of Environmental Assessment (now IEMA)) (the ‘IEMA Guidelines’).
- 7.2 The IEMA Guidelines refer to the Manual of Environment Appraisal (MEA) published by the (then) Department of Transport (DoT) in 1983. This has been superseded and reference has therefore been made to the relevant sections of the Design Manual for Roads and Bridges (DMRB) – specifically the section called ‘Sustainability and Environment’<sup>3</sup>.
- Defining the Baseline**
- 7.3 The study area for this assessment covers the links and junctions of the road network in the vicinity of the site, where the majority of construction and operational traffic generated by the Proposed Development will be routed. The study area has been defined using professional judgement which is line with the Guidelines for the Environmental Assessment of Road Traffic.
- 7.4 The study area used is based on the scope of assessment presented to Kent County Council (KCC) and National Highways (NH) for the purpose of the Northfleet Harbourside planning application.

7.5 The geographical extent of the study area for the local highway network is shown in **ES Volume 3, Appendix: Traffic and Transport– Annex 1** and **Table 7.1** identifies each link. These links are presented diagrammatically in **Figure 7.1**.

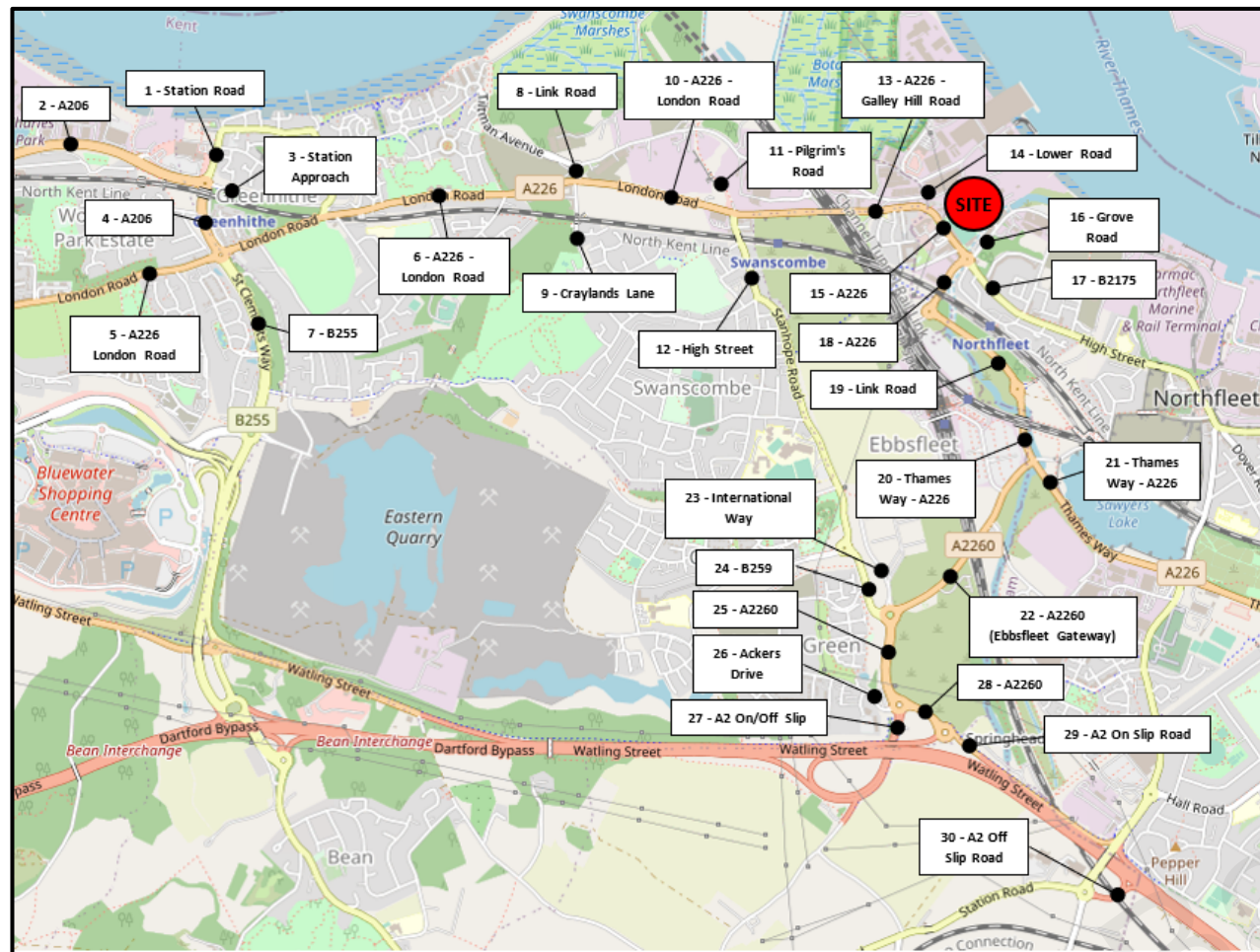
Table 7.1 Summary of Links within the Study Area

| Link Reference | Location                  |
|----------------|---------------------------|
| 1              | Station Road              |
| 2              | A206 (W)                  |
| 3              | Station Approach          |
| 4              | A206 (S)                  |
| 5              | A226 London Road (W)      |
| 6              | A226 London Road (E)      |
| 7              | B255                      |
| 8              | Link Road                 |
| 9              | Craylands Lane            |
| 10             | A226 - London Road        |
| 11             | Pilgrim's Road            |
| 12             | High Street               |
| 13             | A226 - Galley Hill Road   |
| 14             | Lower Road                |
| 15             | A226 - Stonebridge Road   |
| 16             | Grove Road                |
| 17             | B2175 - Stonebridge Road  |
| 18             | A226                      |
| 19             | Link Road                 |
| 20             | Thames Way - A226         |
| 21             | Thames Way - A226         |
| 22             | A2260 (Ebbsfleet Gateway) |
| 23             | International Way         |
| 24             | B259                      |
| 25             | A2260                     |
| 26             | Ackers Drive              |
| 27             | A2 On/Off Slip            |
| 28             | A2260                     |
| 29             | A2 On Slip Road           |
| 30             | A2 Off Slip Road          |

<sup>1</sup> Institute of Environmental Management and Assessment, (2004). Guidelines for Environmental Impact Assessment  
<sup>2</sup> Institute of Environmental Management and Assessment, (1993). Guidance Note Number 1. Guidelines for the Environmental Assessment of Road Traffic.

<sup>3</sup> National Highways, Design Manual for Roads and Bridges, (2021)

Figure 7.1: Key Link Diagram



## Screening

- 7.6 While an overall study area has been identified, the IEMA Guidelines specify two broad rules which can be used as a screening process to limit the scale and extent of the assessment:
- Rule 1: include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
  - Rule 2: include any other specifically sensitive areas where traffic flows have increased by 10% or more on a Link classed as having a sensitivity of Medium or greater.
- 7.7 As a result, the first stage of the assessment is to assess traffic generated by the Proposed Development and identify the links where the changes in traffic flows are less than the rules above. This is undertaken within the assessment presented in this ES chapter.

## Assessment Scenarios

- 7.8 The assessment scenarios set out in **ES Volume 1, Chapter 2: EIA Methodology** are considered within this ES chapter, i.e., Baseline Conditions, Demolition and Construction (Assessment Scenario 1 and 2) and Full Build Out (2031).
- 7.9 The assessment scenarios listed above have been further broken down to account for the various phases of development and cumulative development scenarios, as defined later in this section.

## Baseline Scenarios

- 7.10 The baseline traffic flows used to inform the assessment within the TA (**ES Volume 3, Appendix: Traffic and Transport– Annex 1**) and this ES chapter have been gathered using Automatic Traffic Count (ATC) and Manual Classified Count (MCC) surveys on the local road network.

- 7.11 The ATC Surveys took place between 12<sup>th</sup> July 2022 to 25<sup>th</sup> July 2022 and the MCC surveys took place on Tuesday 12<sup>th</sup> July 2022.
- 7.12 This information has been used to establish the baseline in terms of current traffic on the local roads.
- 7.13 The future baseline scenarios have been calculated by applying the relevant Trip End Model Presentation Programme (TEMPro) growth factor. TEMPRO is the industry standard tool for estimating traffic growth in forecast assessment years, which is required when assessing the traffic impact of a development on the local highway network.
- 7.14 The growth factor has been applied to the baseline scenario and / or through the application of specific development information gathered from approved planning applications. The Future Year baseline scenario includes committed developments and developments with submitted planning applications. Further detail on the schemes which have been considered is outlined later in this ES chapter under the Tier 1 Cumulative Developments. If both TEMPro and manually entered trip information is included then locally committed developments (as listed by Tier 1) would be double counted and the effects on traffic and transport overinflated, and as such this has been avoided.

## Demolition and Construction

- 7.15 The Demolition and Construction (D&C) Assessment gives consideration to the peak demolition and construction activity for each phase of development, as set out in **ES Volume 1, Chapter 2: EIA Methodology**. Furthermore, the assessment considers the potential effects associated with the operational traffic associated with the completion of Phase 1 of the Proposed Development during the construction of Phase 2 in order to allow for a robust assessment of potential traffic and transport effects.

## Full Build Out

- 7.16 The Full Build Out Scenario provides an assessment of the potential traffic and transport effects of the completed and operational Proposed Development for a future year of 2031 (this being the date on which the development is anticipated to be completed) on the study area.

## Future Year Cumulative Scenarios

- 7.17 The Future Year Cumulative Scenarios are designed to assess the local highway network in future years with an allowance for committed developments and cumulative schemes through the application of traffic growth across the study area.
- 7.18 In line with the EIA Scoping opinion, a two-tiered cumulative assessment has been undertaken for the Proposed Development -
- Tier 1 to provide a quantitative assessment of the Proposed Development coming forward alongside those developments which have been submitted for planning approval or already have a resolution to grant, or full planning consent; and
  - Tier 2 comprises all Tier 1 sites plus those developments which are considered likely to come forward for planning approval but do not currently have a live planning application in place. Due to the nature of these developments, some lack sufficient data and detail to allow a comprehensive quantitative assessment to be completed. In these instances, a high-level qualitative assessment has been completed as part of the Tier 2 cumulative assessment of potential effects.
- 7.19 The full cumulative schemes list, which includes all Tier 1 schemes, as assessed in this ES chapter, is provided in **ES Volume 1, Chapter 2: EIA Methodology**. In addition, in response to the EIA Scoping Opinion (see **ES Volume 3, Appendix: EIA Methodology – Annex 2**) the Lower Thames Crossing (LTC) scheme has been considered as an additional cumulative scheme, considered qualitatively in the cumulative assessment.

## Summary

- 7.20 The baseline scenarios provide an understanding of how the highway network operates at present. Considerations including committed developments in the area are included into this scenario. Information regarding committed developments has been based upon feedback from the ES Scoping Opinion submitted.
- 7.21 The Future Years which are considered comprise 2026 (Phase 1 peak demolition and construction), 2029 (Phase 1 operational traffic plus Phase 2 peak demolition and construction traffic) and 2031 (Fully Built Out development). The effect of the cumulative schemes is considered in the 2026, 2029 and 2031 Future Years.
- 7.22 Accordingly, the following scenarios are considered within this ES chapter:

- Baseline Conditions (2022);
- D&C Assessment Scenario 1 (2026) – peak Phase 1 demolition and construction activities (as presented in **ES Volume 1, Chapter 5: Demolition and Construction**);
- D&C Assessment Scenario 2 (2029) – peak Phase 2 demolition and construction activities (as presented in **ES Volume 1, Chapter 5: Demolition and Construction**) plus the operational effects associated with Phase 1;
- Assessment Scenario 3 - Full Build Out (2031); n assessment of the potential effects when the entire Proposed Development (Phase 1 and Phase 2) is completed and operational / in use against the Future Baseline conditions;
- Assessment Scenario 4 - Full Build Out (2031) + Tier 1 Cumulative Development; and
- Assessment Scenario 5 - Full Build Out (2031) + Tier 1 + Tier 2 Cumulative Development.

## Evolution of the Baseline

### Baseline Assessment Scenarios

- 7.23** The Baseline Assessment Scenarios provide an understanding of the performance of the highway network with the known committed developments and infrastructure improvements (i.e. those with planning permission) included. The committed developments for this assessment have been informed by the relevant local authorities and through the application of growth factors derived in consideration of forecast local development growth activity.

### Cumulative Assessment Scenarios

- 7.24** The Cumulative Assessment Scenarios are designed to assess the local highway network in a future year for two discreet options, as set out in paragraph 7.18. These scenarios include the committed developments set out previously (i.e. those with a planning consent and signed S106) but they also include any cumulative developments (i.e. where a planning application has been submitted but is yet to be consented) and / or schemes considered strategically significant in the local area, such as the London Resort Tier 2 scheme, that have the potential to result in significant in-combination effects when considered alongside the Proposed Development. The approach to these has been through a combination of the application of appropriate traffic growth factors, a review of submitted application material and through high-level qualitative research. The purpose of this is to allow the Highway Authority to plan future improvements to transport networks including the walking, cycling, public transport and highway networks.

## Summary of Scenarios and Assessments

- 7.25** On the basis of the above, the relevant scenarios for the assessment presented in this ES chapter are summarised below in **Table 7.2**.

**Table 7.2 Summary of Assessment Scenarios**

| Scenario Number | Scenario                                                | Existing Traffic Flows | Traffic Growth | Proposed Development | Cumulative Development |
|-----------------|---------------------------------------------------------|------------------------|----------------|----------------------|------------------------|
| 1               | 2026 D&C Assessment Scenario 1                          | ✓                      | ✓              | ✗                    | ✗                      |
| 2               | 2029 D&C Assessment Scenario 2                          | ✓                      | ✓              | Phase 1 only         | ✗                      |
| 3               | 2031 Full Build Out                                     | ✓                      | ✓              | ✓                    | ✗                      |
| 4               | 2031 Full Build Out + Cumulative Tier 1                 | ✓                      | ✓              | ✓                    | ✓                      |
| 5               | 2031 Full Build Out + Cumulative Tier 2 (London Resort) | ✓                      | ✓              | ✓                    | ✓                      |

## Impact Assessment Methodology

- 7.26** The following information sources were recorded in respect to the existing traffic and transport conditions of the Proposed Development and study area:
- Traffic counts.
  - On-site observations; and.

- Accident Data obtained from the CrashMap.co.uk website in September 2022.

- 7.27** Detail regarding the information sources is provided in **ES Volume 3, Appendix: Traffic and Transport–Annex 1**.

- 7.28** In terms of traffic and transport related impacts, the upper limits on the amount of development sought for approval represents the worst-case, as a greater amount of floorspace or number of residential units for example leads to a higher trip generation. Where flexible uses are proposed (i.e., Use Class E(c, d, e, f)) a worst-case approach has been adopted to define the trip generation which has informed the air quality and noise assessments, in this instance, the highest trip generating use associated with a Local Services use has been applied to these flexible uses so it is considered that a worst-case scenario has been accounted for. With regards to the Stadium use, a proportion of the retail and food & beverage for the Proposed Development will be provided within the Stadium and this has been accounted for within the assessment. These assumptions are set out within **ES Volume 3, Appendix: Traffic and Transport – Annex 1**. This approach is considered a reasonable worst-case scenario.

- 7.29** Therefore, the assessment presented within this ES chapter is based upon the following parameters:

- Realignment of the A226 Galley Hill Road / Stonebridge Road;
- Up to 3,500 residential units (Use Class C3);
- A new multi-use stadium (with associated facilities) with up to 8,000 seats and up to 15,000m<sup>2</sup> Gross External Area (GEA) (Sui Generis Use);
- Up to 22,500m<sup>2</sup> (GEA) Use Class E(a) retail floorspace;
- Up to 9,500m<sup>2</sup> (GEA) Use Class E(b) food and beverage floorspace;
- Up to 18,000m<sup>2</sup> (GEA) Use Class E(g) office floorspace;
- Up to 5,000m<sup>2</sup> (GEA) 'other' flexible use, comprising local services, indoor sport, recreation and fitness, medical or health services, crèche or nursery, etc.) (Use Class E(c, d, e, f));
- Up to 4,000m<sup>2</sup> (GEA) (Use Class F2) local community use and other Sui Generis uses; and
- Approximate 300 room hotel (Use Class C1), comprising up to 20,000m<sup>2</sup> (GEA) floorspace.

## Phasing

- 7.30** The phasing of the Proposed Development has been considered as part of the assessment undertaken in this ES chapter, as detailed previously. Further information on the indicative construction programme is provided in **ES Volume 1, Chapter 5: Demolition and Construction**.

- 7.31** The peak demolition and construction traffic associated with each phase has been considered.

## Demolition and Construction

- 7.32** The construction traffic forecast has been determined using information provided in **ES Volume 1, Chapter 5: Demolition and Construction**, which is based on estimates of demolition quantities and excavation volumes, and construction material and waste quantities together with the outline demolition and construction programme to estimate the number of vehicles and resulting vehicle movements associated with the works programme.

- 7.33** The D&C phase assessment are based on the peak periods for the construction of the Proposed Development (i.e. the points in the construction programme where the most construction related works are anticipated to take place with regards to Phase 1 and Phase 2 of the Proposed Development respectively).

- 7.34** As stated in **ES Volume 1, Chapter 5: Demolition and Construction**, the anticipated average monthly number of vehicles is expected to peak during month 30 of the construction period which equates to an average peak of 107 HDVs per day or 214 vehicle movements however the peak daily movements could be 20% higher than that for some periods of works during this phase, resulting in a total of 128 HDVs per day.

- 7.35** With regards to the Phase 2 of the Proposed Development, the anticipated average monthly number of vehicles is expected to peak during months 71 and 72 of the construction period (anticipated to be Q3 2029 based on the indicative programme). This equates to an average peak of 72 HDVs per day, or 144 vehicle movements. This corresponds with the peak Phase 2 construction activity, associated with the construction of Plots 9, 10, 11, 12, 13, and 14. However, as noted above, the peak daily movements could be up to 20% higher than that for some periods of works during this phase, resulting an approximate total of 86 HDV per day.

## Proposed Development

- 7.36** The assumptions with regards to the Proposed Development assessed as part of this ES chapter are set out above.
- 7.37** The methodology for estimating the trip generation of the Proposed Development is set out in detail within **ES Volume 3, Appendix: Traffic and Transport – Annex 1**. This in part utilises the information from the TRICS database which is an industry standard database of sites with various land uses which have been surveyed to understand the likely trip generating propensity of each land use which can then be applied to similar developments with similar accessibility characteristics.
- 7.38** The vehicle trips associated with the Proposed Development have then been distributed across the study area based on data recorded from the 2022 traffic surveys and through first principle calculations (development traffic has been assigned to routes based on where the traffic is generated within the site i.e. the closest access junction will be used). A detailed explanation of the traffic distribution is provided in **ES Volume 3, Appendix: Traffic and Transport – Annex 1**.
- 7.39** Heavy Duty Vehicle (HDV) trips have been distributed using the indicative construction routing set out in **ES Volume 1, Chapter 5: Demolition and Construction** and professional judgement, based on population density of regions around the country and proximity to/likely use of the strategic road network.

## Assumptions and Limitations

- 7.40** The main limitation to the baseline conditions presented within this ES chapter is the precision of the traffic counts that form the baseline scenario. The link counts would have been recorded over a week and are typically subject to an accuracy of + or – 10%.
- 7.41** A review of the **ES Volume 1, Chapter 5: Demolition and Construction** identifies no consideration for, nor inclusion, of hazardous loads associated with either the demolition of construction phases of development. However, given the nature of demolition and potential unknown variables with regard to ground conditions and the potential need for remediation works (as set out within **ES Volume 1, Chapter 15: Water Resources, Flood Risk, Drainage and Ground Conditions**) and existing on-site buildings, the assessment of hazardous loads has been included for Assessment Scenarios 1 and 2.
- 7.42** Given the nature of the Proposed Development however, it has been assumed that the Proposed Development is not expected to involve the transportation of dangerous or hazardous loads by road and as such this has therefore not been included for Assessments 3, 4 and 5 within this ES chapter.
- 7.43** The assessment of traffic and transport effects is also based upon the development of a realigned highway network within the proximity of the site. This includes the realignment of the A226 Galley Hill Road both within and outside of the red line boundary of the site. It also includes for the removal of the existing Grove Road / A226 Galley Hill Road and B2175 Stonebridge Road roundabout. All of these works are considered as part of the development for the purposes of assessment, falling under control of the local highway authority, to be secured through appropriate planning conditions. A full list of the assumptions and proposed highway works are set out within the Transport Assessment included at **ES Volume 3, Appendix: Traffic and Transport–Annex 1**.

## Methodology for Defining Effects

### Receptors and Receptor Sensitivity

- 7.44** The significance criteria within the IEMA Guidelines provide definitions of environmentally sensitive receptors, as well as affected groups and special interests. It further advises that the traffic effects from a Proposed Development should be considered in respect of these receptors.
- 7.45** The sensitivity of a road or street can be defined by the vulnerability of the user groups who may use it, e.g., elderly people or children. A sensitive area may be where pedestrian activity is high, for example, in the vicinity of a school or where there is already an existing safety issue. It should be noted that the sensitivity of the receptor is judged on the sensitivity of road users (primarily pedestrians). It also takes account of the existing nature of the road e.g., an existing 'A' road is likely to have a lower sensitivity than a minor residential road.
- 7.46** **Table 7.3** details the environmentally sensitive receptors as defined by the IEMA Guidelines.

**Table 7.3 Receptor Sensitivity Criteria**

| Receptor Type                                                                                                                                                                                                                                                                                                                                                       | Receptor Sensitivity |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident clusters, retirement homes, road without footways that are used by pedestrians                                                                                                                                                                                          | High                 |
| Traffic flow sensitive receptors: congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, recreation facilities                                                                                                                                                                                      | Medium               |
| Receptors with some sensitivity to traffic flow: places of worship, public open space, tourist attractions and residential areas with adequate footway provision                                                                                                                                                                                                    | Low                  |
| Receptors with low sensitivity to traffic flows and those sufficiently distance from affected roads and junctions: links where no pedestrian activity occurs and where there is no provision for pedestrians. For example, strategic roads such as motorways and trunk roads or rural roads where there are no pedestrian-generating land uses within the vicinity. | Very Low             |

- 7.47** A desktop exercise has been undertaken to identify the sensitivity of each receptor in the study area. All road links within the study area have been assessed and assigned sensitivity, primarily based on the criteria set out in the above table and the assessors professional experience and judgement. The sensitivity of each link is provided in the 'Receptors and Receptor Sensitivity' section of this ES chapter.

### Magnitude of Impact

- 7.48** Each impact is determined as the predicted deviation from the baseline conditions. The IEMA Guidelines advise that changes in traffic flow can be categorised by the magnitude of change and categorised as a magnitude of impact accordingly. This guidance sets out considerations, and in some cases thresholds, in respect of changes in the volume and composition of traffic to facilitate a subjective judgement of traffic impact and magnitude of impact. These thresholds are guidance only and provide a starting point by which a detailed analysis will inform a subjective analysis of the impact magnitude.
- 7.49** Within the IEMA Guidelines, two broad rules set out above indicate that increases in traffic flows which are greater than 10% (sensitive links) and greater than 30% (not sensitive links) are the starting point for any assessment.
- 7.50** Where the predicted increase in traffic flows is lower than the above thresholds, the IEMA Guidelines suggest that the significance of the effects can be stated to be Negligible and not significant and further detailed assessments are not warranted. Furthermore, increases in traffic flows below 10% are generally considered to be insignificant in environmental impact terms, given that daily variations in background traffic flow may vary by this amount.
- 7.51** The criteria relating to the magnitude of impact are 'negligible', 'low', 'medium or 'high'.
- 7.52** **Table 7.4** demonstrates the criteria used to determine magnitude of impacts. However, the absolute level of an impact is also important e.g., the total flow of traffic or HDVs on a link. This is because an increase of, for example, 100% in the traffic flow on a road is likely to still lead to impacts of Negligible or low magnitude if the existing flows are low.

**Table 7.4 Summary of Magnitude of Impact (Based on IEMA Guidelines)**

| Issue/Impact          | Magnitude of Impact                                                                                                                                 |                                                                                                                                              |                                                |                                               |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------|
|                       | Negligible                                                                                                                                          | Low                                                                                                                                          | Medium                                         | High                                          |
| Severance             | Change in total traffic or HDV flows of less than 30%                                                                                               | Change in total traffic or HDV flows of 30-60%                                                                                               | Change in total traffic or HDV flows of 60-90% | Change in total traffic or HDV flows over 90% |
| Driver Delay          | A judgement based on the journey time assessment within the traffic model and the results of junction capacity assessment                           |                                                                                                                                              |                                                |                                               |
| Pedestrian Delay      | Two-way traffic flow < 1,400 vehicles per hour                                                                                                      | A judgement based on the road links with two-way traffic flow exceeding 1,400 vehicles per hour in context of the individual characteristics |                                                |                                               |
| Pedestrian Amenity    | Change in total traffic or HDV flows of less than 100%                                                                                              | A judgement based on the routes with >100% change in context of their individual characteristics                                             |                                                |                                               |
| Fear and Intimidation | A judgement based on the volume of traffic, HDV composition, proximity to people and the level of protection and summarised in this ES Chapter      |                                                                                                                                              |                                                |                                               |
| Accidents and Safety  | A judgement based on quantitative analysis set out in <b>ES Volume 3, Appendix: Traffic and Transport–Annex 1</b> and summarised in this ES chapter |                                                                                                                                              |                                                |                                               |

Defining the Effect and Effect Significance

- 7.53 The scale of an effect has been judged based on the relationship between the magnitude of impact and the assessed sensitivity of the receptor.
- 7.54 Table 7.5 presents the Scale of Effects Matrix used within this assessment.

Table 7.5 Scale of Effects Matrix

| Magnitude of Impact | Sensitivity of Receptor                   |                                           |                                           |                              |
|---------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------|
|                     | High                                      | Medium                                    | Low                                       | Very Low                     |
| High                | Major (Significant)                       | Major (Significant)                       | Moderate (Significant or Not Significant) | Minor (Not Significant)      |
| Medium              | Major (Significant)                       | Moderate (Significant or Not Significant) | Minor (Not Significant)                   | Minor (Not Significant)      |
| Low                 | Moderate (Significant or Not Significant) | Minor (Not Significant)                   | Minor (Not Significant)                   | Negligible (Not Significant) |
| Negligible          | Minor (Not Significant)                   | Minor (Not Significant)                   | Negligible (Not Significant)              | Negligible (Not Significant) |

- 7.55 Potential effects are therefore concluded to be of Negligible, Minor, Moderate or Major in scale. For each effect, it is concluded whether the effect is 'Beneficial' or 'Adverse'. Whether an effect is considered to be significant or not is identified above.
- 7.56 The following terms have been used to define the scale of effects:
- **Major:** where the Proposed Development is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity. This effect is considered to be 'Significant';
  - **Moderate:** where the Proposed Development is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability. This effect is considered more likely to be 'Significant', but will be subject to professional judgement;
  - **Minor:** where the Proposed Development is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Development is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change. This effect is considered likely to be 'Not Significant' but will be subject to professional judgement; and
  - **Negligible:** where the Proposed Development is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change. This effect is 'Not Significant.'
- 7.57 The temporal range of effects is described as short, medium or long term, or temporary or permanent, as shown below. For the assessment of the Proposed Development's operational phase, the impacts are permanent, whereas for construction they are likely to be short to long term and temporary.
- Temporary:
  - Short term: < 12 months;
  - Medium term: 1 – 5 years;
  - Long term: + 5 years; and
  - Permanent: effects that are considered to be long lasting.
- 7.58 At a spatial level, 'site' or 'local' effects are those affecting the site and neighbouring receptors, while effects upon receptors in the Ebbsfleet Development Corporation (EDC) and GBC beyond the vicinity of the site and its neighbours, are at a 'district' level. Effects affecting Kent are at a 'regional' level, whilst those which affect different parts of the country, or England as a whole, are at a 'national' level.

BASELINE CONDITIONS

Pedestrian and Cycle Network

- 7.59 Footways are present along both sides of the A226 (which bisects the site) with street lighting provided throughout. The footways are adequately surfaced, with dropped kerbs and tactile paving present at times. These footways continue along the B175 (Stonebridge Road) and the A226 to the north with footway connections also provided from the site to Ebbsfleet International station.
- 7.60 Further pedestrian routes are also available in the form of Public Right of Ways (PROWs). To the south, a pedestrian footpath provides access to the site via a footway over the railway line towards Swanscombe. An additional promoted PROW route travels through the site with a general north south alignment. This route travels northwest from Gravesend passing through the site and into the marshes (Swanscombe Peninsula Site of Special Scientific Interest).
- 7.61 With regard to cycling, there is a local cycle route along the A226 to the south of the site that consists of an off carriageway shared cycleway. This carriageway continues to travel southbound along the A226 (Thames Way) towards Gravesend. At the A226/A2260 junction, 1.2km from the site the local cycle route changes to become National Cycle Network (NCN) Route 1, however the route characteristics remain the same.
- 7.62 NCN Route 1 is a long-distance cycle route that runs from Kent to Essex passing through central London. In closer proximity to the site, the route provides access to Gravesend to the east and Dartford to the west. Further to the south, NCN Route 1 provides access to NCN Route 177.
- 7.63 Figures 7.2 and 7.3 illustrate the walking and cycling routes in the vicinity of the site.

Figure 7.2: Walking Routes

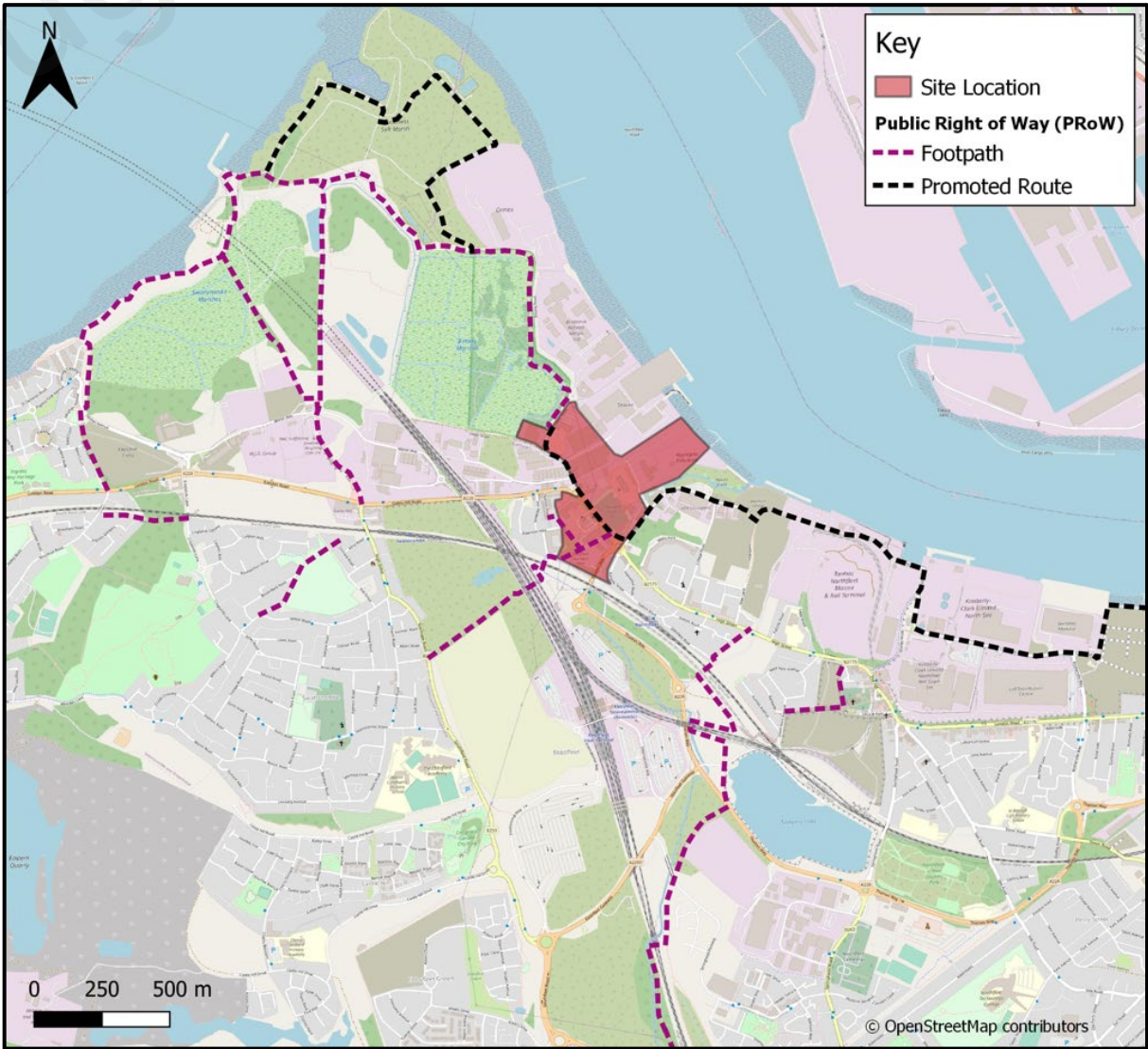
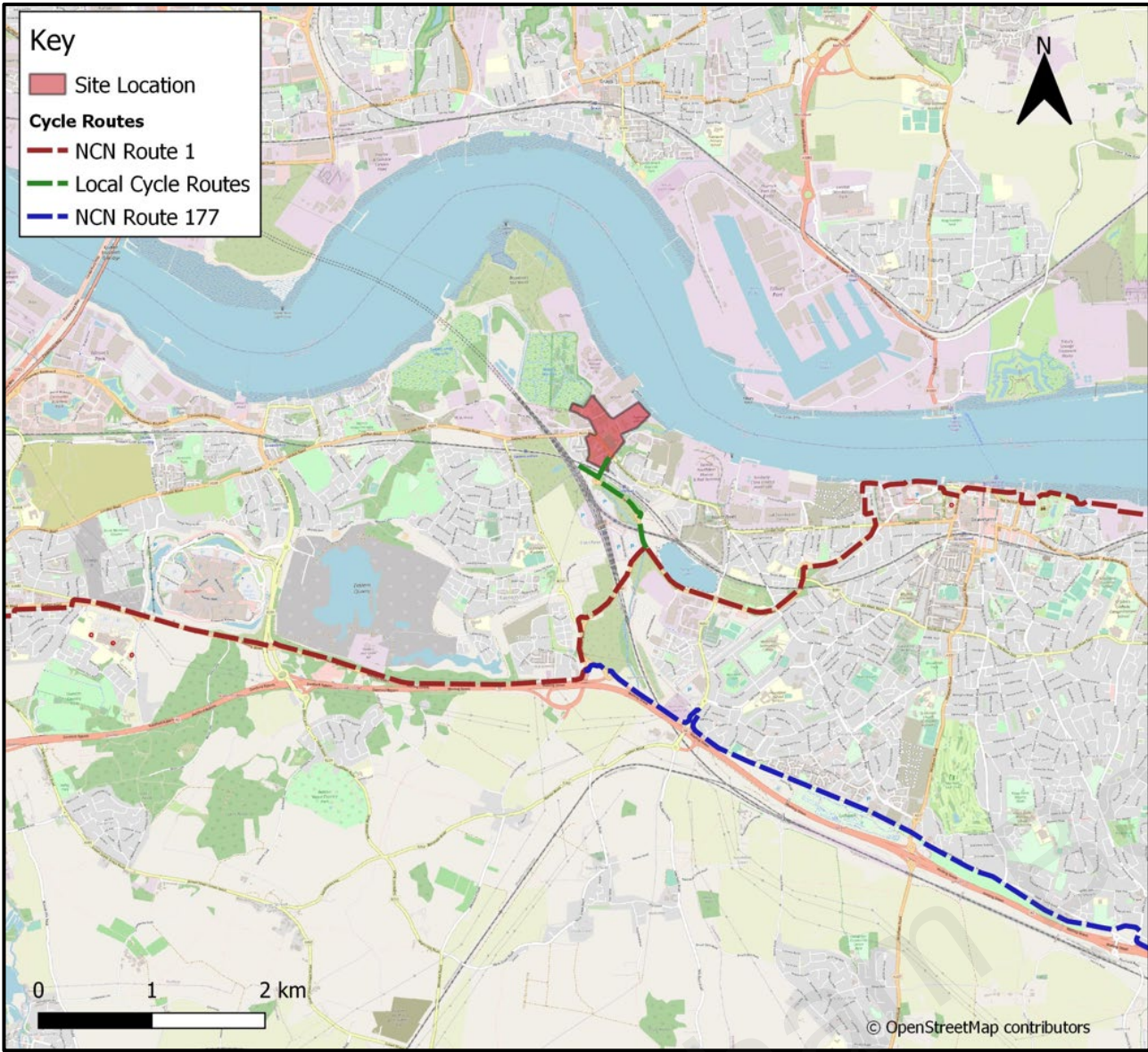


Figure 7.3: Cycling Routes



Public Transport Network

Bus Services

- 7.64 There are a number of bus stops within walking distance of the site, including one stop within the site at the Ebbsfleet United Football Ground. A second bus stop, Taunton Road is located along the A226 approximately 200m north of the Ebbsfleet United Football Ground. Both of these bus stops have raised kerbs and timetables present.
- 7.65 A summary of the services that serve the bus stops in the vicinity of the site is set out in Table 7.6.

Table 7.6 Bus Services Serving the Site

| Stop Name                          | Route Number | Route                   | Weekday Frequency      | Saturday Frequency | Sunday Frequency |
|------------------------------------|--------------|-------------------------|------------------------|--------------------|------------------|
| Ebbsfleet Football Ground Bus Stop | AZ Fastrack  | Dartford - Gravesend    | 5 per day              | 5 per day          | 5 per day        |
|                                    | B Fastrack   | Temple Hill - Gravesend | 5 per hour             | 5 per hour         | 3 per hour       |
|                                    | 34           | New Barn - Wilmington   | 1 per day (School Bus) | No Service         | No Service       |

| Stop Name             | Route Number | Route                                 | Weekday Frequency      | Saturday Frequency | Sunday Frequency |
|-----------------------|--------------|---------------------------------------|------------------------|--------------------|------------------|
|                       | 3            | Gravesend - Wilmington Grammar School | 1 per day (School Bus) | No Service         | No Service       |
|                       | 306          | Sevenoaks – Bluewater                 | 1 morning Service      | 5 evening services | No Service       |
|                       | 308          | Gravesend - Sevenoaks                 | 1 per hour             | 1.5 per hour       | No Service       |
| Taunton Road Bus Stop | 480          | Dartford - Riverview Park             | 3 per hour             | 3 per hour         | 2 per hour       |
|                       | 490          | Dartford - Gravesend                  | 3 per hour             | 3 per hour         | 2 per hour       |

Rail Services

- 7.66 The closest railway station to the site is Northfleet Rail Station which is located approximately 450m to the southeast of the site. This station can also be reached using the 480 and 490 bus services which stop at the Hive bus stop situated approximately 240m from Northfleet Station on the B2175 High Street. Rail services from Northfleet travel to destinations including London Charing Cross and Luton.
- 7.67 Ebbsfleet International Station is also located in close proximity to the site, approximately 800m to the south of Ebbsfleet United Football Club. Ebbsfleet International Station has provision for approximately 3,000 car parking spaces and approximately 100 cycle parking spaces. London St Pancras can be reached in 20 minutes from Ebbsfleet International.
- 7.68 Table 7.7 presents the rail services operating at both Northfleet Station and Ebbsfleet International, along with their frequencies.

Table 7.7 Rail Route and Frequencies

| Station                 | Operator     | Route                                                               | Weekday Frequency | Saturday Frequency | Sunday Frequency |
|-------------------------|--------------|---------------------------------------------------------------------|-------------------|--------------------|------------------|
| Ebbsfleet International | Southeastern | St Pancras International - Ebbsfleet International - Ramsgate       | 2 per hour        | 2 per hour         | 2 per hour       |
|                         | Southeastern | St Pancras International - Ebbsfleet International - Maidstone West | 3 per day         | No Service         | No Service       |
|                         | Southeastern | St Pancras International - Ebbsfleet International - Gravesend      | 2 per hour        | 1 per hour         | 1 per hour       |
| Northfleet Station      | Southeastern | St Pancras International - Northfleet - Rainham                     | 2 per hour        | 2 per hour         | 2 per hour       |
|                         | Southeastern | London Charing Cross - Northfleet - Gravesend                       | 2 per hour        | 2 per hour         | 2 per hour       |
|                         | Thameslink   | Luton - Northfleet - Rainham                                        | 2 per hour        | 2 per hour         | 2 per hour       |

Local Highway Network

A226

- 7.69 The A226 has a general east-west alignment travelling between Dartford and Gravesend. The A226 comprises a two-way single carriageway with sections operating at both 30mph and 40mph. Throughout pedestrian

footways are present on at least one side of the carriageway along with street lighting. The A226 runs through the site, along this section there is a ghost island right turn bay adjacent to the football ground, along with bus stops, pedestrian footways and street lighting.

7.70 To the west of the site the A226 continues for approximately 3km until it reaches the A206 / A226 / B255 roundabout junction. The A226 continues westbound from the roundabout towards Dartford. To the southeast the A226 continues for 3.7km until it reaches the Thames Way/London Road priority junction.

A206

7.71 The A206 has a general east west alignment travelling between the A206 / A226 / B255 roundabout and the M25 Junction 1A. Throughout this is a dual carriageway that is subject to a 40mph speed limit. The A206 has a pedestrian footway along at least one side of the carriageway throughout along with an in-carriageway cycle lane for extended sections. To the west the A206 provides access to Junction 1A of the M25, to the east it provides access to the A206 / A226 / B255 roundabout

A2206

7.72 1.1km to the southwest of the site, the A226 also provides a connection to the A2206. The A2206 comprises a two-way single carriageway road with sections operating at 40mph and 50mph. There is a shared cycle/footway travelling along the northern side of the carriageway, street lighting is present throughout. The A2206 provides a strategic link to the A2 corridor further south.

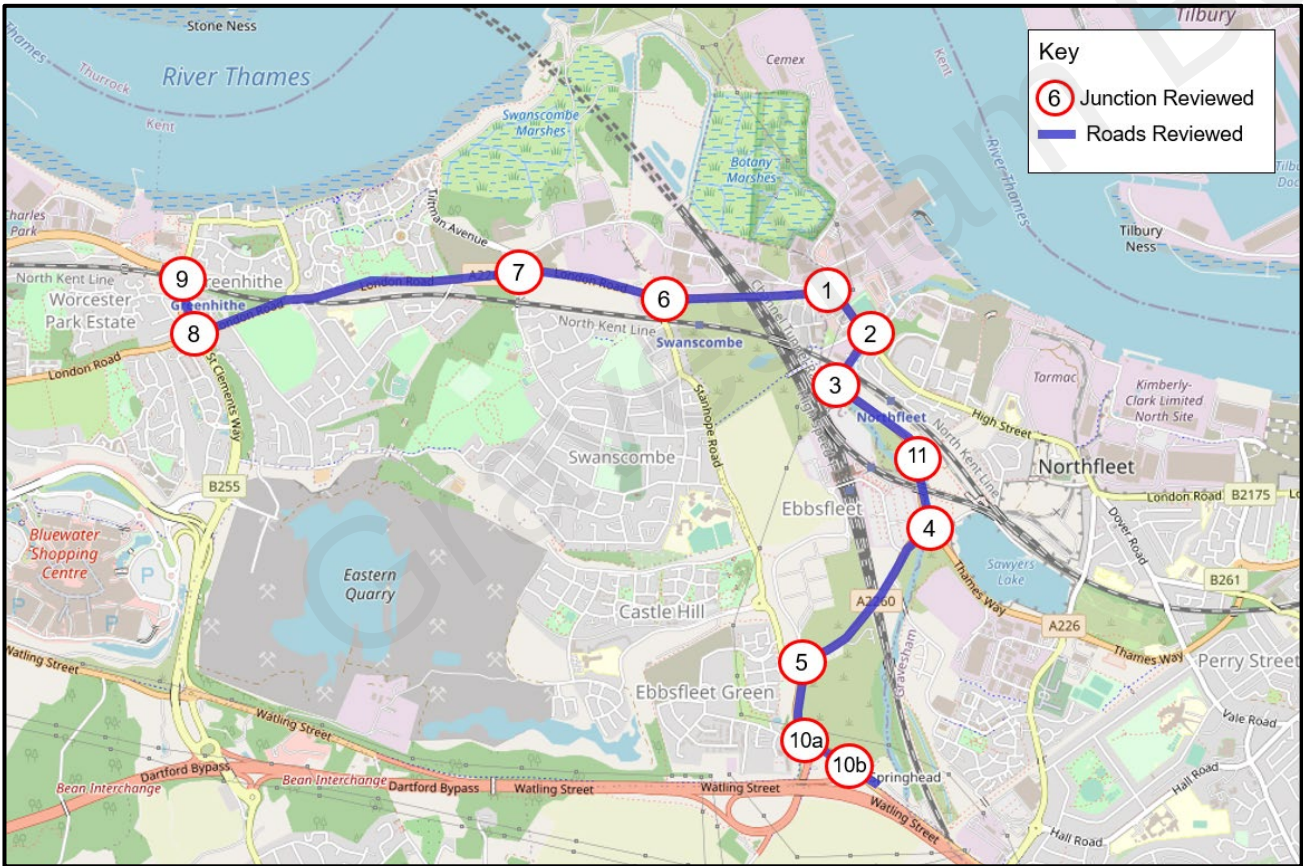
A2

7.73 The A2 has an east west alignment and provides a strategic link through Kent to both the east and west extending east to Dover and west beyond Kent into London. The A2 has multilane carriageways operating in both directions. This road operates at the national speed limit. The A2 is accessed and egressed using the most relevant slip roads.

Personal Injury Collisions

7.74 Personal Injury Collision (PIC) data has been obtained from KCC for the most recent 5-year period (01/09/2016 to 31/08/2021). The roads / junctions covered by the survey area are shown in Figure 7.4.

Figure 7.4: PIC Data Study Area



7.75 A detailed analysis of the PIC data is provided within ES Volume 3, Appendix: Traffic and Transport– Annex 1.

7.76 Table 7.8 summarises the total collisions which have been recorded within the study area. All collisions have been classed into three categories: Slight, Serious and Fatal. Slight collisions are those in which at least one person suffers slight injuries but no-one is seriously injured or fatally injured. Serious collisions are those in which at least one person is seriously injured but no-one suffers a fatal injury; a serious injury is one which does not cause death less than 30 days after the collision. A Fatal collision is one in which at least one person is fatally injured which causes death in less than 30 days after the collision.

Table 7.8 Collision Data Summary

| Severity | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|----------|------|------|------|------|------|------|
| Slight   | 16   | 9    | 10   | 9    | 4    | 0    |
| Serious  | 4    | 3    | 2    | 4    | 1    | 0    |
| Fatal    | 0    | 0    | 0    | 0    | 0    | 0    |

7.77 In total there were 62 collisions within the study area, 48 of which were slight, 14 serious, and 0 fatal. The collisions shown in Table 7.8 have been summarised by location in detail within ES Volume 3, Appendix: Traffic and Transport– Annex 1.

Baseline Traffic Flows (Base Year)

7.78 Table 7.9 outlines the baseline traffic flows (Annual Average Daily Traffic (AADT)) for the Base Year 2022 at each of the links within the study area (as shown in Figure 7.1 and Table 7.1).

Table 7.9 2022 Baseline 24 Hour AADT Data

| Link | Location                  | Total Vehicles | HDV  |
|------|---------------------------|----------------|------|
| 1    | Station Road              | 3917           | 53   |
| 2    | A206 (W)                  | 25353          | 1335 |
| 3    | Station Approach          | 1820           | 549  |
| 4    | A206 (S)                  | 25927          | 1417 |
| 5    | A226 London Road (W)      | 18632          | 423  |
| 6    | A226 London Road (E)      | 15392          | 1316 |
| 7    | B255                      | 30527          | 1274 |
| 8    | Link Road                 | 4787           | 1111 |
| 9    | Craylands Lane            | 3315           | 62   |
| 10   | A226 - London Road        | 10238          | 980  |
| 11   | Pilgrim's Road            | 50             | 6    |
| 12   | High Street               | 6327           | 115  |
| 13   | A226 - Galley Hill Road   | 12237          | 1027 |
| 14   | Lower Road                | 4936           | 1022 |
| 15   | A226 - Stonebridge Road   | 15658          | 1590 |
| 16   | Grove Road                | 2215           | 476  |
| 17   | B2175 - Stonebridge Road  | 10126          | 431  |
| 18   | A226                      | 10261          | 1565 |
| 19   | Link Road                 | 10574          | 1551 |
| 20   | Thames Way - A226         | 11011          | 1895 |
| 21   | Thames Way - A226         | 12094          | 1551 |
| 22   | A2260 (Ebbsfleet Gateway) | 16899          | 2881 |
| 23   | International Way         | 2970           | 521  |

| Link | Location         | Total Vehicles | HDV  |
|------|------------------|----------------|------|
| 24   | B259             | 8726           | 230  |
| 25   | A2260            | 31100          | 4664 |
| 26   | Ackers Drive     | 6739           | 299  |
| 27   | A2 On/Off Slip   | 21399          | 2611 |
| 28   | A2260            | 16559          | 2874 |
| 29   | A2 On Slip Road  | 18962          | 1237 |
| 30   | A2 Off Slip Road | 20211          | 1708 |

Baseline Traffic Flows (2026 Base Year)

7.79 Table 7.10 outlines the baseline traffic flows for the Base Year 2026.

Table 7.10 2026 Baseline 24 Hour AADT Data

| Link | Location                  | Total Vehicles | HDV  |
|------|---------------------------|----------------|------|
| 1    | Station Road              | 4040           | 55   |
| 2    | A206 (W)                  | 26152          | 1377 |
| 3    | Station Approach          | 1877           | 566  |
| 4    | A206 (S)                  | 26744          | 1461 |
| 5    | A226 London Road (W)      | 19218          | 436  |
| 6    | A226 London Road (E)      | 15877          | 1357 |
| 7    | B255                      | 31489          | 1314 |
| 8    | Link Road                 | 4938           | 1146 |
| 9    | Craylands Lane            | 3419           | 64   |
| 10   | A226 - London Road        | 10561          | 1011 |
| 11   | Pilgrim's Road            | 52             | 6    |
| 12   | High Street               | 6526           | 118  |
| 13   | A226 - Galley Hill Road   | 12623          | 1060 |
| 14   | Lower Road                | 5091           | 1054 |
| 15   | A226 - Stonebridge Road   | 16152          | 1640 |
| 16   | Grove Road                | 2284           | 491  |
| 17   | B2175 - Stonebridge Road  | 10445          | 445  |
| 18   | A226                      | 10584          | 1614 |
| 19   | Link Road                 | 10907          | 1600 |
| 20   | Thames Way - A226         | 11358          | 1955 |
| 21   | Thames Way - A226         | 12475          | 1600 |
| 22   | A2260 (Ebbsfleet Gateway) | 17431          | 2972 |
| 23   | International Way         | 3064           | 537  |
| 24   | B259                      | 9001           | 237  |
| 25   | A2260                     | 32080          | 4811 |
| 26   | Ackers Drive              | 6951           | 308  |
| 27   | A2 On/Off Slip            | 22073          | 2693 |
| 28   | A2260                     | 17081          | 2965 |
| 29   | A2 On Slip Road           | 19559          | 1276 |
| 30   | A2 Off Slip Road          | 20847          | 1762 |

Baseline Traffic Flows (2029 Base Year)

7.80 Table 7.11 outlines the baseline traffic flows for the Base Year 2029.

Table 7.11 2029 Baseline 24 Hour AADT Data

| Link | Location                  | Total Vehicles | HDV  |
|------|---------------------------|----------------|------|
| 1    | Station Road              | 4151           | 56   |
| 2    | A206 (W)                  | 26870          | 1415 |
| 3    | Station Approach          | 1929           | 582  |
| 4    | A206 (S)                  | 27478          | 1501 |
| 5    | A226 London Road (W)      | 19746          | 448  |
| 6    | A226 London Road (E)      | 16313          | 1395 |
| 7    | B255                      | 32353          | 1350 |
| 8    | Link Road                 | 5074           | 1178 |
| 9    | Craylands Lane            | 3513           | 65   |
| 10   | A226 - London Road        | 10850          | 1038 |
| 11   | Pilgrim's Road            | 53             | 6    |
| 12   | High Street               | 6706           | 122  |
| 13   | A226 - Galley Hill Road   | 12969          | 1089 |
| 14   | Lower Road                | 5231           | 1083 |
| 15   | A226 - Stonebridge Road   | 16595          | 1685 |
| 16   | Grove Road                | 2347           | 504  |
| 17   | B2175 - Stonebridge Road  | 10732          | 457  |
| 18   | A226                      | 10874          | 1659 |
| 19   | Link Road                 | 11207          | 1644 |
| 20   | Thames Way - A226         | 11669          | 2009 |
| 21   | Thames Way - A226         | 12818          | 1644 |
| 22   | A2260 (Ebbsfleet Gateway) | 17909          | 3053 |
| 23   | International Way         | 3148           | 552  |
| 24   | B259                      | 9248           | 243  |
| 25   | A2260                     | 32960          | 4943 |
| 26   | Ackers Drive              | 7142           | 316  |
| 27   | A2 On/Off Slip            | 22678          | 2767 |
| 28   | A2260                     | 17550          | 3046 |
| 29   | A2 On Slip Road           | 20096          | 1311 |
| 30   | A2 Off Slip Road          | 21419          | 1810 |

Baseline Traffic Flows (2031 Base Year)

7.81 Table 7.12 outlines the baseline traffic flows for the Base Year 2031.

Table 7.12 2031 Baseline 24 Hour AADT Data

| Link | Location             | Total Vehicles | HDV  |
|------|----------------------|----------------|------|
| 1    | Station Road         | 4225           | 57   |
| 2    | A206 (W)             | 27351          | 1441 |
| 3    | Station Approach     | 1963           | 592  |
| 4    | A206 (S)             | 27970          | 1528 |
| 5    | A226 London Road (W) | 20100          | 456  |

| Link | Location                  | Total Vehicles | HDV  |
|------|---------------------------|----------------|------|
| 6    | A226 London Road (E)      | 16605          | 1420 |
| 7    | B255                      | 32933          | 1374 |
| 8    | Link Road                 | 5165           | 1199 |
| 9    | Craylands Lane            | 3576           | 66   |
| 10   | A226 - London Road        | 11045          | 1057 |
| 11   | Pilgrim's Road            | 54             | 6    |
| 12   | High Street               | 6826           | 124  |
| 13   | A226 - Galley Hill Road   | 13201          | 1108 |
| 14   | Lower Road                | 5325           | 1102 |
| 15   | A226 - Stonebridge Road   | 16892          | 1715 |
| 16   | Grove Road                | 2389           | 513  |
| 17   | B2175 - Stonebridge Road  | 10924          | 465  |
| 18   | A226                      | 11069          | 1688 |
| 19   | Link Road                 | 11407          | 1673 |
| 20   | Thames Way - A226         | 11879          | 2045 |
| 21   | Thames Way - A226         | 13047          | 1673 |
| 22   | A2260 (Ebbsfleet Gateway) | 18230          | 3108 |
| 23   | International Way         | 3204           | 562  |
| 24   | B259                      | 9414           | 248  |
| 25   | A2260                     | 33551          | 5032 |
| 26   | Ackers Drive              | 7270           | 322  |
| 27   | A2 On/Off Slip            | 23085          | 2816 |
| 28   | A2260                     | 17864          | 3101 |
| 29   | A2 On Slip Road           | 20456          | 1335 |
| 30   | A2 Off Slip Road          | 21803          | 1842 |

RECEPTORS AND RECEPTOR SENSITIVITY

Existing Receptors

- 7.82
- As stated (see **Table 7.3**), the sensitivity of receptors is considered on a scale of high, medium, low or very low. The sensitivity of a road can be defined by the vulnerability of the user groups who may use it, e.g. elderly people, or children.
- 7.83
- A sensitive area may be where pedestrian activity may be high, for example in the vicinity of a school or where there is already an accident issue. It also takes account of the existing nature of the road, e.g., an existing ‘A’ road is likely to have a lower sensitivity than a minor residential road as it is already used by a larger volume of traffic; therefore a small increase in vehicle flow would have a smaller change in the nature of the road.
- 7.84
- A detailed site visit and supplementary desktop exercise has been undertaken to identify the sensitivity of each receptor in the study area as presented in **Table 7.13**. All links within the study area have been assessed and assigned sensitivity primarily based on the criteria set out in **Table 7.3** and the assessors’ professional experience and judgement.
- 7.85
- The location and sensitivity of the receptors considered within this assessment are shown on **Figure 7.5**.

Figure 7.5: Sensitive Receptor Locations

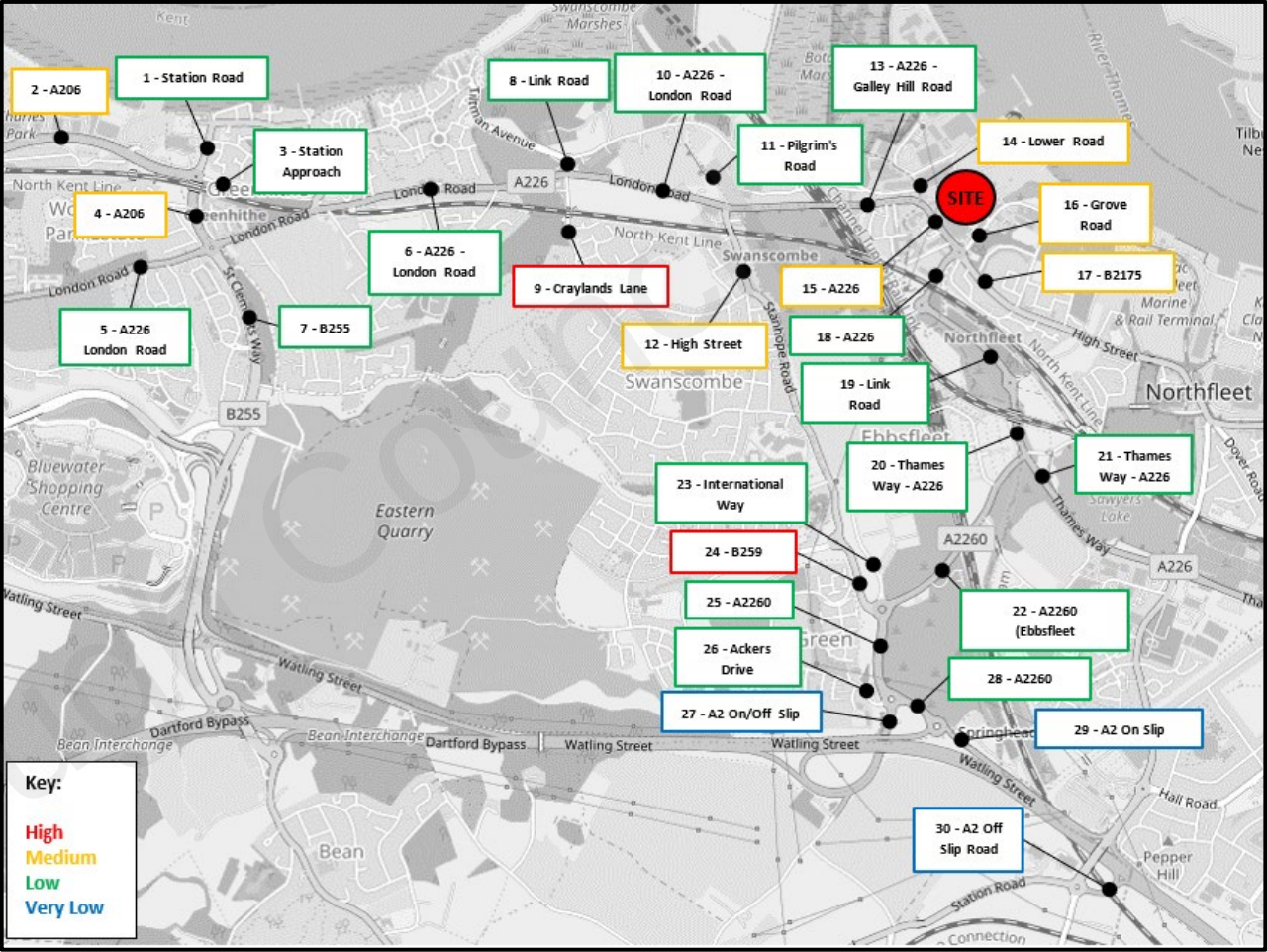


Table 7.13 Sensitivity of Receptors within the Study Area

| Link | Location                 | Sensitivity of Receptor |
|------|--------------------------|-------------------------|
| 1    | Station Road             | Low                     |
| 2    | A206 (W)                 | Medium                  |
| 3    | Station Approach         | Low                     |
| 4    | A206 (S)                 | Medium                  |
| 5    | A226 London Road (W)     | Low                     |
| 6    | A226 London Road (E)     | Low                     |
| 7    | B255                     | Low                     |
| 8    | Link Road                | Low                     |
| 9    | Craylands Lane           | High                    |
| 10   | A226 - London Road       | Low                     |
| 11   | Pilgrim's Road           | Low                     |
| 12   | High Street              | Medium                  |
| 13   | A226 - Galley Hill Road  | Low                     |
| 14   | Lower Road               | Medium                  |
| 15   | A226 - Stonebridge Road  | Medium                  |
| 16   | Grove Road               | Medium                  |
| 17   | B2175 - Stonebridge Road | Medium                  |
| 18   | A226                     | Low                     |

| Link | Location                  | Sensitivity of Receptor |
|------|---------------------------|-------------------------|
| 19   | Link Road                 | Low                     |
| 20   | Thames Way - A226         | Low                     |
| 21   | Thames Way - A226         | Low                     |
| 22   | A2260 (Ebbsfleet Gateway) | Low                     |
| 23   | International Way         | Low                     |
| 24   | B259                      | High                    |
| 25   | A2260                     | Low                     |
| 26   | Ackers Drive              | Low                     |
| 27   | A2 On/Off Slip            | Very Low                |
| 28   | A2260                     | Low                     |
| 29   | A2 On Slip Road           | Very Low                |
| 30   | A2 Off Slip Road          | Very Low                |

## Introduced Receptors

- 7.86** There are no traffic and Transport receptors being introduced as part of the Proposed Development which warrant inclusion within this chapter of the ES. Whilst the proposals will provide new areas of highway and dedicated footway and cycle ways, these will be designed to accommodate the forecast levels of pedestrian, cyclist and vehicle flow and as such there is no potential for likely significant effects upon these introduced routes.
- 7.87** Any off-road routes are not required to form part of this assessment as they will be unaffected by changes in traffic levels or composition through their design and will not therefore be adversely affected by the Proposed Development.

## EMBEDDED MITIGATION

- 7.88** As part of the design of the Proposed Development, there are a number of embedded mitigation features which will be delivered. These mitigation features will significantly enhance the walking, cycling and driving experience across the site. A list of the embedded mitigation is set out below with a description of each provided below this.
- Realignment of the A226 Galley Hill Road / Stonebridge Road;
  - Reprovision of A226 Stonebridge Road / Lower Road junction;
  - Removal of the A226 Stonebridge Road / Grove Road Roundabout;
  - Stopping up of Lower Road north;
  - Realignment of Lower Road south;
  - Enhancements to footways and cycleways alongside the A226 Stonebridge Road;
  - Delivery of a mobility hub on site;
  - Provision of a site-wide Travel Plan; and
  - Provision of a Delivery and Servicing Plan.
- 7.89** The proposed realignment of Galley Hill Road will provide an enhanced corridor for the A226 Stonebridge Road with upgraded surfacing and a realigned junction with Northfleet Industrial Estate and Lower Road. This realignment will manage the increases in traffic flow to minimise impacts on driver delay.
- 7.90** Through the improvements to footways and cycleways alongside the A226 Stonebridge Road severance will be minimised along with pedestrian delay, through the provision of multiple, well design crossing points.
- 7.91** The removal of the A226 Stonebridge Road / Grove Road roundabout will improve visibility and remove conflict for pedestrian and cyclists travelling north and south with fewer lanes of traffic to cross. This will mitigate the

impact of increases in traffic from the site on severance, pedestrian delay, fear and intimidation and safety on the A226, Grove Road and the B2175.

- 7.92** The stopping up of Lower Road north will redistribute HDVs from Lower Road onto the new link road provided through the proposed site. This in turn will reduce severance, driver delay, pedestrian delay. It will improve pedestrian amenity and safety and minimise fear and intimidation for users of Lower Road. Further information on the stopping up of Lower Road north is included in **ES Volume 3, Appendix: Traffic and Transport - Annex 1**.
- 7.93** Fundamental to mitigating and shaping the nature of travel to and from the site is the inclusion of a mobility hub within the red line boundary of the site. **ES Volume 3, Appendix: Traffic and Transport - Annex 1** provides further information on the details of the mobility hub. This will seek to lower the impacts of traffic over the long term and reduce the overall number of trips made to and from the site by vehicles. Fundamentally this will mitigate the effects of traffic on all links within this assessment.
- 7.94** A key part of the embedded mitigation for the continued operation of the site are the delivery of a site wide Travel Plan (TP) and a Delivery and Servicing Plan (DSP).
- 7.95** The TP will ensure that travel to and from the site, as well as across it is made as sustainable as possible through continued communication with site residents and visitors on the most accessible and practical modes to use. This will list alongside the mobility hub in mitigating the long-term effects of increases in traffic associated with the site operations.
- 7.96** The DSP will enable a proactive approach to be taken to site deliveries and servicing with a top-down approach taken when developing service yards and delivery areas across the site. Freight consolidation is one such mitigation strategy which will minimise the impacts of site operations on the traffic and transport networks surrounding the site.
- 7.97** Both the TP and DSP will be secured via an appropriate planning condition with framework details of the TP and DSP included within **ES Volume 3, Appendix: Traffic and Transport – Annex 1**.

## POTENTIAL EFFECTS

### Assessment Scenario 1 – 2026 D&C Assessment Scenario 1

- 7.98** Assessment Scenario 1 represents the peak demolition and construction HDV movements associated with Phase 1 of the Proposed Development. As outlined in **ES Volume 1: Chapter 5 Demolition and Construction**, a worst-case scenario has been assumed, which represents 20% greater flows than the anticipated level of traffic.
- 7.99** Assessment Scenario 1 considers the Future Year of 2026 as this is when peak activity is forecast during Phase 1 on-site activity for HDVs.
- 7.100** A summary of the construction HDV trip generation anticipated for D&C Assessment Scenario 1 is set out in **Table 7.14**.

**Table 7.14 Forecast Construction Traffic**

| Vehicle type        | Daily Vehicle Trips (AADT) |        |         |
|---------------------|----------------------------|--------|---------|
|                     | Arrive                     | Depart | Two-way |
| HDV (>7.5t + <7.5t) | 128                        | 128    | 256     |

- 7.101** The daily vehicle trips set out in **Table 7.14** have been assigned based on the proposed distribution for the HDVs, as detailed within **ES Volume 3, Appendix: Traffic and Transport – Annex 1**.

### HDVs

- 7.102** The distribution of HDVs is set out in **Table 7.15** below and is based on the same distribution as operational goods vehicles given that at this point the sources of materials are largely unknown.

Table 7.15 HDV Distribution – 24hr AADT

| Link | Daily Vehicle Trips (AADT) |        |         |
|------|----------------------------|--------|---------|
|      | Arrive                     | Depart | Two-way |
| 1    | 0                          | 0      | 1       |
| 2    | 4                          | 4      | 8       |
| 3    | 0                          | 0      | 0       |
| 4    | 61                         | 61     | 123     |
| 5    | 4                          | 4      | 8       |
| 6    | 13                         | 13     | 26      |
| 7    | 4                          | 4      | 8       |
| 8    | 0                          | 0      | 0       |
| 9    | 1                          | 1      | 1       |
| 10   | 18                         | 18     | 36      |
| 11   | 0                          | 0      | 0       |
| 12   | 7                          | 7      | 14      |
| 13   | 25                         | 25     | 51      |
| 14   | 0                          | 0      | 0       |
| 15   | 103                        | 103    | 205     |
| 16   | 0                          | 0      | 0       |
| 17   | 55                         | 55     | 109     |
| 18   | 48                         | 48     | 96      |
| 19   | 47                         | 47     | 94      |
| 20   | 47                         | 47     | 94      |
| 21   | 19                         | 19     | 38      |
| 22   | 28                         | 28     | 56      |
| 23   | 0                          | 0      | 1       |
| 24   | 6                          | 6      | 12      |
| 25   | 22                         | 22     | 43      |
| 26   | 1                          | 1      | 3       |
| 27   | 12                         | 12     | 24      |
| 28   | 8                          | 8      | 17      |
| 29   | 5                          | 5      | 9       |
| 30   | 4                          | 4      | 8       |

7.103 The traffic impact of the D&C Assessment Scenario 1 has been compared to the 2026 future baseline traffic in Table 7.16.

Table 7.16 2026 Future Baseline Compared to Assessment Scenario 1 Demolition and Construction Traffic Phase 1

| Link | Location     | 2026 Baseline |      | 2026 Baseline + AS1 D&C |      | % Change   |     |
|------|--------------|---------------|------|-------------------------|------|------------|-----|
|      |              | Total Vehs    | HDV  | Total Vehs              | HDV  | Total Vehs | HDV |
| 1    | Station Road | 4040          | 55   | 4041                    | 56   | 0%         | 2%  |
| 2    | A206 (W)     | 26152         | 1377 | 26160                   | 1386 | 0%         | 1%  |

| Link | Location                  | 2026 Baseline |      | 2026 Baseline + AS1 D&C |      | % Change   |     |
|------|---------------------------|---------------|------|-------------------------|------|------------|-----|
|      |                           | Total Vehs    | HDV  | Total Vehs              | HDV  | Total Vehs | HDV |
| 3    | Station Approach          | 1877          | 566  | 1878                    | 566  | 0%         | 0%  |
| 4    | A206 (S)                  | 26744         | 1461 | 26867                   | 1584 | 0%         | 8%  |
| 5    | A226 London Road (W)      | 19218         | 436  | 19227                   | 444  | 0%         | 2%  |
| 6    | A226 London Road (E)      | 15877         | 1357 | 15903                   | 1383 | 0%         | 2%  |
| 7    | B255                      | 31489         | 1314 | 31497                   | 1322 | 0%         | 1%  |
| 8    | Link Road                 | 4938          | 1146 | 4938                    | 1146 | 0%         | 0%  |
| 9    | Craylands Lane            | 3419          | 64   | 3421                    | 65   | 0%         | 2%  |
| 10   | A226 - London Road        | 10561         | 1011 | 10597                   | 1047 | 0%         | 4%  |
| 11   | Pilgrim's Road            | 52            | 6    | 52                      | 6    | 0%         | 0%  |
| 12   | High Street               | 6526          | 118  | 6541                    | 133  | 0%         | 12% |
| 13   | A226 - Galley Hill Road   | 12623         | 1060 | 12673                   | 1110 | 0%         | 5%  |
| 14   | Lower Road                | 5091          | 1054 | 5091                    | 1054 | 0%         | 0%  |
| 15   | A226 - Stonebridge Road   | 16152         | 1640 | 16357                   | 1846 | 1%         | 13% |
| 16   | Grove Road                | 2284          | 491  | 2284                    | 491  | 0%         | 0%  |
| 17   | B2175 - Stonebridge Road  | 10445         | 445  | 10554                   | 554  | 1%         | 25% |
| 18   | A226                      | 10584         | 1614 | 10680                   | 1711 | 1%         | 6%  |
| 19   | Link Road                 | 10907         | 1600 | 11002                   | 1694 | 1%         | 6%  |
| 20   | Thames Way - A226         | 11358         | 1955 | 11452                   | 2050 | 1%         | 5%  |
| 21   | Thames Way - A226         | 12475         | 1600 | 12514                   | 1638 | 0%         | 2%  |
| 22   | A2260 (Ebbsfleet Gateway) | 17431         | 2972 | 17487                   | 3028 | 0%         | 2%  |
| 23   | International Way         | 3064          | 537  | 3065                    | 538  | 0%         | 0%  |
| 24   | B259                      | 9001          | 237  | 9013                    | 249  | 0%         | 5%  |
| 25   | A2260                     | 32080         | 4811 | 32123                   | 4855 | 0%         | 1%  |
| 26   | Ackers Drive              | 6951          | 308  | 6954                    | 311  | 0%         | 1%  |
| 27   | A2 On/Off Slip            | 22073         | 2693 | 22096                   | 2717 | 0%         | 1%  |
| 28   | A2260                     | 17081         | 2965 | 17097                   | 2981 | 0%         | 1%  |
| 29   | A2 On Slip Road           | 19559         | 1276 | 19568                   | 1285 | 0%         | 1%  |
| 30   | A2 Off Slip Road          | 20847         | 1762 | 20855                   | 1770 | 0%         | 0%  |

7.104 As shown in Table 7.16, the flows associated with the construction phase will result in the largest percentage change on High Street (Link 12) and A226 – Stonebridge Road (Link 15) with regards to demolition and construction HDVs during the peak period for Assessment Scenario 1.

7.105 As set out previously (see paragraph 7.6), the impact of the traffic associated with the Proposed Development needs to be considered in relation to Rule 1 and Rule 2 of the screening criteria.

7.106 In terms of the impact of total vehicles, this does not exceed 10% on any link. Therefore, considering Rule 1 (+30% of any link) and Rule 2 (+10% on sensitive links) of the IEMA Guidelines, the screening thresholds are not met or exceeded, and as such no links require further investigation.

7.107 The demolition and construction traffic associated with Assessment Scenario 1 is forecast to increase HDVs by more than 10% on three links (Links 12, 15 and 17); a 12%, 13% and 25% increase respectively these links. This exceeds the threshold for sensitive receptors, though it is reiterated that the worst-case in terms of HDV traffic has been assumed, which is 20% greater than what would typically be expected.

7.108 Links 12, 15 and 17 are classed as Medium sensitivity. Rule 2 is therefore applicable to these links. In terms of severance, this is a negligible magnitude of impact as it is less than a 30% increase for a medium sensitivity receptor, resulting in a **Minor Adverse (Not Significant)** effect. In terms of driver and pedestrian delay, the

level of vehicle movement per hour as a result of the demolition and construction phase would not give rise to any perceived increase in delay on the network and as such this has been classed as a **Minor Adverse (Not Significant)** effect. In relation to pedestrian amenity and fear and intimidation, the change in HDV traffic is less than 100% and adequate footways are provided on Links 12, 15 and 17 and formal pedestrian crossing points are provided. Accordingly, the effect on Links 12, 15 and 17 with regards to pedestrian amenity and fear and intimidation are classed as **Minor Adverse (Not Significant)**. The magnitude of impact on accidents and safety is considered to be low due to the existing level of collision clusters recorded within the study area (one cluster has been identified and this is discussed later in this ES chapter), resulting in a **Minor Adverse (Not Significant)** effect. In each case above, the effects considered against each issue will be local and temporary – medium term.

## Hazardous Loads

**7.109** IEMA Guidelines identify that some developments may involve the transportation of dangerous or hazardous loads by road and this should be recognised within any Environmental Statement. Such movements should include specialist loads which might be involved in the construction or decommissioning phases of the development. Hazardous Loads may include:

- Explosives;
- Gases;
- Flammable liquid;
- Flammable solids;
- Oxidising substances;
- Toxic substances;
- Radioactive material; and
- Corrosive substances.

**7.110** In the event that any hazardous loads are required for transportation then all packaging and containment will be provided in line with the Vehicle Certification Agencies Dangerous Goods Office procedures and requirements for UK roads. Vehicles will be loaded on site with the responsibility for the safe transit of the good that of the haulier or client under the European Agreement concerning International Carriage of Dangerous Goods by Road.

**7.111** On this basis, procedures will be in place for loading hazardous loads within the site and transporting them on the local and strategic road network to ensure any risks are minimised. As a result, the effect will be **Negligible (Not Significant)** resulting from the transportation of hazardous loads during the Phase 1 demolition and construction works.

## Assessment Scenario 2 – 2029 D&C Assessment Scenario 2

**7.112** Assessment Scenario 2 reviews the potential effects of the demolition and construction associated with Phase 2 of the Proposed Development, in addition to the operation of Phase 1. The Future Base Year for Assessment Scenario 2 is 2029.

**7.113** A summary of the construction vehicle trip generation anticipated for Assessment Scenario 2 is set out in **Table 7.17**.

**Table 7.17 Forecast Construction Traffic**

| Vehicle type       | Daily Vehicle Trips (AADT) |        |         |
|--------------------|----------------------------|--------|---------|
|                    | Arrive                     | Depart | Two-way |
| HDV (>7.5t < 7.5t) | 86                         | 86     | 172     |

## HDVs

**7.114** The distribution of HDVs is set out in **Table 7.18** and is based on the same distribution as operational goods vehicles given that at this point the sources of materials are largely unknown.

**Table 7.18 HDV Distribution – 24hr AADT**

| Link | Daily Vehicle Trips (AADT) |        |         |
|------|----------------------------|--------|---------|
|      | Arrive                     | Depart | Two-way |
| 1    | 0                          | 0      | 1       |
| 2    | 3                          | 3      | 6       |
| 3    | 0                          | 0      | 0       |
| 4    | 61                         | 61     | 122     |
| 5    | 3                          | 3      | 6       |
| 6    | 10                         | 10     | 20      |
| 7    | 3                          | 3      | 6       |
| 8    | 0                          | 0      | 0       |
| 9    | 1                          | 1      | 1       |
| 10   | 14                         | 14     | 28      |
| 11   | 0                          | 0      | 0       |
| 12   | 6                          | 6      | 11      |
| 13   | 20                         | 20     | 39      |
| 14   | 0                          | 0      | 0       |
| 15   | 56                         | 56     | 112     |
| 16   | 26                         | 26     | 52      |
| 17   | 31                         | 31     | 61      |
| 18   | 36                         | 36     | 71      |
| 19   | 35                         | 35     | 70      |
| 20   | 35                         | 35     | 70      |
| 21   | 14                         | 14     | 28      |
| 22   | 21                         | 21     | 41      |
| 23   | 0                          | 0      | 0       |
| 24   | 4                          | 4      | 9       |
| 25   | 16                         | 16     | 32      |
| 26   | 1                          | 1      | 2       |
| 27   | 9                          | 9      | 18      |
| 28   | 6                          | 6      | 12      |
| 29   | 3                          | 3      | 6       |
| 30   | 3                          | 3      | 6       |

## Phase 1 Operational Traffic

**7.115** Assessment Scenario 2 also includes the Phase 1 operational traffic which is shown in **Table 7.19**.

**Table 7.19 Phase 1 Operational Traffic**

| Link | Location             | Total Vehs | HDV |
|------|----------------------|------------|-----|
| 1    | Station Road         | 65         | 1   |
| 2    | A206 (W)             | 611        | 20  |
| 3    | Station Approach     | 31         | 8   |
| 4    | A206 (S)             | 554        | 21  |
| 5    | A226 London Road (W) | 605        | 6   |

| Link | Location                  | Total Vehs | HDV |
|------|---------------------------|------------|-----|
| 6    | A226 London Road (E)      | 1925       | 20  |
| 7    | B255                      | 612        | 19  |
| 8    | Link Road                 | 0          | 17  |
| 9    | Craylands Lane            | 101        | 1   |
| 10   | A226 - London Road        | 2694       | 15  |
| 11   | Pilgrim's Road            | 0          | 0   |
| 12   | High Street               | 1084       | 2   |
| 13   | A226 - Galley Hill Road   | 3787       | 15  |
| 14   | Lower Road                | 0          | 15  |
| 15   | A226 - Stonebridge Road   | 5091       | 24  |
| 16   | Grove Road                | 0          | 0   |
| 17   | B2175 - Stonebridge Road  | 4616       | 6   |
| 18   | A226                      | 5460       | 23  |
| 19   | Link Road                 | 5354       | 23  |
| 20   | Thames Way - A226         | 5354       | 28  |
| 21   | Thames Way - A226         | 2170       | 23  |
| 22   | A2260 (Ebbsfleet Gateway) | 3184       | 43  |
| 23   | International Way         | 31         | 8   |
| 24   | B259                      | 688        | 3   |
| 25   | A2260                     | 2464       | 70  |
| 26   | Ackers Drive              | 168        | 4   |
| 27   | A2 On/Off Slip            | 1359       | 39  |
| 28   | A2260                     | 938        | 43  |
| 29   | A2 On Slip Road           | 491        | 19  |
| 30   | A2 Off Slip Road          | 447        | 26  |

**7.116** The daily vehicle trips set out in **Table 7.18** and **Table 7.19** have been assigned based on the proposed distribution for the HDVs and the operational traffic associated with Phase 1 has been distributed using survey data and first principle assumptions, as detailed within **ES Volume 3, Appendix: Traffic and Transport – Annex 1**.

**7.117** The traffic impact of the demolition and construction phase of Assessment Scenario 2 plus the operational traffic for Phase 1 has been compared to the 2029 future baseline traffic in **Table 7.20**.

**Table 7.20** 2029 Future Baseline Compared to Assessment Scenario 2 Demolition and Construction Traffic Phase 2 Plus Operational Phase 1

| Link | Location             | 2029 Baseline |      | 2029 Baseline + AS2 D&C + Phase 1 Operational |      | % Change   |     |
|------|----------------------|---------------|------|-----------------------------------------------|------|------------|-----|
|      |                      | Total Vehs    | HDV  | Total Vehs                                    | HDV  | Total Vehs | HDV |
| 1    | Station Road         | 4151          | 56   | 4216                                          | 57   | 2%         | 1%  |
| 2    | A206 (W)             | 26870         | 1415 | 27487                                         | 1422 | 2%         | 0%  |
| 3    | Station Approach     | 1929          | 582  | 1960                                          | 582  | 2%         | 0%  |
| 4    | A206 (S)             | 27478         | 1501 | 28154                                         | 1623 | 2%         | 8%  |
| 5    | A226 London Road (W) | 19746         | 448  | 20357                                         | 454  | 3%         | 1%  |
| 6    | A226 London Road (E) | 16313         | 1395 | 18258                                         | 1415 | 12%        | 1%  |

| Link | Location                  | 2029 Baseline |      | 2029 Baseline + AS2 D&C + Phase 1 Operational |      | % Change   |     |
|------|---------------------------|---------------|------|-----------------------------------------------|------|------------|-----|
|      |                           | Total Vehs    | HDV  | Total Vehs                                    | HDV  | Total Vehs | HDV |
| 7    | B255                      | 32353         | 1350 | 32971                                         | 1356 | 2%         | 0%  |
| 8    | Link Road                 | 5074          | 1178 | 5074                                          | 1178 | 0%         | 0%  |
| 9    | Craylands Lane            | 3513          | 65   | 3615                                          | 66   | 3%         | 2%  |
| 10   | A226 - London Road        | 10850         | 1038 | 13573                                         | 1067 | 25%        | 3%  |
| 11   | Pilgrim's Road            | 53            | 6    | 53                                            | 6    | 0%         | 0%  |
| 12   | High Street               | 6706          | 122  | 7801                                          | 133  | 16%        | 9%  |
| 13   | A226 - Galley Hill Road   | 12969         | 1089 | 16795                                         | 1128 | 30%        | 4%  |
| 14   | Lower Road                | 5231          | 1083 | 5231                                          | 1083 | 0%         | 0%  |
| 15   | A226 - Stonebridge Road   | 16595         | 1685 | 21798                                         | 1798 | 31%        | 7%  |
| 16   | Grove Road                | 2347          | 504  | 2399                                          | 556  | 2%         | 10% |
| 17   | B2175 - Stonebridge Road  | 10732         | 457  | 15409                                         | 518  | 44%        | 13% |
| 18   | A226                      | 10874         | 1659 | 16405                                         | 1730 | 51%        | 4%  |
| 19   | Link Road                 | 11207         | 1644 | 16630                                         | 1714 | 48%        | 4%  |
| 20   | Thames Way - A226         | 11669         | 2009 | 17093                                         | 2079 | 46%        | 3%  |
| 21   | Thames Way - A226         | 12818         | 1644 | 15016                                         | 1672 | 17%        | 2%  |
| 22   | A2260 (Ebbsfleet Gateway) | 17909         | 3053 | 21134                                         | 3095 | 18%        | 1%  |
| 23   | International Way         | 3148          | 552  | 3179                                          | 552  | 1%         | 0%  |
| 24   | B259                      | 9248          | 243  | 9946                                          | 252  | 8%         | 4%  |
| 25   | A2260                     | 32960         | 4943 | 35456                                         | 4975 | 8%         | 1%  |
| 26   | Ackers Drive              | 7142          | 316  | 7312                                          | 319  | 2%         | 1%  |
| 27   | A2 On/Off Slip            | 22678         | 2767 | 24054                                         | 2784 | 6%         | 1%  |
| 28   | A2260                     | 17550         | 3046 | 18500                                         | 3058 | 5%         | 0%  |
| 29   | A2 On Slip Road           | 20096         | 1311 | 20593                                         | 1317 | 2%         | 0%  |
| 30   | A2 Off Slip Road          | 21419         | 1810 | 21872                                         | 1816 | 2%         | 0%  |

**7.118** Under Assessment Scenario 2 which includes the demolition and construction traffic associated with Phase 2 plus the Phase 1 operational traffic, it can be seen the following links experience an increase greater than 10% in total traffic or HDVs and require assessment;

- Link 6 - A226 London Road (E);
- Link 10 – A226 London Road;
- Link 12 – High Street;
- Link 13 – A226 Galey Hill Road;
- Link 15 – A226 Stonebridge Road;
- Link 16 – Grove Road
- Link 17 – B2175 Stonebridge Road;
- Link 18 – A226;
- Link 19 – Link Road;
- Link 20 – Thames Way – A226;
- Link 21 – Thames Way – A226;
- Link 22 - A2260 (Ebbsfleet Gateway).

**7.119** Rule 1 of the screening criteria is therefore applicable to Links 13, 15, 17, 18, 19 and 20 as they experience an increase greater than 30% in traffic. Rule 2 applies to Links 12 and 16 as these have a Medium sensitivity; the other links experiencing less than a 10% increase are classed as Low sensitivity. Links 6, 10, 21 and 22 experience an increase of greater than 10% in total traffic however these links are classed as having a Low sensitivity and can therefore be excluded from this assessment.

## Severance

**7.120** Links 13, 15, 17, 18, 19 and 20 experience an increase in traffic greater than 30% in terms of total vehicles. Links 12, 15, 16 and 17 are classed as having a Medium sensitivity and Links 13, 18, 19 and 20 are classed as having a Low sensitivity.

**7.121** Link 12 has a Medium sensitivity and will experience an increase of 16% in total vehicle traffic. This relates to a Negligible magnitude of impact and would suggest a **Minor Adverse (Not Significant)** effect in terms of severance.

**7.122** Link 15 has a Medium sensitivity and will experience an increase of 31% in total vehicle traffic. This relates to a Low magnitude of impact and would suggest a **Minor Adverse (Not Significant)** effect in terms of severance.

**7.123** Link 16 has a Medium sensitivity and will experience an increase of 10% in HDV traffic. This relates to a Negligible magnitude of impact and would suggest a **Minor Adverse (Not Significant)** effect in terms of severance.

**7.124** Link 17 has a Medium sensitivity and will experience an increase of 44% in total vehicle traffic. This relates to a Low magnitude of impact and would suggest a **Minor Adverse (Not Significant)** effect in terms of severance.

**7.125** Links 13, 18, 19 and 20 all have a Low sensitivity and will experience increases of between 30-51% in total vehicle traffic. This relates to a Low magnitude of impact and would suggest a **Minor Adverse (Not Significant)** effect in terms of severance.

**7.126** All the resultant effects highlighted above would be local and medium term in the context of severance.

## Driver Delay

**7.127** In terms of driver delay, the level of vehicle movement per hour as a result of the demolition and construction phase of Assessment Scenario 2 would not give rise to any delay on the network and as such this has been classed as a **Minor Adverse (Not Significant)** effect.

**7.128** To determine the impact of the operational traffic associated with Phase 1 on driver delay, it is considered appropriate to assess the uplift in vehicles per minute on each link where an impact would be experienced. To assess this through a robust assessment case, the peak operational period for the site will predominantly be between 07:00 and 19:00, a 12 hour period. The total uplift in vehicles per hour has then been calculated per minute during each hour to determine whether the additional vehicle movements on a link is considered to be acceptable or not based on professional judgement.

**7.129** To quantify the impact on Driver Delay, **Table 7.4** does not define a quantitative scale to determine the impact against however, in establishing Rule 1, the Guidelines for Environmental Assessment of Road Traffic produced by Institute of Environmental Assessment states that "It should be noted that the day-to-day variation of traffic on a road is frequently at least some + or – 10%". Where a link experiences an increase in traffic per minute greater than 10% then this is classed as having an impact which is between Low and High (proportionally) and where a link experiences less than a 10% increase in traffic per minute then this is classed as having a Negligible impact and has not been assessed in this section.

**7.130** Link 12 will experience an additional 1,095 daily total vehicle movements in Assessment Scenario 2 which equates to an average of 91 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 2 vehicles per minute which is a 3% increase in vehicles per minute. This level of traffic falls within the bounds of daily fluctuations and is considered to have a **Negligible** effect.

**7.131** Link 13 will experience an additional 3,826 daily total vehicle movements in Assessment Scenario 2 which equates to an average of 319 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 5 vehicles per minute which is a 9% increase in vehicles per minute. This level of traffic falls within the bounds of daily fluctuations and is considered to have a **Negligible** effect.

**7.132** Link 15 will experience an additional 5,203 daily total vehicle movements in Assessment Scenario 2 which equates to an average of 434 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 7 vehicles per minute which is a 12% increase in vehicles per minute. This level of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

**7.133** Link 16 will experience a negligible increase in total vehicle and HDV traffic (<1%) per hour and the effect of this is considered to be **Negligible**.

**7.134** Link 17 will experience an additional 4,677 daily total vehicle movements in Assessment Scenario 2 which equates to an average of 390 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 6 vehicles per minute which is a 11% increase in vehicles per minute. This level of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

**7.135** Link 18 will experience an additional 5,531 daily total vehicle movements in Assessment Scenario 2 which equates to an average of 461 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 8 vehicles per minute which is a 13% increase in vehicles per minute. This level of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

**7.136** Link 19 will experience an additional 5,423 daily total vehicle movements in Assessment Scenario 2 which equates to an average of 452 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 8 vehicles per minute which is a 13% increase in vehicles per minute. This level of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

**7.137** Link 20 will experience an additional 5,424 daily total vehicle movements in Assessment Scenario 2 which equates to an average of 452 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 8 vehicles per minute which is a 13% increase in vehicles per minute. This level of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

## Pedestrian Delay

**7.138** Pedestrian delay is the increase in delay to pedestrians crossing a road as a result of the traffic flow and the facilities for pedestrians to cross the road. As per **Table 7.4**, pedestrian delay only becomes an issue where vehicle flows in any peak hour are greater than 1,400 vehicles per hour and the increases are greater than 10%.

**7.139** Links 12, 13, 16 and 17 do not exceed 1,400 vehicles per hour in the busiest peak hour and can be excluded from this assessment.

**7.140** Link 15 is the A226 Stonebridge Road and experiences a 31% increase in daily traffic and currently has two crossing points, one at either end. It is therefore not considered to result in an unacceptable impact. The impact is therefore **Negligible**.

**7.141** Link 18 is the A226 and experiences a 51% increase in daily traffic but is considered to have a very low propensity to generate pedestrian trips which could be impacted in terms of pedestrian delay. Accordingly, the impact of Assessment Scenario 2 is considered **Negligible**.

**7.142** Link 19 is the Link Road and experiences a 48% increase in daily traffic but is considered to have a very low propensity to generate pedestrian trips which could be impacted in terms of pedestrian delay. Accordingly, the impact of Assessment Scenario 2 is considered **Negligible**.

**7.143** Link 20 is Thames Way A226 and experiences a 46% increase in daily traffic but is considered to have a very low propensity to generate pedestrian trips which could be impacted in terms of pedestrian delay. Accordingly, the impact of Assessment Scenario 2 is considered **Negligible**.

## Pedestrian Amenity

**7.144** No link experiences an increase in total traffic or HDV traffic greater than 100%. Therefore, no link requires assessment under Pedestrian Amenity.

## Fear and Intimidation

**7.145** Fear and intimidation is set out in **Table 7.4** and is a judgement based on the volume of traffic, HDV composition, proximity to people and the level of protection.

**7.146** No Link within the study area is considered to be sub standard in its provision for pedestrians and the protection offered to pedestrians.

**7.147** Link 16 is the only Link where Fear and Intimidation is considered to be applicable based on professional judgement as the road primarily serves industrial land uses and the pedestrian is not the primary user on this

link. Link 16 does not exceed 900 two-way vehicle movements in the busiest peak hour and does not give rise to Fear or Intimidation based on traffic volume.

**7.148** Link 16 Grove Road experiences a 10% increase in HDV traffic however pedestrian footways are provided here and as outlined previously, the propensity for pedestrian trips on this link is low suggesting a Low magnitude of impact.

**7.149** As the HDV composition is the only factor which could influence Fear and Intimidation on Link 16, this has formed the basis for the assessment of the effect of the Proposed Development.

**7.150** As such the effect of the Proposed Development on Fear and Intimidation is considered to be **Minor Adverse (Not Significant)**.

## Accident and Safety

**7.151** A full review of the PIC data is included in **ES Volume 3, Appendix: Traffic and Transport– Annex 1**. The TA has identified that there is one collision cluster in the study area at the signal junction of the A226 London Road / Pilgrims Road / A226 Galley Hill Road / High Street. This includes Links 10, 11, 12 and 13.

**7.152** In total, 9 collisions have occurred at this junction over the most recent 5 year period with the most recent collision occurring in 2020. Seven collisions were slight in nature and two collisions were Severe in nature.

**7.153** In Assessment Scenario 2, Links 10-13 experience between a 0-30% uplift in total daily traffic with the primary flow being east to west. None of these links exceed 1,400 vehicles per hour during the busiest peak hour.

**7.154** Links 10, 11 and 13 have a Low sensitivity and Link 12 has a Medium sensitivity. As a result, the Proposed Development would have a Negligible impact resulting in a **Minor Adverse (Not Significant)** effect.

## Hazardous Loads

**7.155** As with the Assessment Scenario 1 assessment of hazardous loads, in the event that any hazardous loads are required for transportation then all packaging and containment will be provided in line with the Vehicle Certification Agencies Dangerous Goods Office procedures and requirements for UK roads. Vehicles will be loaded on site with the responsibility for the safe transit of the good that of the haulier or client under the European Agreement concerning International Carriage of Dangerous Goods by Road.

**7.156** On this basis, procedures will be in place for loading hazardous loads within the site and transporting them on the local and strategic road network to ensure any risks are minimised. As a result, the effect will be **Negligible (Not Significant)** resulting from the transportation of hazardous loads during the Phase 2 demolition and construction works.

## Assessment Scenario 3 – 2031 Full Build Out

**7.157** Assessment Scenario 3 considers the 2031 Future Year with the full operational traffic associated with the fully built out and operational Proposed Development.

**7.158** It is worth noting that the 2031 Future Year includes background traffic growth associated with Committed Developments in the area which have been accounted for within TEMPRO growth factors. These factors have been applied to the 2022 baseline traffic data and it is therefore considered that the 2031 baseline includes the known developments which have been planned for or will have been delivered by 2031.

**7.159** The Phase 1 operational traffic has previously been set out within the Assessment Scenario 2 section.

## Phase 1&2 Operational Traffic

**7.160** Assessment Scenario 3 considers the operational traffic for Phases 1 and 2 of the Proposed Development which is shown in **Table 7.21**.

**7.161** In Assessment Scenario 2, HDV traffic associated with the operational traffic for Phase 1 such as deliveries and servicing alongside the demolition and construction traffic associated with Phase 2 will be present in the study area and have therefore been assessed as part of this scenario.

**Table 7.21 Phase 1&2 Operational Traffic**

| Link | Location         | Total Vehs | HDVs |
|------|------------------|------------|------|
| 1    | Station Road     | 89         | 1    |
| 2    | A206 (W)         | 840        | 22   |
| 3    | Station Approach | 43         | 9    |

| Link | Location                  | Total Vehs | HDVs |
|------|---------------------------|------------|------|
| 4    | A206 (S)                  | 716        | 23   |
| 5    | A226 London Road (W)      | 832        | 7    |
| 6    | A226 London Road (E)      | 2645       | 21   |
| 7    | B255                      | 841        | 21   |
| 8    | Link Road                 | 0          | 18   |
| 9    | Craylands Lane            | 139        | 1    |
| 10   | A226 - London Road        | 3702       | 16   |
| 11   | Pilgrim's Road            | 0          | 0    |
| 12   | High Street               | 1492       | 2    |
| 13   | A226 - Galley Hill Road   | 5206       | 17   |
| 14   | Lower Road                | 0          | 17   |
| 15   | A226 - Stonebridge Road   | 7388       | 26   |
| 16   | Grove Road                | 0          | 0    |
| 17   | B2175 - Stonebridge Road  | 6301       | 7    |
| 18   | A226                      | 7605       | 26   |
| 19   | Link Road                 | 7457       | 25   |
| 20   | Thames Way - A226         | 7457       | 31   |
| 21   | Thames Way - A226         | 3020       | 25   |
| 22   | A2260 (Ebbsfleet Gateway) | 4436       | 47   |
| 23   | International Way         | 43         | 8    |
| 24   | B259                      | 960        | 4    |
| 25   | A2260                     | 3434       | 76   |
| 26   | Ackers Drive              | 234        | 5    |
| 27   | A2 On/Off Slip            | 1894       | 43   |
| 28   | A2260                     | 1306       | 47   |
| 29   | A2 On Slip Road           | 712        | 20   |
| 30   | A2 Off Slip Road          | 620        | 28   |

**7.162** The traffic associated with Phase 1 and 2 of the Proposed Development has been compared to the 2031 future baseline traffic in **Table 7.22**.

**Table 7.22 2031 Future Baseline Compared to Operational Traffic for Phase 1 & 2**

| Link | Location             | 2031 Baseline |      | 2031 Baseline + Phase 1 & 2 Full Build Out |      | % Change   |     |
|------|----------------------|---------------|------|--------------------------------------------|------|------------|-----|
|      |                      | Total Vehs    | HDV  | Total Vehs                                 | HDV  | Total Vehs | HDV |
| 1    | Station Road         | 4225          | 57   | 4314                                       | 58   | 2%         | 2%  |
| 2    | A206 (W)             | 27351         | 1441 | 28191                                      | 1462 | 3%         | 2%  |
| 3    | Station Approach     | 1963          | 592  | 2006                                       | 601  | 2%         | 2%  |
| 4    | A206 (S)             | 27970         | 1528 | 28687                                      | 1551 | 3%         | 2%  |
| 5    | A226 London Road (W) | 20100         | 456  | 20932                                      | 463  | 4%         | 2%  |
| 6    | A226 London Road (E) | 16605         | 1420 | 19251                                      | 1441 | 16%        | 2%  |
| 7    | B255                 | 32933         | 1374 | 33774                                      | 1395 | 3%         | 2%  |
| 8    | Link Road            | 5165          | 1199 | 5165                                       | 1217 | 0%         | 2%  |
| 9    | Craylands Lane       | 3576          | 66   | 3715                                       | 67   | 4%         | 2%  |

| Link | Location                  | 2031 Baseline |      | 2031 Baseline + Phase 1 & 2 Full Build Out |      | % Change   |     |
|------|---------------------------|---------------|------|--------------------------------------------|------|------------|-----|
|      |                           | Total Vehs    | HDV  | Total Vehs                                 | HDV  | Total Vehs | HDV |
| 10   | A226 - London Road        | 11045         | 1057 | 14747                                      | 1073 | 34%        | 2%  |
| 11   | Pilgrim's Road            | 54            | 6    | 54                                         | 6    | 0%         | 2%  |
| 12   | High Street               | 6826          | 124  | 8318                                       | 126  | 22%        | 2%  |
| 13   | A226 - Galley Hill Road   | 13201         | 1108 | 18407                                      | 1125 | 39%        | 2%  |
| 14   | Lower Road                | 5325          | 1102 | 5325                                       | 1119 | 0%         | 2%  |
| 15   | A226 - Stonebridge Road   | 16892         | 1715 | 24280                                      | 1741 | 44%        | 2%  |
| 16   | Grove Road                | 2389          | 513  | 2389                                       | 521  | 0%         | 2%  |
| 17   | B2175 - Stonebridge Road  | 10924         | 465  | 17226                                      | 472  | 58%        | 2%  |
| 18   | A226                      | 11069         | 1688 | 18674                                      | 1714 | 69%        | 2%  |
| 19   | Link Road                 | 11407         | 1673 | 18864                                      | 1699 | 65%        | 2%  |
| 20   | Thames Way - A226         | 11879         | 2045 | 19335                                      | 2076 | 63%        | 2%  |
| 21   | Thames Way - A226         | 13047         | 1673 | 16068                                      | 1699 | 23%        | 2%  |
| 22   | A2260 (Ebbsfleet Gateway) | 18230         | 3108 | 22667                                      | 3155 | 24%        | 2%  |
| 23   | International Way         | 3204          | 562  | 3247                                       | 570  | 1%         | 2%  |
| 24   | B259                      | 9414          | 248  | 10374                                      | 251  | 10%        | 2%  |
| 25   | A2260                     | 33551         | 5032 | 36985                                      | 5108 | 10%        | 2%  |
| 26   | Ackers Drive              | 7270          | 322  | 7504                                       | 327  | 3%         | 2%  |
| 27   | A2 On/Off Slip            | 23085         | 2816 | 24979                                      | 2859 | 8%         | 2%  |
| 28   | A2260                     | 17864         | 3101 | 19170                                      | 3148 | 7%         | 2%  |
| 29   | A2 On Slip Road           | 20456         | 1335 | 21168                                      | 1355 | 3%         | 2%  |
| 30   | A2 Off Slip Road          | 21803         | 1842 | 22423                                      | 1870 | 3%         | 2%  |

**7.163** Comparing the 2031 Future Year to the 2031 Future Year Plus Phase 1 and 2 Full Build Out scenarios it can be seen that no link exceeds the 10% threshold for an increase in HDVs, however the following links exceed 10% total vehicle traffic and therefore require assessment;

- Link 6 - A226 London Road (E);
- Link 10 – A226 London Road;
- Link 12 – High Street;
- Link 13 – A226 Galey Hill Road;
- Link 15 – A226 Stonebridge Road;
- Link 17 – B2175 Stonebridge Road;
- Link 18 – A226;
- Link 19 – Link Road;
- Link 20 – Thames Way – A226;
- Link 21 – Thames Way – A226;
- Link 22 - A2260 (Ebbsfleet Gateway);
- Link 24 – B259; and
- Link 25 – A2260.

**7.164** Rule 1 of the screening criteria is applicable to Links 10, 13, 15, 17, 18, 19 and 20 as they experience an increase greater than 30% in traffic. Rule 2 applies to Link 12 as this is a Medium sensitivity link and Link 24 as this has a High sensitivity; the other links experiencing less than a 30% increase are classed as Low sensitivity. Links 6, 21, 22 and 25 experience an increase of greater than 10% in total traffic however these links are classed as having a Low sensitivity and can be excluded from this assessment.

## Severance

**7.165** Links 10,13, 18, 19 and 20 all have a Low sensitivity and will experience increases of between 34-69% in total vehicle traffic. This relates to a Low - Medium magnitude of impact and would suggest a **Minor Adverse (Not Significant)** effect in terms of severance.

**7.166** Links 12 and 15 both have a Medium sensitivity and will experience an increase of between 22-44% in total vehicle traffic. This relates to a Negligible - Low magnitude of impact and would suggest a **Minor Adverse (Not Significant)** effect in terms of severance.

**7.167** Link 17 has a Medium sensitivity and will experience an increase of 58% in total vehicle traffic. This relates to a Low magnitude of impact and would suggest a **Minor Adverse (Not Significant)** effect in terms of severance.

**7.168** Link 24 will experience an increase of 10% in total vehicle traffic. This link is classed as having a High sensitivity as there is a school present on this link. This relates to a Negligible magnitude of impact and would suggest a **Minor Adverse (Not Significant)** effect in terms of severance.

**7.169** All the resultant effects highlighted above would be local and permanent in the context of severance.

## Driver Delay

**7.170** To determine the impact of the operational traffic associated with Phase 1 and 2 on driver delay, it is considered appropriate to assess the uplift in vehicles per minute on each link where an impact would be experienced. To assess this through a robust assessment case, the peak operational period for the site will predominantly be between 07:00 and 19:00, a 12 hour period. The total uplift in vehicles per hour has then been calculated per minute during each hour to determine whether the additional vehicle movements on a link is considered to be acceptable or not based on professional judgement.

**7.171** To quantify the impact on Driver Delay, **Table 7.4** does not define a quantitative scale to determine the impact against however, in establishing Rule 1, the Guidelines for Environmental Assessment of Road Traffic produced by Institute of Environmental Assessment states that “It should be noted that the day-to-day variation of traffic on a road is frequently at least some + or – 10%”. Where a link experiences an increase in traffic per minute greater than 10% then this is classed as having an impact which is between Low and High (proportionally) and where a link experiences less than a 10% increase in traffic per minute then this is classed as having a Negligible impact and has not been assessed in this section.

**7.172** Link 10 will experience an additional 3,702 daily total vehicle movements in Assessment Scenario 3 which equates to an average of 309 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 5 vehicles per minute which is a 9% increase in vehicles per minute. This level of traffic falls within the bounds of daily fluctuations and is considered to have a **Negligible** effect.

**7.173** Link 12 will experience an additional 1,492 daily total vehicle movements in Assessment Scenario 3 which equates to an average of 124 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 2 vehicles per minute which is a 3% increase in vehicles per minute. This level of traffic falls within the bounds of daily fluctuations and is considered to have a **Negligible** effect.

**7.174** Link 13 will experience an additional 5,206 daily total vehicle movements in Assessment Scenario 3 which equates to an average of 434 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 7 vehicles per minute which is a 12% increase in vehicles per minute. This level of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

**7.175** Link 15 will experience an additional 7,388 daily total vehicle movements in Assessment Scenario 3 which equates to an average of 616 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 10 vehicles per minute which is a 17% increase in vehicles per minute. This level of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

**7.176** Link 17 will experience an additional 6,302 daily total vehicle movements in Assessment Scenario 3 which equates to an average of 525 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 9 vehicles per minute which is a 15% increase in vehicles per minute. This level

of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

**7.177** Link 18 will experience an additional 7,605 daily total vehicle movements in Assessment Scenario 3 which equates to an average of 634 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 11 vehicles per minute which is a 18% increase in vehicles per minute. This level of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

**7.178** Link 19 will experience an additional 7,457 daily total vehicle movements in Assessment Scenario 3 which equates to an average of 621 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 10 vehicles per minute which is a 17% increase in vehicles per minute. This level of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

**7.179** Link 20 will experience an additional 7,456 daily total vehicle movements in Assessment Scenario 3 which equates to an average of 621 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 10 vehicles per minute which is a 17% increase in vehicles per minute. This level of traffic falls outside the bounds of daily fluctuations and is considered to have a Low impact resulting in a **Minor Adverse (Not Significant)** effect.

**7.180** Link 24 will experience an additional 960 daily total vehicle movements in Assessment Scenario 3 which equates to an average of 80 additional two-way movements during each hour between 07:00-19:00. This is the equivalent of an additional 1 vehicles per minute which is a 2% increase in vehicles per minute. This level of traffic falls within the bounds of daily fluctuations and is considered to have a **Negligible** effect.

## Pedestrian Delay

**7.181** Pedestrian delay is the increase in delay to pedestrians crossing a road as a result of the traffic flow and the facilities for pedestrians to cross the road. As per **Table 7.4**, pedestrian delay only becomes an issue where vehicle flows in any peak hour are greater than 1,400 vehicles per hour and the increases are greater than 10%.

**7.182** Links 10, 12, 13, 17 and 24 do not exceed 1,400 vehicles per hour in the busiest peak hour and can be excluded from this assessment.

**7.183** Link 15 is the A226 Stonebridge Road and experiences a 44% increase in daily traffic and currently has two crossing points, one at either end. It is therefore not considered to result in an unacceptable impact as pedestrians currently can cross the road at designated crossing points. The impact is therefore **Negligible**.

**7.184** Link 18 is the A226 and experiences a 69% increase in daily traffic but is considered to have a very low propensity to generate pedestrian trips which could be impacted in terms of pedestrian delay. Accordingly, the impact of Assessment Scenario 3 is considered **Negligible**.

**7.185** Link 19 is the Link Road and experiences a 65% increase in daily traffic but is considered to have a very low propensity to generate pedestrian trips which could be impacted in terms of pedestrian delay. Accordingly, the impact of Assessment Scenario 3 is considered **Negligible**.

**7.186** Link 20 is Thames Way A226 and experiences a 63% increase in daily traffic but is considered to have a very low propensity to generate pedestrian trips which could be impacted in terms of pedestrian delay. Accordingly, the impact of Assessment Scenario 3 is considered **Negligible**.

## Pedestrian Amenity

**7.187** No link experiences an increase in total traffic or HDV traffic greater than 100%. Therefore, no link requires assessment under Pedestrian Amenity.

## Fear and Intimidation

**7.188** Fear and intimidation is set out in **Table 7.4** and is a judgement based on the volume of traffic, HDV composition, proximity to people and the level of protection.

**7.189** No Link within the study area is considered to be sub standard in its provision for pedestrians and the protection offered to pedestrians.

**7.190** The HDV mix in Assessment Scenario 3 is 2% across all links which is considered to be low and currently experienced across the network. Accordingly, the HGV composition under Fear and Intimidation would result in **Negligible** impact magnitude.

**7.191** For links experiencing an uplift in total traffic across the day, the pedestrian provision is considered suitable and appropriate to accommodate future pedestrian demand and the impact would have a **Negligible** magnitude on Fear and Intimidation.

**7.192** As such the effect of the Proposed Development on Fear and Intimidation is considered to be **Negligible**.

## Accident and Safety

**7.193** A full review of the PIC data is included in **ES Volume 3, Appendix: Traffic and Transport – Annex 1**. The TA has identified that there is one collision cluster in the study area at the signal junction of the A226 London Road / Pilgrims Road / A226 Galley Hill Road / High Street. This includes Links 10, 11, 12 and 13.

**7.194** In total, 9 collisions have occurred at this junction over the most recent 5 year period with the most recent collision occurring in 2020. Seven collisions were slight in nature and two collisions were Severe in nature.

**7.195** In Assessment Scenario 3, Links 10-13 experience between a 0-39% uplift in total daily traffic with the primary flow being east to west. None of these links exceed 1,400 vehicles per hour during the busiest peak hour.

**7.196** Links 10, 11 and 13 have a Low sensitivity and Link 12 has a Medium sensitivity. As a result, the Proposed Development would have a Negligible impact resulting in a **Minor Adverse (Not Significant)** effect.

# MITIGATION, MONITORING AND RESIDUAL EFFECTS

## Demolition and Construction Mitigation

**7.197** It is proposed that a Construction Environmental Management Plan (CEMP) will be implemented to minimise the risk of the likely environmental effects occurring during the construction phase and to effectively reduce the effect associated with construction activities, including the use of defined routes and timing. This will be secured by planning condition. The type of vehicle that will transport materials to the site will be determined in advance to ensure safe and efficient delivery taking into consideration local constraints. The future detailed CEMP(s) will adhere to the Outline CEMP submitted with the planning application, as found at **ES Volume 3, Appendix: Demolition and Construction – Annex 1**.

**7.198** Construction traffic movements will be kept to agreed working hours where practicable and designed to minimise disruption to the highway network and local residents.

**7.199** The CEMP will also include the following measures:

- Management of construction traffic including the avoidance of any sensitive site boundaries;
- The Construction Logistics and Community Safety (CLOCS) standards for all vehicles shall be adopted;
- Safety for pedestrians through separate pedestrian gates and footpaths;
- Maintenance and protection of existing public and private (e.g., Stansted Airport) routine and emergency access routes;
- Details of access and egress with wheel cleaning facilities and agreed HGVs access routes to and from the site including specific measures relating to the transportation of any hazardous loads;
- Procedures for the management of deliveries (including organised time slots / just in time deliveries);
- Construction deliveries would be carefully planned with delivery times agreed with each contractor using a web-based booking system. Delivery schedules would be produced to look at the profiles of forthcoming deliveries to regulate journeys and eliminate bottlenecks and reduce over ordering of materials and waste generation; and
- A proportion of the trips will be scheduled to arrive at the construction site outside of peak hours, thus avoiding the busiest times on the local road network.

**7.200** The measures set out in the CEMP will be implemented and monitored in accordance with best practice construction management processes. Further details of demolition and construction activities is provided in **ES Volume 1, Chapter 5: Demolition and Construction**.

## RESIDUAL EFFECTS

7.201 All of the residual effects resulting from the Proposed Development, are presented in **Table 7.23**, identifying whether the residual effect is significant or not.

**Table 7.23 Residual Effects for Assessment Scenarios 1, 2 & 3**

| Receptor                           | Description of the Residual Effect | Scale and Nature | Significant / Not Significant | Geo | D<br>I | P<br>T | St<br>Mt<br>Lt |
|------------------------------------|------------------------------------|------------------|-------------------------------|-----|--------|--------|----------------|
| <b>Demolition and Construction</b> |                                    |                  |                               |     |        |        |                |
| <b>Assessment Scenario 1</b>       |                                    |                  |                               |     |        |        |                |
| Links 12, 15 & 17                  | Effects on Severance               | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
|                                    | Effects on Driver Delay            | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
|                                    | Effects on Pedestrian Delay        | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
|                                    | Effects on Pedestrian Amenity      | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
|                                    | Effects on Fear and Intimidation   | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
|                                    | Effects on Accidents and Safety    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| <b>Assessment Scenario 2</b>       |                                    |                  |                               |     |        |        |                |
| Link 12                            | Effects on Severance               | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 13                            |                                    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 15                            |                                    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 16                            |                                    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 17                            |                                    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 18                            |                                    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 19                            | Effects on Driver Delay            | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 20                            |                                    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 12                            |                                    | Negligible       | Not Significant               | L   | D      | T      | Mt             |
| Link 13                            |                                    | Negligible       | Not Significant               | L   | D      | T      | Mt             |
| Link 15                            |                                    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 16                            |                                    | Negligible       | Not Significant               | L   | D      | T      | Mt             |
| Link 17                            | Effects on Pedestrian Delay        | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 18                            |                                    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 19                            |                                    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Link 20                            |                                    | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |

| Receptor                     | Description of the Residual Effect | Scale and Nature | Significant / Not Significant | Geo | D<br>I | P<br>T | St<br>Mt<br>Lt |
|------------------------------|------------------------------------|------------------|-------------------------------|-----|--------|--------|----------------|
| Link 15                      | Effects on Pedestrian Delay        | Negligible       | Not Significant               | L   | D      | T      | Mt             |
| Link 18                      |                                    | Negligible       | Not Significant               | L   | D      | T      | Mt             |
| Link 19                      |                                    | Negligible       | Not Significant               | L   | D      | T      | Mt             |
| Link 20                      |                                    | Negligible       | Not Significant               | L   | D      | T      | Mt             |
| All Links                    | Effects on Pedestrian Amenity      | Negligible       | Not Significant               | L   | D      | T      | Mt             |
| Link 16                      | Effects on Fear and Intimidation   | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Links 12 & 13                | Effects on Accident and Safety     | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| <b>Completed Development</b> |                                    |                  |                               |     |        |        |                |
| <b>Assessment Scenario 3</b> |                                    |                  |                               |     |        |        |                |
| Link 10                      | Effects on Severance               | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 12                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 13                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 15                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 17                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 18                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 19                      | Effects on Driver Delay            | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 20                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 24                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 10                      |                                    | Negligible       | Not Significant               | L   | D      | P      | Lt             |
| Link 12                      |                                    | Negligible       | Not Significant               | L   | D      | P      | Lt             |
| Link 13                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 15                      | Effects on Pedestrian Delay        | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 17                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 18                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 19                      |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 20                      | Effects on Pedestrian Delay        | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 24                      |                                    | Negligible       | Not Significant               | L   | D      | P      | Lt             |
| Link 15                      |                                    | Negligible       | Not Significant               | L   | D      | P      | Lt             |
| Link 18                      |                                    | Negligible       | Not Significant               | L   | D      | P      | Lt             |

| Receptor                                                                                                                                                                                                                                                                                                                                                     | Description of the Residual Effect | Scale and Nature | Significant / Not Significant | Geo | D<br>I | P<br>T | St<br>Mt<br>Lt |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------|-------------------------------|-----|--------|--------|----------------|
| All Links                                                                                                                                                                                                                                                                                                                                                    | Effects on Pedestrian Amenity      | Negligible       | Not Significant               | L   | D      | P      | Lt             |
| All Links                                                                                                                                                                                                                                                                                                                                                    | Effects on Fear and Intimidation   | Negligible       | Not Significant               | L   | D      | P      | Lt             |
| Links 10, 12, 13                                                                                                                                                                                                                                                                                                                                             | Effects on Accident and Safety     | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Key/Notes:<br>Residual Effect<br>Scale = Negligible / Minor / Moderate / Major<br>Nature = Beneficial or Adverse<br>Geo (Geographic Extent) = Local (L), Borough (B), Regional (R), National (N)<br>D = Direct / I = Indirect<br>P = Permanent / T = Temporary<br>St = Short Term / Mt = Medium Term / Lt = Long Term<br>N/A = not applicable / not assessed |                                    |                  |                               |     |        |        |                |

**7.202** Assessment Scenarios 1 – 3 did not identify any likely significant effects with regards to the demolition and construction, and operational phases of the Proposed Development.

## ASSESSMENT OF THE FUTURE ENVIRONMENT

### Evolution of the Baseline

**7.203** To forecast the changes to the baseline traffic flows, a growth factor has been applied to the observed 2022 traffic data as discussed previously in this ES chapter. This has allowed for a comparison and assessment to be made of the anticipated effects of the proposed development.

**7.204** Details of the extraction of growth factors are provided in **ES Volume 3, Appendix: Traffic and Transport – Annex 1**. The completed baseline vs the baseline without any of the traffic associated with the Proposed Development forecasts are set out in **Tables 7.16, Table 7.20 and Table 7.22**.

### Cumulative Effects Assessment

**7.205** As set out in **ES Volume 1, Chapter 2: EIA Methodology**, the cumulative effects assessment considers the potential for cumulative effects to arise as a result of the Proposed Development in-combination with the defined ‘Tier 1’ (schemes which meet the defined criteria with regards to scale and distance from the site and have full planning consent, a resolution to grant consent, or have been submitted but not yet consented where considered appropriate) and ‘Tier 2’ (major planning applications and decisions which have not yet been submitted for approval, and are at varying stages in the pre-application stage) cumulative schemes within 1km of the site.

**7.206** In addition to this, and as a response to the Scoping Opinion received from Gravesham Borough Council, consideration of the Lower Thames Crossing has also been included within the Tier 2 cumulative assessment.

### Assessment Scenario 4 - 2031 Full Build Out + Cumulative Tier 1

**7.207** Assessment Scenario 4 includes for the full build out of the Proposed Development and all cumulative developments listed as Tier 1 developments in **ES Volume 1, Chapter 2: EIA Methodology**. The design year from Assessment Scenario 4 is 2031.

**7.208** As set out in paragraph 7.14, a growth factor has been applied to the observed 2022 traffic data to forecast a future year of 2031 in this assessment scenario. This is an accepted industry methodology as set out in **ES Volume 3, Appendix: Traffic and Transport – Annex 1**.

**7.209** Growth factors were extracted for car drivers for the average day based upon a trip end type of origin and destination. The resulting factors include for the build out of locally committed developments, increasing housing supply and job numbers.

**7.210** As a result of this methodology there is an inherent accountability included within the 2031 Baseline data for committed developments which avoids double counting developments through the inclusion of overall assumed growth and specific site allocations. A review of the Tier 1 sites identified that a number had already been built and were operational and as such, in combination with the TEMPro growth factor used, the traffic flows forecast for Assessment Scenario 4 do not increase above the 2031 full build out as illustrated in **Table 7.24**.

**Table 7.24 2031 Future Baseline Compared to 2031 Full Build Out Plus Tier 1 Schemes**

| Link | Location                  | 2031 Baseline |      | 2031 Full Build Out + Tier 1 |      | % Change   |     |
|------|---------------------------|---------------|------|------------------------------|------|------------|-----|
|      |                           | Total Vehs    | HDV  | Total Vehs                   | HDV  | Total Vehs | HDV |
| 1    | Station Road              | 4225          | 57   | 4314                         | 58   | 2%         | 2%  |
| 2    | A206 (W)                  | 27351         | 1441 | 28191                        | 1462 | 3%         | 2%  |
| 3    | Station Approach          | 1963          | 592  | 2006                         | 601  | 2%         | 2%  |
| 4    | A206 (S)                  | 27970         | 1528 | 28687                        | 1551 | 3%         | 2%  |
| 5    | A226 London Road (W)      | 20100         | 456  | 20932                        | 463  | 4%         | 2%  |
| 6    | A226 London Road (E)      | 16605         | 1420 | 19251                        | 1441 | 16%        | 2%  |
| 7    | B255                      | 32933         | 1374 | 33774                        | 1395 | 3%         | 2%  |
| 8    | Link Road                 | 5165          | 1199 | 5165                         | 1217 | 0%         | 2%  |
| 9    | Craylands Lane            | 3576          | 66   | 3715                         | 67   | 4%         | 2%  |
| 10   | A226 - London Road        | 11045         | 1057 | 14747                        | 1073 | 34%        | 2%  |
| 11   | Pilgrim's Road            | 54            | 6    | 54                           | 6    | 0%         | 2%  |
| 12   | High Street               | 6826          | 124  | 8318                         | 126  | 22%        | 2%  |
| 13   | A226 - Galley Hill Road   | 13201         | 1108 | 18407                        | 1125 | 39%        | 2%  |
| 14   | Lower Road                | 5325          | 1102 | 5325                         | 1119 | 0%         | 2%  |
| 15   | A226 - Stonebridge Road   | 16892         | 1715 | 24280                        | 1741 | 44%        | 2%  |
| 16   | Grove Road                | 2389          | 513  | 2389                         | 521  | 0%         | 2%  |
| 17   | B2175 - Stonebridge Road  | 10924         | 465  | 17226                        | 472  | 58%        | 2%  |
| 18   | A226                      | 11069         | 1688 | 18674                        | 1714 | 69%        | 2%  |
| 19   | Link Road                 | 11407         | 1673 | 18864                        | 1699 | 65%        | 2%  |
| 20   | Thames Way - A226         | 11879         | 2045 | 19335                        | 2076 | 63%        | 2%  |
| 21   | Thames Way - A226         | 13047         | 1673 | 16068                        | 1699 | 23%        | 2%  |
| 22   | A2260 (Ebbsfleet Gateway) | 18230         | 3108 | 22667                        | 3155 | 24%        | 2%  |
| 23   | International Way         | 3204          | 562  | 3247                         | 570  | 1%         | 2%  |
| 24   | B259                      | 9414          | 248  | 10374                        | 251  | 10%        | 2%  |
| 25   | A2260                     | 33551         | 5032 | 36985                        | 5108 | 10%        | 2%  |
| 26   | Ackers Drive              | 7270          | 322  | 7504                         | 327  | 3%         | 2%  |
| 27   | A2 On/Off Slip            | 23085         | 2816 | 24979                        | 2859 | 8%         | 2%  |
| 28   | A2260                     | 17864         | 3101 | 19170                        | 3148 | 7%         | 2%  |
| 29   | A2 On Slip Road           | 20456         | 1335 | 21168                        | 1355 | 3%         | 2%  |
| 30   | A2 Off Slip Road          | 21803         | 1842 | 22423                        | 1870 | 3%         | 2%  |

**7.211** Comparing the 2031 Future Year to the 2031 Full Build Out Plus Cumulative Tier 1 schemes it can be seen that no link exceeds the 10% threshold for an increase in HDVs, however the following links exceed 10% total vehicle traffic and require assessment;

- Link 6 - A226 London Road (E);
- Link 10 – A226 London Road;

- Link 12 – High Street;
- Link 13 – A226 Galey Hill Road;
- Link 15 – A226 Stonebridge Road;
- Link 17 – B2175 Stonebridge Road;
- Link 18 – A226;
- Link 19 – Link Road;
- Link 20 – Thames Way – A226;
- Link 21 – Thames Way – A226;
- Link 22 - A2260 (Ebbsfleet Gateway);
- Link 24 – B259;
- Link 25 – A2260.

**7.212** Rule 1 is applicable to Links 10, 13, 15, 17, 18, 19 and 20 as they experience an increase greater than 30% in traffic. Rule 2 applies to Link 12 as this is a Medium sensitivity link and Link 24 as this has a High sensitivity; the other links experiencing less than a 30% increase are classed as Low sensitivity. Links 6, 21, 22 and 25 experience an increase of greater than 10% in total traffic however these links are classed as having a Low sensitivity and can be excluded from this assessment.

**7.213** All links considered in Assessment Scenario 4 experience the same increase in traffic as Assessment Scenario 3.

**7.214** Accordingly, the assessment for Assessment Scenario 3 is the same as Assessment Scenario 4 and the effects of the Proposed Development will be the same.

## Assessment Scenario 5 – 2031 Full Build Out + Tier 2 Cumulative

**7.215** Assessment Scenario 5 includes for major local development sites which are not subject to a current planning application, nor do they have a planning approval. These sites are considered to be of strategic significance and as such have been included in this scenario as Tier 2 cumulative schemes.

**7.216** The list of developments included in the Tier 2 assessment, and in this assessment scenario, are set out in **ES Volume1, Chapter 2: EIA Methodology**.

**7.217** For the London Resort scheme, it has been possible to extract traffic flow data from the now withdrawn planning application to allow a quantitative assessment of the potential cumulative impacts to be run. This is presented in **Table 7.25**.

**Table 7.25 2031 Future Baseline Compared to 2031 Full Build Out Plus Tier 2 Schemes**

| Link | Location             | 2031 Baseline |      | 2031 Full Build Out + London Resort |      | % Change   |     |
|------|----------------------|---------------|------|-------------------------------------|------|------------|-----|
|      |                      | Total Vehs    | HDV  | Total Vehs                          | HDV  | Total Vehs | HDV |
| 1    | Station Road         | 4225          | 57   | 4314                                | 58   | 2%         | 2%  |
| 2    | A206 (W)             | 27351         | 1441 | 28191                               | 1462 | 3%         | 2%  |
| 3    | Station Approach     | 1963          | 592  | 2006                                | 601  | 2%         | 2%  |
| 4    | A206 (S)             | 27970         | 1528 | 28687                               | 1551 | 3%         | 2%  |
| 5    | A226 London Road (W) | 20100         | 456  | 20932                               | 463  | 4%         | 2%  |
| 6    | A226 London Road (E) | 16605         | 1420 | 19251                               | 1441 | 16%        | 2%  |
| 7    | B255                 | 32933         | 1374 | 33774                               | 1395 | 3%         | 2%  |
| 8    | Link Road            | 5165          | 1199 | 5165                                | 1217 | 0%         | 2%  |
| 9    | Craylands Lane       | 3576          | 66   | 3715                                | 67   | 4%         | 2%  |
| 10   | A226 - London Road   | 11045         | 1057 | 14747                               | 1073 | 34%        | 2%  |

| Link | Location                  | 2031 Baseline |      | 2031 Full Build Out + London Resort |      | % Change   |     |
|------|---------------------------|---------------|------|-------------------------------------|------|------------|-----|
|      |                           | Total Vehs    | HDV  | Total Vehs                          | HDV  | Total Vehs | HDV |
| 11   | Pilgrim's Road            | 54            | 6    | 54                                  | 6    | 0%         | 2%  |
| 12   | High Street               | 6826          | 124  | 8318                                | 126  | 22%        | 2%  |
| 13   | A226 - Galley Hill Road   | 13201         | 1108 | 18407                               | 1125 | 39%        | 2%  |
| 14   | Lower Road                | 5325          | 1102 | 5325                                | 1119 | 0%         | 2%  |
| 15   | A226 - Stonebridge Road   | 16892         | 1715 | 24280                               | 1741 | 44%        | 2%  |
| 16   | Grove Road                | 2389          | 513  | 2389                                | 521  | 0%         | 2%  |
| 17   | B2175 - Stonebridge Road  | 10924         | 465  | 17226                               | 472  | 58%        | 2%  |
| 18   | A226                      | 11069         | 1688 | 18674                               | 1714 | 69%        | 2%  |
| 19   | Link Road                 | 11407         | 1673 | 18864                               | 1699 | 65%        | 2%  |
| 20   | Thames Way - A226         | 11879         | 2045 | 19335                               | 2076 | 63%        | 2%  |
| 21   | Thames Way - A226         | 13047         | 1673 | 16395                               | 1699 | 26%        | 2%  |
| 22   | A2260 (Ebbsfleet Gateway) | 18230         | 3108 | 22994                               | 3155 | 26%        | 2%  |
| 23   | International Way         | 3204          | 562  | 3247                                | 570  | 1%         | 2%  |
| 24   | B259                      | 9414          | 248  | 10374                               | 251  | 10%        | 2%  |
| 25   | A2260                     | 33551         | 5032 | 37312                               | 5108 | 11%        | 2%  |
| 26   | Ackers Drive              | 7270          | 322  | 7504                                | 327  | 3%         | 2%  |
| 27   | A2 On/Off Slip            | 23085         | 2816 | 26486                               | 2859 | 15%        | 2%  |
| 28   | A2260                     | 17864         | 3101 | 21378                               | 3148 | 20%        | 2%  |
| 29   | A2 On Slip Road           | 20456         | 1335 | 21413                               | 1355 | 5%         | 2%  |
| 30   | A2 Off Slip Road          | 21803         | 1842 | 24583                               | 1870 | 13%        | 2%  |

**7.218** Comparing the 2031 Future Year to the 2031 Full Build Out Plus the London Resort scheme it can be seen that no link exceeds the 10% threshold for an increase in HDVs however the following links exceed 10% total vehicle traffic and require assessment;

- Link 6 - A226 London Road (E);
- Link 10 – A226 London Road;
- Link 12 – High Street;
- Link 13 – A226 Galey Hill Road;
- Link 15 – A226 Stonebridge Road;
- Link 17 – B2175 Stonebridge Road;
- Link 18 – A226;
- Link 19 – Link Road;
- Link 20 – Thames Way – A226;
- Link 21 – Thames Way – A226;
- Link 22 - A2260 (Ebbsfleet Gateway);
- Link 24 – B259;
- Link 27 – A2 On/Off Slip;
- Link 28 – A2260;
- Link 30 – A2 Off Slip.

**7.219** With the exception of Links 21, 22, 27, 28 and 30, all links considered in Assessment Scenario 5 experience the same increase in traffic as Assessment Scenarios 3 and 4. Links 21, 22, 27, 28 and 30 all have a Low sensitivity and experience less than a 30% increase in traffic, so no assessment is required as neither Rule 1 or 2 are satisfied.

**7.220** Accordingly, the assessment for Assessment Scenarios 3 and 4 is the same as Assessment Scenario 5 and the effects of the Proposed Development will be the same.

**Table 7.26 Residual Effects for Assessment Scenarios 4 and 5**

| Receptor                             | Description of the Residual Effect | Scale and Nature | Significant / Not Significant | Geo | D<br>I | P<br>T | St<br>Mt<br>Lt |
|--------------------------------------|------------------------------------|------------------|-------------------------------|-----|--------|--------|----------------|
| <b>Assessment Scenario 4 &amp; 5</b> |                                    |                  |                               |     |        |        |                |
| Link 10                              | Effects on Severance               | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 12                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 13                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 15                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 17                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 18                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 19                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 20                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 24                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 10                              | Effects on Driver Delay            | Negligible       | Not Significant               | L   | D      | P      | Lt             |
| Link 12                              |                                    | Negligible       | Not Significant               | L   | D      | P      | Lt             |
| Link 13                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 15                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 17                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 18                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 19                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 20                              |                                    | Minor Adverse    | Not Significant               | L   | D      | P      | Lt             |
| Link 24                              |                                    | Negligible       | Not Significant               | L   | D      | P      | Lt             |
| Link 15                              | Effects on Pedestrian Delay        | Negligible       | Not Significant               | L   | D      | P      | Mt             |
| Link 18                              |                                    | Negligible       | Not Significant               | L   | D      | P      | Mt             |
| Link 19                              |                                    | Negligible       | Not Significant               | L   | D      | P      | Mt             |
| Link 20                              |                                    | Negligible       | Not Significant               | L   | D      | P      | Mt             |
| All Links                            | Effects on Pedestrian Amenity      | Negligible       | Not Significant               | L   | D      | P      | Mt             |
| All Links                            | Effects on Fear and Intimidation   | Negligible       | Not Significant               | L   | D      | P      | Mt             |

| Receptor                                                                                                                                                                                                                                                                                                                                                     | Description of the Residual Effect | Scale and Nature | Significant / Not Significant | Geo | D<br>I | P<br>T | St<br>Mt<br>Lt |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------|-------------------------------|-----|--------|--------|----------------|
| Links 10, 12 & 13                                                                                                                                                                                                                                                                                                                                            | Effects on Accident and Safety     | Minor Adverse    | Not Significant               | L   | D      | T      | Mt             |
| Key/Notes:<br>Residual Effect<br>Scale = Negligible / Minor / Moderate / Major<br>Nature = Beneficial or Adverse<br>Geo (Geographic Extent) = Local (L), Borough (B), Regional (R), National (N)<br>D = Direct / I = Indirect<br>P = Permanent / T = Temporary<br>St = Short Term / Mt = Medium Term / Lt = Long Term<br>N/A = not applicable / not assessed |                                    |                  |                               |     |        |        |                |

**7.221** For the three remaining Tier 2 cumulative schemes (Ebbsfleet Central East, Land adjacent to Northfleet Harbour, Blue Lake and the Lower Thames Crossing) insufficient information is available to allow a similar quantitative level of assessment to be completed as per Assessment Scenario 5. A qualitative assessment of the potential cumulative effects has therefore been completed, as discussed below.

## *Ebbsfleet Central East*

**7.222** The draft proposals for Ebbsfleet Central East comprise the following land uses:

- Up to 2,100 homes
- Up to 100,000m<sup>2</sup> of office floorspace - this could include large office buildings and smaller workspaces
- Up to 10,000m<sup>2</sup> of retail floorspace including supermarkets, restaurants, bars and cafes and other shops
- Up to 3,100m<sup>2</sup> of community floorspace
- A Community Diagnostic Centre and Health & Wellbeing Hub - providing primary healthcare (GP) and other community wellbeing space
- New open spaces and connectivity improvements

**7.223** The proposals seek to deliver a mixed use development which has the potential to increase demand for travel across Northfleet and Gravesham. Given the mixed use nature of the scheme, similar to that proposed by the Proposed Development being assessed as part of this ES, the majority of these trips have the potential to be made by sustainable modes. This is a key vision for Ebbsfleet Garden City.

**7.224** The vision for Ebbsfleet Central East is set out below.

- Improving connectivity across the Site and into the surrounding communities;
- Delivering a variety of homes including affordable homes;
- Delivering employment opportunities for all within the Garden City;
- Delivering new open spaces and improving current spaces which respect the existing landscape;
- Enhancing and providing access to the existing natural spaces including the River Ebbsfleet;
- Delivering key infrastructure including the Community Diagnostic Centre and Health & Wellbeing Hub; and
- Improving access to sustainable modes of transport.

**7.225** Through the provision of additional office, food retail and community floor space it is anticipated that this site has the potential to enhance the ability for new residents across both this and the proposed site to live and work locally. This has the potential to significantly reduce the generation of vehicular traffic across both sites and minimise the impacts on the highway network.

**7.226** In terms of the cumulative impact on the links outlined for assessment within this ES chapter, it is anticipated that the majority of effects would be seen on the strategic road network, that is the A226, Thames Way, the A2260 to the south and the A2 corridor. It is not considered that there will be any cumulative residual adverse highways and transport impacts when considered in combination with the Proposed Development.

*Land Adjacent to Northfleet Harbour*

**7.227** The proposed development at Land Adjacent to Northfleet Harbour comprised up to 320 residential units; up to 650m<sup>2</sup> of non-residential commercial floorspace; and up to 380m<sup>2</sup> of non-residential community floorspace. In addition to this a scheme of works was proposed to upgrade Grove Road and provide an enhanced traffic corridor with Bus Rapid Transit connectivity.

**7.228** A review of the withdrawn trip generation forecast indicated a peak hour impact of 181 two-way trips during the AM peak and 241 two-way trips during the PM peak.

**7.229** A review of the Traffic and Transport chapter of the Environmental Impact Assessment submitted alongside the withdrawn planning application illustrated that the only link forecast to experience any effect was Grove Road with all other links significantly below the thresholds considered to result in an effect. When considering all proposed mitigation, it was considered that there would be no significant residual adverse highways and transport impacts resulting from the proposals.

**7.230** As this cumulative development is not forecast to have any residual impacts on Grove Road either, it is not considered that there will be any cumulative residual adverse highways and transport impacts when considered in combination with the Proposed Development.

*Blue Lake, Thames Way*

**7.231** The proposed development of Blue Lake comprises the infilling of a former chalk quarry to enable the future development of up to 1,300 new residential dwellings. As part of this proposal up to 1.5 million m<sup>3</sup> of inert material could need to be imported to the site.

**7.232** The proposed access strategy for this development is via the A2260 Thames Way and the A2 to the south of the proposed development site. This therefore forecasts impacts and potential effects on links 22, 25, 27, 28 and 29 within this assessment.

**7.233** All of these links are classed as having a low or very low sensitivity to increases in traffic volume. It is anticipated that due to the nature of infilling, the traffic generation will be consistent but not result in significant peak periods. The scoping opinion submitted also identified that a CEMP would be implemented to mitigate the impacts of this development. As a result, and with the above links already subject to high levels of traffic,

**7.234** With regard to the potential residential proposals, given the proximity to the site and the inclusion of a large-scale mixed-use scheme, it is considered that many of the trips associated with residential units at Blue Lake will form trips to and from the development site. It is also understood that some highway mitigation schemes are already coming forward in support of this scheme which would compliment the development in delivering additional highway capacity. As a result, it is not considered that there would be any cumulative residual adverse highways and transport impacts.

*Lower Thames Crossing*

**7.235** The Lower Thames Crossing is a proposed road crossing of the Thames estuary close to the Dartford Crossing that links the counties of Kent and Essex, and its proposed approaches. If built it would pass through the districts of Thurrock and Gravesham, supplementing the Dartford route.

**7.236** A review of the consultation information presented at various stages over the past 5.5 years identifies that a key part of its delivery would be to relieve congestion at the Dartford Crossing and as a consequence of the rerouting of vehicular traffic in Kent, reduce traffic flows on the A2 in and around Gravesend and Northfleet. This forecast occurs during the AM, inter and PM peak periods with significant reductions in traffic forecast.

**7.237** As a result of these anticipated impacts on the A2 and surrounding highway links, it is not considered that there will be any cumulative residual adverse highways and transport impacts when considered in combination with the Proposed Development.

## **LIKELY SIGNIFICANT EFFECTS**

**7.238** This assessment has identified that there are no likely significant effects in relation to traffic and transport. No additional likely significant cumulative effects have been identified during demolition and construction, or once the Proposed Development is complete and operation