

A13 Widening

Strategic Case

December 2016

Thurrock Council



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1 Introduction

1.1 The Strategic Case

This Strategic Case for the A13 Widening has been prepared in accordance with the Guidance published by the Department for Transport in January 2013 (“The Transport Business Cases”). The strategic case is intended to identify the business need for the project and how the project will meet local, regional and national objectives.

1.2 Scheme Context

The A13 corridor in Thurrock links the nationally significant port infrastructure of Tilbury and London Gateway with the M25 and London. The South East Local Enterprise Partnership (SE LEP), in their Growth Deal and Strategic Economic Plan 2014, identified the A13 corridor as the largest single growth opportunity in the SE LEP area. However, the Plan also identified that development is constrained by the limited capacity of the strategic road network, particularly J30/31 of the M25 and the dual carriageway section of the A13.

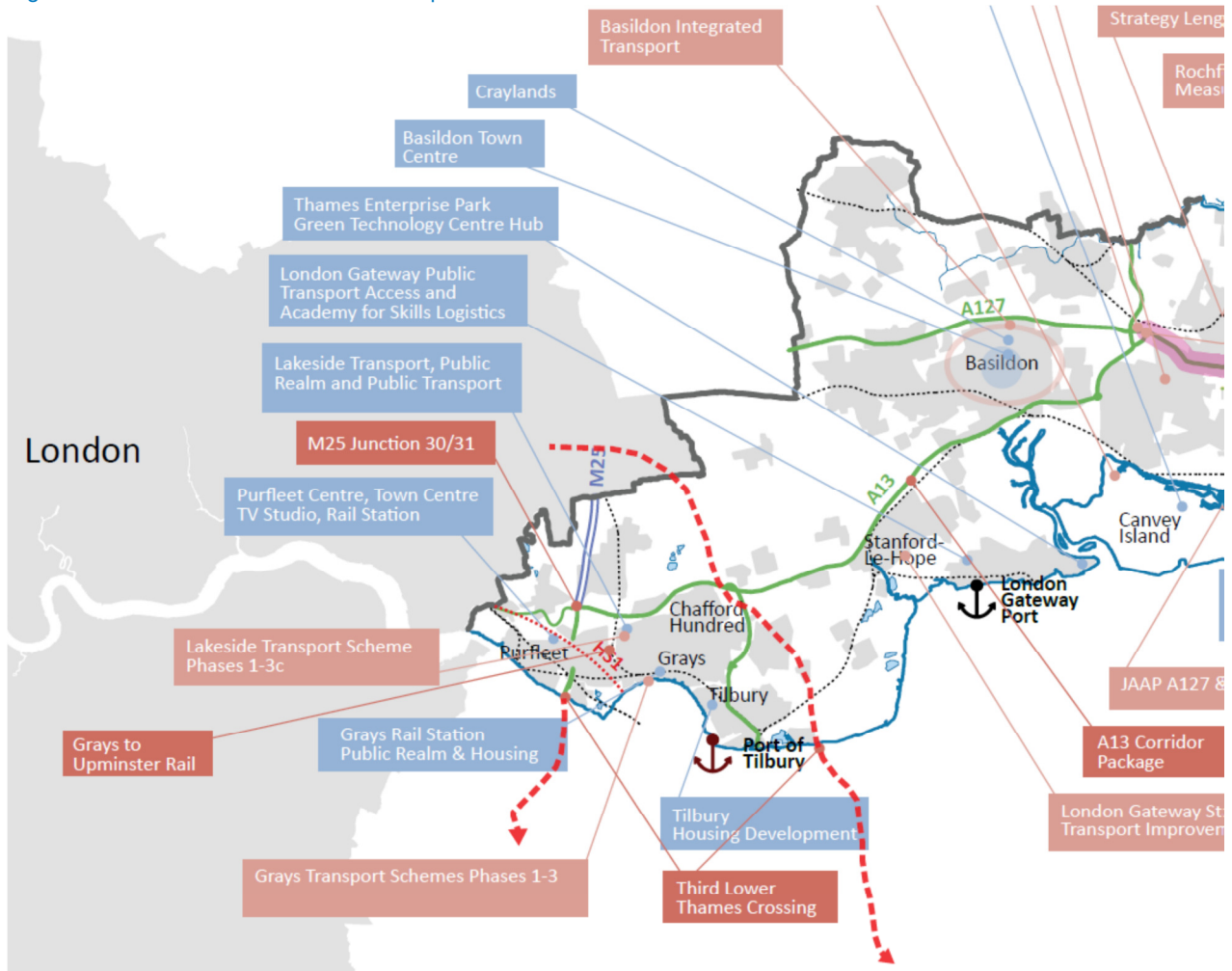
Work started on constructing the M25 Junction 30 / A13 Corridor Relieving Congestion Scheme in February 2015, with programmed completion in Autumn 2016. This will address the congestion issues at and approaching J30/31 of the M25.

The South East Growth Deal includes a provisional allocation for widening the A13 in Thurrock. This includes funding of £5m capital grant from the Local Growth Fund for the development costs of the A13 Widening project, and up to £75m of further funding for construction.

The Strategic Economic Plan identified that the A13 Widening and other planned transport investments will directly enable the creation of 4,045 jobs and 3,340 new homes by 2021, and facilitate 43,610 jobs and 11,000 homes in the corridor.

The location of the A13 Widening and other transport investments along the A13 corridor is shown in **Figures 1.1** and **1.2**. The A13 Widening will complete a dual carriageway with 3 lanes in each direction between the M25 and Stanford-le-Hope.

Figure 1.1: A13 Corridor SE LEP Transport Investments



Source: SE LEP

1.3 Scheme Description

The location of the A13 Widening is shown in **Figure 1.2**, taken from the Feasibility Study carried out by Atkins in July 2015. The existing carriageway has 2 lanes in each direction. The widening will tie in with the existing 3-lane section of the A13 west of the interchange with the A128 and will complete a 3-lane carriageway from the M25 to the A1014 interchange. Both the A128 and A1014 interchanges are already grade-separated, but the junction with the A128 will need to be re-constructed in order to provide adequate width for the widened A13 carriageway beneath the interchange.

Figure 1.2: Scheme Location



Source: Atkins

The London Gateway Port Harbour Empowerment Order was made in May 2008, and includes compulsory purchase powers to acquire land, and powers to construct the A13 Widening. These powers are time-limited such that notice to treat must be served by 16th May 2018. It is proposed to start construction of the A13 Widening in February 2017, with completion in September 2019. The scheme will be funded from the Local Growth Fund with contributions from London Gateway Port.

2 Business Strategy

2.1 National Policy

2.1.1 National Planning Policy Framework

The National Planning Policy Framework of 2012 sets out the Government's planning policies for England and how these are expected to be applied in order to achieve sustainable development. The planning system is required to:

- contribute to building a strong, responsive and competitive economy
- support strong, vibrant and healthy communities, and
- contribute to protecting and enhancing the environment.

In promoting sustainable transport, encouragement is to be given to solutions which support reductions in greenhouse gas emissions and reduce congestion.

The A13 Widening will reduce congestion and remove constraints to development, so unlocking the potential of the A13 corridor to deliver jobs and housing, and hence contribute to economic development and the development of stronger communities.

2.1.2 Local growth: realising every place's potential

The Local Growth White Paper in 2010 set out the Government's approach to shift power to local communities, promote efficient and dynamic markets, and support investment to tackle the barriers to growth. The White Paper recognised that it makes sense for central Government to tackle market failures, including investment in infrastructure to tackle transport congestion, so connecting people with job opportunities and maximising agglomeration benefits. Transport is recognised as playing a crucial role in supporting economic development and creating the opportunities for growth.

By reducing congestion, and assisting the delivery of new houses and jobs, the A13 Widening is consistent with these policies.

2.2 Regional Policy

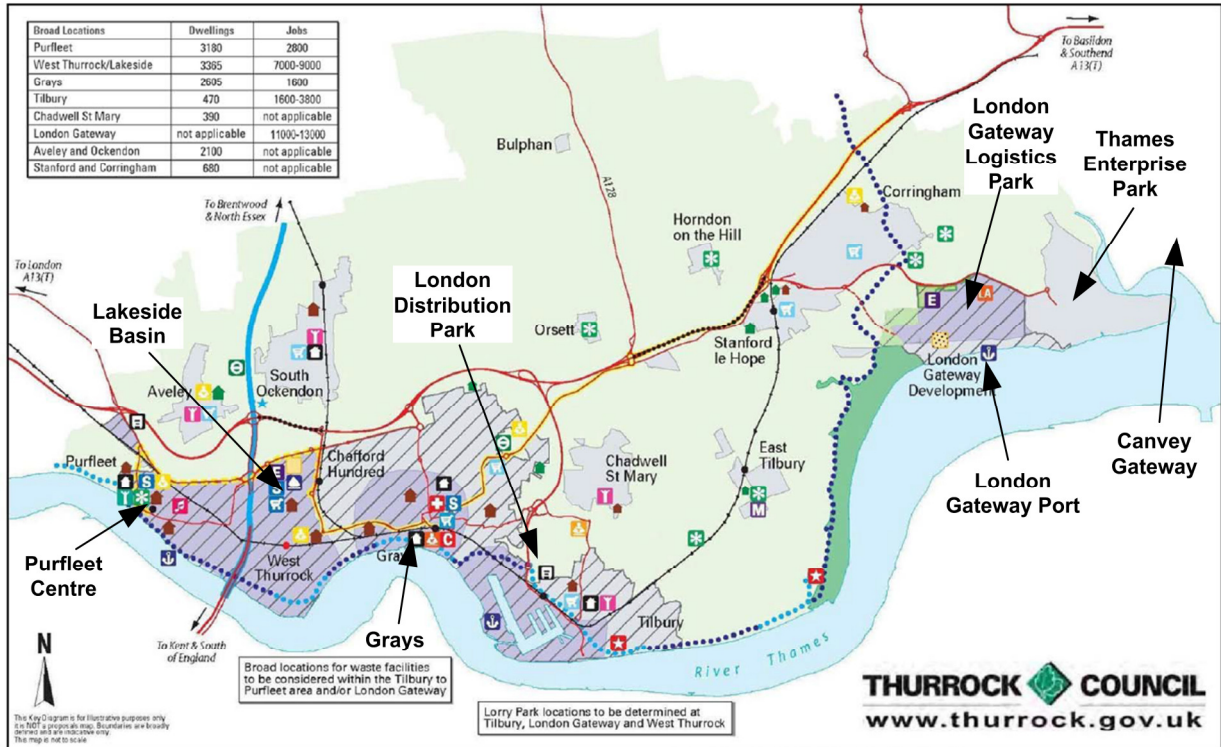
The South East Local Enterprise Partnership (SE LEP), in their Growth Deal and Strategic Economic Plan 2014, identified the A13 corridor as the largest single growth opportunity in the SE LEP area. However, the Plan also identified that development is constrained by the limited capacity of the strategic road network, particularly J30/31 of the M25 and the dual carriageway section of the A13.

The A13 corridor includes significant levels of existing and proposed development. These are shown in **Figure 2.1** and include:

- **London Gateway Port**, the most significant UK port development in more than 20 years, which opened in November 2013 occupying a 1,500 acre site and with capacity for 3.5 million TEU (twenty-foot equivalent units) containers per annum
- **London Gateway Logistics Park**, which has capacity for nearly 1 million sq. metres of warehousing space spread over 560 acres. The first distribution centre opened in July 2015. Together the Port and Logistics Park are forecast to create more than 12,000 direct, permanent jobs and more than 20,000 indirect jobs
- **Thames Enterprise Park**, which is a hub of industrial and energy-related businesses on up to 400 acres of brownfield land expected to support more than 2,000 new jobs
- **London Distribution Park**, a 30Ha expansion of the Port Of Tilbury with outline planning consent for 670,000 sq. ft of B1, B2 and B8 development which will support 1,100 new jobs
- The **Lakeside Basin** which is Europe's largest retail complex. The Thurrock Local Development Framework Core Strategy, adopted in December 2011, envisages a transformation of the Basin into a regional town centre which, together with the wider area, will provide between 7,000 and 9,000 jobs, a substantial expansion of retail floorspace, and an additional 3,000 houses.
- Thurrock Council are leading a major scheme to build a new **Purfleet Centre**. At its heart will be a film, television and media village employing around 2,000 people. The Centre will also provide around 2,500 new homes with works expected to begin on site in 2016/17, with the first phases of the development being completed in 2018/19.
- Developments in **Grays** following the relocation of South Essex College's Thurrock Campus are intended to secure the ultimate delivery of more than 2,600 homes and 2,000 new jobs
- Investment at the **Canvey Gateway** is anticipated to support the delivery of 1,500 new homes and 1,100 new jobs.

The potential investment opportunities and their outcome in terms of jobs and houses are summarised in **Table 2.1** (Table 4.34 in the Strategic Economic Plan).

Figure 2.1: Location of Main Development areas



Key Diagram for Adopted Core Strategy

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This Key Diagram illustrates some of the main policies and relevant proposals set out in the Core Strategy

Source: Thurrock Council

Table 2.1: A13 Corridor Investment Opportunities

Scheme	Start Date	End Date	Full Cost £m	LGF Funding Requirement £m	Match Funding £m	Total Jobs Enabled	Total Homes Enabled
Canvey	2015/16	2017/18	90.0	4.5	85.5	475	90
Thames Enterprise Park	2014/15	2020/21	581.5	3.5	528.0	520	0
Purfleet	2015/16	2023/24	372.5	7.5	365.0	1,500	2,500
Tilbury	2018/19	2019/20	181.4	4.5	132.9	1,100	350
Grays Town Centre	2015/16	2017/18	68.7	4.3	64.4	450	400
Total			1,200.1	24.3	1,175.8	4,045	3,340

Source: South East LEP: Growth Deal and Strategic Economic Plan 2014

2.3 Local Policy

2.3.1 Thurrock Local Development Framework

The Thurrock Local Development Framework Core Strategy and Policies for Management of Development was adopted in December 2011. The Spatial Policies make provision for about 13,550 dwellings between 2009 and 2021, and an indicative provision for 4,750 dwellings between 2021 and 2026. The employment growth policy seeks to deliver 26,000 new jobs for Thurrock over the period 2001 – 2026 and beyond. Key Strategic Infrastructure Projects are identified as essential to the delivery of the Core Strategy, including the A13 Widening. The A13 Widening is also identified as a priority to provide access, especially for freight, to Strategic Employment Sites, ports and regeneration areas.

A Local Plan is being developed for Thurrock, but adoption is not anticipated until 2018 Q4.

2.3.2 Thurrock Transport Strategy

Thurrock's Transport Strategy 2013 - 2016 is based on five overarching objectives of:

- Tackling congestion;
- Improving air quality and addressing climate change;
- Delivering accessibility;
- Providing safer roads; and
- Facilitating regeneration.

It aims to:

- Deliver accessibility improvements both where deprivation is most apparent and where significant levels of growth need to be accommodated sustainably; and
- Tackle congestion by focusing interventions on where congestion and poor journey reliability are having the most adverse impact on quality of life and on economic productivity and competitiveness.

The Thurrock Transport Strategy 2013 – 2026 identifies a need to make road network improvements to facilitate access to Key Centres of Development and Change, as well as key strategic economic hubs and areas of regeneration. Policy TTS18 covers Strategic Road Network Improvements and states that

“Where modal shift and network management are insufficient to tackle congestion on the Strategic Road Network, the Council will look to encourage additional capacity to reduce congestion, improve journey times, facilitate growth and improve access to key strategic economic hubs”.

The A13 Widening is identified as one of the major network improvements needed on strategic routes to facilitate growth.

3 Problem Identified

3.1 Introduction

The A13 currently experiences congestion between the A128 and A1014 during peak hours which is likely to be constraining development in the area. Without the provision of additional capacity the situation will continue to worsen and suppress the economic growth in the area. The London Gateway Logistic and Commercial Centre Outline Planning Application in 2002 concluded that the dual two lane section of the A13 between the A128 and A1014 would exceed theoretical operating capacity during weekday peak periods by 2011 with or without the proposed Port and Commercial development.

3.2 2012 traffic flows

Traffic counts were carried out by Count on Us for AECOM during September 2012 to support a Transport Assessment for the London Gateway Logistics Park. The counts comprised:

- Continuous classified automatic counts over a 3 week period on all roads approaching the grade separated roundabouts at A128 and A1014/A176
- Single day 24 hour manual classified link count on the A13 mainline between the grade separated junctions

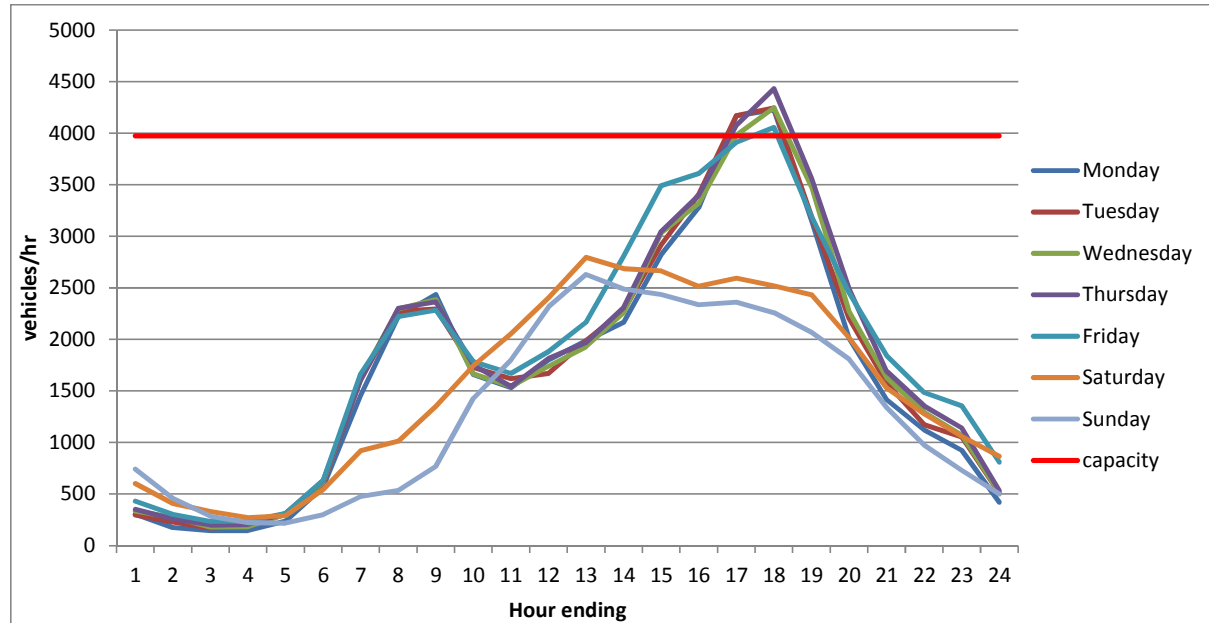
In addition, continuous TRADS automatic counts classified by vehicle length on the A13 and A1089 mainline and slip roads were available to calculate flows on the A13 mainline west of the A128 interchange.

Both these datasets were used to calculate A13 mainline flows between the A128 and A1014/A176 interchanges. The calculated mainline flows from the TRADS and slip road data on the day of the manual mainline count differed by only about 2% from the manual link count on that day. The count locations are shown in **Figure 3.1**.

The results of the traffic counts have been used to calculate the capacity and congestion reference flow on the A13 between the A128 and A1014 in accordance with DMRB Volume 5 Section 1 Part 3 TA 46/97. Based on the local traffic conditions the calculated peak hour capacity was 3,972 vehicles/hour eastbound and 3,944 vehicles/hour westbound and the congestion reference flow in both directions combined was approximately 75,000 vehicles/day.

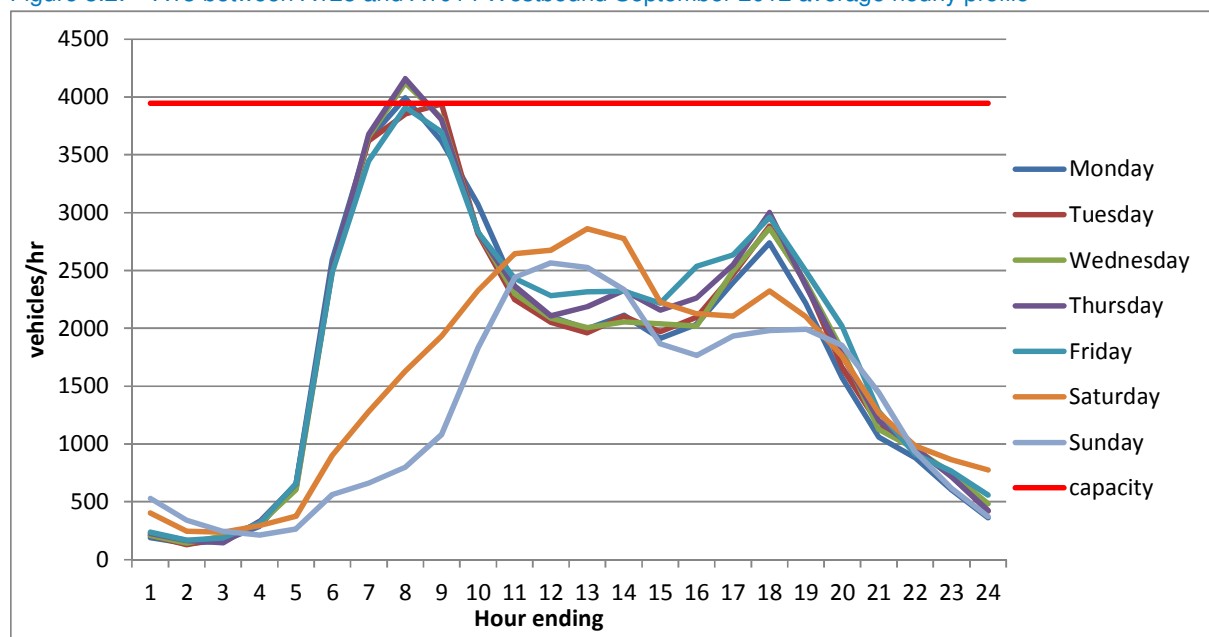
Figure 3.2 and **Figure 3.3** show the average hourly traffic profile by day of week and direction. In the eastbound direction the theoretical hourly capacity was exceeded on an average September working day (Monday-Friday) during the PM peak. In the westbound direction traffic levels were close to or exceeded capacity on an average September working day during the AM peak.

Figure 3.1: A13 between A128 and A1014 Eastbound September 2012 average hourly profile



Source: Trads/Count on Us

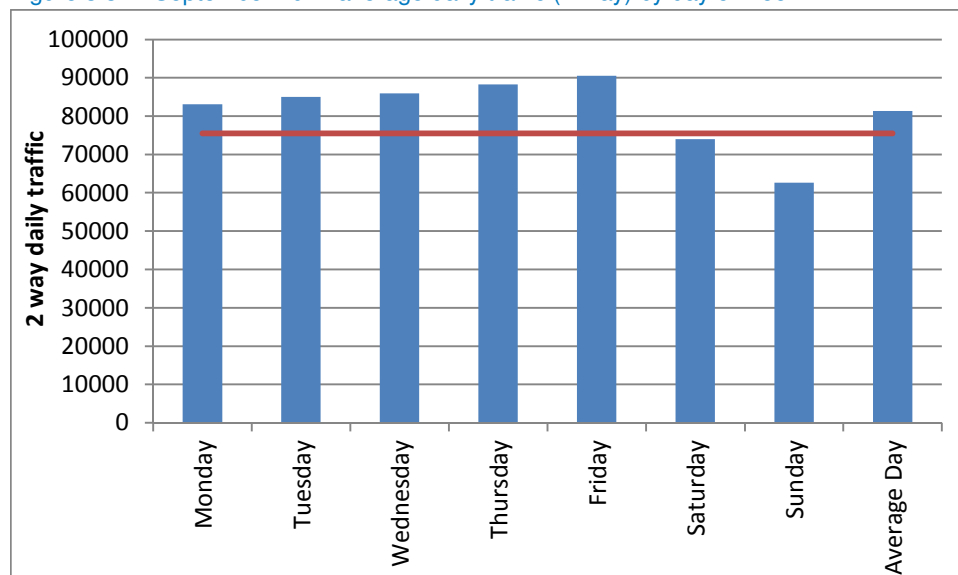
Figure 3.2: A13 between A128 and A1014 Westbound September 2012 average hourly profile



Source: Trads/Count on Us

Figure 3.4 shows the average September 2012 2-way traffic by day of week. The congestion reference flow was exceeded on the average day.

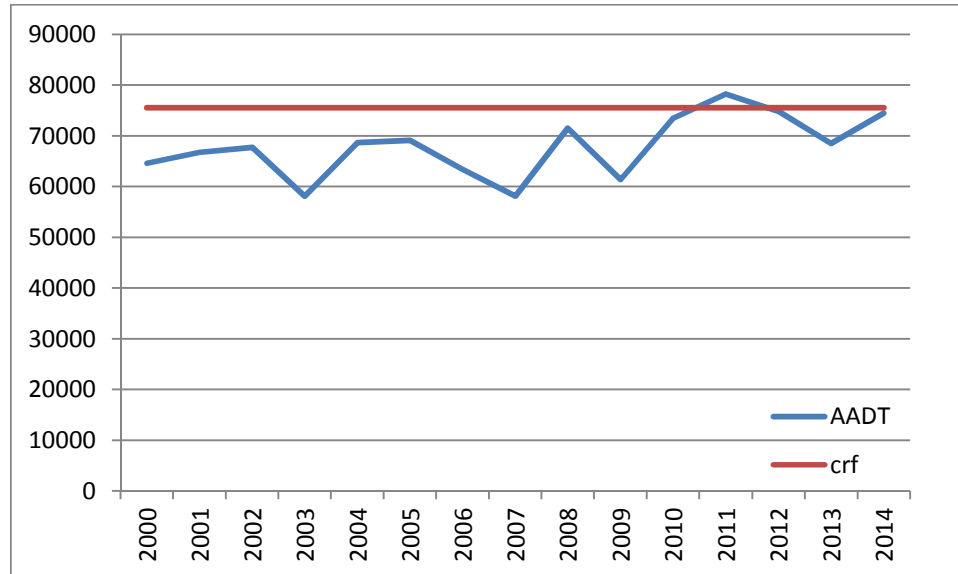
Figure 3.3: September 2012 average daily traffic (2-way) by day of week



Source: Trads/Count on Us

Figure 3.5 shows the Annual Average Daily Traffic (AADT) on the same section of the A13 based on DfT counts published at <http://www.dft.gov.uk/traffic-counts/>. It should be noted that the AADT is estimated based on one 12 hour count during the year. There is significant variation in AADT over the years, which is likely to be due to the method of determining the AADT from a single short term count. However since 2010 the published AADT has been similar to the congestion reference flow.

Figure 3.4: AADT A13 between A128 and A1014



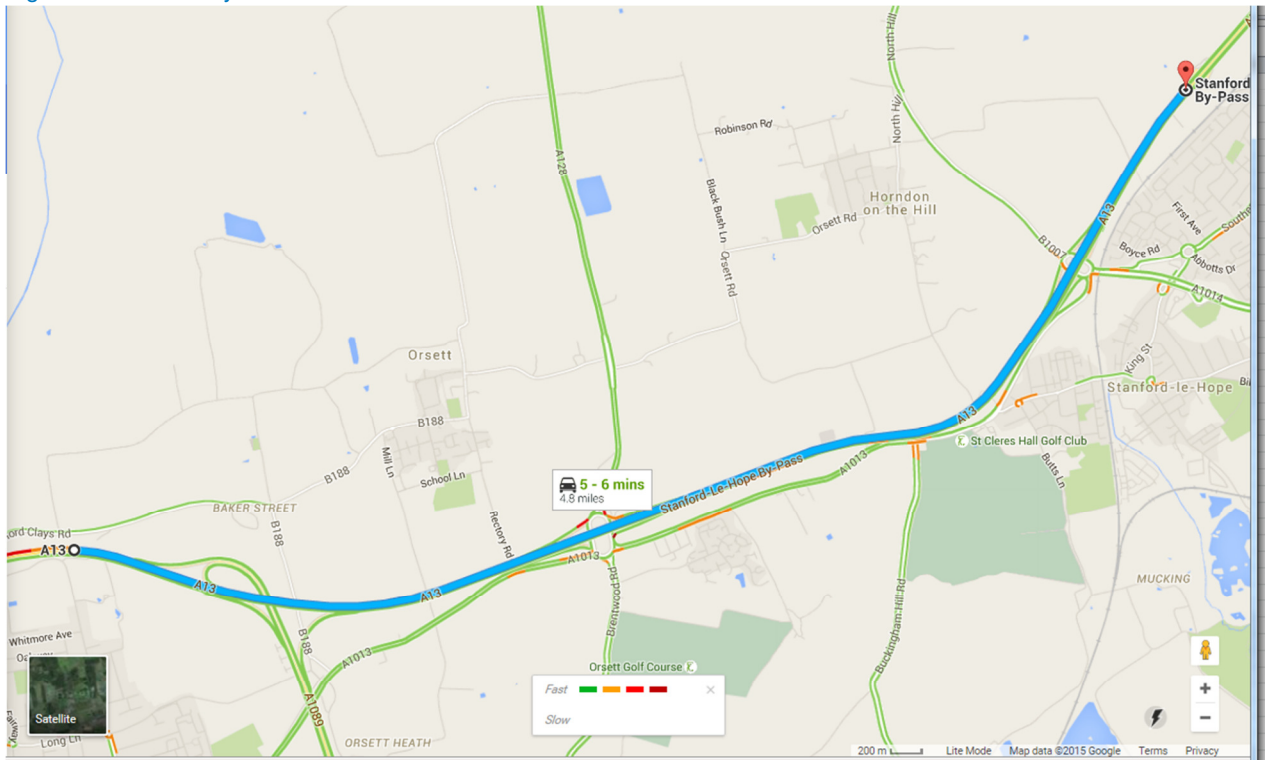
Source: DfT

The 2012 data showed that traffic frequently exceeded theoretical capacity during the peak periods, particularly in the eastbound direction during the PM peak period. Historic AADT shows that traffic levels have been similar to the congestion reference flow since 2010 demonstrating that the existing road suffers from congestion problems. In order to accommodate the additional traffic that will occur due to the proposed development in the area additional capacity on the A13 is required.

3.3 Journey times

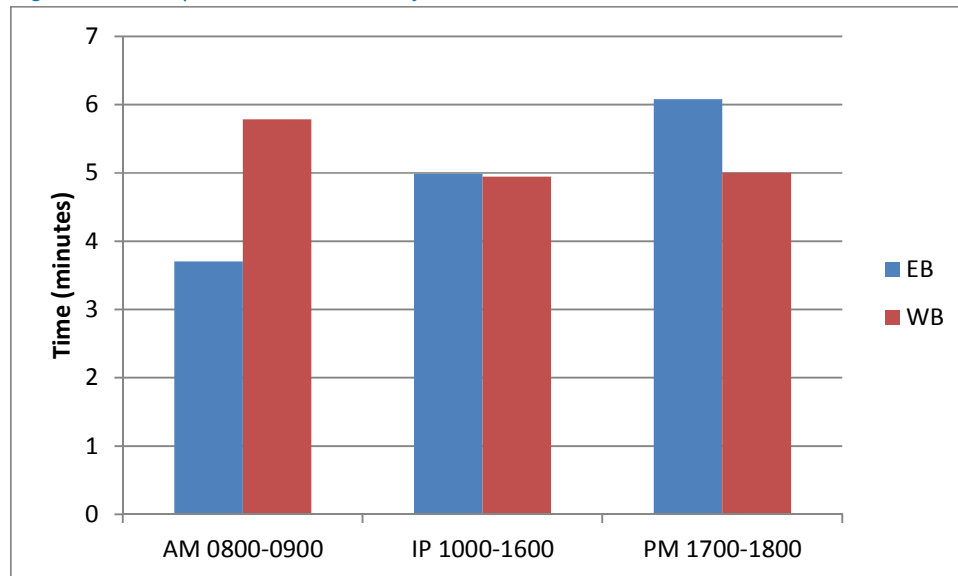
September 2012 TrafficMaster data has been analysed to determine the average journey time for the route shown in **Figure 3.6**. **Figure 3.7** shows the average journey times by time period. The highest journey times are westbound in the AM peak and eastbound in the PM peak. Average delay is about 2.5 minutes/vehicle during peak hours in both the peak directions.

Figure 3.5: Journey time route



Source: Google Maps

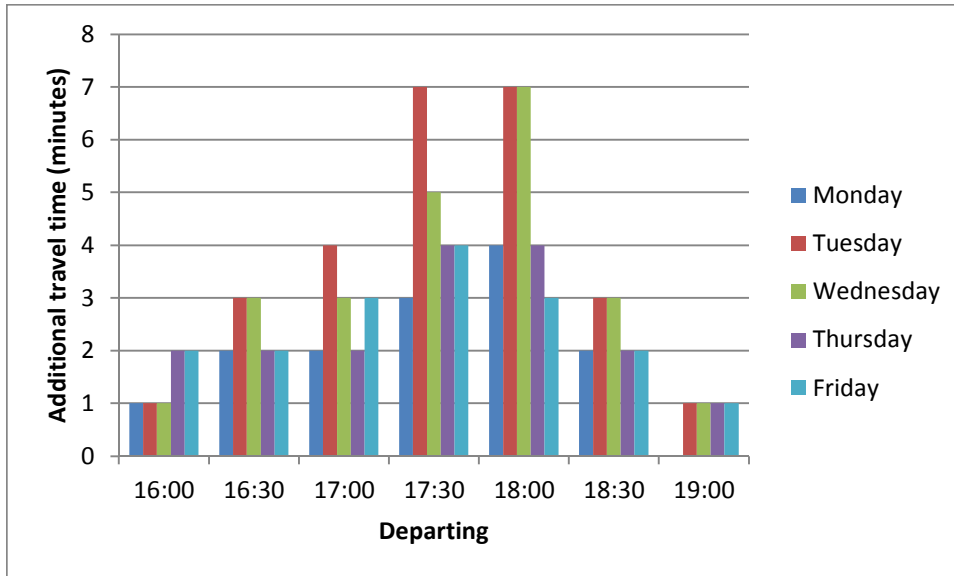
Figure 3.6: September 2012 Journey times



Source: TrafficMaster

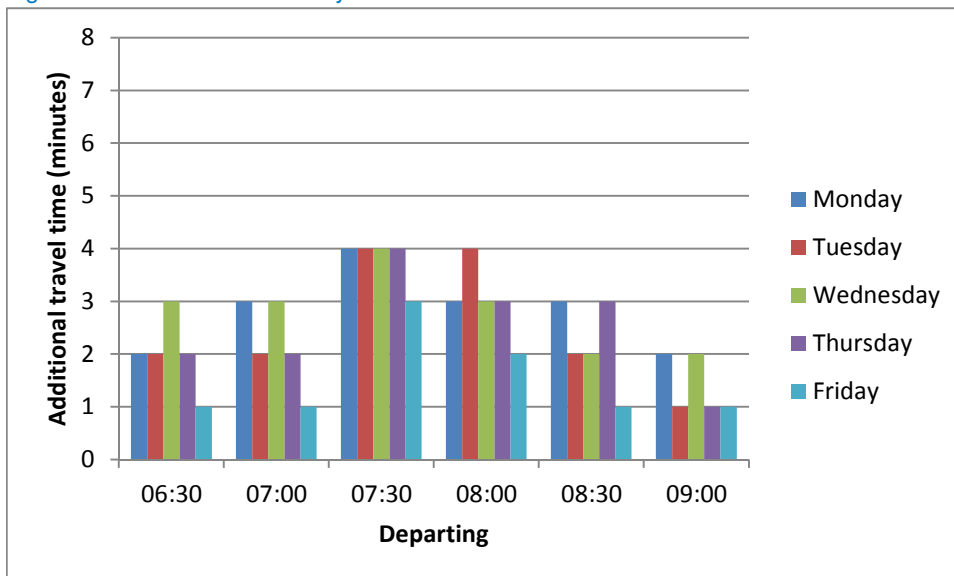
Journey time data from google maps collected in November 2015 predicted a journey time of 5 minutes to travel the route shown in **Figure 3.5** if there is no congestion. This is consistent with the inter peak 2012 journey times from TrafficMaster. **Figures 3.7** and **3.8** show the additional time the journey can take during the AM and PM peak periods. Eastbound journeys can take an additional 7 minutes in the PM peak period increasing the journey time from 5 minutes to 12 minutes. Westbound journeys show an additional 4 minutes travel time during the AM peak period increasing the total travel time from 5 minutes to 9 minutes. The data shows that there are significant levels of journey time variation and hence unreliability due to congestion. Additional traffic due to the proposed developments in the area will increase delays and reduce journey time reliability further unless additional capacity on the A13 is provided.

Figure 3.7: Additional Journey time Eastbound



Source: Google Maps

Figure 3.8: Additional Journey time Westbound



Source: Google Maps

3.4 Impact of London Gateway Port and Logistics Park

The London Gateway Port and Logistics Park are expected to generate over 13,000 jobs. The main route for heavy goods vehicles travelling to/from the Port and Logistics Park and the M25 will be via the A13. The London Gateway Logistics Park Local Development Order Transport Assessment has forecast that when the Port and Park are both fully operational they will generate an additional 27,467 trips a day. Over 25% of those trips will be HGVs. The Assessment forecasts that demand in 2023 on the A13 between A128 and A1014 will be over 5000 vehicles per hour westbound during the AM peak and over 5000 vehicles per hour eastbound in the PM peak. This is significantly higher than the current capacity available on that section of road.

3.5 Impact of not changing

If no additional capacity is provided traffic conditions on the A13 will remain congested with unreliable journey times. This is likely to lead to constraints on development as a result of poor accessibility and make the area less attractive to inward investment.

4 Objectives and Measures for Success

4.1 Objectives

The scheme objectives can be summarised as to increase highway capacity on the A13, in order to reduce congestion and remove constraints to development, so unlocking the full potential of the corridor to deliver jobs and housing. These objectives are in line with national, regional and local policy to support economic development. In order to support these economic objectives there is a need to tackle congestion around strategic employment sites, at employment growth locations (much of the Thurrock Urban Area and London Gateway), and on the routes that provide access to strategic employment and ports, especially for freight traffic. The A13 is a strategic route for freight traffic travelling to/from the London Gateway Port.

4.2 Measures for Success

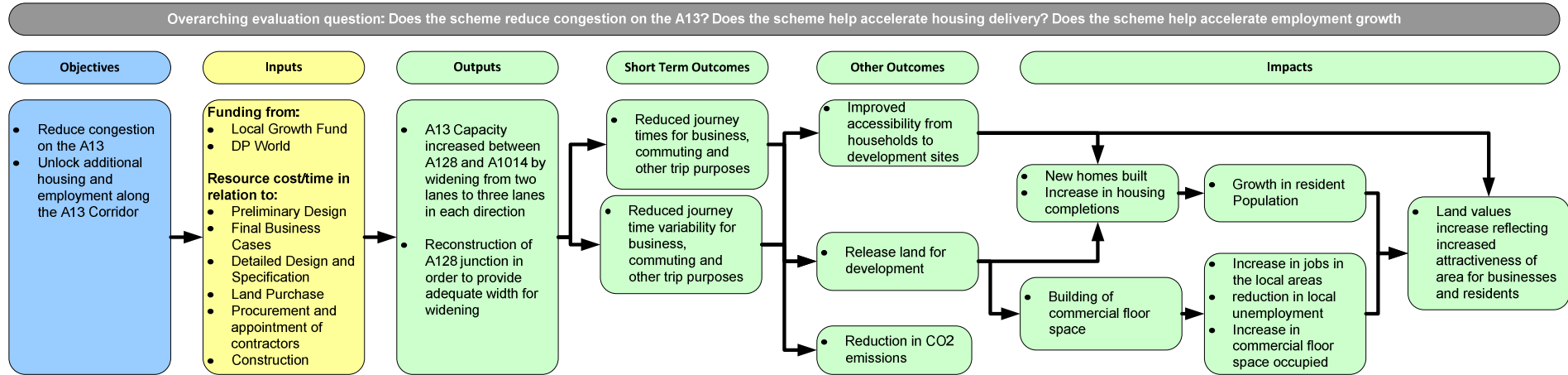
Successful delivery of the objectives will be:

- Reduction in journey times on the widened section of the A13
- Reduction in journey time variability on the widened section of the A13
- Additional housing and jobs created in the area

Figure 4.1 shows the logic map for achieving the desired objectives from the scheme.

The Monitoring and Evaluation Plan sets out the details of how the success of the project will be monitored and evaluated in terms of processes, impacts and economics.

Figure 4.1: Logic Map

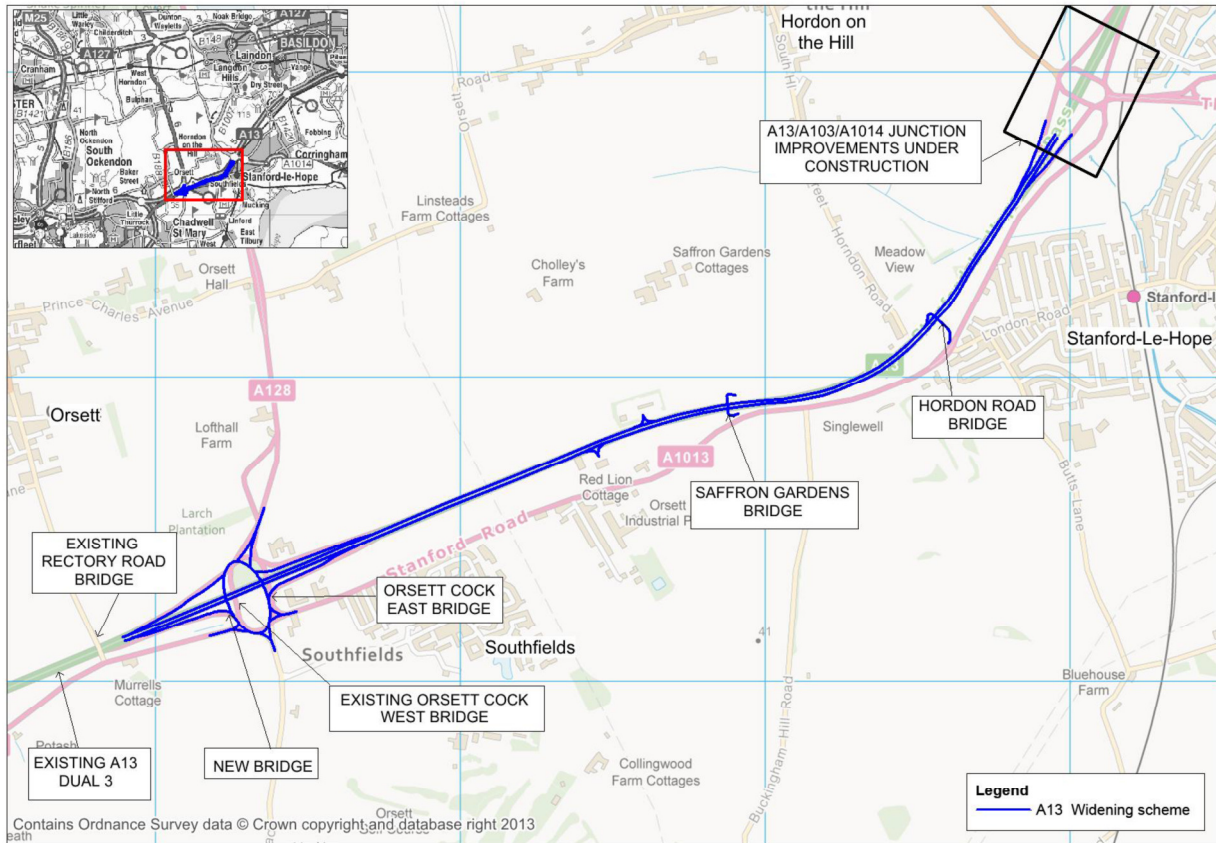


5 Project Scope and Constraints

5.1 Scope

The project will complete a D3AP standard carriageway along the A13 from junction 30 of the M25 to the A1014 junction. The A13 Widening project will tie in with the existing three lane section of the A13 to the west of the junction with the A128 (Orsett Cock). The project includes widening from 2 lanes in each direction to 3 lanes in each direction along the A13, and alterations to the Orsett Cock interchange and two overbridges to accommodate the widened A13. **Figure 5.1** shows the location of the scheme.

Figure 5.1: A13 Widening Scheme



Source: A13 Widening Initial Business Case – Atkins, Aug 2013

5.2 Constraints

In order to carry out the widening additional land will be required that is outside the existing Highway Boundary. The required land can be compulsorily purchased under the London Gateway Port Harbour Empowerment Order 2008. The London Gateway Port Harbour Empowerment Order 2008 states in Part 4 that no Notice to Treat applied to the acquisition of land can be served after 10 years from the day the Order comes in to force. The Order came in to force in 16th May 2008, and therefore Notices to Treat must be served by 16th May 2018.

Appendix A is the A13 Widening Feasibility Study which contains details of the existing Highway Boundary and the London Gateway Port Harbour Empowerment Order Compulsory Purchase provisions.

5.3 Interdependencies

Successful delivery of the project depends on the following factors:

- Thurrock Council Cabinet approvals
- Award of Preliminary Design
- Funding from DP World and the Department for Transport
- Support from the SE LEP
- Award of Detail Design and Construction contracts
- Land acquisition
- Mobilisation of Design and Construction contractor
- Statutory undertakers diversions

6 Stakeholders

The main Stakeholder Groups for the A13 widening project are shown below in **Table 6.1**. A communication strategy has been devised to keep stakeholder groups informed about project progress.

Table 6.1: Stakeholder Groups

Stakeholder Group (alphabetical order)
Councillors - all
Councillors – Leader, party leaders, ward councillors and portfolio councillors. [Portfolios = Highways, Transport, Environment and shadow equivalents.]
Department of Transport
Dubai Port World Chief Executive
DP World, including DP World Travel Plan Committee
Essex County Council - Highways
Essex County Council – S151 Officer
Emergency Services
Highways England and Lower Thames Crossing Team.
Highways England – Maintaining Agent – Connect Plus
Highways England – Major Projects Team
Highways England – Network Manager
Landowners – affected by works and associated interests.
Landowners – national chains (e.g. BP Service areas)
Adjoining Local Authorities
Local Business – Congestion sensitive – e.g. Bluewater.
Local Business – General interested in growth.
Local Press
Members of Parliament (includes Govt. whip)
Project Board
Project Team (work stream leaders)
Project Team - Steering Group
Public Transport companies
Public Utilities
SELEP - Board
SELEP – ITE
SELEP - Secretariat
Statutory Consultees.
Supply Chain
Thurrock Council Chief Executive
Thurrock Council Officers – outside Project Team

7 Options

7.1 Do Nothing

Traffic counts in 2012 showed that the A13 was already operating at or near capacity in the peak periods. If nothing is done the congestion on the A13 will constrain developments in the area. The increased congestion, particularly from the high number of HGVs associated with the London Gateway Port will be detrimental to both the local community and the environment. Over 4000 jobs and 3000 houses will be at risk of not being created in the area which will adversely affect the growth of the local economy.

7.2 Do minimum - Widening carriageway in one direction

The Initial Business Case considered lower cost alternatives of widening in only one direction. The cost forecasts for the low cost alternatives show that widening only in one direction would result in costs higher than 70% of those of the two-directional scheme. Congestion and delays would only be alleviated in one direction, but demand was expected to exceed existing capacity in the direction which was not widened on the A13. Constraints to development would therefore remain and the scheme would not achieve its objectives.

7.3 Bridge Options

7.3.1 Orsett Cock Interchange Options

The following options were identified for the Orsett Cock East and Orsett Cock West Roundabout Bridges:

- Offline 4 span bridge with bank seats and 3 intermediate piers
- Offline 3 span bridge with bank seats and 2 intermediate piers
- Offline 2 span bridge
- Offline single span bridge

The offline 2 span bridge appeared to provide the optimum and most cost effective solution.

7.3.2 Saffron Garden Farm Access Bridge Options

The following options were identified for Saffron Garden Bridge:

- Offline 4 span bridge with bank seats and 3 intermediate piers
- Offline 3 span bridge with bank seats and 2 intermediate piers
- Offline 2 span bridge
- Offline single span bridge

The offline 2 span bridge was the preferred option.

7.3.3 Horndon Road Bridleway Bridge Options

The following options were identified for Horndon Road Bridge:

- Offline 4 span bridge with bank seats and 3 intermediate piers
- Offline 3 span bridge with bank seats and 2 intermediate piers
- Offline 2 span bridge
- Offline single span 44m through girder bridge

The offline 2 span bridge was the preferred option.

Details of the options for the bridges required are contained in **Appendix A: A13 Widening Feasibility Study**.

7.4 Proposed Scheme - Full Widening

The full widening option adds significant capacity to the A13 between the A128 and A1014. It therefore alleviates congestion and delay and improves the network's resilience to incidents, leading to improved journey times and reliability for business travel. This in turn will unlock the full potential for new housing and employment opportunities and encourage strong economic growth in the area.

Appendices

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