national highways

Lower Thames Crossing

7.12 Wider Network Impacts Management and Monitoring Plan

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Lower Thames Crossing

7.12 Wider Network Impacts Management and Monitoring Plan

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1 Executive summary

1.1.1 This document (Wider Network Impacts Management and Monitoring Plan, WNIMMP) sets out National Highways' approach on the forecast wider network impacts of the Project. This is based on the findings from the traffic modelling presented in the Transport Assessment (Application Document 7.9) which identifies a number of areas where forecast changes in traffic flows create performance effects on the wider road network.

1.1.2 In many places the changes in traffic flows would lead to beneficial impacts on the network, and in some cases they would lead to adverse impacts. Overall, the benefits on the road network substantially outweigh the adverse impacts. The identified wider network impacts have been considered against the relevant policies from the National Networks National Policy Statement (NNNPS), and other important and relevant policies. National Highways has concluded that the adverse impacts of the Project are acceptable under these policies.

1.1.3 Nonetheless, National Highways understands the importance of its statutory obligations as the strategic highways authority, and has undertaken ongoing engagement with a number of local highways authorities. This has been focused on working with them in a collaborative manner on the development of their local plans, effective management of the strategic road network (SRN) and management of the interfaces between the SRN and the local road network (LRN) in their areas.

1.1.4 National Highways is proposing a traffic impact monitoring scheme (outlined within this document), which requires traffic monitoring to be carried out during the operational phase of the Project to identify changes in performance on the surrounding road network. This document sets out how this traffic impact monitoring scheme will be implemented (to be approved by the Secretary of State and implemented by National Highways) pursuant to Requirement 14 in Schedule 2 to the draft DCO. In line with Requirement 14, this document sets out an outline methodology for undertaking the monitoring and assessment work.

1.1.5 The data and data analysis would set out to identify traffic conditions following the Project coming into operation, as well as provide analysis on wider network changes that are not as a result of the Project. That data will then be available to local highway authorities as evidence to inform their intervention case making.

1.1.6 In summary, in the context of wider network impacts, this document defines what would be undertaken as a requirement of the draft DCO, and separately what will be undertaken as part of the ongoing role of National Highways, under licence to the Secretary of State for Transport, as the highway authority, traffic authority and street authority for the strategic road network.

2 Introduction

2.1 Background

2.1.1 The road network across the south-east of England carries a high volume of traffic on a daily basis, and is under increasing pressure due to population growth across the region. As a result, there are a number of areas of significant existing congestion across the road network. The A122 Lower Thames Crossing (the Project), by relieving the congested Dartford Crossing and approach roads, would address a particular area of congestion, providing both a localised and regional benefit. In doing so, the traffic flows across the region would change. Within the region, the Project would provide an overall substantial benefit to traffic flow by relieving one of the principal areas of congestion.

2.1.2 At some locations on the wider network, however, it would lead to increases in traffic flows. These changes in traffic flows would be experienced at junctions and links on the strategic road network (SRN), the major road network (MRN) and the local road network (LRN). In some locations this would affect the network speeds experienced on these roads. This would be partly as a result of some road users who currently cross the river at the Dartford Crossing switching to use the Project and hence using different roads for their journeys. In addition, some road users would change the destination of their trip as a result of the availability of an additional river crossing. In those circumstances, much of their new journey could be on different roads. To account for this, the economic value of these changes is included in the economic appraisal of the Project.

2.1.3 As a result, there would be changes in traffic flows in the wider area, not just at the Dartford Crossing and the Project. These changes are shown in the modelled traffic forecasts for the wider area and described more fully in the Transport Assessment (Application Document 7.9), the Combined Modelling and Appraisal Report, Appendix C: the Transport Forecasting Package (Application Document 7.7) and the Traffic Forecasts Non-Technical Summary (Application Document 7.8).

2.2 Project description

2.2.1 The A122 Lower Thames Crossing (the Project) would provide a connection between the A2 and M2 in Kent and the M25 south of junction 29, crossing under the River Thames through a tunnel. The Project route is presented in Plate 2.1.

2.2.2 The A122 would be approximately 23km long, 4.25km of which would be in tunnel. On the south side of the River Thames, the Project route would link the tunnel to the A2 and M2. On the north side, it would link to the A13, M25 junction 29 and the M25 south of junction 29. The tunnel portals would be located to the east of the village of Chalk on the south of the River Thames and to the west of East Tilbury on the north side.

2.2.3 Junctions are proposed at the following locations:

a. New junction with the A2 to the south-east of Gravesend

b. Modified junction with the A13/A1089 in Thurrock

c. New junction with the M25 between junctions 29 and 30

2.2.4 To align with National Policy Statement for National Networks (Department for Transport, 2014) policy and to help the Project meet the Scheme Objectives, it is proposed that road user charges would be levied in line with the Dartford Crossing. Vehicles would be charged for using the new tunnel.

2.2.5 The Project route would be three lanes in both directions, except for:

a. link roads

b. stretches of the carriageway through junctions

c. the southbound carriageway from the M25 to the junction with the A13/A1089, which would be two lanes

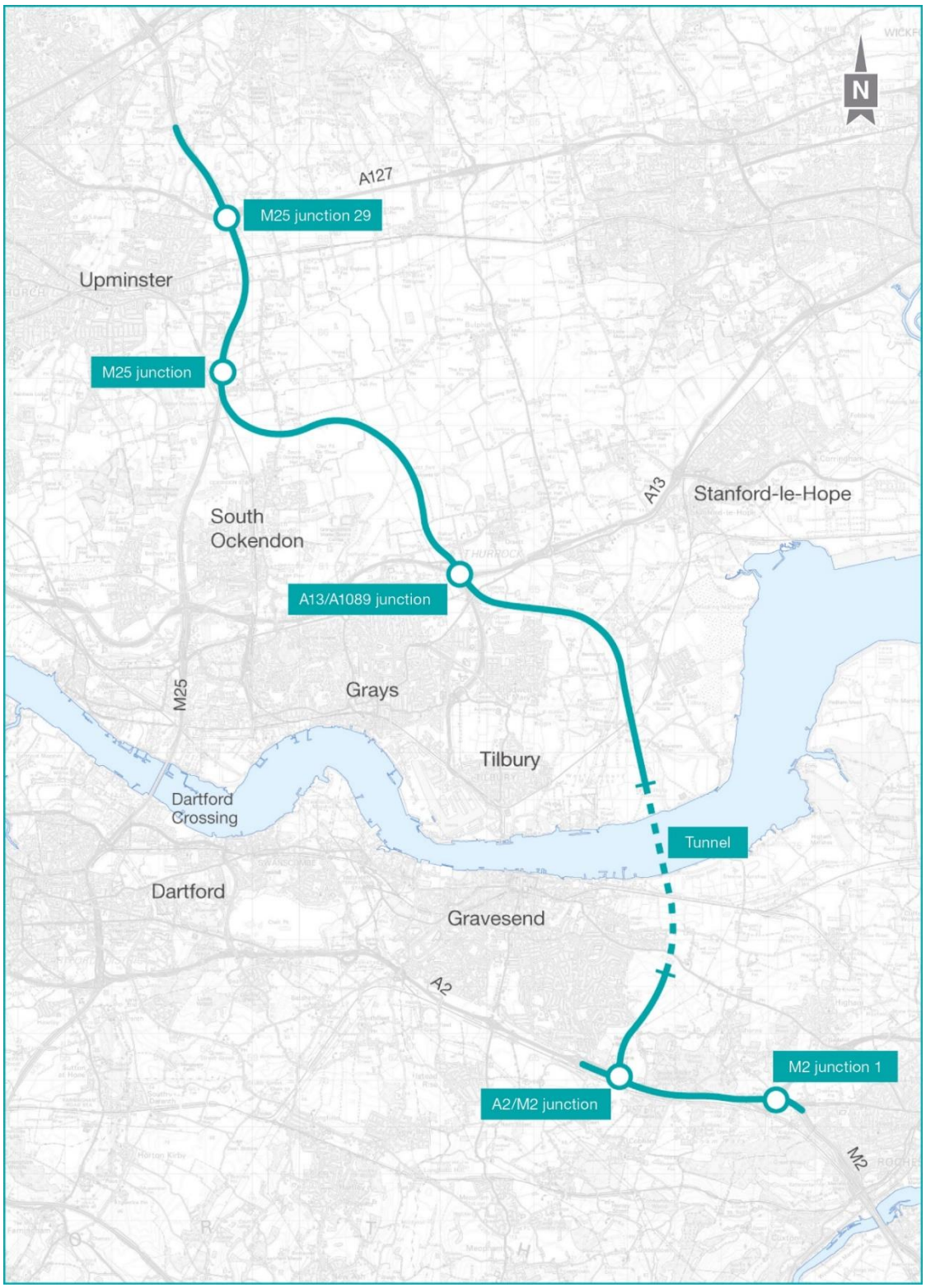
2.2.6 In common with most A-roads, the A122 would operate with no hard shoulder but would feature a 1m hard strip on either side of the carriageway. It would also feature technology including stopped vehicle and incident detection, lane control, variable speed limits and electronic signage and signalling. The A122 design outside the tunnel would include emergency areas. The tunnel would include a range of enhanced systems and response measures instead of emergency areas.

2.2.7 The A122 would be classified as an ‘all-purpose trunk road’ with green signs. For safety reasons, walkers, cyclists, horse riders and slow-moving vehicles would be prohibited from using it.

2.2.8 The Project would include adjustment to a number of local roads. There would also be changes to a number of Public Rights of Way, used by walkers, cyclists and horse riders. Construction of the Project would also require the installation and diversion of a number of utilities, including gas pipelines, overhead electricity powerlines and underground electricity cables, as well as water supplies and telecommunications assets and associated infrastructure.

2.2.9 The Project has been developed to avoid or minimise significant effects on the environment. The measures adopted include landscaping, noise mitigation, green bridges, floodplain compensation, new areas of ecological habitat and two new parks.

Plate 2.1 Lower Thames Crossing route



2.3 Purpose of the document

2.3.1 Findings from the traffic modelling presented within the Transport Assessment (Application Document 7.9) have identified a number of areas (some of which are already subject to congestion or operating near capacity) where the forecast changes in traffic flows create conditions that could cause performance effects on the wider road network.

2.3.2 This document sets out National Highways' approach on monitoring the associated wider network impacts of the Project, through the proposed DCO traffic impact monitoring scheme. This requires traffic monitoring to be carried out during the operational phase of the Project to identify changes in performance on the surrounding road network.

2.3.3 This document outlines how the traffic impact monitoring scheme would be implemented and how it proposes to comply with Requirement 14 in Schedule 2 to the draft DCO (explained in further detail below).

2.3.4 This document defines what will be undertaken as a requirement of the draft DCO, and separately what will be undertaken as part of the ongoing role of National Highways, under licence to the Secretary of State for Transport, as the highway authority, traffic authority and street authority for the Strategic Road Network.

2.4 Position within the wider DCO application

Schedule 2 to the draft DCO

2.4.1 This Wider Network Impacts Management and Monitoring Plan (WNIMMP) should be read alongside the requirements in Schedule 2 to the draft DCO (Application Document 3.1), namely Requirement 14 (Traffic Monitoring). This stipulates the need to produce a traffic impact monitoring scheme in accordance with the details set out in Chapter 3, which is secured as part of the DCO application. This is to be submitted, following consultation with local authorities in the table directly below, for approval by the Secretary of State before the tunnel, which forms part of the Project, opens for public use.

2.4.2 National Highways would consider and have due regard to any representations from local highway authorities before submitting the monitoring scheme to the Secretary of State for Transport for approval. Representations from the local authorities shown in in Table 2.1 below would be included in the submission to the Secretary of State.

Table 2.1 Relevant stakeholders consultation on the WNIMMP

Authority	Local Authority function
Basildon Borough Council	Local Planning Authority
Brentwood Borough Council	Local Planning Authority
Dartford Borough Council	Local Planning Authority
Epping Forest District Council	Local Planning Authority
Essex County Council	Highway Authority
Gravesham Borough Council	Local Planning Authority
Kent County Council	Highway Authority
London Borough of Havering	Highway Authority & Local Planning Authority
Medway Council	Highway Authority & Local Planning Authority
Maidstone Borough Council	Local Planning Authority
Thurrock Council	Highway Authority & Local Planning Authority
Transport for London	Highway Authority
Tonbridge and Malling Borough Council	Local Planning Authority

2.4.3 Consultation with Kent County Council would incorporate the Gravesham, Dartford, Sevenoaks, Tonbridge & Malling, and Maidstone local authority areas, and consultation with Essex County Council would incorporate the Brentwood, Epping and Basildon local authority areas.

Separate assessments

2.4.4 In addition to this Wider Network Impacts Management and Monitoring Plan, a number of separate impact assessment exercises have been undertaken as part of the DCO application for other specialist technical areas outside the remit of traffic volumes and congestion.

2.4.5 The following application documents set out a number of technical assessments which have been undertaken to determine the forecast impacts of the Project:

a. Assessment of forecast traffic flows and traffic impacts on the wider road network, as reported in the Transport Assessment (Application Document 7.9)

b. Assessment of environmental impacts resulting from traffic, as reported in the Environmental Statement (Application Documents 6.1 to 6.3)

c. Assessment of the impacts against the economic benefits delivered by the Project, as reported in Appendix D: Economic Appraisal Package of the Combined Modelling and Appraisal Report (Application Document 7.7)

d. Health and Equalities Impact Assessment Report (HEqIA) (Application Document 7.10)

2.4.6 These documents have been used to inform the development of this Wider Network Impacts Management and Monitoring Plan, which has been produced to demonstrate sufficient management of the impacts of the Project on the road network and to provide information which may be of wider assistance to highway authorities in the area of the Project.

3 Wider network impacts management framework

3.1 Policy compliance

3.1.1 National Highways has assessed the wider network impacts of the Project, and has considered these against the requirements set out in the National Policy Statement for National Networks (DfT, 2014) and other relevant policy documents, and considers that the adverse impacts are acceptable. This policy review is set out in further detail within Appendix F of the Transport Assessment (Application Document 7.9).

3.1.2 It is to be noted that the wider network impacts in this context are distinct from the improvements proposed as part of the DCO application at locations situated within the Project order limits. The wider network impacts are incorporated in the future baseline of the road network, with ongoing consideration to the operation of the network being provided by National Highways as part of their statutory obligations (detailed below). The Need for the Project (Application Document 7.1) and the overall BCR contained in the Transport Assessment, therefore, account for the wider network impacts.

3.2 National Highways statutory obligations

3.2.1 The Secretary of State has appointed National Highways as a strategic highways company. As a result, National Highways is the highway authority, traffic authority and street authority for the strategic road network across the area affected by the Project.

3.2.2 The licence issued to National Highways by the Department for Transport sets out statutory directions and guidance, that have informed the approach National Highways has taken to the ongoing management of the highway network, considering the changes in traffic flows resulting from the Project.

3.2.3 Through the licence, National Highways is directed to work with others to align national and local plans and investments, balance national and local needs and support better end-to-end journeys for road users. Impacts on the highways network resulting from the changes in traffic flows following opening of the Lower Thames Crossing will be considered by National Highways as part of its exercise of this duty.

3.2.4 National Highways has ongoing engagement with all of the identified local highways authorities, and currently works with them in a collaborative manner on development of their local plans, effective management of the strategic road network and management of the interfaces between the strategic road network and the local road network in their areas. This ongoing engagement will continue, and where appropriate National Highways will continue to both develop network interventions where required on the SRN, and support local highways authorities in their duties to manage the local road network.
The development of network interventions requires funding, and some of the available funding streams that support this work are set out in Table 6.1.

3.3 Existing frameworks

Work on the SRN

3.3.1 Under section 3 of the Infrastructure Act 2015, the Secretary of State may establish a Road Investment Strategy. Since the enactment, the Secretary of State has established two Road Investment Strategies covering 2015 to 2020, and 2020 to 2025. The purpose of the Road Investment Strategy is to establish the spending priorities for the Government on the strategic road network. Road Investment Strategies specify the objectives to be achieved by National Highways during the period to which they relate and the financial resources to be provided by the Secretary of State for the purpose of achieving those objectives.

3.3.2 Schedule 2 to the Infrastructure Act 2015 sets out a process for making Road Investment Strategies. Broadly, the process is described as four "steps":

a. Step 1: The Secretary of State prepares a proposal for a Road Investment Strategy

b. Step 2: National Highways, as the strategic highways company responsible for the SRN, responds to that proposal

c. Step 3: Where the proposals have been agreed between the Secretary of State and National Highways

d. Step 4: Where a counter-proposal has been put forward by National Highways, the Secretary of State may revise the proposals or proceed with their own proposals

3.3.3 In both step 3 and 4 cases the Secretary of State may publish the Road Investment Strategy but only if appropriate consultation has taken place.

3.3.4 Under section 3(6) of the Infrastructure Act, both the Secretary of State and National Highways must comply with the Road Investment Strategy. National Highways' licence, which it must comply with under the terms of the Infrastructure Act 2015, sets out that National Highways must also comply with or have due regard to relevant Government policy, as advised by the Secretary of State, with full regard to any implications for National Highways' ability to deliver the Road Investment Strategy.

3.3.5 Road Investment Strategy 2 (2020-2025) includes the Lower Thames Crossing, and also confirms that the Government recognises *"that the plans for the Lower Thames Crossing will have an impact on the road networks of Kent and Essex and we will consider what that means for the shape of the SRN in those areas*." It also confirms the Government's intention to "*investigate linked improvements on the A2 into Kent as part of the pipeline of work for the next RIS*.".

3.3.6 Recent investments on the SRN in the south-east region show the capability of National Highways to deliver highway improvements and to be continually responding to the changing needs of the strategic road network. These schemes include:

a. A2 Bean and Ebbsfleet Junctions - completed August 2022

b. M25 junction 25 upgrading the interchange with the A10 – completed September 2022.

c. A13 North Stifford junction improvement – completed March 2022

d. M20 smart motorway scheme between junctions 3 to 5 – completed May 2020

e. A21 Tonbridge to Pembury Bypass – completed September 2017

f. The A20 Dover access scheme to improve access to the Port of Dover from the M20 – completed April 2015

3.3.7 Further demonstration is provided by the current pipeline of projects that National Highways is progressing in the area surrounding the Project. Schemes in development include:

a. M2 junction 5 (A249) free flow interchange enhancement – in construction

b. M25 junction 28 upgrading the interchange with the A12 (Start of works imminent)

c. A12 Chelmsford to A120 widening scheme (DCO submitted August 2022)

3.3.8 Further schemes at an earlier stage of development are set out in the Road Investment Strategy 2 (2020-2025).

3.3.9 The forecast impacts of the Project on the Strategic Road Network would continue to inform investment decisions on the SRN and will feed into the Road Investment Strategy 3 (RIS3) budget to be set ahead of the RIS3 period 2025-2030. The continuation of current pipeline schemes (detailed within Appendix F of the Transport Assessment (Application Document 7.9) would be considered as well as the commencement of new pipeline schemes.

Work on the MRN

3.3.10 There are also numerous schemes on the major road network (MRN) that are in development in the area surrounding the Project which, upon completion, would further strengthen the network's readiness for the opening of the Project. These include:

a. A229 Blue Bell Hill Strategic Outline Business Case (SOBC)

b. A13 East Facing Access Outline Business Case (OBC)

c. A127 Growth Package (SOBC)

Early development studies with the LHA

3.3.11 National Highways is cognisant of its wider responsibility, and has been working collaboratively with the local highway authorities to consider the localised capacity or congestion issues.

3.3.12 National Highways has provided support to help understand what projects local highway authorities may wish to develop and to submit for funding consideration, and has participated in some early studies (some of which are still are ongoing) which have been progressed in parallel to the Project DCO application work.

3.3.13 These transport schemes are being considered by local authorities through the development of business cases for the receipt of central government funding. These funding programmes encourage local authorities to collaborate with other authorities and to develop proposals that are cross-sector in nature.

4 Traffic modelling

4.1 Lower Thames Area Model

4.1.1 As set out in the Transport Assessment (Application Document 7.9) the Lower Thames Area Model (LTAM) has been used to predict the traffic flows, speeds and journey times on the road network in the future. The LTAM is a variable demand model which predicts how people's travel behaviour would respond to changes in the transport system, such as changes in the cost of motoring and the provision of more road capacity across the River Thames. The road network in the LTAM has been updated for the future years to include other new road schemes that have been completed, or are likely to be built, regardless of whether the Project is built or not.

4.2 Wider network impacts assessment

4.2.1 The wider network impacts relate to the forecast changes in traffic flows and levels of congestion following the Project being open for public use, at various locations on the road network away from the immediate vicinity and Order Limits of the Project. This includes impacts on the SRN, MRN and LRN. Using the traffic forecasts from the LTAM, the wider traffic impacts of the Project have been assessed by comparing traffic flows with the capacity of each road and junction for all modelled roads within the influence of the Project (stretching across the geographical areas of Kent, Essex, Thurrock, and parts of Greater London). The Project's opening year is assessed both with and without the Project.

Change in flow

4.2.2 When the Project opens, a significant proportion of the traffic that currently crosses the River Thames using the Dartford Crossing is forecast to divert to the Lower Thames Crossing as it would be a shorter route. Some of the space this creates at the Dartford Crossing would be taken up by people who were not using it because they were deterred from doing so by the high traffic levels and unpredictable journey times. The transport model predicts that, even with these additional journeys:

a. The overall level of traffic using the Dartford Crossing would fall on average by 19% in 2030 and **12% in 2045 (but up to a maximum of 25% in 2030 and up to a maximum of 25% in 2045 in the modelled hours) when compared to the Do Minimum scenario.**

b. Average speeds on that part of the network would rise and journey times would become more reliable.

4.2.3 Overall, the impact on traffic flows as a result of the Project is similar during the morning, evening and inter-peak periods, with the changes more pronounced, and covering a wider area, during the morning and evening peaks.

4.2.4 On many roads to the west of the Project, such as the A2, the A13, the Dartford Crossing and the M25 in Thurrock, the number of vehicles would fall when the Lower Thames Crossing opens. However, roads on the approach to the Project, including the M2, A228, A229, and some roads to the east of the Project, such as the A13, and on some sections of the M25, would experience an increase in traffic levels as travel across the River Thames becomes easier and more reliable. These impacts are illustrated in full detail in Chapter 5 of the Transport Forecasts Non-Technical Summary (Application Document 7.8).

Change in volume to capacity

4.2.5 When the number of vehicles using a road (volume) becomes closer to the number of vehicles that the road can carry (capacity), then the average speed falls and journey times become more unreliable. When the volume of traffic (in PCUs) is over 85% of the capacity of the road, queuing or slow-moving traffic is often seen.

4.2.6 Findings show there are forecast to be traffic improvements around the Dartford Crossing and on roads in Gravesham and Thurrock as a result of the Project. On the wider road network, conditions would remain largely unchanged. In a number of areas, the percentage of volume to capacity on some roads would increase, particularly those close to the Project.

4.2.7 In the AM peak, without the Project (i.e., in the Do Minimum scenario), the road network is forecast to have a number of roads where the percentage of volume to capacity is above 95%, including areas like the Dartford Crossing, sections of the M25, A2, A12, A13 and areas around Basildon and Rochester. The Project is forecast (i.e., in the Do Something scenario) to improve the operation of the road network in the AM peak around the Dartford Crossing, as well as on the M20 and on parts of the M25, A13 and A2. However, some increases are shown in the percentage of volume to capacity on sections of the M25 north of the River Thames, on the A13 to the east of the Project and on the M2 as traffic switches away from the M20 to use the Project.

4.2.8 The PM peak shows a similar pattern to that of the AM peak, in that with the introduction of the Project, the percentage of volume to capacity is forecast to reduce on sections of the network close to the Dartford Crossing. These impacts are illustrated in full detail in Chapter 5 of the Traffic Forecasts Non-Technical Summary (Application Document 7.8).

Scale of impacts

4.2.9 A separate scoring criterion was used to assess the change of the impact of the Project on each part of the wider road network. As a change in flow is not directly correlated with network performance and may not result in a noticeable change in network performance (an increase in flow if the link is operating well below capacity will not affect journey times), the volume to capacity measure was used to assess the impact of traffic flow changes on the performance of the network. The analysis was carried out for all links and turning movements in a wide area around the Project. The full methodology is explained in further detail in Chapter 7 of the Transport Assessment (Application Document 7.9).

4.2.10 The assessment identifies where the links/turning movements show either an adverse or beneficial minor, moderate or major impact forecast. Results show that there would be widespread changes in traffic flows across the region and the impact on some links would be noticeable. The largest adverse impacts would occur on the major routes leading to the Project such as the sections of the A13 from the east. There would be a moderate adverse impact on the M25 north of the Project. South of the River Thames, the main adverse impacts would be at junctions, such as M2 junctions 1,2 and 3 and M20 junction 6, which forms part of the link between the two motorways. There would be a major beneficial impact on the Dartford Crossing, which aligns with one of the Scheme Objectives. The A13 between the Project and the M25, and the A2 between the Project and the M25, would also see a reduction in traffic and an improvement in the performance of the road network. The beneficial and adverse impact forecast maps are provided in full in Chapter 7 of the Transport Assessment (Application Document 7.9).

4.3 Local authority assessments

4.3.1 A number of local highway authorities (including Transport for London (TfL), the London Borough of Havering, Essex County Council and Kent County Council) have also undertaken their own assessments to identify potential local areas that could benefit from interventions / improvement schemes on the LRN and MRN. This work has been undertaken by the relevant local highway authorities using specific sections of the LTAM which were shared by National Highways.

4.3.2 Whilst in policy compliance terms the impacts identified within the Transport Assessment are not considered to have an unacceptable impact, National Highways has nonetheless sought to collaborate as part of their statutory duties, as outlined above.

4.3.3 This engagement has allowed local highway authorities to understand the potential impacts of the Project and ways in which they can bid for support. National Highways has also helped to define the funding opportunities available for different types of road investment.

4.3.4 This collaboration enables stronger alignment across national and local plans and investments, helps balance national and local needs and support better end to end journeys for road users.

5 Traffic Impact Monitoring Scheme

5.1 Background

5.1.1 Requirement 14 of the draft DCO (Application Document 3.1) requires that, before the tunnel is open for traffic, National Highways must submit written details of an operational traffic impact monitoring scheme substantially in accordance with this WNIMMP, for approval by the Secretary of State following consultation with the local highway authorities and bodies listed below. The approved scheme must be implemented by National Highways unless otherwise agreed with the Secretary of State.

5.1.2 The monitoring scheme must include the following information:

a. Details of a before-and-after survey to establish the baseline traffic levels and the changes in traffic

b. The locations to be monitored

c. The methodology to be used to collect the required data

d. The periods over which operational traffic is to be monitored

e. The method of assessment of traffic data

f. Programme for the provision of the collected data to local highway authorities.

5.1.3 Each of the specified requirements listed above are discussed in further detail below.

5.2 Before-and-after surveys

5.2.1 In order to establish a baseline, data collection would be undertaken at least one year prior to the opening of the Project (mainline). This period would align with the last year of construction. Data would be obtained from the Contractors appointed to build the Project regarding construction traffic activity and traffic management measures, to ensure that a fair and representative baseline is used. In addition, National Highways would engage with local highways authorities (in Table 2.1 above) on this proposed approach before formally consulting them during the Requirement 14 approval process.

5.2.2 Surveys undertaken before the Project opening will be carried out only to provide baseline comparison for the operational phase of the Project.

5.2.3 Reporting on the data collected would also take place during the operational phase of the Project at one year and five years post-opening (in alignment with National Highways Post Opening Project Evaluation (POPE) timescales).

5.2.4 Both the before and after surveys, as part of the traffic impacts monitoring scheme, would also be supplemented through the use of existing data sources (where already available). This includes DfT datasets providing journey time data, National Highways traffic datasets, and any historical traffic datasets from relevant local highway authorities within the local area of influence, subject to agreement with the data owners.

5.2.5 National Highways' online dataset platform 'WebTRIS' would be used to obtain traffic data at locations identified on the SRN. This platform provides datasets of average journey time, speed and traffic flow information for 15-minute periods since April 2015 on all motorways and 'A' roads managed by National Highways (the SRN). Journey times and speeds are estimated using a combination of sources, including Automatic Number Plate Recognition (ANPR) cameras, in-vehicle GPS and inductive loops built into the road surface.

5.3 Locations to be monitored

5.3.1 The locations to be monitored under the monitoring scheme would be:

a. Those set out below as part of this Management and Monitoring Plan (identified by National Highways)

b. Those selected following the consultation with the relevant local highway authorities (in Table 2.1) during the Requirement 14 approval process

National Highways identified locations

5.3.2 National Highways has identified a number of locations to be included within the traffic impact monitoring scheme (unless otherwise agreed with the Secretary of State following consultation with the bodies identified in Table 2.1), to be submitted for approval to the Secretary of State under Requirement 14 of Schedule 2 to the draft DCO.

5.3.3 This includes:

a. Locations situated on the SRN that are geographically close to the A122 junctions as informed by the 'scale of impacts' analysis in the Transport Assessment (the nearest and second nearest junctions on the SRN and MRN located adjacent to the junctions with the A122, the A2, the A13 and the M25)

b. A number of key locations requested for monitoring from local highway authorities following a review of the consultation feedback

5.3.4 These locations (from south to north) are as follows:

a. A229 (M20 Junction 6)

b. A229 (M2 Junction 3)

c. M2 Junction 4 (M2/Hoath Way)

d. M25 Junction 3 (M25/M20)

e. M2 Junction 2 (M2/A228)

f. Rochester (Cuxton Road/Darnley Road)

g. M2 Junction 1 (A2/M2/A289)

h. M2/A2/A122 Lower Thames Crossing Junction

i. Gravesend East Junction/Marling Cross (A2)

j. Valley Drive

k. Tollgate Junction (A2)

l. Hall Road/Springhead Road Junction

m. A282 Junction 1a (A282/A206)

n. Asda Roundabout (A1089)

o. Marshfoot Interchange (A1089)

p. Chadwell St Mary (area)

q. A1012/Devonshire Road Roundabout

r. A282 Junction 31 (A282/A1306)

s. M25 Junction 30 (M25/A13)

t. Stifford Interchange (A13/A1012)

u. A13/A1089/A122 Lower Thames Crossing Junction

v. Orsett (area)

w. Orsett Cock Junction (A13/A128/A1013)

x. The Sorrells Roundabout (A1014)

y. Manor Way Junction (A13/A1013/A1014)

z. Lampits Hill/Southend Road Roundabout

aa. A122 Junction with the M25

bb. A13/A176 (Five Bells) Junction

cc. A13 Pitsea Roundabout

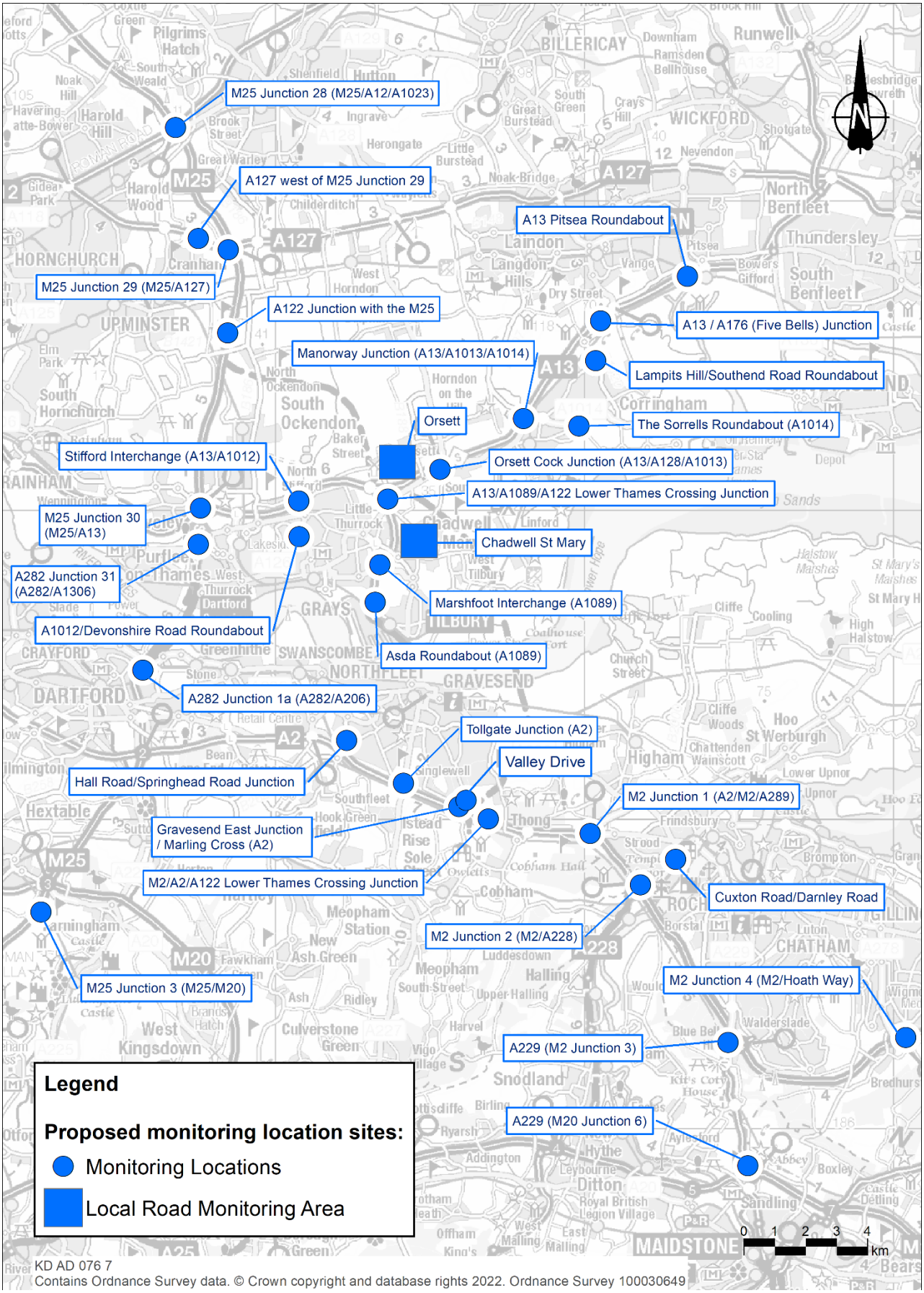
dd. M25 Junction 29 (M25/A127)

ee. A127 West of M25 Junction 29

ff. M25 Junction 28 (M25/A12/A1023)

5.3.5 The locations of these proposed monitoring sites are presented on the map in Plate 5.1 below.

Plate 5.1 Proposed monitoring location sites



Local highway authority identified locations

5.3.6 Additional monitoring locations proposed through local highway authority engagement (further to those listed above as identified by National Highways) would be considered against criteria that include:

a. The forecast changes to traffic flows, and the volume/capacity ratio as set out in the Transport Assessment (Application Document 7.9)

b. The impact of any local and regional developments on traffic flows at that location

5.3.7 This would take place before formal consultation on the Requirement 14 approval process.

5.4 Data collection methodology

5.4.1 Surveys would be undertaken using standard methodologies available at the time of data collection. This may include automatic traffic counters (ATCs), video surveys and/or Global Positioning System (GPS) data.

5.4.2 Traffic monitoring would be undertaken to identify localised delays and/or any worsening of network performance through the analysis of the following:

a. Traffic flows/change in flows

b. Traffic routes

c. Journey times/journey time reliability

d. Junction performance

e. Traffic composition

f. Road safety

5.5 Periods of traffic monitoring

Pre-opening

5.5.1 Traffic monitoring would be undertaken at least one-year pre-opening to establish the baseline (to provide a comparison against the monitoring carried out during the operational phase). This is currently expected to take place in 2029. However, if there are any changes to the Project opening date, the pre-opening traffic monitoring would be realigned to be collected across the last full year of construction. The data collected will be reviewed against other datasets so that the traffic impacts from the construction activity can be determined.

Post-opening

5.5.2 Traffic monitoring reports would be produced at one-year and five years post-opening, which is considered appropriate to present the observed traffic patterns over time. This is currently expected to take place in 2031 and 2035, respectively.

5.5.3 As noted above, the surveys undertaken as part of the traffic impacts monitoring scheme will be supplemented with the use of existing data sources.

5.6 Method of assessment

5.6.1 The data analysis would set out to identify any impacts likely to be a result of the Project in operation, together with any wider network changes that are not as a result of the Project. If the monitoring outputs identify issues or opportunities as a result of traffic growth or new third party developments, local highway authorities would be able to use this as evidence within their intervention case making.

5.6.2 To ensure that the relevant data continues to be adequately captured over the full duration of the monitoring period, a monitoring review process would be set out in the traffic impact monitoring scheme (to be approved by the SoS). The review process would also propose to follow the National Highways POPE timescales, and undertake updates where appropriate. Proposals put forward for changes from key stakeholders would also be considered, so that the impacts of the Project can be fully captured.

5.7 Data provision programme

5.7.1 National Highways would collate, analyse and summarise the data in monitoring reports, at one-year post-opening and five years post-opening (in alignment with National Highways POPE timescales). The assessment reports would be made available to the local highway authorities, the general public and DfT.

5.7.2 In the event that the traffic impact monitoring and the review of its findings identifies that future investment would be suitable, relevant local highway authorities could seek funding to develop and bring forward potential solutions from existing work streams. Assessment and prioritisation of those schemes must be properly dealt with through the relevant investment approval processes, including any intervention that requires obtaining its own consent (e.g., DCO).

6 Bringing forward interventions

6.1 Background

6.1.1 Recent and current government funding streams available for application on the local and strategic road network are summarised below. It is anticipated that these will be revised in the future, with new and adapted funding streams available towards the end of the 2020s and early 2030s around the time of the opening of the Project.

6.2 Local road network

6.2.1 Funding for the local road network is currently provided under the National Roads Fund, with approximately £28.8 billion allocated between 2020-2025, of which £3.5 billion is expected to be spent on local roads. Some of the recent and current funding streams are set out in Table 6.1

Table 6.1 Local Road Network funding streams

Funding Stream	Description
Major Road Network (MRN)	Addresses the middle tier of the country's busiest and most economically important local authority "A" roads, sitting between the SRN and the rest of the LRN. This stream is comprised of: • New investment available for road enhancement schemes on the most important local authority roads from 2020/21 • Contribution to 85% for schemes typically £20-50 million • One of the five central objectives of the MRN programme is reducing congestion. Another objective relevant to potential future works to the network related to the Project is "supporting the SRN"
Large Local Majors (LLM) programme	Set up for a small number of exceptionally large local highway authority transport schemes as follows: • Schemes that could not be funded through the normal routes or cannot reasonably be funded through any other route • Single schemes that can only be delivered or justified as a whole, as opposed to being split into phases or smaller elements • The lower threshold for LLM is £50m. Funded through the National Roads Fund – only road schemes will be considered for the programme. LLM schemes are not limited to roads on the MRN
Safety and Congestion fund (RIS2)	For local capital enhancements, to help address pinch points where small-scale interventions (costing a few hundred thousand pounds) can bring about significant improvements to congestion or safety, and also complete work begun under National Highways RP1 Growth and Housing fund
The Levelling Up Fund	The £4.8 billion Levelling Up Fund will invest in infrastructure that improves everyday life across the UK, including regenerating town centres and high streets, upgrading local transport, and investing in cultural and heritage assets." Furthermore, the government have "committed an initial £4 billion for the Levelling Up Fund for England over the next four years (up to 2024-25)". Local authorities can request funding for "Enhancements and upgrades to local road networks (e.g., by passes and junction improvements)" and "Structural maintenance works to local roads, including bridges"

Funding Stream	Description
Major Road Network (MRN)	Addresses the middle tier of the country's busiest and most economically important local authority "A" roads, sitting between the SRN and the rest of the LRN. This stream is comprised of: • New investment available for road enhancement schemes on the most important local authority roads from 2020/21 • Contribution to 85% for schemes typically £20-50 million • One of the five central objectives of the MRN programme is reducing congestion. Another objective relevant to potential future works to the network related to the Project is "supporting the SRN"
Local Pinch Point Fund (LPPF)	The government will make £150 million of LPPF funding available to local authorities in 2021/22 and 2022/23 which aims to support projects across England that ease congestion on local routes and for small improvement projects such as for road modelling and design
Local Growth Fund (LGF)	The majority of local transport improvement schemes are funded through the £12 billion Local Growth Fund (LGF). The Department for Transport is providing £6.7 billion to the Local Growth Fund over the six years from 2015/16 to 2020/21. Funding is awarded to Local Enterprise Partnerships (LEPs) to invest in infrastructure to promote local growth"
Annual capital grant	For smaller scale interventions, the Project would steer local highway authorities to use their annual capital grant funding to cover the cost of these schemes, to be progressed under the standard processes

6.2.2 It should be noted that MRN funding is linked to regional evidence bases (REB). A REB must provide a strategic overview of the MRN in a region. It must identify key considerations such as housing and industrial developments and the priority opportunities and problems on the network that need to be resolved. The output of the REB should be a list of up to ten top priority MRN investments in the sub-national transport body or regional grouping's region for the period April 2020 to March 2025. Scheme business cases will also be required for individual schemes (the timing of when this needs to be submitted will depend on when the scheme is intending to start works).

6.2.3 For both MRN and LLM schemes, general guidance from the Government is that there should be a local or third party contribution of at least 15% of total scheme costs. Schemes partly on the SRN and the LRN can be considered for MRN, LLM and Road Investment Strategy (RIS) without the need for multiple submissions.

6.3 Strategic Road Network

6.3.1 Impacts on the Strategic Road Network would be addressed through National Highways scheme development routes, including the RIS2 (for schemes already in the current pipeline) for the period of 2020 – 2025, and RIS3 for the period 2025 – 2030 (for future schemes to be developed).

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Glossary

Term	Acronym or abbreviation	Explanation
2029 opening year		A modelled year in the Project's LTAM traffic model in which traffic flows and costs are estimated when the Project is opened.
A122 Lower Thames Crossing	the Project	A proposed new crossing of the Thames Estuary linking the county of Kent with the county of Essex, at or east of the existing Dartford Crossing.
Appraisal		The process of defining objectives, examining options and weighing up the relevant costs, benefits, risks and uncertainties**.**
Automatic Number Plate Recognition	ANPR	Automated Number Plate Recognition is a technology that reads vehicle registration plates to create vehicle location data.
Automatic Traffic Count	ATC	Equipment placed on a road that counts traffic.
Benefit		An increase in the welfare of society from a project, programme or policy.
Department for Transport	DfT	The government department responsible for the English transport network and a limited number of transport matters in Scotland, Wales and Northern Ireland that have not been devolved.
Development Consent Order	DCO	Means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects (NSIP) under the Planning Act 2008.
Global Positioning System	GPS	A global navigation satellite system that provides geolocation and time information to a GPS receiver anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites.
Local road network	LRN	
Lower Thames Area Model	LTAM	Transport model designed to forecast impacts of providing additional road based capacity across the River Thames at locations at or east of the existing Dartford Crossing.
Major road network	MRN	
Post Opening Project Evaluation	POPE	Checks whether investments in Major Projects are delivering the outcomes documented in the Appraisal Summary Table published prior to scheme approval. National Highways produces the reports ‘one year after’ and ‘five years after’ road opening.
Project Control Framework	PCF	National Highways Project Control Framework process. Setting out how National Highways, together with DfT, manage and deliver major improvement projects.
Road Investment Strategy	RIS	The Government’s long-term strategy to improve England’s motorways and major A roads. The first RIS (known as RIS 1) was published in 2015 and covers the period 2015-2020. A second RIS (RIS 2) was published in 2020, and covers the post-2020 period.

Term	Acronym or abbreviation	Explanation
Secretary of State	SoS	The Secretary of State has overall responsibility for the policies of the Department for Transport.
Strategic road network	SRN	The core road network in England managed by National Highways.
TRIS		National Highways Traffic Count Database

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