Portsmouth Local Plan Support **20/02/2026**

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PORTSMOUTH LOCAL PLAN –STRATEGIC TRANSPORT ASSESSMENT ADDENDUM

Portsmouth CITY COUNCIL

SYSTRA

PORTSMOUTH LOCAL PLAN SUPPORT

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1. INTRODUCTION

1.1 Overview and Report Purpose

1.1.1 This Strategic Transport Assessment Addendum (STAA) has been prepared by SYSTRA Ltd (SYSTRA) on behalf of Portsmouth City Council (PCC, the Council), to provide an evidence base for the PCC Local Plan Addendum.

1.1.2 The purpose of the STAA is to provide supplementary transport evidence to support the March 2026 Local Plan Submission. Following a negative IROPI (Imperative Reasons of Overriding Public Interest) Opinion received in March 2025, the Council revised the approach taken on several strategic sites and polices, which have been set out in the Portsmouth Local Plan Addendum. This resulted in refinements to the emerging Local Plan allocations. This has resulted in a slight reduction in the overall quantum of development and updates to the quantum of certain strategic development sites to reflect the latest site development profiles. Consequently, an updated local and strategic modelling assessment was required to corroborate the findings of the full Strategic Transport Assessment (Feb 2025[1]) and confirm that conclusions and proposed mitigation remain valid. The STAA assesses the impact of growth and allocations outlined in the Portsmouth Local Plan Addendum.

1.1.3 This Strategic Transport Assessment Addendum reports on the findings of the 2019 Baseline, 2041 Reference Case, 2041 Do Minimum and the 2041 Do Something strategic model runs utilising the Solent Sub-Regional Transport Model (SRTM). It is noted that no changes have been made to the 2019 baseline or 2041 Reference Case, however as detailed within Chapter 4, a review of the committed developments and highway schemes has been undertaken to determine suitability, and any local based manual adjustments have been applied at the local junction modelling stage. The impacts of the revised Local Plan development have been tested through local junction modelling through both existing layout and proposed mitigation layout designs and the Do Something strategic model run, to test the strategic impact of the mitigation schemes based on the revised flow counts from the updated allocation quantum. As aforementioned, this Strategic Transport Assessment is an Addendum to the published Strategic Transport Assessment dated February 2025 and should be read alongside this document[1] during review.

1.2 Context

1.2.1 PCC is developing a Local Plan for Portsmouth, which sets out future development strategic sites and site allocations. The plan will set out the strategy for meeting future development needs in the city for the period 2025- 2040. Once adopted, the Local Plan will replace policies in existing planning policy documents and form the basis for making decisions on subsequent planning applications. It is noted that the timescales for the Local Plan have adjusted compared to the published Strategic Transport Assessment, which included 2020-2040 as the plan period. As set out in the Local Plan Addendum, the change is justified as it removes five years of historic development from the Plan and ensures that the Plan is forward looking. As

[1] *This Strategic Transport is an Addendum to the published Strategic Transport Assessment dated February 2025 and should be read alongside this document during review*. *https://www.portsmouth.gov.uk/wp-content/uploads/2025/02/Portsmouth-Local-Plan_Strategic-Transport-Assessment-Final-060225.pdf*

the completions and permissions were still captured as committed development within the 2041 Reference Case in the previous assessments this change has not had a material impact on the modelling assessment approach.

1.2.2 A summary of the modelling scenarios tested includes:

- **Scenario 1: 2019 Base -** Current SRTM Base Model
- **Scenario 2: 2041 Baseline -** No Local Plan development within Portsmouth except for committed sites
- **Scenario 3: 2041 Do Minimum -** Full Local Plan development without transport mitigation
- **Scenario 4: 2041 Do Something -** Full Local Plan development with transport mitigation.

1.2.3 The key objectives of this assessment include the following:

- **Evaluate the impact of the strategic sites and site allocations** on the surrounding transport network, covering public transport, active and vehicular modes. This considers impacts at both a local and a strategic scale.
- **Identify any mitigation measures required** to support the levels of targeted growth as well as avoiding detriment to the environment and local communities. The mitigation schemes factor safety as a key consideration for any scheme design.

1.2.4 Mitigation schemes have been developed and modelled to, where possible address the impact of Local Plan traffic, when compared to the future baseline whilst applying a sustainable transport hierarchy to scheme development.

1.2.5 Mitigation development considers the requirements of the DfT Circular 01/2022 'Strategic Road Network and the Delivery of Sustainable Development' by considering the sustainable vision for Portsmouth and looks to reduce residual impacts on the Strategic Road Network by encouraging more local based trip making and maximising opportunities for active travel.

1.3 Terminology

1.3.1 Throughout this report, SYSTRA will be referring to Local Plan future developments using the following terms:

- Strategic Sites – large sites allocated within the Local Plan
- Site Allocations – smaller sites allocated within the Local Plan

1.4 Report Structure

1.4.1 Following the introduction, the report contains the subsequent sections. As aforementioned, this document forms an Addendum to the February 2025 Strategic Transport Assessment and therefore the remaining chapters focus on the impact of these amendments:

- **Section 2: Policy and Strategic Context** – Summarises the policy and strategic context for the Local Plan and this STAA.
- **Section 3: Proposed Development Strategic Sites & Site allocations**– Describes the location, land use and development quantum of the strategic sites and site allocations.
- **Section 4: Strategic Model Methodology and Results** – Gives an overview of the strategic modelling which has been undertaken using the Sub Regional Transport Model (SRTM),

including an overview of the modelling scenarios and a summary of the key findings between the 2041 baseline and 2041 Do Minimum Scenarios which have informed the detailed junction modelling and design work.

- **Section 5: Local Junction Modelling Methodology and Assessment Impact** – Outlines the methodology for the local junction modelling and summarises the findings of the Category 1 junctions, outlining where the forecast level of traffic generation is expected to impact junction operation. This includes discussion and demonstration of any mitigation works which are proposed to support targeted levels of Local Plan growth.
- **Section 6: Trigger Point Assessment – Portsbridge Roundabout** – Presents an overview of the approach taken for a trigger point assessment of the proposed mitigation at Portsbridge Roundabout. Analyses the select link SRTM model outputs and presents the results of 2030 and 2035 local junction model assessments to identify likely timescales for mitigation scheme requirements.
- **Section 7: Do Something SRTM Results –** Provides an overview of the Do Something SRTM results, with mitigation options in place informed from the local junction modelling.
- **Section 8: Summary, Conclusion and Next Steps** – Summarises the STAA and reports the key conclusions drawn.

2. POLICY AND STRATEGIC CONTEXT

2.1 Overview

2.1.1 This section describes the national, regional, and local transport related policies relevant to this STAA. This acts as an update where relevant, but otherwise includes the full Local Plan policies from the Transport Assessment for context.

2.2 National

National Planning Policy Framework (NPPF) (2024)

2.2.1 The NPPF framework outlines the national planning policies, including those relating to transport, its role in the planning procedure and its impact on advancing sustainable development. It is relevant to this report as it outlines the criteria for the transport evidence base that is required for Local Plans. The Portsmouth Local Plan submission will be examined and assessed against the 2024 NPPF.

2.2.2 Paragraph 109 of the NPPF details the transport issues that should be considered in plan-making and development proposals. These include:

- Making transport considerations an important part of early engagement with local communities;
- patterns of movement, streets, parking, and other transport considerations should be integral to the design of schemes and contribute to making high quality spaces;
- the potential impacts of development on transport networks;
- opportunities from existing or proposed transport infrastructure, and in changing transport technology and usage;
- opportunities to promote walking, cycling and public transport use; and
- the environmental impacts of traffic and transport infrastructure.

2.2.3 The NPPF identifies that significant development should be focused on locations which are, or can be made, sustainable. Paragraph 110 states that planning policies should "[limit] the need to travel and [offer] a genuine choice of transport modes" to reduce "congestion and emissions and improve air quality and public health".

2.2.4 To reduce the number and length of journeys, Paragraph 111 encourages a mix of land uses across an area and within larger scale sites.

2.2.5 Regarding local parking standards, Paragraph 112 of the NPPF specifies that policies should consider the accessibility and the type, mix and use of local developments. They should consider the availability of and opportunities for public transport, car ownership levels and anticipate provision for low-emission vehicles.

2.2.6 Paragraph 113 states that the quality of town centre parking facilities should be improved alongside measures to promote safety and accessibility for pedestrians and cyclists.

Draft National Planning Policy Framework (2025)

2.2.7 The government is currently consulting on updates to the NPPF, with the consultation running until 10 March 2026. The proposed changes include several substantive reforms, in particular to unlock homes in suitable locations and further support commercial development needed to drive growth. There are twelve key policy changes proposed, with the key ones relevant to Local Plan making and transport strategies summarised below:

- A permanent presumption in favour of suitably located development, including making development of suitable land in urban areas acceptable by default;
- Building homes around stations including potential minimum density requirements around 'well-connected' stations;
- Driving urban and suburban densification;
- Supporting small and medium sites;
- Streamlining local standards – to provide certainty for applicants and speed up local plan production by limiting quantitative standards in development plans to only those specific issues where local variation is justified;
- Embedding a vision-led approach to transport to move away from a 'predict and provide' approach to transport planning that can create unattractive environments dominated by cars.

Infrastructure Act 2015

2.2.8 Parliament introduced the Infrastructure Act in 2015 and transport is one of the main themes covered by this act. This act enabled the creation of Highways England (now National Highways) and sets out measures to streamline the delivery and implementation of highways and transport schemes. It also provided the mandate for new Cycling and Walking Investment Strategies.

Planning and Infrastructure Bill, 2025

2.2.9 The objectives of the Planning and Infrastructure Bill 2025 included, amongst others, to deliver a faster and more certain consenting process for critical infrastructure and improve certainty and decision-making in planning, empowering local communities while ensuring an efficient planning process. The Bill will introduce strategic planning to address cross-boundary issues like housing needs, establishing a spatial development strategy which Local Plans will be required to adhere too.

The Second DfT Cycling and Walking Investment Strategy (CWIS2) (2023)

2.2.10 DfT's Cycling and Walking Investment Strategy was updated in March 2023. It outlines the Government's ambitions to "make walking and cycling the natural choices for shorter journeys, or as part of a longer journey by 2040." The government aims for 50% of all journeys in towns and cities to be walked or cycled by 2030. The strategy set outs creating people-friendly streets, investing in cycling routes, and promoting active travel, with targets such as 55% of primary school-aged children walking to school by 2025.

2.2.11 The strategy includes substantial government investment for redesigning urban areas to encourage active travel, fostering inclusivity, and establishing Active Travel England to set ambitious standards for infrastructure, development design, and behaviour change. Active Travel England will "play a significant role in the spatial planning system, ensuring that

developers, local planning authorities and others involved in, or undertaking, development embed active travel infrastructure in their policies and design from the outset".

2.2.12 It is noted that a consultation on the vision, objectives and capital and revenue programmes for the **Third DfT Cycling and Walking Investment Strategy** took place from November to December 2025.

DfT Circular 01/2022 (2022)

2.2.13 The DfT Circular 01/2022 'Strategic Road network and the delivery of sustainable development' was published in December 2022 and sets of the policy of the Secretary of State in relation to the Strategic Road Network (SRN). When undertaking any assessment in future as part of the preparation of the Local Plan, the Council should ensure that it accords with the policy advice outlined in this document.

2.2.14 Key points in the policy include, but are not limited to:

- The policy provides a significantly greater emphasis on the principles of sustainable development. Consequently, the Council will be expected to promote development at locations that are or can be made sustainable (in accordance with the long-standing requirements of the National Planning Policy Framework (NPPF)) and where opportunities to maximise walking, wheeling, cycling, public transport and shared travel have been identified;
- The policy is also clear that plan-making and decision-taking should ensure that developments optimise the potential of sites to support local facilities and sustainable transport networks. As such, this thinking should be embedded into site selection and how to develop Local Plan policies; and
- It is the responsibility of the Council to present a robust transport evidence base in support of the Local Plan. Demand forecasting models and cumulative assessment should be undertaken which has been prepared to avoid, or significantly reduce, the need for additional infrastructure on the SRN and where development can be delivered through identified improvements to the local transport network, to include infrastructure that promotes walking, wheeling, cycling and public transport and shared travel.

2.2.15 In the context of Portsmouth, the Local Plan strategic assessment has ensured that any mitigation measures considered in the Do Something scenario have considered a range of sustainable and active travel modes including walking, cycling, public transport and shared travel. Trip rates to represent the population mix and characteristics for each zone in the SRTM are accounted for in the model. Consequently, a robust evidence base supporting the Local Plan is provided, identifying improvements and balancing priorities across all modes of transport.

DfT Transport Investment Strategy (2017)

2.2.16 The government has pledged to establish a Major Road Network (MRN) through England, focusing on the most heavily trafficked and economically significant local authority A roads. In pursuit of this initiative, the Government has outlined five key policy objectives: alleviating congestion, facilitating housing delivery, promoting economic growth, and rebalancing, ensuring support for all road users, and supporting the Strategic Road Network (SRN).

2.2.17 The DfT has published its proposals for investment priorities for the Major Road Network (MRN). As part of this initiative, Transport for the South-East and Portsmouth City Council are seeking to include City Centre Road as part of the Large Local Major scheme.

DfT Network North: Transforming British Transport (2023)

2.2.18 The DfT's Network North policy paper sets out the funding which will be used to change the approach to transport infrastructure, in line with the following three priorities:

- Drive better connectivity within towns, suburbs and cities;
- Drive better connectivity between towns and cities; and
- Improve everyday local journeys for people.

2.2.19 The DfT is increasing funding for most existing Major Road Network and Large Local Major road schemes. These schemes, subject to successful business case approval, will benefit from an uplift in government contribution from 85% to 100% of their costs at the Outline Business Case (OBC) stage. The increased funding will help ensure the delivery of these road schemes.

2.2.20 The Portsmouth City Centre Road scheme is included on the list of schemes benefiting from the uplift in government funding.

Decarbonising Transport – A Better, Greener, Britain (2021)

2.2.21 The DfT's Decarbonising Transport report, published in July 2021, sets out the commitments and actions required to decarbonise the entirety of the United Kingdom's transport network. The government ambition is to end the sale of all new diesel and petrol cars by 2035, and that all new cars and vans must be fully zero emission at the tailpipe from 2035.

2.2.22 A strategic priority is to accelerate the modal shift to public and active transport, with the target of making sustainable modes the natural first choice of travel for daily activities. Local authorities are to take action to make the best use possible of space to enable active travel through the transformation of local public transport operations.

2.2.23 Buses are identified as being the easiest and quickest way of improving public transport across the country, with £3 billion being invested into reshaping the bus network along public service lines nationwide; with lower and simpler fares, thousands of zero emission buses, and more priority lanes.

2.2.24 Commitments to further the sustainable transport network are outlined, including the exploration of introducing new sustainable travel reward schemes supported by businesses, community organisations and charities.

2.2.25 The report highlights a priority to shift towards an integrated and affordable net-zero public transport network. This is to be enhanced through the greater provision of walking and cycling routes to and from stations, including a greater provision of secure cycle storage and charge points throughout the UK.

Bus Back Better: National Bus Strategy for England (2021)

2.2.26 The DfT's National Bus Strategy report, published in March 2021, sets out the government's strategy to reduce the significant shift caused by COVID-19 from public transport to private

car through the improvement of the bus network, primarily by improving service frequency, reliability, and coordination. This strategy follows £3 billion of funding announced in 2020 to improve bus services across the UK to London standards and contribute towards the wider ambitions of achieving net-zero carbon emissions.

2.2.27 It is acknowledged that local bus networks are to be managed by local authorities, and therefore £25 million is initially committed to support partnership and franchising development, including a Bus Centre of Excellence.

2.2.28 Devolution of the Bus Service Operators Grant is to be provided to Local Transport Authorities and Mayoral Combined Authorities who request it. This requires authorities to develop a key route network and include development of bus priority measures and improved bus performance.

Gear Change – A Bold Vision for Cycling and Walking (2020)

2.2.29 The DfT's Cycling & Walking Vision plan, published in July 2020, establishes the government's commitment to improving cycling and walking network throughout the country, by improving the accessibility and safety of active modes. The plan aims for places to be truly walkable, with cycling and walking being the natural first choice and half of all journeys in towns and cities being cycled or walked by 2030.

2.2.30 The shift to active modes will be achieved by funding infrastructure schemes and behaviour change projects; putting cycling and walking at the heart of transport, place-making, and health policy; empowering and encouraging local authorities; and enabling people to cycle and protecting them in doing so.

2.2.31 Cycling is to be put at the centre of future developments, with the report pledging to develop new standards for sufficient secure bike storage in all new residential and non-residential developments. Additionally, all housing and business developments are to provide high-quality cycling and walking networks, green spaces and green routes, and supporting facilities such as cycle parking.

2.2.32 The plan also places importance on the quality of cycle infrastructure being installed along roads, and new cycling design guidance is published alongside the plan setting out the standards expected if schemes are to receive funding, within Local Transport Note 1/20. Cycle routes will be required to be planned holistically as part of a network, as opposed to isolated stretches.

2.3 Regional

2.3.1 Portsmouth City Council, which is a unitary authority, works with several other organisations involved in the delivery and management of transport networks. These include the following:

- National Highways is responsible for maintaining, operating, and improving the Strategic Road Network (SRN), specifically, in the context of Portsmouth, the busy and congested A27 corridor;
- Solent transport coordinates strategic transport planning in the area on behalf of Hampshire Council, PCC, Southampton City Council, and Isle of Wight Council. Transport for South Hampshire (TfSH), the predecessor to Solent Transport, was set up in 2007 by

the three highway authorities in the South Hampshire sub-region: Hampshire County Council, PCC and Southampton City Council. In March 2013 Isle of Wight Council joined the TfSH partnership. In June 2014, TfSH was rebranded to become Solent Transport.

- Public Transport Operators and Network Rail cooperate with PCC. PCC and the two main bus operators (First Hampshire & Dorset and Stagecoach South) have signed an Enhanced Partnership agreement under the 2017 Bus Services Act, which defines legal obligations relating to plans to improve bus infrastructure, fares, ticketing and other matters concerning bus services in the city.

Partnership for South Hampshire (PfSH) Spatial Position Statement (2023)

2.3.2 The 2023 Spatial Position Statement has been produced by the authorities forming PfSH and aims to provide guiding principles for local plans to help deliver sustainable development within south Hampshire. The new statement forms a significant part of the statutory duty to co-operate between councils and will inform the preparation of Local Plans by each council within PfSH.

2.3.3 The statement notes the introduction of the CAZ in Portsmouth city centre and that a Local Transport Plan prioritising sustainable and active travel to support people and places in reducing car dependency and vehicular emissions has been adopted by PCC.

2.3.4 Strategic Principle 1: Sustainable Growth states that to achieve the transition to net zero carbon, a fundamental modal shift in transport to zero and low carbon travel will be required, including active travel and public transport. Site selection and capacities will need to be optimised to promote modal shift and avoid car dependency where possible.

2.3.5 Strategic Principle 6: Integrating Land Use & Transport Planning promotes the location and form of development in local plans and investment in transport infrastructure that will support the delivery of a de-carbonised and accessible transport system. The statement notes that significant infrastructure investments will need to be delivered to make new communities sustainable and to mitigate negative effects on existing communities.

2.3.6 Poor air quality is considered a problem in locations across the study area, with the implementation of the Portsmouth CAZ noted as a response to this challenge. Development should be located to minimise exacerbating air quality problems and regard should be had to designated AQMAs when determining strategic approaches to development.

Transport for South-East (TfSE) Transport Strategy (2025)

2.3.7 Transport for South-East is a sub-regional transport body for the South-East of England that brings together sixteen local transport authorities, five local enterprise partnerships, forty-six district and borough authorities and a range of wider stakeholders from the worlds of transport, business and the environment. It has a strategy which outlines its mission to grow the South-East's economy by delivering a safe, sustainable, and integrated transport system.

2.3.8 By 2050, its vision is to offer "the highest quality of life for all and be a global leader in achieving sustainable, net zero carbon growth" through the delivery of "a resilient, reliable,

and inclusive transport network that enables seamless journeys and empowers residents, businesses and visitors to make sustainable choices".

2.3.9 Transport-specific principles underpinning the Strategy include focus on:

- **Triple Access Planning**, considering "not only physical transport but also digital and social factors, making the transport network more inclusive and connected".
- **Application of the User Hierarchy**, to prioritise the most vulnerable road users, i.e. pedestrians and cyclists – as well as more sustainable modes of transport and public transport.
- **The Movement and Place framework**, through the acknowledging of which will balance efficient movement with creating vibrant, liveable spaces that enhance the quality of life.
- **Environmental Net Gain**, with the aim for every new transport project to leave the environment better off, enhancing biodiversity and integrating green solutions throughout.

2.3.10 As the sub-national transport body for region, Transport for the South-East was tasked with providing advice to government on the South East's investment priorities for the Major Road Network (MRN). In Portsmouth, Transport for the South-East considered that the City Centre Road scheme should be part of the Large Local Major scheme.

Transport for South East Strategic Investment Plan (2023)

2.3.11 Transport for South East (TfSE) is the sub-national transport body for the south east of England. The Strategic Investment Plan, published in March 2023, provides a framework for investment in strategic transport infrastructure, services and regulatory interventions over the coming 30 year period. The plan's vision is to create a high-quality, reliable, safe and accessible transport network for door-to-door journeys.

2.3.12 The plan outlines specific packages of interventions, with those relevant to Portsmouth listed in the table below.

Table 1. TfSE Strategic Investment Plan Intervention Packages – Portsmouth

Category	Intervention Package
Core Rail Package	Portsmouth Station Platforms
Enhanced Rail Package	Fratton Rail Freight Hub
Mass Transit	South East Hampshire Rapid Transit Future Phases, Tipner Transport Hub, Southsea Transport Hub, Improved Gosport-Portsmouth and Portsmouth-Hayling Island Ferries
Highways	Portsmouth City Centre Road, Horsea-Tipner Bridge
Active Travel	South East Hampshire Area Active Travel (including LCWIPs), Portsmouth Eastern Road Active Travel Bridge Extension, Portsmouth Eastern Road East-West Bridge

2.3.13 Network Rail, Solent Transport, and the Solent authorities have developed a comprehensive package of interventions that will deliver improvements to urban and inter-urban rail journeys. It is also recognised that to realise the service frequency ambitions, a longer- term package of interventions is needed to unlock significant capacity and, potentially, shorter journey times between Southampton and Portsmouth city centres. In addition, the Sussex Coast Rail million investment package of £80 million aims identifies the potential for more frequent services and to create faster journeys between Brighton, Chichester, Portsmouth and Southampton.

2.3.14 The plan notes that PCC is developing and delivering a comprehensive, high quality bus rapid transit system that will serve the Portsmouth City region, as well as plans to reduce congestion and public health outcomes by increasing rates of cycling and walking.

2.4 Local

2.4.1 Portsmouth City Council is the local authority of the city of Portsmouth, combining the power of a non-metropolitan county and district council.

Portsmouth's Local Transport Strategy 2021-2038 (LTP4)

2.4.2 Portsmouth's Transport Strategy details the Council's vision for travel in Portsmouth until 2038. It was adopted in October 2021.

2.4.3 The Portsmouth Transport Strategy (2021 – 2038) and the supporting Transport Implementation Plan (2025/26 – 2027/28) form the fourth Local Transport Plan (LTP4) for Portsmouth. The Portsmouth Transport Implementation Plan provides an indicative prioritised delivery plan up to 2028 to support the delivery of the Transport Strategy.

2.4.4 The LTP4's objectives are supported by various existing or planned subject-specific strategies:

- **Deliver Clean Air**: Local Air Quality Plan; emerging Air Quality Strategy; Air Quality Action Plan; Parking Strategy; Road safety and casualty report; Sustainable modes of travel to school;
- **Prioritise walking and cycling**: Rights of Way Improvement Plan; Walking and Cycling Strategy; Local Cycling and Walking Infrastructure Plan;
- **Transform public transport**: Emerging Public Transport Strategy; Bus Service Improvement Plan; Solent Connectivity Study;
- **Support business and protect our assets**: Highways Maintenance Strategy; Highways Asset Management Strategy; Street Lighting Strategy; Freight Strategy.

2.4.5 Eighteen policies in the strategy are each grouped under one of the four strategic objectives. They can be divided into the following thematic categories:

- Air Quality and Pollution Reduction (Policies A, D, E, O)
- Sustainable & Active Transport Infrastructure (Policies B, G, H, I, J, K, L, M)
- Behaviour Change and Education (Policy F)
- Traffic Management and Infrastructure Maintenance (Policies N, P, Q, R)

Portsmouth Plan (2012)

2.4.6 The Portsmouth development plan comprises the Portsmouth Plan, adopted in 2012, and saved policies from the 2006 Portsmouth City Local Plan.

2.4.7 Objective two of the Portsmouth Plan is "to make Portsmouth an accessible city with sustainable and integrated transport". Most of the other seven primary objectives are associated with transport:

- To make Portsmouth an attractive and sustainable city;
- To develop Portsmouth as a city of innovation and enterprise, with a strong economy and employment opportunities for all;

- To make Portsmouth a city in which everyone feels and is safe;
- To encourage and enable healthy choices for all and provide appropriate access to health care and support;
- To enhance Portsmouth's reputation as a city of culture, energy and passion offering access for all to arts, sport and leisure;
- To ensure there is adequate supporting infrastructure for the new development and growth of the city.

2.4.8 The Portsmouth Plan states that "transport is a major challenge for the city especially in relation to accommodating additional development and visitors". Peak-time and seasonal congestion are key issues. The Plan acknowledges that future planning documents must call for "a lifestyle change away from using the private car to other forms of transport."

2.4.9 With regards to transport, the 2012 Portsmouth Plan mentions that "the regeneration and economic success of Portsmouth is also dependent upon the reliability of the sub-regional strategic road network, enabling people, freight, and goods to access the city with ease". This will continue to be relevant to the forthcoming Local Plan.

Infrastructure Delivery Plan (2025)

2.4.10 PCC developed its Infrastructure Delivery Plan as part of the development of an updated Local Plan for the period to 2040. The plan assesses infrastructure needs and includes information relating to responsibilities and delivery partners. PCC Transport, National Highways, Network Rail, Bus companies and Ferry/Hovercraft companies were all consulted.

2.4.11 As the IDP is a live document, further consultation between July-September 2024 took place to update the IDP in preparation for the Regulation 19 stage of the Local Plan process. As part of this process, PCC reconsulted with all transport providers who operate or deliver transport infrastructure within Portsmouth and an updated Interim IDP Document was published in October 2025 for the Regulation 19 (Pre-Submission) stage of the Local Plan Addendum.

2.4.12 The City of Portsmouth area forms part of scope for the Solent Connectivity Strategic Outline Business Case (SOBC). This SOBC work follows on from the Solent Connectivity Continuous Modular Strategic Planning (CMSP) published in 2020 which found that public transport networks within the Solent area had not seen significant adaptation to changing populations within the area, and as such there is a high reliance on the private car. For medium to longer distance journeys, train services are often competitive with driving in terms of journey time and speed, but train services at many stations do not operate frequently enough to provide an attractive alternative to the private car. The strategy sought to explore opportunities for improved, more frequent rail links within the Solent area.

2.4.13 Network Rail are also currently undertaking the Mainline (Tranche 2) Strategic Study, looking at demand into London and potential service requirements to meet that demand to 2050.

2.4.14 Further improvements and schemes are also being implemented to improve active travel and public transport across the City. In the medium to long term, PCC and partners (Hampshire County Council, Isle of Wight Council and bus and ferry operators) are promoting the development of the South East Hants Rapid Transit (SEHRT) network to better serve short to medium distance travel within the Portsmouth city region. The SEHRT proposition combines many existing elements of bus priority and improved interchanges (some recently delivered

since 2021, or currently being delivered- through Transforming Cities Fund and Bus Service Improvement Plan funding) with proposals for further bus priority and service quality and frequency improvements to create, in the long term, a bus rapid transit network across five routes in the wider Portsmouth city region. Four of these routes connect satellite towns (Havant, Waterlooville, Fareham and Ryde) to Portsmouth and provide an opportunity to develop bus rapid transit services to provide a viable alternative to driving for many more journeys than today.

2.4.15 PCC has also published a Local Cycling and Walking Infrastructure Plan (LCWIP) which sets out the city's plans to develop high quality cycling and walking networks across the city. The LCWIP is an ambitious plan that proposes significant investment over the next 10 years that looks to transform the city for both walking and cycling. The Council is currently delivering elements of the LCWIP network as funding opportunities permit.

2.4.16 The largest strategic transport infrastructure scheme proposals identified in the IDP have also been identified by Transport for the South East (TFSE) in their Strategic Investment Plan (SIP), indicating that these are transport improvements that are important to the sustainable development of the wider region. A total of 13 major transport improvement schemes in the city are identified in the TFSE SIP.

2.4.17 The IDP will remain a live document and continue to evolve as the Local Plan progresses.

Pre-Submission Portsmouth Local Plan 2025-2040 (2024) and Local Plan Addendum (2025)

2.4.18 The draft emerging Portsmouth Local Plan is the statutory development plan for Portsmouth and it will guide development in the City up to 2040. The plan sets out how PCC believes the city should develop and allocates the strategic sites that are fundamental to achieving the 2040 Vision and a number of other allocations. Once adopted, this plan will supersede the 2012 Portsmouth Plan.

2.4.19 The following strategic objectives directly relate to transport.

> **A Green City –** *We have excellent air quality because of our green spaces and sustainable transport, and this means our people live healthy and active lives. We are carbon neutral, use renewable energy and actively work to address climate change. We protect and enhance both our land and maritime environment for future generations.*
>
> **A City with Easy Travel –** *Fewer journeys are made by car because we have excellent public transport connections between bus, train, cycling and walking routes, making it easier and more enjoyable to be out and about. We encourage and support more walking and cycling, and we make it easy for people to travel regionally, nationally and internationally for work and pleasure.*

2.4.20 The plan notes that Portsmouth has been identified by the government as an authority with persistent long-term exceedances of the legal limits for nitrogen dioxide. In response, PCC prepared a Local Air Quality Plan, working closely with Government's Joint Air Quality Unit, to achieve compliance with legal limits for nitrogen oxide in the shortest possible time. The emerging Local Plan's Air Quality and Pollution policies seek to help implement the Local Air Quality Plan.

2.4.21 Development Management Policy PLP35: Air Quality and Pollution states that planning permission will only be granted for development proposals when it can be demonstrated, in a proportionate manner, that they will not contribute to and will not be subject to unacceptable levels of pollution, including relating to air quality, dust, noise and vibration, which cannot be mitigated.

2.4.22 Proposals will need to take account of where development is likely to have an adverse effect on air quality, especially in areas where it is already known to be poor and could affect the living conditions or health of occupiers, and where it could be impacted by Portsmouth's Local Air Quality Local Plan, Air Quality Management Areas and the Clean Air Zones, as well as the potential for cumulative impacts. Opportunities to improve air quality or mitigate impacts should be maximised by traffic and travel management or green infrastructure provision and enhancement.

2.4.23 The emerging plan acknowledges dependence on private car use has resulted in unsustainable levels of carbon emissions from transport, unhealthy polluted air, regular traffic congestion and severely reduced levels of physical activity. Action is needed now to shape a future where people opt to travel sustainably.

2.4.24 The provision of a safe, convenient, affordable to use, and efficient transport network is key in helping to build vibrant local communities, enable regeneration, and achieve an environmentally sustainable future. Prioritising walking and cycling and transforming public transport will play a key role in delivering a people centred travel network across the city, linking into and connecting local areas.

2.4.25 Strategic Policy PLP47: Movement and Transport states that development proposals will be permitted where they deliver a people centred travel network that prioritises walking, cycling, public and shared transport, in line with LTP4. Proposals should contribute to the protection and/or delivery of a network of high quality walking and cycling routes throughout the City, including those identified in the Local Cycling and Walking Infrastructure Plan (LCWIP).

2.4.26 Development proposals will be permitted where they protect and enhance highway safety on the local and strategic highway networks.

2.4.27 To encourage the uptake and continued use of sustainable modes of transport, the location, design and layout of development will need to show priority being given to pedestrian, cycle movements and access to sustainable transport modes. There is the potential to further increase the uptake in sustainable transportation methods by improving and upgrading or providing railway, bus, cycle and other infrastructure. Improvements can make public and sustainable transport a more attractive option.

2.4.28 The LCWIP highlights priorities to improve walking and cycling infrastructure, emphasising the need to create an active travel network that encourages city-wide use. It aims to ensure that new infrastructure for walking and cycling will be accessible to everyone.

2.5 Summary of Policy

2.5.1 Overall, the policy documents summarised above provides an overview of the context that this STAA has been prepared against. This STAA ensures to take policy into consideration, focusing on facilitating sustainable development and population growth. This STAA therefore

considers the above policies into plan making. Proposals should demonstrate how negative impacts on health have been minimised and how opportunities for protecting and improving people's health and wellbeing have been fully considered.

3. PROPOSED DEVELOPMENT STRATEGIC SITES AND SITE ALLOCATIONS

3.1 Overview

3.1.1 This section of the STAA describes the developments identified by PCC, that form the projected growth set out in the Local Plan. PCC have broken down the developments using the following naming methods (with further information provided in Chapter 4 and 5 of the Local Plan 2040 itself):

- Seven Strategic Sites- see **Table 2**.
- Six Site allocations– see **Table 3**.

Table 2. Strategic Site Delivery

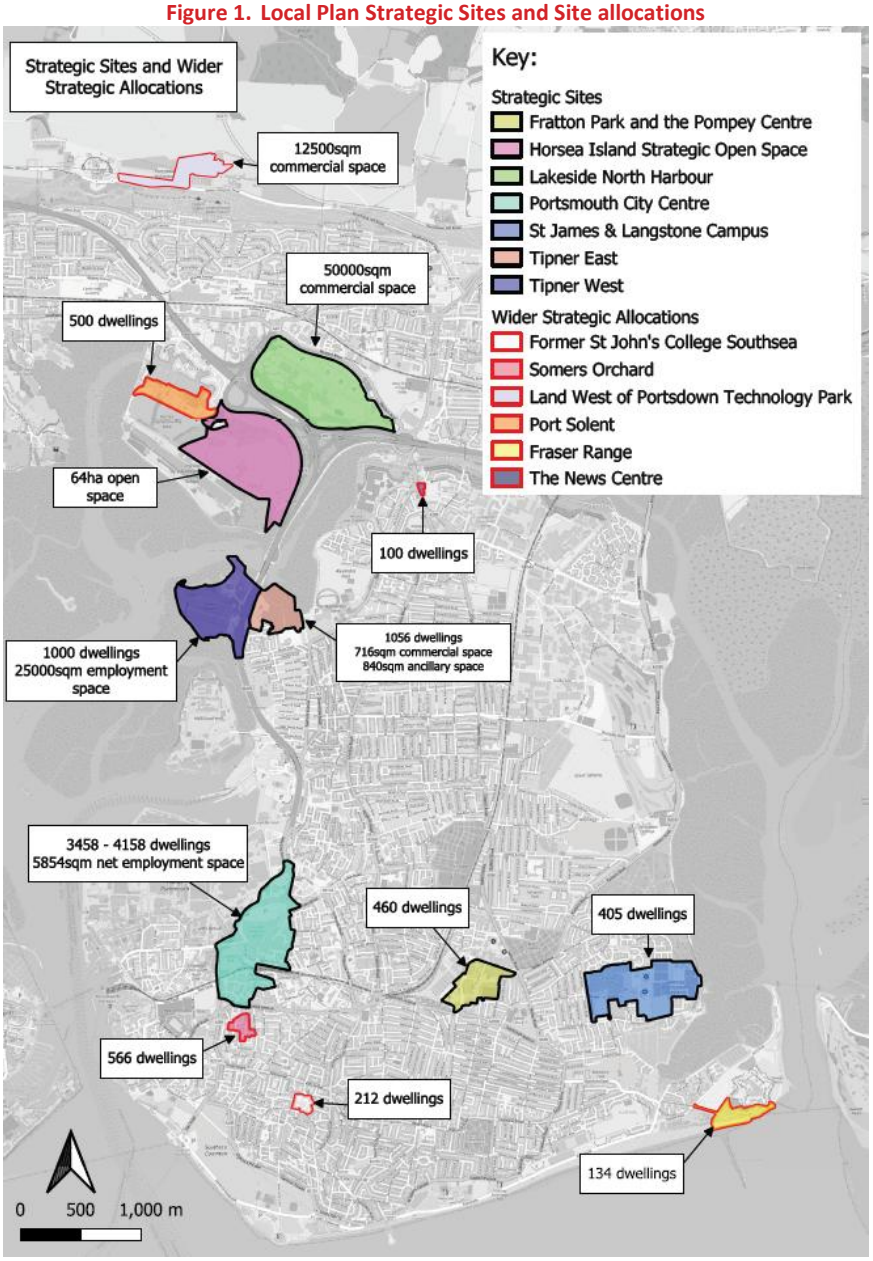
Site	Dwellings	Commercial Floorspace	Other Benefits
Tipner West	• 1000 dwellings	• 25,000 m^2 of employment floorspace	• Flood defences • Land decontamination • Safeguarding of landfall for public bridge • Shops selling convenience goods • Meeting place for principal use of the local community
Tipner East	• 1,056 dwellings	• 716 m^2 commercial floorspace (Classes E, F1 and F2) • 840 m2 ancillary commercial uses at the transport hub	• Transport hub with 2,650 car parking spaces (Note that this supports the necessary modal shift to support the level of development targeted in the City Centre but a prescribed mode shift has not been captured in the modelling assessments).
Lakeside North Harbour	-	• 50,000 m^2	• 20% bio-diversity net gain
Portsmouth City Centre	• 3,458 – 4,158 dwellings	• 5,846m^2 net employment space	• 2.9ha park • 20% bio-diversity net gain at City Centre North • Enhanced Culture and Leisure offer • City centre road re-alignment and bus priority routes
Fratton Park & the Pompey Centre	• 460 dwellings	• Expanded stadium • Hotel • Mixed conference and event facilities	• Off road link from the station to the Pompey Centre and Fratton Park
St James' & Langstone Campus	• 405 dwellings	-	• Retention of public access and parkland setting
Horsea Island Strategic Open Space	-	-	• 64ha public space

Table 3. Site Allocations Delivery

Site	Dwellings	Commercial Floorspace	Other Benefits
Land West of Portsdown Technology Park	-	12,500 m^2	Regeneration of a mainly brownfield site in a prominent location
Port Solent	500	-	Marine uses, improved accessibility, improved sea defences
St John's College	212	-	Improved connectivity, protected heritage assets
Fraser Range	134	-	New sea wall
The News Centre	100	-	Electric bus depot
Somers Orchard	566	-	Improved connectivity, Over 50% affordable housing

3.1.2 An annotated map providing the location and associated development quantum (net gain) for the strategic sites and site allocations is shown in **Figure 1**. A copy of this map can also be found in **Appendix A**.

Figure 1. Local Plan Strategic Sites and Site allocations



3.1.3 The quantum change in development between the February 2025 Strategic Transport Assessment and this Addendum is indicated in the table below.

Table 4. Local Plan Allocation and Addendum Quantum Change

SITE	PREVIOUS RESIDENTIAL QUANTUM	UPDATED RESIDENTIAL QUANTUM	RESIDENTIAL QUANTUM DIFFERENCE	PREVIOUS NON-RESI QUANTUM	UPDATED NON-RESI QUANTUM	NON-RESI QUANTUM DIFFERENCE
Tipner West	1250 dwellings	1000 dwellings	-250	58000sqm marine hub	25,000 sqm employment space	-33,000 sqm
Tipner East	1056 dwellings	1056 dwellings	0	716sqm commercial	716sqm commercial	0

SITE	PREVIOUS RESIDENTIAL QUANTUM	UPDATED RESIDENTIAL QUANTUM	RESIDENTIAL QUANTUM DIFFERENCE	PREVIOUS NON-RESI QUANTUM	UPDATED NON-RESI QUANTUM	NON-RESI QUANTUM DIFFERENCE
				floorspace; 840sqm ancillary commercial floorspace	floorspace; 840sqm ancillary commercial floorspace	
Lakeside North		-	-	50,000sqm commercial space	50,000sqm commercial space	0
Portsmouth City Centre	4158 dwellings	3458 – 4158 dwellings	-700* upper range of 4,158 used in the transport modelling hence no net reduction applied	20,000sqm commercial space	5,846sqm employment space	-14,154 sqm
Fratton Park and the Pompey Centre	710 dwellings	460 dwellings	-250	-	-	-
St James and Langstone Campus	417 dwellings	417 dwellings (405 excluding 12 dwellings completed prior to start of plan period).	-12	-	-	-
Land West of Portsdown Technology Park	-	-	-	12,500sqm commercial space	12,500sqm commercial space	0
Port Solent	500 dwellings	500 dwellings	0	-	-	-
St John's College	212 dwellings	212 dwellings	0	-	-	-

SITE	PREVIOUS RESIDENTIAL QUANTUM	UPDATED RESIDENTIAL QUANTUM	RESIDENTIAL QUANTUM DIFFERENCE	PREVIOUS NON-RESI QUANTUM	UPDATED NON-RESI QUANTUM	NON-RESI QUANTUM DIFFERENCE
Fraser Range	134 dwellings	134 dwellings	0	-	-	-
The News Centre	100 dwellings	100 dwellings	0	-	-	-
Somers Orchard	565 dwellings	566 dwellings	0	-	-	-
Horsea Island Strategic Open Space				64 hectares of open space	64 hectares of open space	0
TOTAL	9102 dwellings	7891 dwellings	-1211 dwellings * Note only a reduction of 511 dwellings applied in the transport modelling due to applying the upper threshold of the City Centre range.	142,056sqm	158,902 sqm	16,846 sqm

3.2 Strategic Sites

3.2.1 **Table 5** below provides more information on each of the strategic sites. Further detailed information for each strategic site can be found in Chapter 4 of the Local Plan.

Table 5. Strategic Sites Descriptions

Site	Vision	Location	Figures/Transport Links
Tipner West	Will form a new gateway to the City along with Tipner East and will be home to a new healthy and happy community.	Located immediately adjacent to the M275 motorway at the northwest part of Portsea Island and is bounded on three sides by Tipner Lake, which is part of Portsmouth Harbour.	• 25,000sqm employment space • 1,000 residential dwellings • A bridge between Tipner West and Horsea Island East • Local shop and community facilities
Tipner East	Will form a new gateway to the city along with Tipner West and will be	Located immediately adjacent to the M275 motorway at the northwest part of	• Enabling works and sea defence wall • 1,056 dwellings

Site	Vision	Location	Figures/Transport Links
	home to a new healthy and happy community.	Portsea Island. It is bounded by Tipner Lake to the north, which is part of Portsmouth Harbour, while to the south is the residential area of Stamshaw with terraced housing and a primary school.	• Transport hub with 2,650 car parking spaces and frequent bus services • 716 m^2 commercial floorspace • 840 m^2 ancillary commercial uses at the transport hub
Lakeside North Harbour	Will still be the premier location for high quality business space in Portsmouth.	Built on reclaimed land from the northern section of Portsmouth Harbour.	• 50,000 m^2 new office floorspace
Portsmouth City Centre	Will fulfil its potential as a centre of culture and creativity for the City.	Located to the centre-west of Portsea Island, the City Centre is an area of some 60 hectares extending from Hope Street in the north to Guildhall Walk and Winston Churchill Avenue to the south.	• 3,458 - 4158 dwellings • 5,846m^2 net employment space • City Centre Road Scheme • Bus priority measures • Supported by the transport hub at Tipner East to facilitate modal shift from private vehicle.
Fratton Park & the Pompey Centre	Will be a revitalised locality and a cultural hub. Fratton Park will remain the home of Portsmouth Football Club.	Fratton Park is set in the heart of the City. Pompey Centre is located to the south-west, west and north-west of Fratton Park.	• Expansion to the north stand of Fratton Park Football Stadium to increase the capacity from 21,000 to between 26,000 and 30,000 • 460 residential dwellings • Small scale ground floor commercial/ retail units
St James' & Langstone Campus	Will be home to a new healthy and happy community on the edge of Langstone Harbour.	Located in Milton, an area on the eastern edge of Portsea Island with a predominantly suburban character.	• 417 residential dwellings (405 excluding 12 dwellings completed prior to start of plan period).
Horsea Island Strategic Open Space	Will host a large public open space as part of a green gateway for the City.	Located off the northern shore of Portsmouth Harbour.	• 64ha of Strategic Open Space • Bus connection from Tipner-Horsea bridge to Port Solent

Site	Vision	Location	Figures/Transport Links
			• Active travel connections

3.3 Site allocations

3.3.1 **Table 6** below provides more information on each of the site allocations. Further detailed information for each allocation can be found in Chapter 5 of the Local Plan.

Table 6. Site allocations Descriptions

Site	Vision	Location	Figures/Transport Links
Land West of Portsdown Technology Park	Has been assessed as a potential employment site.	Located on the prominent ridge of Portsdown Hill, which is the extensive chalk escarpment to the north of the City.	• 12,500 m^2 R&D and/ or manufacturing (B2) and/or storage and distribution (B8).
Port Solent	Will be home to maritime, marine and advanced manufacturing sectors whilst providing new housing to support the growing workforce.	Located in the northwest corner of the City on the northern reaches of Portsmouth Harbour.	• Flood management measures • Improved access for sustainable transport modes from and to the A27 • 500 residential dwellings. • Safeguard land for future links to busway bridge
St John's College	Has been identified as a potential site for dwellings.	Located in the heart of Southsea and in Owen's Southsea Conservation Area.	• 212 Dwellings
Fraser Range	Has been identified as a site that will deliver a significant quantity of new dwellings, a new sea wall flood defence and a new, extended coastal path which secures access around the coast of Portsea Island.	Located in an area of distinct character on the water's edge at the southeastern point of Portsea Island.	• New Sea Wall and Flood Defence Works including Attenuation Ponds • Main Road and access infrastructure • 40 residential dwellings and landscaping (0-5 years) • 94 residential dwellings and landscaping (6-10 years)
The News Centre	Intended to serve as a gateway location to Portsea Island, with commercial uses and a	Situated on a prominent junction of the A3 and London Road (A2047) in Hilsea and in very close proximity to the M27	• Transport - electric bus depot • 100 dwellings (net)

Site	Vision	Location	Figures/Transport Links
	sustainable transport hub.	and Portsbridge roundabout.	
Somers Orchard	Will deliver significant amounts of good quality social and private rented housing in a way that integrates with and is a positive addition to the existing community.	Located in the western part of the Somerstown area of the City.	• 566 dwellings

3.3.2 It is noted that reference has been made to the Sustainable Transport Hub at Tipner Park and Ride, however the Local Plan modelling has been tested without this intervention given funding constraints of delivery as well as limited detail on bus routing available at the time of modelling. Consequently, to form a robust assessment no specific modal shift associated with this measure has been factored into the transport modelling.

3.3.3 Overall, this chapter highlights the level of development associated with the Local Plan, through strategic sites and site allocations. This level of targeted growth has been assessed further on in this report, in relation to impact on the transport network.

4. STRATEGIC MODELLING METHODOLOGY AND RESULTS

4.1 Model Assumptions

4.1.1 This STAA uses the Solent Sub Regional Transport Model (SRTM) to assess the traffic growth associated with the proposed developments for the Local Plan.

4.1.2 There has been no significant change to the modelling assumptions applied as part of the STAA modelling assessment update and therefore the assumptions agreed with PCC and National Highways during the Full Strategic Transport Assessment remain valid and are documented within Appendix B of the February 2025 Strategic Transport Assessment. The only adjustment relates to parking availability for three city centre zones. Given large scale planning applications received for the City Centre, the city centre SRTM zones of 930, 931 and 932 have had a refinement to parking availability to denote a ratio of 0.3 spaces per unit for both the Do Minimum and Do Something model run. This lower level of car availability for the city centre zones was achieved by adjusting the population input by increasing the no car proportions and reducing the part car and full car population options accordingly. This approach better captures the high density, low car ownership developments being planned for the city centre with the reference to low car ratios reflected in the associated Local Plan policy.

4.1.3 As part of the 2041 Do Minimum update a review of the committed infrastructure schemes was undertaken to assess whether any additional infrastructure should be factored in the strategic modelling or subsequent local junction modelling. It is noted that the additional highway schemes identified included MOVA (Microprocessor Optimised Vehicle Actuation) signal control, cycle route upgrade, widening of a bus lane andaddition of a zebra crossing. It was agreed with PCC Highways that the schemes would not have an impact on the strategic modelling and the overall vehicle re-routing or mode choice. The schemes were acknowledged however no adjustments to the highway network were required.

4.1.4 Regarding committed developments it was agreed with PCC to review the committed schemes which provided over 100 dwellings and it was confirmed that all of these sites were already captured in the modelling as either completions, permissions or HELAA sites where relevant. For employment sites those which were not captured in the 2023 Do Minimum modelling have been considered and the Transport Assessment reviewed to understand the additional trips forecast through Category 1 junction hotspots from these sites. A threshold for a manual uplift of traffic flow matrices in the local junction models was agreed at 20 vehicle trips on any given arm however none of the sites trip generation routing via the category one junctions exceeded these thresholds and therefore were not required to be considered further.

4.1.5 The layout of the City Centre Scheme has been updated since the February 2025 Strategic Transport Assessment to include vehicle access via Cascades Approach as a result of scheme refinements during the Strategic Outline Business Case scheme. Additionally, in light of planning applications received for the City Centre scheme a constrained parking ratio has been introduced to denote a ratio of 0.3 spaces per unit for both the Do Minimum and Do Something model run. This lower level of car availability for the city centre zones (930, 931, 932) was achieved by adjusting the population input by increasing the no car proportions and

reducing the part car and full car population options accordingly. The full scheme is shown below in **Figure 10**.

4.2 SRTM Model Scenarios

4.2.1 The following SRTM model scenario has been re-run in the development of this STAA for both the AM (07:00-10:00) and PM (16:00-19:00) network peaks. It is noted that 2041 is the closest scenario year available in the SRTM to align with the 2040 Local Plan period. For Portsmouth, only growth up to 2040 will be included. The Scenario numbering aligns with that presented in the Strategic Transport Assessment dated February 2025, with Scenario 3 and 4 below being re-run as a result of the revised allocations and to test if any of the impacts have changed associated with the proposed mitigation identified in the Strategic Transport Assessment including the City Centre Road scheme. The local junction model assessments in chapter 5 and strategic assessment in chapter 6 test and confirm that the mitigation remains appropriate.

- **Scenario 1: 2019 Base -** Current SRTM Base Model
- **Scenario 2: 2041 Baseline -** No Local Plan development within Portsmouth except for committed sites
- **Scenario 3: 2041 Do Minimum -** Full Local Plan development without transport mitigation
- **Scenario 4: 2041 Do Something -** Full Local Plan development with transport mitigation

4.3 SRTM Results

4.3.1 The series of figures below show data plots highlighting how delivery of the strategic sites/site allocations are expected to affect the operation of the existing highway network, extracted based on SRTM model results.

4.3.2 Flow difference plots between the Baseline (2041) and Do Minimum (2041) scenarios comprise the following:

- Link Flows – presents the additional traffic flows in Passenger Car Units (PCU) along each link of the network (increase of 50 vehicles or more presented).
- Additional Delay incurred along each link of the network (seconds) (increase of 10 seconds or more presented).

4.3.3 By examining this data it is possible to identify both how traffic patterns are expected to change generally as a result of the presence of additional development traffic, and where these diversion effects on both “new” and existing traffic have the potential to lead to issues with congestion, or to increase traffic flows in locations where it would be preferable to constrain such growth (such as for the purposes of encouraging more non-motorised travel). The pink lines on the plots represent increases and the blue lines represent decreases.

4.3.4 Absolute plots for the Do Minimum (2041) scenario comprising the following:

- Volume/Capacity Ratio – shows the absolute V/C ratio for links >50 (capacity on each link).

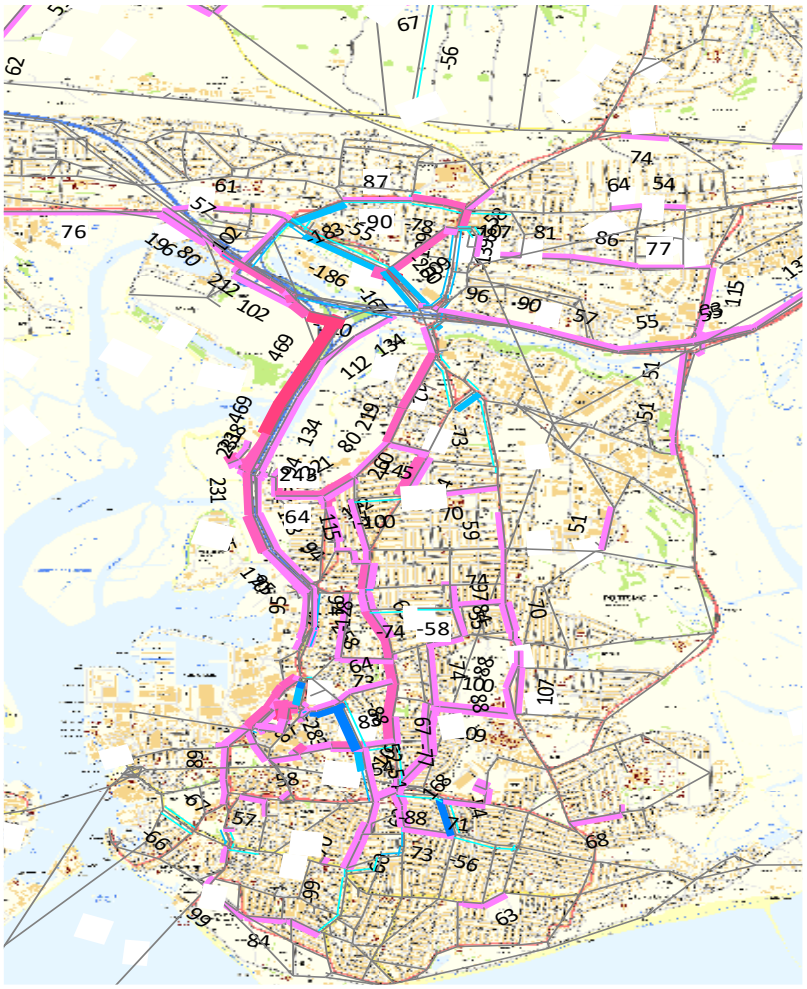
4.3.5 A full set of the plots from these exercises (at full page size) are included at **Appendix B**.

4.3.6 It is noted that throughout the SRTM exercise it is demonstrated there is relatively little change between the updated 2041 Do Minimum scenario and that produced with the previous February 2025 Strategic Transport Assessment. The quantum of change at key junctions is indicated and analysed in the following section.

4.4 AM Peak Data Plots

Link Flow Difference Plot

Figure 2. AM Peak Link Flow Difference – 2041 Baseline vs 2041 Do Minimum



4.4.1 Figure 2 identifies the following:

- Three key flow entries/exits to and from the Portsmouth network:
  - 1) M275 towards Tipner in the west section of network
  - 2) A3 via Hilsea towards City Centre
  - 3) A2030 towards eastern zones
- Large increase in flow on the M275 corridor northbound to the M27 – 434 additional westbound and 35 additional eastbound flows via slip roads.

- Net reduction of trips at Portsbridge Roundabout/ on A27, likely due to the congestion at the Lakeside access and therefore vehicles using the M275 and A2030 as alternatives. Additional trips are observed at the A2030 Eastern Road/Havant Bypass junction including 55 additional trips from the eastbound off-slip and a reduction of 10 trips from the westbound off-slip. There are 35 additional trips to the westbound on-slip and 83 additional trips to the eastbound on-slip.
- There is an increase in flows using the M275 (469 travelling northbound), largely due to the Tipner West strategic site accessed from M275 J1 as well as trips routing via the M275 from the City Centre.
- Up to 214 additional trips on the A3 Northern Parade northbound. This is likely associated with traffic from the City Centre strategic site.
- Elements of re-routing and a net reduction of trips within the City Centre, assumed due to congestion associated with an increase in trips from the City Centre development.

Delay Difference Plot

Figure 3. AM Peak Delay Difference – 2041 Baseline vs 2041 Do Minimum

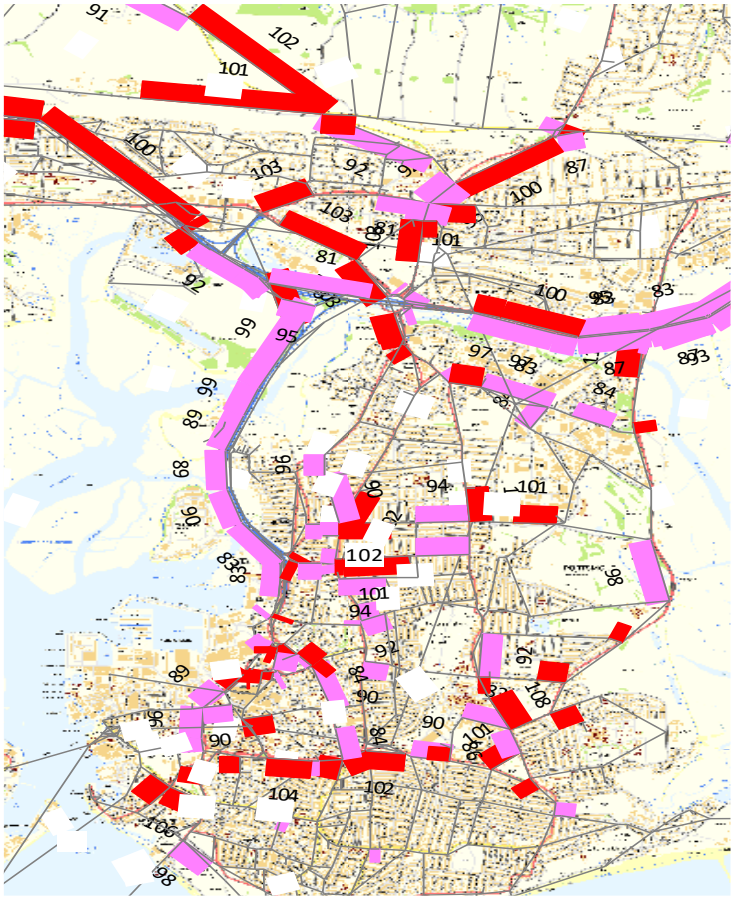
4.4.2 Figure 3 identifies the following:

- Increased delay on Lakeside roundabout (111 seconds), which is resulting in re-routing away from Portsbridge roundabout, due to increased congestion on the A27 Western Road southbound to Lakeside roundabout (50 seconds).

- Minimal delay impacts on the M275, despite increases in flows.
- Increased delay at the A2030 Eastern Road/Havant Bypass junction (48 seconds) due to increased flows.
- Increase in delays in the City Centre area, such as 103 seconds along Marketway northbound. 126 second delay noted near Portsmouth and Southsea station due to this junction being committed to be upgraded to a signalised junction (coded in the 2041 Do Minimum) resulting in delays upon approach to the stop line, compared to the current give way arrangement and additional trips from the City Centre strategic site.

V/C Absolute Plot

Figure 4. AM Peak V/C Absolute Plot – 2041 Do Minimum



4.4.3 Figure 4 identifies the following:

- There is no material change in V/C along the SRN mainline between the 2041 Baseline and 2041 Do Minimum scenario (M27 V/C increases from 99 to 100).
- High levels of V/C are observed on approach to the Lakeside access roundabout, from both the northbound and southbound directions of A27 Western Road.
- The V/C on the M275 increases by 2 to 68 for vehicles travelling southbound in the 2041 Do Minimum scenario, with it being 92 in the 2041 Baseline scenario. This results in a V/C increase of 7 however the SRN is still operating within capacity. The increase in V/C using

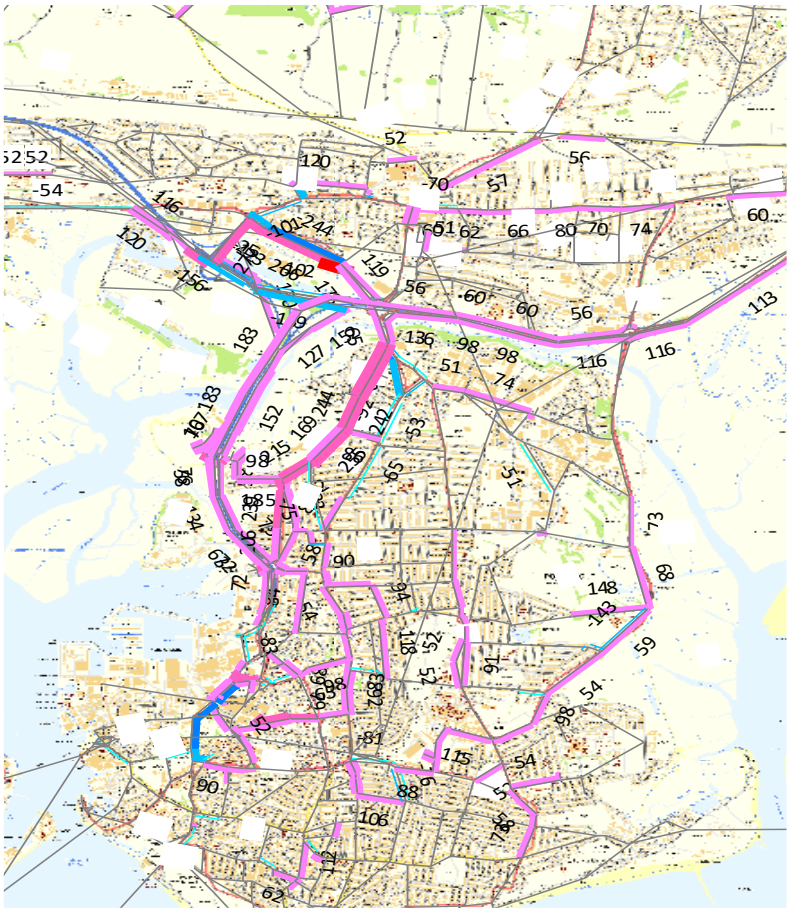
the A2030 Eastern Road southbound is only 1 between the 2041 Baseline and Do Minimum.

- Several junctions around/in the City Centre are forecast to operate over capacity due to increased flows from City Centre strategic site.

4.5 PM Peak Data Plots

Link Flow Difference Plot

Figure 5. PM Peak Link Flow Difference – 2041 Baseline vs 2041 Do Minimum



4.5.1 Figure 5 identifies the following:

- As per the AM peak, three key flow entries/exits are identified to and from the Portsmouth network:
  - 1) M275 towards Tipner in the west section of network
  - 2) A3 via Hilsea towards City Centre
  - 3) A2030 towards eastern zones
- Increase in flow on the M275 corridor to the M27 – 4 additional westbound and 179 additional eastbound flows via slip roads.
- Additional trips observed at the A2030 Eastern Road/Havant Bypass junction including 56 additional trips from the eastbound off-slip and 2 fewer trips from the westbound off-slip. There are 18 fewer trips to the westbound on-slip an increase of 16 trips to the eastbound on-slip.
- Additional trips on the A3 towards the City Centre – 128 additional trips southbound and 65 additional trips northbound. This is partly associated with traffic to and from the City Centre strategic site.

- Some minor re-routing of vehicles is observed within the City Centre, likely due to congestion associated with the trips from the City Centre strategic site.

Delay Difference Plot

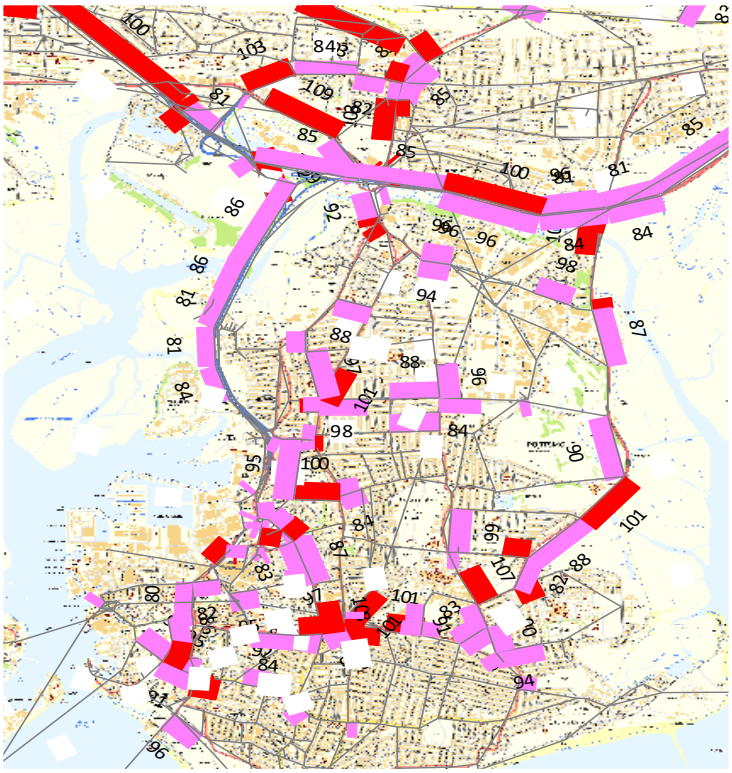
Figure 6. PM Peak Delay Difference – 2041 Baseline vs 2041 Do Minimum

4.5.2 Figure 6 identifies the following:

- Increased delay on Lakeside roundabout (113 seconds), which is resulting in re-routing away from Portsbridge roundabout due to vehicles avoiding congestion incurred along A27 Western Road. This is due to the committed growth of the business park resulting in more trips entering and exiting via a single point of access to the strategic site.
- Minimal delay impacts on the M275, despite increases in flows.
- Minor increase in delay at the A2030 Eastern Road northbound arm on approach to the Eastern Rd/Havant Bypass roundabout due to increased flows (27 seconds).
- Minimal increased delays in the City Centre due to City Centre strategic site.
- High delay observed at Kings Road Roundabout (461 seconds).

V/C Absolute Plot

Figure 7. PM Peak V/C Absolute Plot – 2041 Do Minimum



4.5.3 Figure 7 identifies the following:

- There is no material change in V/C along the SRN mainline between the 2041 Baseline and 2014 Do Minimum scenario.
- The V/C approaching Lakeside roundabout on the A27 Western Road southbound is 109. This is attributed to the increase in flows associated with the Lakeside strategic site, and also linked to the congestion and delay observed on this link. In the 2041 Baseline, this link is operating at a 103 V/C and therefore there is an increase in V/C of 6.
- The M27 is reaching 100 V/C eastbound, however this was already operating at 99 in the 2041 Baseline. Therefore, an increase of 1 is considered negligible.
- The increase in V/C using the A2030 Eastern Road southbound (south of roundabout) is only 1 between the 2041 Baseline and Do Minimum.
- Several junctions around/in the City Centre are forecast to operate over capacity due to increased flows from City Centre strategic site.

4.6 SRTM Results Summary

4.6.1 This section has considered the impact of the Local Plan growth on the operation of the highway network, considering vehicle flow changes, delay differences and resultant changes in V/C at junctions and key links. Notable findings from the modelling review include:

- Lakeside Access – elements of rerouting in this area due to congestion caused by the Lakeside strategic site with significant growth in vehicle trips seeking to use a single point of access to/from the site. This is a particular issue in the PM peak;

- Portsbridge roundabout – elements of rerouting and delay at this roundabout due to the increased flow and congestion from the Lakeside roundabout. Vehicles are observed using alternative routes such as the M275 to enter the City Centre, due to the congestion at Portsbridge.

4.6.2 The next chapter of the STAA provides detail on the impact assessment for the Localised Junction Modelling of key areas of congestion, as identified from the SRTM modelling results and plots above.

5. LOCAL JUNCTION MODELLING METHODOLOGY AND IMPACT ASSESSMENT

5.1 Overview

5.1.1 The following section builds upon the February 2025 Strategic Transport Assessment, presenting the local junction model results using the updated 2041 Do Minimum scenario flows. This section also presents the flow difference between the updated 2041 Do Minimum and the 2041 Baseline scenario, to understand flow change associated with Local Plan developments and analyses the impacts to be seen on the Portsmouth region at a local junction level.

5.1.2 This considers the 17 category 1 junctions as previously presented in the Transport Assessment as part of the Local Plan at the Pre-Submission Consultation stage. Full model output reports for the Category 1 junction assessments can be made available upon request.

5.1.3 Where relevant, junction mitigation drawings are provided in **Appendix C**.

5.2 Methodology

5.2.1 It is noted that there has been no change to the methodology applied for the local junction modelling, with the category 1 location selection detailed within the February 2025 Strategic Transport Assessment. Priority-controlled (unsignalized) junctions have been modelling using Junctions 11 and LinSig v3 has been used for the signal controlled junctions and partially signalised junctions. The junction flows for each scenario have been ascertained from turning count output plots from the SRTM Model. The approach to local junction modelling validation and calibration remains as per the approach agreed with PCC and National Highways and detailed within the accompanying February 2025 Strategic Transport Assessment.

5.3 Junction 1 – Milton Road/Velder Avenue/Rodney Road/Alverstone Road

Junction Location

5.3.1 This junction is a five arm signalised crossroads comprising A288 Milton Road North/ A2030 Velder Avenue/ A288 Milton Road South/Alverstone Road and A2030 Rodney Road. The junction is within the residential area of Milton.

5.3.2 Velder Avenue has a two-lane left turning bypass to Milton Road South. Alverstone Road only provides access to Rodney Road through a left turning bypass, and does not directly provide entry to the crossroads. Rodney Road has one lane left turn bypass lane to Milton Road North. Signalised pedestrian crossings with tactile paving and dropped kerbs are present on all arms.

Flow Difference

5.3.3 The difference between the previous 2041 Baseline and the updated 2041 Do Minimum scenarios is indicated in **Table 7** below. For all flow difference tables in this STAA 'from' is shown vertically and 'to' is shown horizontally.

Table 7. J1 2041 DM - 2041 Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – Milton Rd N	Arm B Velder Ave	Arm C – Milton Rd S	Arm D – Rodney Rd	Arm A – Milton Rd N	Arm B Velder Ave	Arm C – Milton Rd S	Arm D – Rodney Rd
From	Arm A – Milton Rd N	0	0	-7	4	0	0	-14	21
	Arm B – Velder Ave	0	0	-25	0	0	0	-18	84
	Arm C – Milton Rd S	7	-6	0	8	7	-10	0	0
	Arm D – Rodney Rd	-1	5	0	0	-6	3	0	0

5.3.4 As indicated above, in the AM peak, there is a general reduction in the flow through the junction in the 2041 Do Minimum compared to the Baseline scenario. In the PM peak, there is a notable increase in the traffic flow, particularly in that directed to Arm D Rodney Road, of which there is an increase of 105 PCU between the scenarios.

Model Results

5.3.5 The model results for the junction are indicated below. It is noted in the previously submitted February 2025 Strategic Transport Assessment that a validation process was undertaken to align the baseline results from the local junction model more closely with the strategic model output results through an adjustment to saturation flow. The same validation adjustments have been used in this model run, as the 2019 Baseline flows/ results have not changed. These adjustments are as follows:

- Arm A Milton Road North: 2200 on both lanes AM and PM peaks;
- Arm B – Velder Avenue: 2200 on all three lanes AM and PM peaks;
- Arm C – Milton Road South: 2200 on both lanes AM and PM peaks; and
- Arm D – Rodney Road: 2200 on both lanes AM and PM peaks.

5.3.6 The Do Minimum results from the junction modelling are indicated in **Table 8** and the commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 8. J1 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	DoS	Delay (s)	Queue (PCU)	DoS	Delay (s)	Queue (PCU)
2019 Base						
Arm A - Milton Road N	121.5%	419.2	37.6	122.0%	419.8	45.5
Arm B - Velder Avenue	117.4%	366.3	32.5	102.0%	160.1	18.9
Arm C - Milton Road S	117.2%	337.1	61.7	117.0%	342.7	46.6
Arm D - Rodney Road	120.3	379.5	51.5	114.5%	293.6	53.3
2041 Baseline						
Arm A - Milton Road N	136.8%	591.1	52.3	130.9%	520.1	64.0
Arm B - Velder Avenue	100.2%	146.4	16.1	127.4%	477.2	58.1
Arm C - Milton Road S	140.0%	597.4	116.1	136.5%	566.9	79.3
Arm D - Rodney Road	136.2%	554.0	95.1	129.0%	465.4	98.6
2041 Do Minimum						
Arm A - Milton Road N	112.4%	318.6	32.2	111.90%	298.5	42.9

ARM	AM PEAK			PM PEAK		
	DoS	Delay (s)	Queue (PCU)	DoS	Delay (s)	Queue (PCU)
Arm B - Velder Avenue	72.9%	62.3	10.5	111.10%	279	46.7
Arm C - Milton Road S	106.4%	197.1	48.5	103.40%	170.2	31.8
Arm D - Rodney Road	107.00%	206.00	42.2	99.90%	101.3	29

5.3.7 As indicated above, the junction is operating over capacity in all scenarios including the 2019 Base. Some key points relating to the Do Minimum results are as follows:

- It is only the Velder Avenue arm in the AM peak which is within capacity with a DoS of 72.9%. Milton Road forecasts a DoS of 112%, with a delay of 318 seconds per PCU.
- In the PM peak, the highest DoS is seen along the Milton Road N arm, of 111.9%. This comes with significant delays of up to 298.5 seconds per PCU. All other arms within the PM peak are also seen to be overcapacity.

5.3.8 Whilst all but one of the arms are operating over capacity in the AM peak, upon comparison with the 2019 Baseline scenario, the 2041 Do Minimum suggests slight improvement to all arms of the junction, likely as a result of re-routing traffic. When comparing the 2041 Baseline and Do Minimum models, the results show a slight improvement associated with a minor flow reduction, likely due to the fact that the junction is already significantly over capacity with congestion observed. The conclusions outlined in the February 2025 report remain valid that the Local Plan development is not the primary cause of congestion through this junction, and from a capacity standpoint, the junction is already heavily engineered for optimum capacity. Any future approach to alleviating congestion at the junction will have to focus on non-physical interventions such as supporting mode shift to active travel.

5.4 Junction 2 – Portsbridge Roundabout

Junction Location

5.4.1 Portsbridge Roundabout is a four arm unsignalised roundabout comprising Northern Road (A397), the A27 (WB off slip roads only), London Road (A3) and Western Road (A27). The junction is a major gateway to Portsmouth, providing direct access to one of only three vehicle routes onto Portsea Island.

5.4.2 A separate bus only arm connects to the roundabout directly adjacent to the Northern Road (A397) entry. Bus lanes are provided on the east, south-east and south-west sections of

roundabout circulatory. Segregated bypass lanes are present for the Western Road to Northern Road and A27 westbound off slip to London Road movements. In addition, a segregated bus-only lane enables buses to bypass the London Road give-way roundabout entry and join the roundabout circulatory 100m further to the north-west. It is noted that this junction is located on one of the major bus routes into and out of the city.

5.4.3 No pedestrian crossing points are located at this junction. An off-road shared use path making use of a series of grade-separated underpasses provide pedestrians and cyclists with a means of passing through the junction.

Flow Difference

5.4.4 The difference in flow between the updated 2041 Do Minimum scenario and 2041 Baseline are indicated in **Table 9** below.

Table 9. J2 2041 DM - 2041 Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – Northern Road A397 (N)	Arm B – A27 Wbound Offslip	Arm C – London Road A3	Arm D – Western Road A27 N	Arm A – Northern Road A397 (N)	Arm B – A27 Wbound Offslip	Arm C – London Road A3	Arm D – Western Road A27 N
From	Arm A – Northern Road A397 (N)	-4	-99	10	-53	0	-5	-21	-13
	Arm B – A27 Wbound Offslip	-82	0	3	-6	-29	0	91	37
	Arm C – London Road A3	44	200	0	-159	-42	-66	1	115
	Arm D – Western Road A27 N	-130	-29	-136	0	-9	47	-17	0

5.4.5 As indicated above, the difference between the Do Minimum scenario is noted to be significantly lower in the AM peak, with a total reduction of 441 PCU in the Do Minimum scenario. In the PM peak, there is an increase of 89 PCU across the junction.

5.4.6 The most significant change is seen along the Western Road A27 N arm in the AM peak, at which there is a decrease of 218 PCU outbound vehicles.

Model Results

5.4.7 In line with the February 2025 Strategic Transport Assessment, the following adjustments have been made to the percentage capacity adjustments applied in the junction model in order to validate the Baseline data:

- Arm A – Northern Road A397 N: 85%;
- Arm B – A27 WB Offslip: 150%;
- Arm D – Western Road A27 N: 160%

5.4.8 The Do Minimum results from the junction modelling is indicated in the table and commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 10. J2 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	RFC	Delay (s)	Queue (PCU)	RFC	Delay (s)	Queue (PCU)
2019 Base						
Arm A – Northern Road A397 (N)	0.96	42.60	17.6	0.96	39.47	17.9
Arm B – A27 Wbound Offslip	0.99	59.88	25.4	1.00	61.46	26.6
Arm C – London Road A3	0.82	9.20	5.1	0.73	5.67	3.0
Arm D – Western Road A27 N	1.07	132.18	52.4	1.33	519.68	225.4
2041 Baseline						

ARM	AM PEAK			PM PEAK		
	RFC	Delay (s)	Queue (PCU)	RFC	Delay (s)	Queue (PCU)
Arm A – Northern Road A397 (N)	0.95	36.81	15.3	0.91	23.81	10.1
Arm B – A27 Wbound Offslip	1.09	146.00	75.7	1.21	338.97	153.9
Arm C – London Road A3	0.88	12.91	7.7	0.75	5.64	3.3
Arm D – Western Road A27 N	1.16	240.90	97.9	1.51	989.34	431.5
2041 Do Minimum						
Arm A – Northern Road A397 (N)	0.9	21.85	8.2	0.89	18.31	7.7
Arm B – A27 Wbound Offslip	0.97	47.20	19.8	1.28	479.91	207.0
Arm C – London Road A3	0.89	13.79	8.5	0.74	5.15	3.0
Arm D – Western Road A27 N	0.99	74.89	20.6	1.41	775.14	359.6

5.4.9 As indicated above within the Do Minimum scenario:

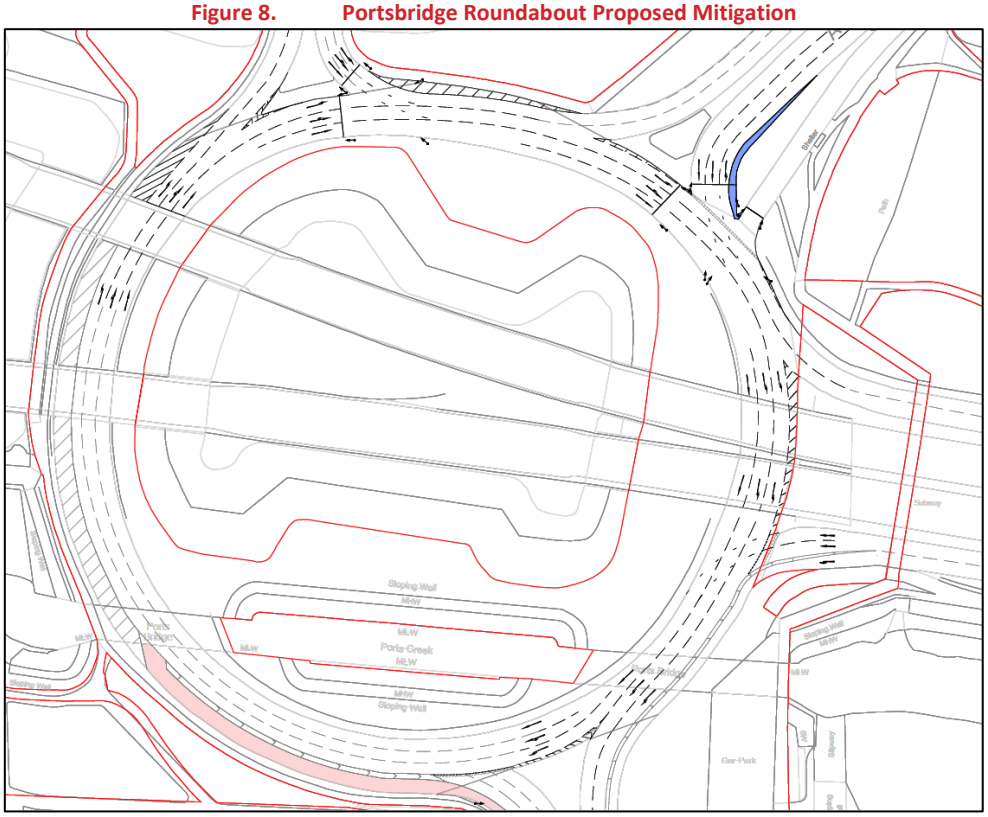
- The junction is within theoretical capacity throughout the AM peak, however all arms are approaching capacity, with a minimum RFC of 0.89 along the London Road A3 arm;
- The highest RFC in the AM peak is seen along the Western Road A27 N arm, along which the AM peak there is an RFC of 0.99, and associated queues of 20.6 PCU and delays of 74.89 seconds;
- In the PM peak, the A27 WB Offslip and the Western Road A27 N arms are both overcapacity, with RFCs of 1.28 and 1.41 respectively; and
- Significant queuing and delay times are associated with this, with the highest queues of 359.6 PCU and delays of 775.14 seconds along the Western Road A27 N arm.

5.4.10 It is evident that the 2041 Do Minimum scenario leads to a significant increase in congestion from the 2019 Base scenario however it is noted that this congestion is also experienced in the 2041 Baseline scenario without Local Plan development. Due to the capacity constraints, it is recommended that mitigation is considered surrounding the Portsbridge Roundabout. The proposed mitigations are as follows and remain as per the mitigation proposed within the February 2025 Strategic Transport Assessment:

- Signalisation of A397 Northern Road arm, bus gate and opposing circulatory;
- Signalisation of Western Road arm and opposing circulatory;
- Removal of the left turn slip from A27 Western Road to help provide additional internal circulatory capacity;
- Creates enough gaps for A27 Westbound off -slip to not be congested;
- A 45 second cycle time in model; and
- Bus gate is called every other cycle.

5.4.11 The proposed junction mitigation and the model results are indicated in **Figure 8** and **Table 11** below.

Figure 8. Portsbridge Roundabout Proposed Mitigation



5.4.12 The 2041 Do Minimum flows have been used to assess the proposed mitigation.

Table 11. J2 Proposed Mitigation Model Results – Do Minimum Flows

ARM	AM PEAK			PM PEAK		
	DoS	Delay (s)	Queue (PCU)	DoS	Delay (s)	Queue (PCU)
Arm A – Northern Road A397 (N)	75.4%	20.0	7.0	95.5%	45.7	15.4
Arm B – A27 Wbound Offslip	56.7%	3.3	3.6	56.1%	5.2	3.1
Arm C – London Road A3	70.1%	1.2	3.1	74.9%	3.7	1.5
Arm D – Western	76.2%	6.4	26.9	99.0%	73.5	19.9

ARM	AM PEAK			PM PEAK		
	DoS	Delay (s)	Queue (PCU)	DoS	Delay (s)	Queue (PCU)
Road A27 N						

5.4.13 As indicated from the results above, the proposed mitigation measures at Portsbridge Roundabout significantly improve the junction performance from a capacity perspective. The highest DoS is seen along Arm D Western Road A27 N in the PM peak of 99.0%. Whilst relatively high queues and delays are forecast along this arm, with a delay of 73.5 seconds, and queues of 19.9 PCU however this remains within the available stacking capacity for the arm and significantly improves the overall junction performance compared to the existing layout.

5.4.14 To further assess the requirement for the mitigation and which point it might be required to be brought forward within the Local Plan years, **Chapter 6** of this Addendum provides testing of the development trajectory within a Trigger Point Assessment. This provides further modelling with the various levels of development traffic reaching the Portsbridge Roundabout at the 2030 and 2035 years.

5.5 Junction 3 – Spur Road Roundabout

Junction Location

5.5.1 Spur Road Roundabout is a four arm unsignalised roundabout located to the north of the city, comprising the A3 Northern Road, Spur Road, A397 Northern Road and A3 Southampton Road. The junction is formed of a three-lane circulatory, alongside three entry lanes associated with each arm.

5.5.2 There are zebra crossings located on the A3 Northern Road arm and the Spur Road arm. An on-road cycle lane is located on the Southampton Road arm for westbound traffic. A series of underpasses are present at this junction for pedestrians and cyclists to travel across the junction.

Flow Difference

5.5.3 The difference in flow between the 2041 Do Minimum and Baseline is indicated in **Table 12** below.

Table 12. J3 2041 DM - 2041 Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – A3 Northern Road	Arm B – Spur Road Offslip	Arm C – A397 Northern Road	Arm D – A3 Southampton Road A27 N	Arm A – A3 Northern Road	Arm B – Spur Road Offslip	Arm C – A397 Northern Road	Arm D – A3 Southampton Road A27 N
From	Arm A – A3 Northern Road	0	-17	88	-45	0	-18	40	-13
	Arm B – Spur Road	-38	0	-23	-33	6	0	34	7
	Arm C – A397 Northern Road	8	-36	0	-54	14	15	0	-9
	Arm D – A3 Southampton Road	-17	-16	-45	0	-87	-82	90	0

5.5.4 As indicated above, both AM and PM peaks indicate a reduction in the total PCU traffic through the junction. This is more significant in the AM peak, with a reduction of 228 PCU, compared to the PM peak with a reduction of 3 PCU. Certain arms do result in an increase in PCUs, such as 88 PCUs in the AM peak from A3 Northern Road to A397 Northern Road and a 90 PCU increase in the PM peak from A3 Southampton Road to A397 Northern Road.

5.5.5 In both AM and PM peaks, there is an increase in traffic directed to Arm C London Road (+20 PCU in the AM peak and +164 PCU in the PM peak), however this is outweighed by the reduction in vehicles across the other arms of the junction.

Model Results

5.5.6 The local junction model has been validated in line with the February 2025 Strategic Transport Assessment in order to align with the available SRTM queue data. The percentage capacity adjustments made is as follows:

- Arm D – A3 Southampton Road: 130% capacity

5.5.7 The Do Minimum results from the junction modelling is indicated in the table and commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 13. J3 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	RFC	Delay (s)	Queue (PCU)	RFC	Delay (s)	Queue (PCU)
2019 Base						
Arm A – A3 Northern Road	0.72	8.35	2.9	0.66	7.85	2.1
Arm B – Spur Road	0.57	7.09	1.5	0.37	4.12	0.7
Arm C – A397 Northern Road	0.62	5.56	1.9	0.58	4.19	1.6
Arm D – A3 Southampton Rd	0.41	2.59	0.8	0.69	5.24	2.4
2041 Baseline						
Arm A – A3 Northern Road	0.93	31.64	11.5	0.80	14.23	4.2
Arm B – Spur Road	0.84	23.09	5.4	0.52	5.31	1.2
Arm C – A397 Northern Road	0.81	11.66	4.7	0.67	5.90	2.3
Arm D – A3 Southampton Rd	0.61	4.27	1.8	0.74	7.18	3.1
2041 Do Minimum						
Arm A – A3 Northern Road	0.9	22.53	8.4	0.82	14.98	4.5
Arm B – Spur Road	0.75	14.61	3.1	0.60	6.63	1.5

ARM	AM PEAK			PM PEAK		
	RFC	Delay (s)	Queue (PCU)	RFC	Delay (s)	Queue (PCU)
Arm C – A397 Northern Road	0.72	7.02	2.7	0.68	5.60	2.3
Arm D – A3 Southampton Rd	0.56	3.54	1.4	0.71	6.52	2.7

5.5.8 As indicated above, in the Do Minimum scenario the junction operates within capacity along all arms:

- In the AM peak, the A3 Northern Road is the closest to capacity, with an RFC of 0.9. The associated delays with this is 22.53 seconds.
- In the PM peak, the A3 Northern Road arm has an RFC of 0.82; with an associated delay of 14.98 seconds and queues of 4.5 PCU.

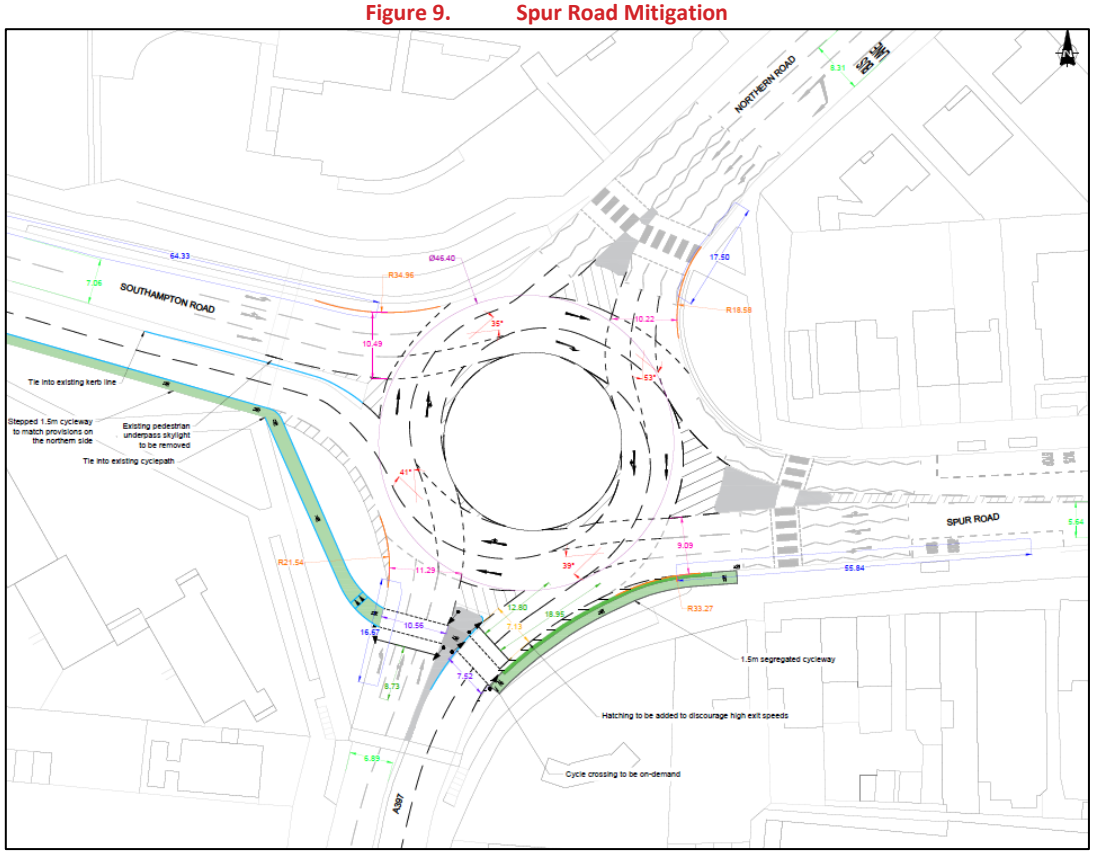
5.5.9 Whilst this provides no indication as to the requirement for mitigation from a congestion standpoint; due to the number of collisions which have occurred surrounding the junction in previous years, particularly involving cyclists, mitigations providing more active travel provisions has been considered. In its existing layout, due to PCC concerns surrounding safety at the junction (17 incidents in the last three years, including three serious incidents), it was deemed appropriate to design and test with additional safety mitigations introduced.

5.5.10 The proposed mitigation scheme is as follows:

- Circulatory reduced to two lanes (with hatching), with-flow cycle lane added to Spur Road (segregated) and Southampton Road cycle track improved to be segregated (stepped track), with a cycle crossing on A397 Northern Road arm;
- 200 pedestrians per hour assumed on each of the Northern Road and Spur Road zebra crossings; and
- Additionally, it is recommended to improve the lighting levels in the pedestrian underpasses, to attract more pedestrians and increase perception of safety.

5.5.11 The initial junction scheme is indicated in **Figure 9** below.

Figure 9. Spur Road Mitigation



5.5.12 The mitigation for the junction has been modelled within the Junctions 11 modelling programme. The results are indicated in **Table 14** below.

Table 14. J3 Mitigation Model Results

ARM	AM PEAK			PM PEAK		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
Arm A – Northern Road	0.79	4.0	10.21	0.69	2.3	7.41
Arm B – Spur Road	0.74	3.1	14.54	0.59	1.5	6.34
Arm C – A397 Northern Road	0.71	2.6	6.70	0.67	2.1	5.33
Arm D – A3 Southampton Road	0.48	1.0	2.56	0.59	1.6	3.79

5.5.13 As indicated above, with the proposed safety measures, the junction continues to operate within capacity, with the highest RFC seen along the Arm A Northern Road in the AM peak, of 0.79. This comes with an associated queue length of 4.0 PCU, and delay time of 10.21 seconds.

5.5.14 In the PM peak, the highest RFC is also seen along the Northern Road arm, with an RFC of 0.69, queue lengths of 2.3 PCU, and associated delays of 7.41 seconds.

5.5.15 As such, the proposed safety measures are not to act to the detriment of the wider operation of the junction and look to address the safety concerns, improving the layout for active modes and having better lane allocation within the circulatory for vehicles.

5.6 Junction 4 - Church Street Roundabout

Junction Location

5.6.1 Church Street roundabout is a four arm partially signalised roundabout comprising A3 Mile End Road, Church Street, A3 Commercial Road and Hope Street. The junction links to the M275 which terminates a short distance north of the junction, as well as both the Marketway and Hope Street roundabouts to the south.

5.6.2 The Hope Street arm is formed of three lanes, two of which are dedicated to the northbound ahead movement which effectively bypass the roundabout, as well as a right turn lane providing access to the circulatory. All of these lanes are signalised, with a signalised crossing provided across this arm in proximity to the roundabout entry. A3 Mile End Road is comprised of four entry lanes to the roundabout including one bus only onto the roundabout whilst still providing for the left turn to Church Street, Commercial Road is comprised of three entry lanes, whilst Church Street is comprised of two entry lanes.

5.6.3 A bus lane is present on the far side lane, to the east of the circulatory extending from the A3 Mile End Road to the Commercial Road arm.

5.6.4 A segregated cycle lane is present along the Commercial Road connecting to the toucan crossing on Hope Street. Another toucan crossing is present on Church Street leading to a shared footway/cycleway to the north of Church Street.

Flow Differences

5.6.5 The difference in flow between the 2041 Do Minimum and Baseline is indicated in **Table 15** below.

Table 15. J4 2041 DM – 2041 Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – Hope Street	Arm B – A3	Arm C – Church Street	Arm D – Commercial Road	Arm A – Hope Street	Arm B – A3	Arm C – Church Street	Arm D – Commercial Road
From	Arm A – Hope Street	0	214	10	-1	0	-11	-11	-10
	Arm B – A3	0	-22	-227	-260	0	-14	-178	-297
	Arm C – Church Street	0	-9	0	-1	0	40	0	-32
	Arm D – Commercial Road	0	-190	0	0	0	-70	0	0

5.6.6 As indicated above, there is a significant reduction in both the AM and PM peak Do Minimum scenarios for the Church Street Roundabout. This is a reduction of 486 PCU in the AM and 583 PCU in the PM peak.

5.6.7 The most significant reduction is seen along the A3 arm SB, in which there is a reduction of 509 PCU in the AM peak and 489 PCU in the PM peak.

Junction Modelling

5.6.8 The Do Minimum results from the junction modelling is indicated in the table and commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 16. J4 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	DoS	Queue	Delay	DoS	Queue	Delay
2019 Base						
Arm A – Hope Street	55.9%	11.4	16.7	63.6%	13.4	18.5

ARM	AM PEAK			PM PEAK		
	DoS	Queue	Delay	DoS	Queue	Delay
Arm B – A3	87.0%	27.2	24.4	79.7%	20.6	19.1
Arm C – Church Street	86.8%	9.0	58.5	79.4%	6.6	54.7
Arm D – Commercial Road	32.6%	0.6	2.1	36.1%	0.7	1.8
2041 Baseline						
Arm A – Hope Street	88.0%	34.8	34.4	92.0%	30.9	33.5
Arm B – A3	100.7%	57.3	88.4	104.1%	65.7	125.2
Arm C – Church Street	100.3%	32.8	115.8	100.3%	21.9	113.0
Arm D – Commercial Road	40.9%	0.8	2.5	44.2%	1.4	2.3
2041 Do Minimum						
Arm A – Hope Street	94.9%	47.9	41.2	90.8%	30.3	30.4
Arm B – A3	102.1%	63.8	103.7	115.6%	126.8	300.2
Arm C – Church Street	103.2%	38.8	150.2	101.3%	27.2	121.7
Arm D – Commercial Road	30.5%	0.7	1.7	33.5%	0.9	2.1

5.6.9 As indicated above, in the DM scenario:

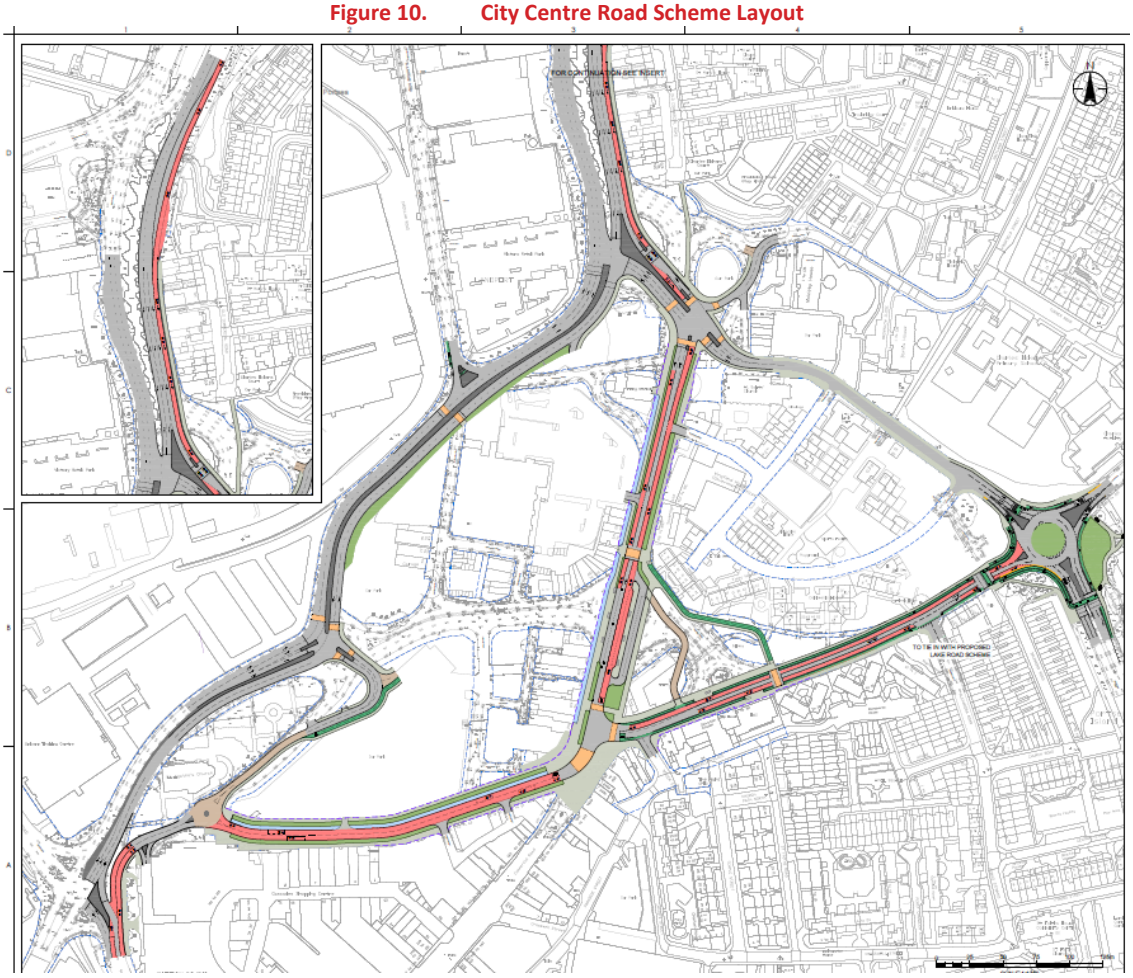
- Arms A, B and C are approaching or exceeding capacity. In the AM peak, the highest DoS level is seen along the Church Street arm, of 103.2%. This comes with an associated queue of 38.8 PCU, and delays of 150.2 seconds.
- In the PM peak, the A3 North arm sees the highest level of DoS, of 115.6%, with delays of 300.2 seconds and queues of 126.8 PCU.

5.6.10 Whilst the DM scenario leads to some reduction in congestion compared to the 2019 Base, it is noted that the 2041 Do Minimum generally increased delays and queues relative to the 2041 Baseline at the junction. Arms A (Hope Street), B (A3) and C (Church Street) remain over practical capacity in both peaks in the Do Minimum, with DoS exceeding 80% and associated high delays and queues, while Arm D (Commercial Road) remains comfortably within capacity in both peaks.

Do Something Modelling

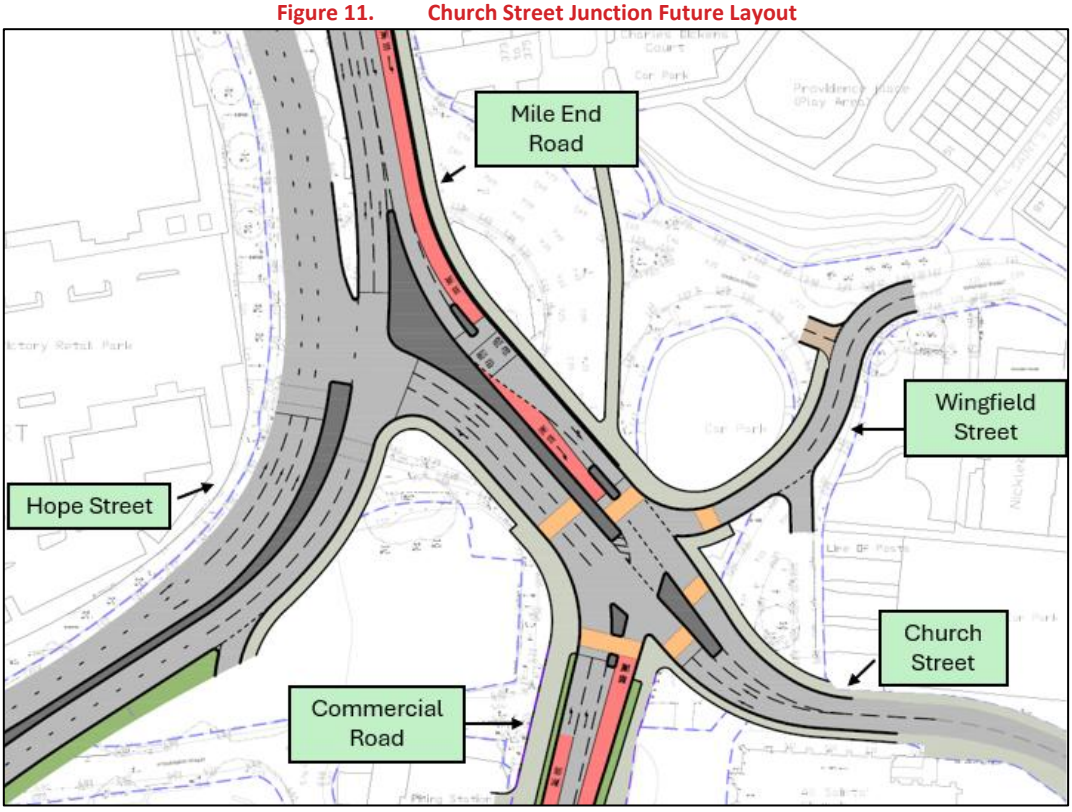
5.6.11 The layout of the City Centre Scheme has been updated since the February 2025 Strategic Transport Assessment to include vehicle access via Cascades Approach as a result of scheme refinements during the Strategic Outline Business Case scheme. Additionally, in light of planning applications received for the City Centre scheme a constrained parking ratio has been introduced to denote a ratio of 0.3 spaces per unit for both the Do Minimum and Do Something model run. This lower level of car availability for the city centre zones (930, 931, 932) was achieved by adjusting the population input by increasing the no car proportions and reducing the part car and full car population options accordingly. The full scheme is shown below in **Figure 10**.

Figure 10. City Centre Road Scheme Layout



5.6.12 The Church Street junction is considered as part of the wider City Centre road scheme, with the proposed scheme indicated in **Figure 11**. Local junction modelling has been undertaken with the Do Something flows and includes the proposed highway scheme adjustments associated with the City Centre road scheme.

Figure 11. Church Street Junction Future Layout



5.6.13 The mitigation has been modelled within the LinSig modelling software. The results are indicated in **Table 17** below.

Table 17. J4 Mitigation Modelling Results

	AM (08:00 – 09:00)			PM (17:00 – 18:00)		
Arm	**DoS (%)**	**Mean Max Queue (PCUS)**	**Delay (s/PCUS)**	**DoS (%)**	**Mean Max Queue (PCUS)**	**Delay (s/PCUS)**
2041 Do Something						
A – Mile End Road	77.4%	17.5	24.3	93.8%	29.6	41.2
B – Wingfield Street	0.0%	0	0	0.0%	0	0
C – Church Street	169.7%	393.9	826.9	199.9%	428.9	1007.6
D – Commercial Road	156.7%	83.6	770.4	64.1%%	5.8	42.2

	AM (08:00 – 09:00)			PM (17:00 – 18:00)		
E – Hope Street	108.5%	73.2	193.4	110.3%	105.1	216.2

5.6.14 In the Junction 4 2041 Do Something model, capacity pressures remain present in both peaks, with Church Street recording the highest DoS in the AM at 169.7% with large delays (826.9 s/PCU) and large queues (mean max 393.9 PCU), and in the PM at 199.9% with similar performance (1007.6 s/PCU delay; 428.9 PCU queues). In the AM, Commercial Road and Hope Street record being over capacity (156.7% and 108.5%, respectively) whereas Commercial Road remains under capacity in the PM peak at 64.1%. In the PM peak, Hope Street records being over capacity with, a DoS of 110.3% and Mile End Road is approaching capacity at 93.8%. It is noted that the allocation revisions since the February 2025 Transport Assessment alongside the updates to the City Centre Road scheme layout (with Cascades approach remaining open for vehicles) have reduced the DoS substantially along the Mile End Road and Commercial Road arms, however congestion issues remain along the Church Street and Hope Street arms, as well as Commercial Road in the AM, albeit buses would bypass this delay given the presence of a bus lane on Commercial Road.

5.6.15 It is noted that the new layout prioritises sustainable travel modes with bus only lanes and an improvement in cycling and pedestrian infrastructure. There is a slight level of reduction in flows within the City Centre road scheme boundary compared to the 2041 Do Minimum scenario, as a level of the person trips are opting for non-highway-based modes in the demand model due to the level of delay incurred, this is alongside a slight increase in the public transport mode share, suggesting that the City Centre Road scheme is contributing towards a level of modal shift as targeted within the Local Plan.

5.7 Junction 5 - London Road / Angerstein Road / Gladys Avenue / Stubbington Avenue

Junction Location

5.7.1 This junction comprises a five arm unsignalised roundabout, located in the North End area of the city. Angerstein Road is one way eastbound only, allowing entry into the junction. Gladys Avenue is single lane which widens on approach to the junction to include a left turning flare lane. London Road north, Stubbington Avenue and London Road south all have one entry lane present.

5.7.2 A bus lane is present on London Road north for southbound traffic and London Road south for southbound traffic. Cyclists share traffic with vehicles. Unsignalised pedestrian crossings with dropped kerbs and tactile paving are available on all arms of the junction.

Flow Difference

5.7.3 The difference in flow between the 2041 Do Minimum and Baseline is indicated in **Table 18** below.

Table 18. J5 2041 DM – 2041 Baseline Flow Difference

ARM		AM PEAK					PM PEAK				
		To									
		Arm A – Gladys Avenue	Arm B – A2047 London Road	Arm C – Stubbington Avenue Road	Arm D – London Road Road	Arm E – Angerstein Road	Arm A – Gladys Avenue	Arm B – A2047 London Road	Arm C – Stubbington Avenue Road	Arm D – London Road	Arm E – Angerstein Road
From	Arm A – Gladys Avenue	0	0	-3	-35	0	0	0	7	-29	0
	Arm B – A2047 London Road	0	0	-7	-10	0	0	0	-2	7	0
	Arm C – Stubbington Avenue	0	0	0	2	0	3	-2	0	-3	0
	Arm D – London Road	113	20	18	0	0	-91	66	-11	0	0
	Arm E – Angerstein Road	0	-27	-21	48	0	0	0	0	0	0

5.7.4 As indicated above, there is an increase in flow between the Baseline and DM scenarios in the AM peak of 98 PCU, and a decrease in flow of 55 PCU in the PM peak. The most significant change is seen along the London Road arm in the AM peak with an increase of 151 PCU in the Do Minimum scenario.

Model Results

5.7.5 In line with the February 2025 Strategic Transport Assessment, the following percentage capacity adjustments have been made to validate the local junction model in line with the strategic model data:

- Arm B – A2047 London Road: 90%;
- Arm C – Stubbington Avenue: 60%;
- Arm D – London Road: 85%; and
- Arm E – Angerstein Road: 60%.

5.7.6 The Do Minimum results from the junction modelling are indicated in **Table 19** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the Feb 2025 published Strategic Transport Assessment.

Table 19. J5 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	RFC	AV.DELAY	MMQ	RFC	AV. DELAY	MMQ
2019 Base						
Arm A – Gladys Avenue	0.58	10.76	1.4	0.53	9.67	1.2
Arm B – A2047 London Road	0.98	84.65	15.9	0.89	46.34	8.1
Arm C – – Stubbington Avenue	0.09	16.95	0.1	0.07	12.79	0.1
Arm D – London Road S	0.63	10.91	2.0	0.92	40.39	10.3
Arm E – Angerstein Road	0.78	47.11	3.3	0.00	0.00	0.0
2041 Baseline						
Arm A – Gladys Avenue	0.67	13.66	2.0	0.74	16.45	2.9
Arm B – A2047 London Road	0.95	70.83	11.7	0.94	71.14	11.4
Arm C – – Stubbington Avenue	0.10	17.87	0.2	0.10	13.83	0.1

ARM	AM PEAK			PM PEAK		
	RFC	AV.DELAY	MMQ	RFC	AV. DELAY	MMQ
Arm D – London Road S	0.67	11.37	2.2	0.94	48.37	12.7
Arm E – Angerstein Road	0.95	106.76	8.9	0.00	0.00	0.0
2041 Do Minimum						
Arm A – Gladys Avenue	0.62	11.96	1.6	0.74	16.84	2.8
Arm B – A2047 London Road	0.92	53.37	8.5	0.93	60.02	9.6
Arm C – Stubbington Avenue	0.1	17.54	0.2	0.09	13.27	0.1
Arm D – London Road S	0.82	19.93	4.7	0.91	33.87	8.5
Arm E – Angerstein Road	1.08	217.96	19.6	0	0	0

5.7.7 As indicated above, throughout the DM scenario:

- Arms A, C and D are all within capacity. Both London Road and Angerstein Road are above capacity with the highest level of congestion in the AM peak is seen along Arm E Angerstein Road of 1.08. This comes with associated queues of 19.6 PCU, and delays of 217.96 seconds, noting that this arm already experiences high delay in the 2041 baseline scenario with an RFC of 0.95.
- Similar results are indicated in the PM peak, with the highest RFC along the London Road arm of 0.93, with associated queues of 9.6 PCU and delays of 60.02 seconds.
- Whilst impacts are noted on Angerstein Road in the AM peak, the remaining impacts are relatively minor or where there are larger increases such as on Arm D in the AM peak (0.15 RFC increase from 2041 Baseline), the arm is still operating well within capacity. Additionally, Arm B is forecasting a minor improvement. It is noted that the flows along

Angerstein could be partially inflated in the strategic model due to other surrounding road network links not being reflected due to the strategic nature of the model. As such, it is not deemed that any mitigation measures are required to be considered.

5.7.8 It is further noted that PCC are developing plans for a scheme to mitigate an identified trend of collision clustering that has occurred at the junction. Given the scheme is not committed and is in design development stage it is not factored within the modelling but the scheme improves the possibility for bus priority and active travel journeys.

5.8 Junction 6 – Marketway Roundabout

Junction Location

5.8.1 Marketway Roundabout is a four arm partially signalised roundabout comprising the A3 Marketway, Commercial Road and Cornmill Street. It located in the City Centre and in close proximity to a number of other prominent junctions, including the Church Street and Hope Street roundabouts.

5.8.2 The Commercial Road north arm has three entry lanes, the Cornmill Street has two entry lanes, the Commercial Road south arm is bus only, with one entry lane and the A3 Marketway arm has one entry lane with a left turn flare. A bus lane is present on the far side lane, to the east of the carriageway extending from the A3 Mile End Road to the Commercial Road arm. No pedestrian or cycle crossings are present at this junction.

Flow Difference

5.8.3 The difference in flow between the 2041 Do Minimum and Baseline is indicated in the table below.

Table 20. J6 2041 DM – 2041 Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – A3 Eastbound	Arm B – Commercial Road N	Arm C – Cornmill Street	Arm D – Commercial Road	Arm A – Hope Street	Arm B – Commercial Road N	Arm C – Cornmill Street	Arm D – Commercial Road
From	Arm A – A3 Eastbound	23	243	32	0	16	110	84	0
	Arm B – Commercial Road N	-142	0	-29	0	-43	0	-206	0
	Arm C – Cornmill Street	213	-426	0	0	86	-157	0	0
	Arm D – Commercial Road S/Lake Road	0	0	0	0	0	0	0	0

5.8.4 As indicated above, the junction sees a reduction in both the AM and PM peaks, of 86 PCU in the AM peak and 110 PCU in the PM peak. This is due to the reduction in outbound traffic along Commercial Road N and Cornmill Street.

5.8.5 Whilst there is an overall decrease throughout the junction, it is noted that there is an increase in outbound traffic along A3 Eastbound in both AM and PM peaks, of 298 PCU in the AM peak, and 210 PCU in the PM peak.

Junction Modelling

5.8.6 The following adjustments have been made to the level of saturation flows across the junction arms:

- Arm A – A3 Eastbound: 1400 for both lanes in AM/PM peaks
- Arm B – Commercial Road N: 1500 central lane AM/PM peaks.
- Arm C – Cornmill Street: 1400 for both lanes in AM/PM peaks
- Arm D – Commercial Road S/Lake Road: 1400 for both lanes in AM/PM peaks.

5.8.7 The Do Minimum results from the junction modelling are indicated in **Table 21** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 21. J6 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	DoS	Queue	Delay	DoS	Queue	Delay
2019 Base						
Arm A – A3 Eastbound	29.8%	0.2	1.8	42.1%	0.4	2.6
Arm B – Commercial Road N	82.1%	2.3	6.8	97.2%	11.2	28.7
Arm C – Cornmill Street	90.4%	3.8	45.6	97.6%	7.1	82.4
Arm D – Commercial Road S/Lake Road	0.0%	0.0	0.0	0.0%	0.0	0.0
2041 Baseline						
Arm A – A3 Eastbound	31.1%	0.2	1.9	49.9%	0.5	3.0
Arm B – Commercial Road N	103.0%	147.5	85.3	113.9%	230.5	254.2
Arm C – Cornmill Street	240.9%	225.8	1189.9	180.2%	142.7	909.9
Arm D – Commercial Road S/Lake Road	0.0	0.0	0.0%	0.0	0.0	0.0%
2041 Do Minimum						
Arm A – A3 Eastbound	62.3%	0.8	3.4	73.6%	1.4	4.8
Arm B – Commercial Road N	106.4%	171.9	138.2	114.1%	232.8	258.4

ARM	AM PEAK			PM PEAK		
	DoS	Queue	Delay	DoS	Queue	Delay
Arm C – Cornmill Street	76.8%	1.6	22.3	72.1%	1.3	20.6
Arm D – Commercial Road S/Lake Road	0.0%	0.0	0.0	0.0%	0.0	0.0

5.8.8 As indicated from the model results above, in the 2041 Do Minimum scenario:

- Results in significant overcapacity in the AM peak along the Commercial Road N arm, with a DoS of 106.4%. This results in significant queuing and delays; with a mean max queue of 171.9 PCU and average delay per PCU of 138.2 seconds.
- In the PM peak, the Commercial Road N arm is overcapacity, with a DoS of 114.1%. Significant queue lengths of 232.8 pcu and average delays of 258.4 seconds per PCU are also associated with the arm.
- The Commercial Road S/Lake Road arm experiences no congestion due to no outbound flow from the arm.

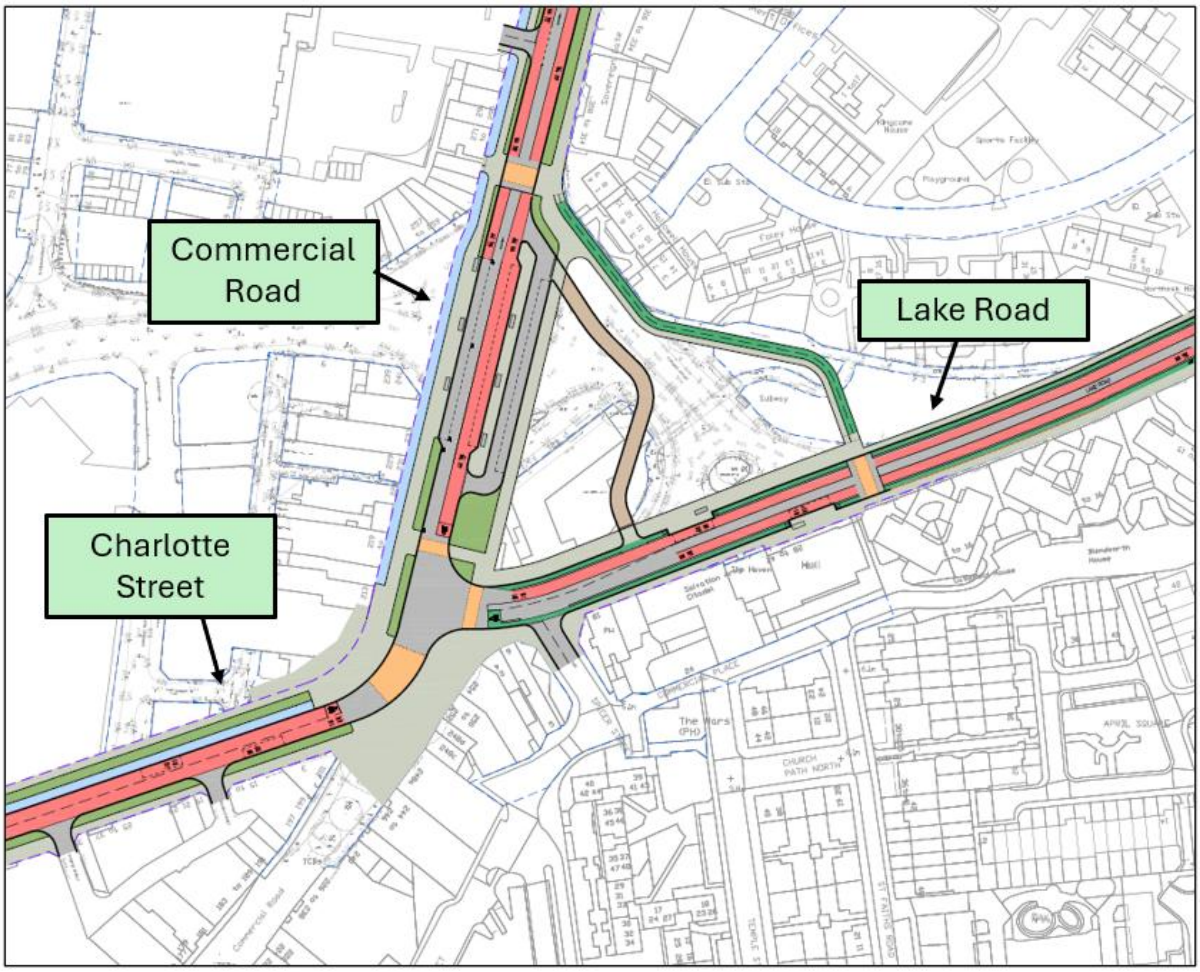
5.8.9 This sees a significant uplift from the 2019 Base scenario, resulting in the junction becoming significantly overcapacity. Mitigation surrounding the junction is required, and is included within the Portsmouth City Centre road scheme. This has been assessed in the 2041 Do Something scenario, with local junction modelling results using the Do Something flows provided below.

Do Something Modelling

5.8.10 The Marketway junction is considered as part of the wider City Centre road scheme, with the proposed scheme indicated in **Figure 12**. Local junction modelling has been undertaken with the Do Something flows and includes the proposed highway scheme adjustments associated with the City Centre road scheme.

5.8.11 The full new layout of the City Centre road scheme is previously shown in **Figure 10.**

Figure 12. Marketway Junction Future Proposals



5.8.12 The mitigation has been modelled within LinSig modelling software. The results are indicated in **Table 22** below.

Table 22. J6 Mitigation Modelling Results

	AM (08:00 – 09:00)			PM (17:00 – 18:00)		
Arm	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
2041 Do Something						
A – Commercial Road (Bus Lane)	47.70%	2.5	57.7	47.70%	2.5	57.7
B – Lake Road	131.60%	67.1	523.5	138.00%	78.4	589.8
C – Charlotte Street	139.30%	139.9	584.5	144.00%	154.7	629.5

5.8.13 As shown, the performance of the Marketway Roundabout worsens for certain arms with the implementation of the proposed scheme at this junction. The Lake Road and Charlotte Street arms operate significantly over capacity in both the AM and PM peaks, in which the Degree of Saturation is over 130% in both scenarios, with a maximum of 144.0% along Charlotte Street reached in the PM peak. This is reflected through high levels of queuing and delay on both arms, with Charlotte Street in the PM peak reaching Mean Max Queues of 154.7 PCUS and average delays of 629.5 s/PCUS.

5.8.14 However, the Commercial Road bus lane is operating well within capacity in both peak periods. This indicates that the scheme is providing reliable bus journey time conditions and is therefore designed to support a shift towards bus use, helping to rebalance travel demand. It is noted that the results show limited changes in the results compared to the February 2025 Transport Assessment. There is a slight level of reduction in flows within the City Centre road scheme boundary compared to the 2041 Do Minimum scenario, as a level of the person trips are opting for non-highway-based modes in the demand model due to the level of delay incurred, this is alongside a slight increase in the public transport mode share, suggesting that the City Centre Road scheme is contributing towards a level of modal shift as targeted within the Local Plan.

5.9 Junction 7 – Rudmore Roundabout

Junction Location

5.9.1 Rudmore roundabout is a five arm partially signalised roundabout comprising the M275, the A3 Twyford Avenue, the A2047 Kingston Crescent, A3 Mile End Road and Wharf Road. The M275 contains a flyover through this junction, linking to Tipner Interchange to the north and Church Street roundabout to the south. It is noted that upgrade work has recently been

completed at this roundabout, in relation to widening the northbound slip road, to allow two traffic lanes to exit the roundabout.

5.9.2 The roundabout includes a three-lane circulatory across the majority, albeit it reduces in width at the stop line on the north-east side of the roundabout to two lanes. The M275 southbound off-slip comprises of three lanes on entry, the A3 Twyford Avenue comprising three lanes and Kingston Crescent comprises three lanes on entry. Mile End Road has four lanes on entry including a left only lane, whilst Wharf Road has two lanes entering the roundabout and one bypass left turning lane. There are sections of pedestrian and cyclist underpasses present throughout the junction.

Flow Difference

5.9.3 The difference in flow between the 2041 Do Minimum and Baseline is indicated in the table below.

Table 23. J7 2041 DM – 2041 Baseline Flow Difference

ARM		AM PEAK					PM PEAK				
		To									
		Arm A – M275 SB Offslip	Arm B – A3 Twyford Avenue Road	Arm C – A2047 Kingston Crescent Avenue Road	Arm D – A3 NB	Arm E – Rudmore Square	Arm A – M275 SB Offslip	Arm B – A3 Twyford Avenue Road	Arm C – A2047 Kingston Crescent Avenue Road	Arm D – A3 NB	Arm E – Rudmore Square
From	Arm A – M275 SB Offslip	0	-31	-27	-1	-122	0	25	-43	-1	-143
	Arm B – A3 Stamshaw Road	197	1	-43	-139	6	27	0	3	10	5
	Arm C – A2047 Kingston Crescent	-6	-1	0	-2	-21	25	113	0	-36	8
	Arm D – A3 NB	-6	4	-2	0	-9	0	16	-12	0	-19
	Arm E – Rudmore Square	8	5	-3	5	0	9	8	15	-5	0

5.9.4 As indicated above, the Do Minimum scenario sees a reduction of 187 PCU in the AM peak and an increase of 5 PCU in the PM peak. Arm A in both scenarios see a significant reduction of 181 PCU and 162 PCU in the AM and PM peaks respectively, however in the PM peak there

is a significant increase along the A2047 Kingston Crescent arm of 110 PCU, compared to a reduction of 30 PCU in the AM peak.

Junction Modelling

5.9.5 As indicated in the February 2025 Strategic Transport Assessment, the local junction model has been validated against the available strategic model data to ensure alignment. The saturation flow of the junction has been altered as follows:

- Arm A – M275 SB Offlslip: 2200 across all lanes;
- Arm B – Stamshaw Road: 2200 across all lanes;
- Arm D – A3 Mile End Road: 2200 across all lanes

5.9.6 The Do Minimum results from the junction modelling are indicated in **Table 24** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 24. J7 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
2019 Base						
Arm A – M275 SB Offslip	88.0%	15.1	41.4	47.8%	7.3	11.0
Arm B – A3 Stamshaw Road	87.4%	9.9	44.9	58.5%	3.8	32.3
Arm C – A2047 Kingston Crescent	100.5%	46.2	85.6	56.2%	1.7	6.2
Arm D – A3 NB	14.3%	0.7	32.1	50.9%	3.6	34.2
Arm E – Wharf Road	53.6%	3.8	35.7	56.6%	5.0	30.9
2041 Baseline						

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
Arm A – M275 SB Offslip	62.4%	10.8	9.2	70.7%	13.2	17.0
Arm B – A3 Stamshaw Road	84.7%	13.1	30.6	88.6%	7.5	60.0
Arm C – A2047 Kingston Crescent	117.9%	68.4	328.6	85.2%	8.0	21.9
Arm D – A3 NB	21.5%	1.1	32.7	68.3%	6.8	33.5
Arm E – Wharf Road	67.3%	5.3	40.0	63.1%	5.4	33.3
2041 Do Minimum						
Arm A – M275 SB Offslip	64.0%	11.4	10.0	81.1%	15.9	24.8
Arm B – A3 Stamshaw Road	104.1%	53.2	123.3	94.7%	9.6	107.3
Arm C – A2047 Kingston Crescent	134.7%	69.6	526.6	102.5%	48.4	110.5
Arm D – A3 NB	23.1%	1.2	33.2	78.9%	8.2	40.7

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
Arm E – Wharf Road	66.1%	5.2	38.0	66.9%	5.5	36.0

5.9.7 As indicated above, in the Do Minimum scenario:

- The Stamshaw Road and Kingston Crescent arms are overcapacity in the AM peak, with a DoS of 104.1% and 134.7% respectively. This results in a level of delay of 526.6 seconds per vehicle along the Kingston Crescent arm.
- In the PM peak, the Kingston Crescent arm is overcapacity, with a DoS of 102.5%. This leads to an average delay of 110.5 seconds per vehicle, and a queue of 48.4 PCU.

5.9.8 This leads to a significant increase in congestion from the 2019 Baseline scenario. Due to these significant levels of overcapacity, it is proposed that mitigation measures take place surrounding the junction. The preferred mitigation as proposed within the February 2025 Strategic Transport Assessment comprises:

- Signalisation of Kingston Crescent and East Circulatory; and
- Extension of cycle time from 70 seconds to 90 seconds.

5.9.9 The proposed mitigation has been modelled in the LinSig software, and the results are indicated in **Table 25** below.

Table 25. J7 Proposed Mitigation Results

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
Arm A – M275 SB Offlsip	27.0%	2.5	15.9	78.2%	19.1	26.6
Arm B – A3 Stamshaw Road	108.3%	79.9	194.3	62.8%	5.5	37.4
Arm C – A2047	92.4%	19.0	60.0	84.4%	16.0	42.0

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
Kingston Crescent						
Arm D – A3 NB	28.6%	1.5	44.6	79.7%	10.1	48.9
Arm E – Wharf Road	77.6%	7.7	56.9	70.7%	7.4	46.2

5.9.10 As indicated above, the Stamshaw Road arm is overcapacity in the AM peak, with a slight increase from the existing junction layout, of 4.2%. It is noted however, that all other arms of the junction are within capacity. This offers a significant improvement on the existing junction results, with the Kingston Crescent arm in both peaks and the Stamshaw Road arm in the PM peak now being within capacity.

5.9.11 As such, it is recommended that this mitigation option is taken forward for development, as whilst certain arms are still noted to be overcapacity, there is a noted improvement in the balancing of the overcapacity between Stamshaw Road and Kingston Crescent from the 2041 Do Minimum scenario.

5.10 Junction 8 – Lakeside Access

Junction Location

5.10.1 The Lakeside Access is a four arm unsignalised roundabout comprising the A27 (Western Road) / Northarbour Road / Lakeside Access. This junction provides access to the Portsbridge roundabout to the south via the A27 Western Road, and the M275 / A27 (Southampton Road) / A27 (Western Road) crossroads to the north. The Lakeside Industrial Park is located in close proximity to the junction, with access provided via the lakeside access roundabout arm.

5.10.2 Each arm of the roundabout has a two-lane entry, with a three-lane circulatory on the east and west side of the roundabout and a one lane circulatory to the north and south of the roundabout. The Lakeside Access arm central lane is utilised as both an inbound (during 4pm-7pm) and outbound lane (during 7am-10am). A grade separated pedestrian underpass is provided from east to west across the roundabout, as well as a shared pedestrian cycle route providing access to the Lakeside access from the south.

Flow Difference

5.10.3 The difference in flow between the 2041 Do Minimum and Baseline is indicated in the table below.

Table 26. J8 2041 DM – Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – A27 Western Road N	Arm B – Northarbour Road	Arm C – A27 Western Road S	Arm D – Lakeside Access	Arm A – A27 Western Road N	Arm B – Northarbour Road	Arm C – A27 Western Road S	Arm D – Lakeside Access
From	Arm A – A27 Western Road N	0	1	-438	224	0	7	-525	202
	Arm B – Northarbour Road	0	0	0	210	-12	0	0	41
	Arm C – A27 Western Road S	-446	0	0	148	-183	0	0	315
	Arm D – Lakeside Access	198	2	160	0	422	3	607	0

5.10.4 Both AM and PM scenarios see an increase in PCU level surrounding the junction in the DM scenario compared to the Baseline. In the AM peak this is more minor, with an increase of 59 PCU, and in the PM peak there is an increase of 877 PCU.

5.10.5 A notable difference is seen in the outbound traffic from the Lakeside Access. In the AM peak, this is an increase of 360 PCU, whereas in the PM peak the arm sees an increase of 1032 PCU.

Junction Modelling

5.10.6 Due to the SRTM queues and baseline junction modelling queues being within 5 PCUs of each other on all arms, no validation was required for the junction model as per the conclusions of the February 2025 Strategic Transport Assessment.

5.10.7 The Do Minimum results from the junction modelling are indicated in **Table 27** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 27. J8 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
2019 Base						
Arm A – A27 Western Road N	0.71	2.7	5.93	0.73	3.0	6.70
Arm B – Northarbour Road	0.00	0.0	0.00	0.00	0.0	0.00
Arm C – A27 Western Road S	0.69	2.6	5.89	0.56	1.4	3.65
Arm D – Lakeside Access	0.32	0.7	6.32	0.50	1.2	4.96
2041 Baseline						
Arm A – A27 Western Road N	0.85	5.5	10.26	0.83	5.2	11.38
Arm B – Northarbour Road	0.01	0.0	7.50	0.07	0.1	7.10
Arm C – A27 Western Road S	0.80	4.0	8.96	0.60	1.7	4.13
Arm D – Lakeside Access	0.38	0.7	4.81	0.84	5.6	14.80
2041 Do Minimum						
Arm A – A27 Western Road N	0.79	4.4	9.26	0.73	3.1	8.28

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
Arm B – Northarbour Road	0.36	0.6	8.54	0.13	0.1	7.08
Arm C – A27 Western Road S	0.77	3.8	10.56	0.71	2.6	5.87
Arm D – Lakeside Access	0.57	1.6	6.54	1.40	440.1	772.77

5.10.8 As indicated above, in regard to the Do Minimum scenario:

- In the AM peak, the junction is within capacity, with the highest RFC along the A27 Western Road N arm with 0.79. This has an associated delay of 9.26 seconds, and queue lengths of 4.4 seconds.
- In the PM peak, the Lakeside Access is significantly overcapacity, with an RFC of 1.40. This comes with an associated queue length of 440.1 PCU, and delay of 772.77 seconds.

5.10.9 The Lakeside Access is significantly overcapacity with the introduction of the Local Plan development, and as such it is recommended that mitigation is introduced to lessen the impact on this arm.

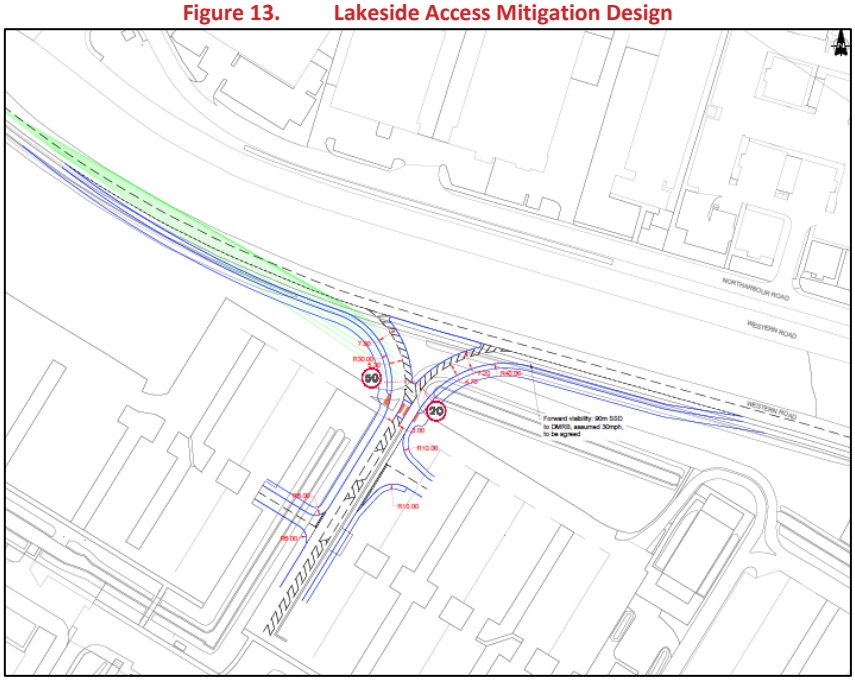
5.10.10 The proposed mitigation as suggested within the Transport Assessment is as follows:

- The addition of a secondary access to the northwest of the Lakeside development site as per the principle set out in the outline planning application 16/00416/FUL. This will be left turn exit/ entry only.

5.10.11 To reflect this, all traffic from the Lakeside Access northbound has been removed from the junction matrix as it is assumed all traffic will use the secondary access.

5.10.12 The design of this mitigation is indicated in **Figure 13** below.

Figure 13. Lakeside Access Mitigation Design



5.10.13 The results of the local junction model at the existing Lakeside access (with traffic removed to use the secondary access) is indicated in **Table 28** below.

Table 28. J8 Proposed Mitigation Junction Results

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
Arm A – A27 Western Road N	0.79	4.4	9.28	0.84	5.8	16.26
Arm B – Northarbour Road	0.36	0.6	8.53	0.20	0.2	12.10
Arm C – A27 Western Road S	0.77	3.8	10.60	0.71	2.7	6.15
Arm D – Lakeside Access	0.24	0.4	3.61	0.72	2.6	7.11

5.10.14 As indicated above, with the introduction of the secondary access to the north of the junction, the local results improve significantly, with the Lakeside Access now within capacity. It is recommended that this mitigation design is taken forward.

5.11 Junction 9 - A2030 Eastern Road / A27 Havant Bypass

Junction Location

5.11.1 The A2030 Eastern Road/ A27 Havant Bypass is a signalised four arm roundabout providing access to the eastern side of the Portsmouth road network. The A27 passes over the junction on a flyover, with signalised pedestrian crossings provided across each entry arm as well as sections of the roundabout circulatory. The A2030 Eastern Road N and A27 WB off-slip both have three entry arms into the junction. The A2030 Eastern Road S and A27 EB off-slip both have two entry arms into the junction. The roundabout circulation varies from a two-lane circulatory on the southern roundabout section, a three-lane circulatory on the northern section and a four-lane circulatory on the eastern and western sections of the circulatory.

Flow Difference

5.11.2 The difference in flow between the 2041 Do Minimum and Baseline is indicated in the table below.

Table 29. J9 2041 DM – 2041 Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – A2030 Eastern Road N	Arm B – A27 Westbound Offslip	Arm C – A2030 Eastern Road S	Arm D – A27 Eastbound Offslip	Arm A – A2030 Eastern Road N	Arm B – A27 Westbound Offslip	Arm C – A2030 Eastern Road S	Arm D – A27 Eastbound Offslip
From	Arm A – A2030 Eastern Road N	0	63	15	29	0	4	-48	18
	Arm B – A27 Westbound Offslip	-15	0	-110	-4	-29	0	-8	0
	Arm C – A2030 Eastern Road S	-8	0	0	16	41	-2	0	-30
	Arm D – A27 Eastbound Offslip	-138	-1	8	0	-68	0	20	-1

5.11.3 There is a reduction in flow surrounding the junction in the DM scenarios in both AM and PM peaks, of 145 PCU in the AM peak and 103 PCU in the PM peak. The only notable increase in vehicular flow in either peak is along the A2030 Eastern Road N in the AM peak of 107 PCU.

Junction Modelling

5.11.4 The junction model has been validated against SRTM volume over capacity data. As per the February 2025 Strategic Transport Assessment the changes which have been made to the saturation flow are as follows:

- A2030 Eastern Road N: All lanes amended to 2200; and
- A2030 Eastern Road S: Both lanes amended to 2200.

5.11.5 The Do Minimum results from the junction modelling are indicated in **Table 30** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 30. J9 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
2019 Base						
Arm A – A2030 Eastern Road N	73.8%	10.2	23.9	79.0%	13.1	21.7
Arm B – A27 Westbound Offslip	88.8%	16.4	21.8	61.7%	6.0	14.4
Arm C – A2030 Eastern Road S	116.4%	125.7	292.2	99.7%	39.7	58.0
Arm D – A27 Eastbound Offslip	96.4%	24.0	48.2	75.2%	11.1	20.1
2041 Baseline						
Arm A – A2030	83.4%	13.0	29.2%	89.3%	16.9	32.1

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
Eastern Road N						
Arm B – A27 Westbound Offslip	86.8%	14.6	19.5	70.4%	7.3	15.9
Arm C – A2030 Eastern Road S	140.7%	276.0	568.5	115.8%	133.0	279.9
Arm D – A27 Eastbound Offslip	101.6%	37.2	89.4	82.4%	12.8	25.6
2041 Do Minimum						
Arm A – A2030 Eastern Road N	90.1%	37.1	16.0	87.4%	29.7	15.8
Arm B – A27 Westbound Offslip	86.6%	19.3	14.4	69.2%	15.7	7.1
Arm C – A2030 Eastern Road S	153.7%	712.5	355.7	124.0%	388.1	177.9
Arm D – A27 Eastbound Offslip	103.2%	109.7	43.2	79.8%	24.0	12.0

5.11.6 As indicated above, in the Do Minimum scenario the A2030 Eastern Road/A27 Havant Bypass:

- Experiences overcapacity in the AM peak on the A2030 Eastern Road S and A27 Eastbound Offslip arms, with the highest DoS of 153.7% identified on the A2030 Eastern Road S arm;

- This has a queue of 712.5 PCU along the A2030 Eastern Road S arm, with delays of 355.7 seconds;
- In the PM peak, the A2030 Eastern Road S arm experiences overcapacity of 124.0%, with queues of 338.1 PCU, and delays of 177.9 seconds.

5.11.7 It is noted that whilst the 2041 Do Minimum scenario is significantly overcapacity particularly along Arm C, this is largely associated with background growth as can be seen through overcapacity in both the 2019 Base and 2041 Baseline scenarios.

5.11.8 It is also noted that whilst there is significant queuing surrounding the junction, the queuing along the SRN can be accommodated in the stacking space available for both eastbound and westbound off-slips in all scenarios. Therefore, it is not considered that the level of targeted growth would impact the safe and efficient operation of the off-slips from the A27. The highest levels of congestion are noted on the local road network on the A2030 Eastern Road south arm which experiences significant congestion in the 2041 Baseline alongside the 2041 Do Minimum scenario.

5.11.9 Due to the bridge width along the Eastern Road arms, as per the conclusions of the February 2025 Strategic Transport Assessment, there are no clear mitigation options to be considered at this junction. This is due to the junction already operating above capacity in the 2019 Base and 2041 Baseline, therefore congestion is more significantly associated with background growth rather than Local Plan growth (it is still acknowledged that the Local Plan increases the DoS on a number of arms, however the rate of increase is less than background traffic growth). No mitigation is being considered as a result.

5.12 Junction 10 – Stanhope Road/Station Street/Commercial Road S/Commercial Road N

Junction Location

5.12.1 This junction is a four arm unsignalised roundabout comprising Stanhope Road, Commercial Road North, Station Street and Commercial Road South. Each arm has one lane on entry. Commercial Road North is a bus only arm. There are pedestrian crossings on all arms except Commercial Road North with a zebra crossing being located on the Station Street arm.

Flow Difference

5.12.2 The difference in flow between the 2041 Do Minimum and Baseline is indicated in the table below.

Table 31. J10 2041 DM - 2041 Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – City Centre S Bus Lane Road N	Arm B – Station Street	Arm C – Isambard Brunel Road	Arm D – Stanhope Road	Arm A – City Centre S Bus Lane Road N	Arm B – Station Street	Arm C – Isambard Brunel Road	Arm D – Stanhope Road
From	Arm A – City Centre S Bus Lane	0	0	0	0	0	0	0	0
	Arm B – Station Street	0	0	-38	91	0	0	44	88
	Arm C – Isambard Brunel Road	-2	2	0	28	-1	13	0	-14
	Arm D – Stanhope Road	0	0	0	0	0	0	0	0

5.12.3 As indicated above, both AM and PM scenarios see an increase in vehicular flow across the junction between the Baseline and Do Minimum scenarios (81 PCU in AM peak, 130 PCU in PM peak).

5.12.4 The greatest PCU increase is seen along the Station Street arm in the PM peak, along which there is an increase of 132 PCU.

Modelling Results

5.12.5 Due to the modelled queues being lower than 5 PCUs, it is deemed that no validation is required for the junction model as per the conclusions of the February 2025 Strategic Transport Assessment.

5.12.6 The Do Minimum results from the junction modelling are indicated in **Table 32** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 32. J10 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
2019 Base						
Arm A – City Centre S Bus Lane	0.13	0.3	8.32	0.14	0.3	9.72
Arm B – Station Street	0.45	1.0	8.82	0.59	1.5	10.57
Arm C – Isambard Brunel Road	0.08	0.2	7.91	0.36	0.7	6.70
Arm D – Stanhope Road	0.17	0.3	6.14	0.28	0.4	6.67
2041 Baseline						
Arm A – City Centre S Bus Lane	0.15	0.4	7.98	0.17	0.4	8.78
Arm B – Station Street	0.21	0.3	5.55	0.53	1.2	8.33
Arm C – Isambard Brunel Road	0.18	0.3	5.98	0.49	1.1	7.92
Arm D – Stanhope Road	0.05	0.1	8.04	0.05	0.1	8.78
2041 Do Minimum						
Arm A – City Centre S Bus Lane	0.16	0.2	4.00	0.17	0.2	4.44
Arm B – Station Street	0.27	0.4	5.52	0.68	2.1	11.5

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
Arm C – Isambard Brunel Road	0.23	0.3	5.47	0.52	1.1	8.43
Arm D – Stanhope Road	0.05	0.1	4.02	0.05	0.1	4.44

5.12.7 As indicated above within the Do Minimum scenario:

- All arms are well-within capacity across all scenarios. The highest level of RFC is seen along the Station Street arm, of 0.27 in the AM peak, and 0.68 in the PM peak.
- Maximum delay time is seen along the Station Street arm in the PM peak of 11.5 seconds, with queues of 2.1 PCU.

5.12.8 The junction is noted to operate within capacity across all arms in the 2041 Do Minimum scenario, and therefore no mitigation is proposed.

Mitigated Do Minimum Scenario

5.12.9 Within the past year, the junction has been converted into a four-arm signalised junction, with the northern Commercial Road North arm being bus only. This scheme was delivered as part of the Transforming Cities Fund and designed to better balance active travel and bus priority.

5.12.10 SYSTRA have undertaken a junction modelling assessment for the 2041 Do Minimum Scenario, with the signalised crossing in place. This represents how the junction will operate with Local Plan growth. This has been modelled in LinSig and has assumed a stage for each arm, and then one full pedestrian stage. A 120 second cycle time is required to allow the junction to operate within capacity based on the traffic growth forecast from the level of growth identified in the Local Plan. The results of the signalised junction, with a 120 second cycle time, is shown the table below.

Table 33. J10 120 Seconds Cycle Time Model Run

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
Arm A – Commercial Road	43.5%	4.8	53.4	83.0%	7.0	104.9

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
Arm B – Station Street	38.8%	6.9	36.4	86.8%	23.2	51.9
Arm C – Isambard Brunel Road	43.7%	5.5	49.2	88.3%	16.2	74.3
Arm D – Stanhope Road	34.2%	1.6	75.7	31.8%	1.5	74.9

5.12.11 The results show that with a 120 second cycle time, the junction operates within capacity. The highest DoS of 88.3% is seen along the Isambard Brunel Road arm in the PM peak. This has an associated delay time of 74.3 seconds and queuing of 16.2 PCU.

5.12.12 SYSTRA have also tested the 60 second and 90 second cycle times, for the updated 2041 Do Minimum scenario. The results showed:

- 60 seconds: The PM peak is significantly overcapacity along the Station Street and Isambard Brunel Road arms, with a max DoS of 244.2% along Station Street. This comes with significant queuing of up to 212.3 PCU.
- 90 seconds: The AM peak is within capacity across all arms. In the PM peak, there is a highest DoS of 104.7% along Station Street, and a DoS of 103.0% along Isambard Brunel Road. This also leads to significant delays of up to 159.0 seconds per PCU.

5.12.13 As such a 120 second cycle time is recommended to ensure that all arms operate efficiently within the scheme to accommodate the forecast levels of Local Plan traffic.

5.13 Junction 11 - A288 Pier Road / Duisburg Way / Gordon Road

Junction Location

5.13.1 This junction is a four arm unsignalised roundabout comprising Pier Road North, Duisburg Way, Pier Road South and Gordon Road. Each arm has one entry lane and one exit lane. There is an unsignalised pedestrian crossing and island on each arm of the roundabout, with tactile paving and dropped kerbs present. The junction is located to the north of Clarence Pier.

Flow Difference

5.13.2 The difference in flow between the 2041 Do Minimum and Baseline is indicated in **Table 34 Table 18** below.

Table 34. J11 2041 DM – 2041 Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – A288 Pier Road N	Arm B – Duisburg Way	Arm C – Pier Road South	Arm D – Gordon Road/Pembroke Road	Arm A – A288 Pier Road N	Arm B – Duisburg Way	Arm C – Pier Road South	Arm D – Gordon Road/Pembroke Road
From	Arm A – A288 Pier Road N	0	114	-89	-4	0	102	-155	2
	Arm B – Duisburg Way	256	0	-70	214	186	0	-89	225
	Arm C – Pier Road South	-121	-80	0	-105	-115	-77	0	-133
	Arm D – Gordon Road/Pembroke Road	0	52	-55	0	0	89	-81	0

5.13.3 Between the Baseline and DM scenarios, there is an increase across the junction in the AM peak of 114 PCU, and in the PM peak a reduction of 46 PCU.

5.13.4 In both peaks, there is a significant increase along Duisburg Way arm, of 401 PCU in the AM peak and 322 PCU in the PM peak. Conversely, there is a reduction along the Pier Road South, of 306 PCU in the AM peak, and 325 PCU in the PM peak.

Modelling Results

5.13.5 Due to the modelled queues being lower than 5 PCU, it is deemed that no validation is required for the junction model as per the February 2025 Strategic Transport Assessment.

5.13.6 The Do Minimum results from the junction modelling are indicated in **Table 35** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 35. J11 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
2019 Base						
Arm A – A288 Pier Road N	0.15	0.2	5.55	0.70	2.4	14.52
Arm B – Duisburg Way	0.48	1.0	7.03	0.38	0.7	6.52
Arm C – Pier Road South	0.34	0.5	6.28	0.30	0.5	5.73
Arm D – Gordon Road/Pembroke Road	0.25	0.4	5.68	0.26	0.4	6.05
2041 Baseline						
Arm A – A288 Pier Road N	0.42	0.7	7.54	0.75	3.0	18.00
Arm B – Duisburg Way	0.48	1.0	7.40	0.58	1.4	9.46
Arm C – Pier Road South	0.37	0.6	6.67	0.41	0.7	7.27
Arm D – Gordon Road/Pembroke Road	0.26	0.4	6.11	0.38	0.6	6.97
2041 Do Minimum						
Arm A – A288 Pier Road N	0.42	0.7	6.88	0.65	1.8	11.99
Arm B – Duisburg Way	0.84	5.1	20.7	0.83	4.7	19.26
Arm C – Pier Road South	0.0	0.0	0.0	0.0	0.0	0.0

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
Arm D – Gordon Road/Pembroke Road	0.27	0.4	5.90	0.39	0.6	6.61

5.13.7 As indicated in the table above, in the 2041 Do Minimum scenario, the junction:

- Performs within capacity across all arms, with the highest RFC in both the AM and PM peak seen along Duisburg Way. This is with an RFC of 0.84 in the AM peak, and 0.83 in the PM peak.
- The highest delay and queue length is indicated along the Duisburg Way arm in the AM peak, in which there is a queue of 5.1 PCU, and a delay of 20.7 seconds.

5.13.8 This junction operates within capacity within all scenarios. No further analysis is necessary and no mitigations are required to be proposed.

5.14 Junction 12 – A397 Northern Road/Wayte Street/Medina Road

Junction Location

5.14.1 This junction is a four arm unsignalised roundabout comprising A397 Northern Road North/ Wayte Street/A397 Northern Road South/Medina Road. Spur Road roundabout (Junction 3) is located approximately 125m to the north of this junction.

5.14.2 Both Northern Road arms have two entry lanes. Wayte Street and Medina Road have one entry lane. There is a two-lane circulatory along the roundabout. There is a pedestrian bridge located on the A397 Northern Road south to allow safe crossing. Wayte Street and Medina Road have unsignalised island crossings with dropped kerbs and tactile paving present.

Flow Difference

5.14.3 The difference in flow between the 2041 Do Minimum and Baseline is indicated in the table below.

Table 36. J12 2041 DM – 2041 Baseline Comparison

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – A3 Northern Road N	Arm B – Wayte Street	Arm C – A397 Northern Road S	Arm D – Medina Road	Arm A – A3 Northern Road N	Arm B – Wayte Street	Arm C – A397 Northern Road S	Arm D – Medina Road
From	Arm A – A3 Northern Road N	0	-2	-58	259	0	80	-7	55
	Arm B – Wayte Street	3	0	-102	14	-5	0	-34	8
	Arm C – A397 Northern Road S	-58	-91	0	-92	56	-95	0	-56
	Arm D – Medina Road	6	1	-5	0	8	1	-9	0

5.14.4 A reduction in vehicular flow of 125 PCU across the junction is apparent in the AM peak between Baseline and DM scenarios. The most significant reduction of 241 PCU is forecast along Arm C A397 Northern Road S, with a significant increase also noted along A3 Northern Road N of 199 PCU.

5.14.5 In the PM peak, there is a negligible increase of vehicular traffic by a total of 2 PCU.

Modelling Results

5.14.6 The junction model has been validated in line with SRTM data, due to queue lengths having a queue difference of over 5 PCU from the SRTM. The percentage capacity adjustments which have been made are as follows and align with the February 2025 Strategic Transport Assessment:

- Arm B – Wayte Street: 65%; and
- Arm C – A397: 80%.

5.14.7 The Do Minimum results from the junction modelling are indicated in **Table 37** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 37. J12 Local Junction Model Results

	AM PEAK			PM PEAK		
Arm	RFC	Queue	Delay	RFC	Queue	Delay
2019 Base						
Arm A – A397 Northern Road N	0.78	4.2	11.08	0.79	4.2	11.43
Arm B – Wayte Street	0.76	3.7	25.24	0.85	5.5	35.85
Arm C – A397 Northern Road S	0.72	2.8	7.95	0.78	3.8	10.16
Arm D – Medina Road	0.30	0.5	7.18	0.44	0.8	9.60
2041 Baseline						
Arm A – A397 Northern Road N	0.85	6.2	15.34	0.81	4.7	12.90
Arm B – Wayte Street	0.84	5.6	35.89	0.87	6.4	39.69
Arm C – A397 Northern Road S	0.83	5.3	13.43	0.82	5.0	13.25
Arm D – Medina Road	0.40	0.7	9.99	0.50	1.0	11.64
2041 Do Minimum						
Arm A – A397 Northern Road N	0.93	12.1	26.84	0.85	5.9	14.67
Arm B – Wayte Street	0.81	4.4	33.08	0.85	5.2	34.35
Arm C – A397 Northern Road S	0.77	3.3	10.24	0.78	3.5	10.12

	AM PEAK			PM PEAK		
Arm D – Medina Road	0.35	0.6	7.93	0.48	0.9	10.62

5.14.8 As indicated above, in the 2041 Do Minimum scenario:

- The junction is within capacity across all arms in both AM and PM peaks. The highest RFC is seen along the A397 Northern Road N arm in the AM peak, with an RFC of 0.93, and associated queues of 12.1 PCU and delays of 26.84 seconds.
- In the PM peak, the A397 Northern Road N and Wayte Street arms both have an RFC of 0.85, and the longest delay is seen along Wayte Street, of 34.35 seconds.

5.14.9 The junction operates within capacity across all scenarios. Whilst some arms are operating near capacity in the 2041 Do Minimum scenario due to Local Plan growth, this does not exceed capacity. Further to this, mitigation on Spur Road roundabout is expected to improve the operation of this junction and therefore no further analysis is necessary and no mitigations are required.

5.15 Junction 13 – Hope Street Roundabout

Junction Location

5.15.1 The Hope Street roundabout is a unsignalised three arm roundabout comprising the A3 Marketway East, Cascades Approach and the A3 Marketway West, a route primarily providing access to retail premises and associated car park facilities.

5.15.2 A westbound bus lane is located on the A3 Marketway providing bus priority on entry and exit to the roundabout.

Flow Difference

5.15.3 The difference in flow between the 2041 Do Minimum and Baseline is indicated in **Table 38** below.

Table 38. J13 2041 DM – 2041 Baseline Flow Difference

ARM		AM PEAK			PM PEAK		
		To					
		Arm A – A3 Marketway East	Arm B – Cascades Approach	Arm C – A3 Marketway West	Arm A – A3 Marketway East	Arm B – Cascades Approach	Arm C – A3 Marketway West
From	Arm A – A3 Marketway East	325	47	-60	197	100	-315
	Arm B – Cascades Approach	-143	0	6	15	0	15
	Arm C – A3 Marketway West	-29	7	-1	62	24	2

5.15.4 An increase is seen across the junction in the DM scenario in both AM and PM peaks. There is an increase of 152 PCU in the AM peak, and 100 PCU in the PM peak.

5.15.5 In the AM peak, the most significant increase is seen along A3 Marketway East arm of 312 PCU.

Modelling Results

5.15.6 In line with the February 2025 Strategic Transport Assessment, no junction validation has been implemented into the local junction modelling, given the Baseline model queue results being within 5PCU of the strategic model.

5.15.7 The Do Minimum results from the junction modelling are indicated in **Table 39** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 39. J13 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
2019 Base						
Arm A – A3 Marketway East	0.72	2.9	4.87	0.73	3.0	5.08
Arm B – Cascades Approach	0.57	1.9	13.32	0.68	2.2	16.45
Arm C – A3 Marketway West	0.21	0.4	5.43	0.25	0.5	5.49
2041 Baseline						
Arm A – A3 Marketway East	0.82	5.1	7.60	0.95	17.7	24.04
Arm B – Cascades Approach	0.73	3.8	29.09	0.85	4.8	65.36
Arm C – A3 Marketway West	0.15	0.2	3.69	0.19	0.2	4.14
2041 Do Minimum						
Arm A – A3 Marketway East	0.94	14.5	19.6	0.96	17.4	23.84
Arm B – Cascades Approach	0.72	4.1	46.07	0.75	3.1	36.47
Arm C – A3 Marketway West	0.15	0.2	4.27	0.31	0.5	5.61

5.15.8 As indicated in the table above, in the Do Minimum scenario:

- The junction performs within capacity across both AM and PM peaks. The largest congestion is seen along the Marketway East arm, with an RFC of 0.94 in the AM peak, and 0.96 in the PM peak.

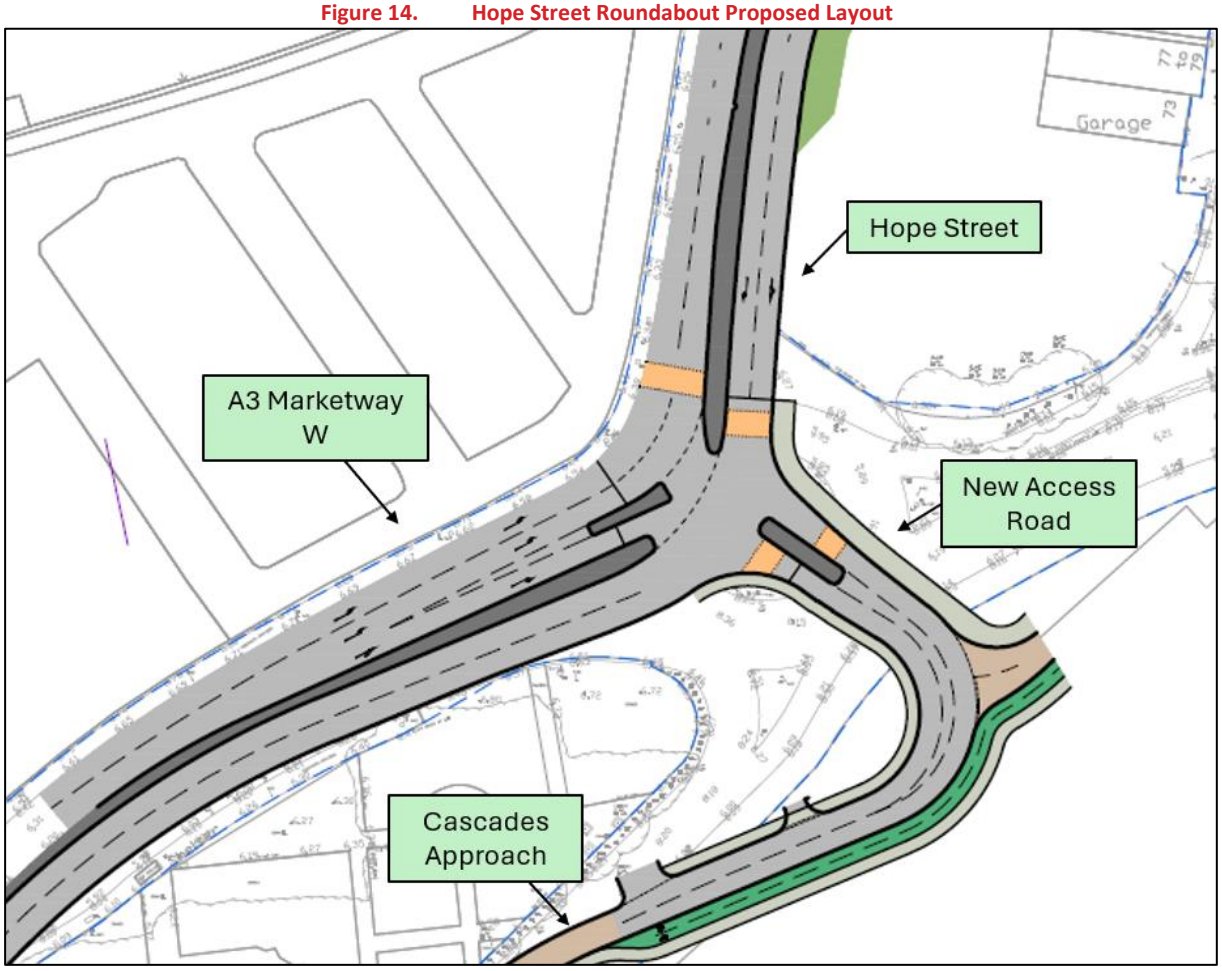
- In the PM peak, the A3 Marketway East arm experiences a queue level of 17.4 PCU, and Delays of 23.84 seconds.

Do Something Modelling

5.15.9 The Hope Street junction is considered as part of the wider City Centre road scheme, with the proposed scheme indicated in **Figure 14**. Local junction modelling has been undertaken with the Do Something flows and includes the proposed highway scheme adjustments associated with the City Centre road scheme.

5.15.10 The new layout differs from the layout modelled in the previous February 2025 Strategic Transport Assessment in that, in the new design, vehicles are now permitted access along Cascades Approach to the south west of image below. In the previous design revision, access along Cascades Approach was restricted to active travel only. The full scheme is shown previously in **Figure 10.**

Figure 14. Hope Street Roundabout Proposed Layout



5.15.11 The mitigation options have been modelled within LinSig software, and the results are indicated in **Table 40** below.

Table 40. J13 Mitigation Modelling Results

	AM (08:00 – 09:00)			PM (17:00 – 18:00)		
Arm	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
2041 Do Something						
A – Hope Street N	67.50%	4.8	61	33.1%	2.6	41.6
B – Cascades Approach	72.00%	10.4	38.5	66.8%	8.9	38.2
C – A3 Marketway W	73.60%	11.1	38.2	68.0%	9.4	37.6

5.15.12 In the 2041 Do Something scenario, all arms operate within capacity during the AM peak with the highest results seen on A3 Marketway West at 73.6% with a mean maximum queue of 11.1 PCUs and a delay of 38.2 s/PCU. In the PM peak, all arms operate within capacity with the highest results recorded on A3 Marketway West, with a DoS of 68%, a mean maximum queue of 37.6 PCUs, and a delay of 37.6 s/PCU, followed by Cascades Approach at 66.8% and Hope Street North well within capacity at 33.1%.

5.16 Junction 14 – Marketway/Landport View

Junction Location

5.16.1 This junction is formed of three arms comprising the A3 Marketway East, Landport View and the A3 Marketway West, with an isolated pedestrian signalised crossing on Marketway East. The junction lies in between Marketway roundabout (Junction 6) and Hope Street roundabout (Junction 13).

5.16.2 Marketway is a dual carriageway with two lanes plus a flare on the westbound approach and one lane on the eastbound approach to the crossing. Landport View has one entry lane and one exit lane. No right turn access is provided from Marketway West to Landport View arm to guard rails separating Marketway.

5.16.3 A bus lane is present for traffic traveling westbound on Marketway, however it merges into a traffic lane on approach to the pedestrian crossing and restarts to the west of Landport View.

Flow Difference

5.16.4 The difference in flow between the 2041 Do Minimum and Baseline is indicated in the table below.

Table 41. J14 2041 DM – 2041 Baseline Flow Difference

ARM		AM PEAK			PM PEAK		
		To					
		Arm A – A3 Marketway Westbound	Arm B – Landport View	Arm C – A3 Marketway Eastbound	Arm A – A3 Marketway Westbound	Arm B – Landport View	Arm C – A3 Marketway Eastbound
From	Arm A – A3 Marketway Westbound	0	31	58	0	57	-31
	Arm B – Landport View	0	0	259	0	0	13
	Arm C – A3 Marketway Eastbound	310	0	0	212	0	0

5.16.5 As indicated above, there is a significant increase in in PCU level across the junction in both AM and PM peaks. In the AM peak, there is an increase of 658 PCU, and in the PM peak there is an increase of 251 PCU.

5.16.6 This is largely due to the increase seen along A3 Marketway Eastbound, along which there is an increase of 310 PCU in the AM peak, and 212 PCU in the PM peak. In the AM peak, there is also an increase along Cascades Approach of 259 PCU, which is significantly higher than the increase in the PM peak of 13 PCU.

Modelling Results

5.16.7 In line with the February 2025 Strategic Transport Assessment, the validation previously undertaken within the local junction model has been replicated to indicate the impact of the updated Do Minimum scenario. As such, the adjustments made to the saturation flows is as follows:

- Arm A Marketway East: All three lanes amended saturation flow to 2200; and
- Arm C Marketway West: One lane amended saturation flow to 2200.

5.16.8 The Do Minimum results from the junction modelling are indicated in **Table 42** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 42. J14 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
2019 Base						
Arm A – A3 Marketway Westbound	73.7%	11.3	12.7	73.8%	11.3	12.8
Arm B – Landport View	0.0%	0.0	0.0	1.1%	0.1	11.9
Arm C – A3 Marketway Eastbound	39.8%	4.2	7.8	45.7%	5.1	8.4
2041 Baseline						
Arm A – A3 Marketway Westbound	82.6%	14.7	16.0	85.2%	15.9	17.6
Arm B – Landport View	4.6%	0.3	11.9	34.7%	3.0	14.2
Arm C – A3 Marketway Eastbound	33.2%	3.4	7.3	46.1%	5.1	8.4
2041 Do Minimum						
Arm A – A3 Marketway Westbound	92.9%	21.8	26.8	96.7%	27.2	38.4
Arm B – Landport View	39.6%	3.4	14.8	87.2%	16.9	19.2

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
Arm C – A3 Marketway Eastbound	64.7%	8.9	10.9	39.2%	3.4	14.7

5.16.9 As indicated above, the junction within the Do Minimum scenario:

- Performs within capacity across all arms in both AM and PM peaks;
- However in the AM peak the A3 Marketway East arm is approaching capacity, with an RFC of 92.9%; and
- In the PM peak the A3 Marketway East experiences an RFC of 96.7% and of 87.2% along the Cascades Approach arm. The highest MMQ of 27.2 and average delay per PCU of 38.4 seconds is noted along the A3 Marketway East arm in the PM peak.

5.16.10 The junction is noted to operate within capacity across all scenarios, and it is not deemed that any further mitigation will be necessary.

5.17 Junction 15 – London Road/Southwick Hill Road

Junction Location

5.17.1 The London Road (A3) / Southwick Hill Road (B1277) junction is a signalised T-junction. The junction is located on the principal radial corridor north of Portsmouth and is adjacent to the Queen Alexandra Hospital with access from Southwick Hill Road.

5.17.2 A signalised pedestrian crossing is provided across the Southwick Hill Road arm. An additional signalised staggered pedestrian crossing is located on the London Road South arm approximately 30m south of the stopline. Due to the location of multiple driveways serving the adjacent residential properties, the London Road North stopline is located approximately 25m north of the minor arm bell mouth.

Flow Difference

5.17.3 The difference in flow between the 2041 Do Minimum and Baseline is indicated in **Table 43** below.

Table 43. J15 2041 DM - 2041 Baseline Flow Difference

ARM		AM PEAK			PM PEAK		
		To					
		Arm A – London Road N	Arm B – Southwick Hill Road	Arm C – London Hill Road S Eastbound	Arm A – London Road N	Arm B – Southwick Hill Road	Arm C – London Hill Road S Eastbound
From	Arm A – London Road N	0	-10	0	0	7	28
	Arm B – Southwick Hill Road	-1	0	28	15	0	-16
	Arm C – London Hill Road S	-28	-13	0	-56	-19	0

5.17.4 The Do Minimum scenario results in a reduction from the Baseline in both the AM and PM peak scenarios. There is a reduction of 24 PCU in the AM peak, and a reduction of 41 PCU in the PM peak.

Junction Modelling

5.17.5 In line with the previous February 2025 Strategic Transport Assessment, the following adjustments to the saturation flow have been made to validate the local junction model in line with the strategic model data:

- Arm A – London Road N: Nearside lane – 2000 AM Peak, 2200 PM Peak; Offside lane – 2000 AM Peak, 1800 PM Peak; and
- Arm B – Southwick Hill Road: One lane only – 2200 AM Peak, 1800 PM Peak

5.17.6 The Do Minimum results from the junction modelling are indicated in **Table 44** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 44. J15 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
2019 Base						
Arm A – London Road N	53.8%	3.7	6.2	90.3%	17.6	33.9
Arm B – Southwick Hill Road	75.7%	9.3	50.3	78.1%	8.3	56.0
Arm C – London Hill Road S	89.9%	24.1	37.8	99.4%	19.3	121.6
2041 Baseline						
Arm A – London Road N	88.5%	11.3	26.7	89.3%	16.7	32.6
Arm B – Southwick Hill Road	83.4%	11.1	57.7	96.4%	15.2	104.3
Arm C – London Hill Road S	97.6%	62.5	33.7	108.8%	36.4	234.0
2041 Do Minimum						
Arm A – London Road N	99.9%	39.6	79.9	116.5%	52.5	334.3
Arm B – Southwick Hill Road	94.1%	15.7	83.9	101.1%	19.8	141.9
Arm C – London	88.9%	17.1	30.7	89.3%	16.7	32.6

ARM	AM PEAK			PM PEAK		
	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)	DoS (%)	Mean Max Queue (PCUS)	Delay (s/PCUS)
Hill Road S						

5.17.7 As indicated in the model results above in the 2041 Do Minimum scenario:

- In the AM peak, all three arms are within capacity, although all are approaching capacity, with the maximum seen along the London Road N arm of 99.9%. This comes with a significant queuing, with an MMQ of 39.6 PCU, and an average delay per PCU of 83.9 seconds (along the Southwick Hill Road arm).
- In the PM peak, the London Road N and Southwick Hill Road arms are both deemed to be overcapacity. The highest DoS is seen along the London Road N arm, of 116.5%, and with an associated MMQ of 52.5 PCU, and an associated average delay per PCU of 334.3 seconds.

5.17.8 Due to the London Road N and Southwick Hill Road arms being overcapacity in the PM peak, it is recommended that mitigation measures are taken forward for the junction. The mitigation to be considered is:

- Consideration of the London Road North offside lane allocated as right-turn only, to Southwick Hill Road; and
- Signal staging has been rationalised using two stage streams to provide better coordination of signal timings.

5.17.9 The proposed mitigation has been modelled using LinSig with the Do Minimum flows, with the results indicated in **Table 45** below.

Table 45. J15 Mitigation Results

ARM	AM PEAK			PM PEAK		
	DoS	Queue (PCU)	Delay (s)	DoS	Queue (PCU)	Delay (s)
Arm A – London Road N	85.8%	14.7	72.1	96.4%	23.7	99.7
Arm B – Southwick Hill Road	83.6%	15.5	65.4	97.1%	19.2	118.1

ARM	AM PEAK			PM PEAK		
	DoS	Queue (PCU)	Delay (s)	DoS	Queue (PCU)	Delay (s)
Arm C – London Hill Road S	86.1%	19.0	53.9	98.4%	30.0	96.7

5.17.10 As evidenced above, with the mitigation in place all arms operate within capacity and offer a notable improvement from the existing junction layout model results. The London Road N arm in particular sees a reduction in DoS of approximately 20% in the PM peak to become within capacity.

5.17.11 Due to this marked improvement from the existing layout, it is recommended that this proposed layout is taken forward to development and is captured within the Local Plan package.

5.18 Junction 16 – Museum Road/Landport Terrace/Kings Road/Kings Terrace

Junction Location

5.18.1 This junction (also known as the Kings Road roundabout) is a four arm unsignalised roundabout. Each arm has one entry lane and one exit lane. Pedestrian islands with dropped kerbs and tactile paving are present on all arms. Advisory cycle lanes are present on all approach arms of the roundabout. Bus stops are also present approximately 50m east of the roundabout, on the Kings Road arm and 40m south of the roundabout on the Kings Terrace arm.

Flow Difference

5.18.2 The difference in flow surrounding the junction between the 2041 Do Minimum and Baseline is indicated in the table below.

Table 46. J16 2041 DM - 2041 Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – Landport Terrace	Arm B – Kings Road	Arm C – Kings Terrace	Arm D – Museum Road	Arm A – Landport Terrace	Arm B – Kings Road	Arm C – Kings Terrace	Arm D – Museum Road
From	Arm A – Landport Terrace	0	-11	-53	-10	0	-6	-34	22
	Arm B – Kings Road	-51	0	38	-84	-22	0	-20	-49
	Arm C – Kings Terrace	-61	6	0	114	-18	0	0	30
	Arm D – Museum Road	-7	-5	-11	0	-2	-8	10	0

5.18.3 The junction experiences a reduction in vehicular flow between the Baseline and Do Minimum scenarios. In the AM peak, there is a reduction of 135 PCU, and in the PM peak of 97 PCUs.

5.18.4 The most significant reduction across the junction is along the Kings Road arm, along which there is a reduction in flow of 97 PCU in the AM peak and 91 PCU in the PM peak.

Junction Modelling

5.18.5 In line with the previous February 2025 Strategic Transport Assessment, the following adjustments have been made to validate the local junction modelled queues against the strategic model queues:

- Arm A – Landport Terrace: 80% capacity adjustment; and
- Arm C – Kings Terrace: 95% capacity adjustment.

5.18.6 The Do Minimum results from the junction modelling are indicated in **Table 47** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 47. J16 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
2019 Base						
Arm A – Landport Terrace	0.41	0.9	6.35	0.82	4.6	21.13
Arm B – Kings Road	0.54	1.3	5.76	0.47	1.0	7.53
Arm C – Kings Terrace	0.78	3.7	21.69	0.82	4.8	21.74
Arm D – Museum Road	0.04	0.1	11.78	0.70	2.4	19.14
2041 Baseline						
Arm A – Landport Terrace	0.51	1.1	7.48	0.75	2.9	18.02
Arm B – Kings Road	0.50	1.0	6.14	0.15	0.2	4.95
Arm C – Kings Terrace	0.86	5.8	28.48	0.82	4.5	17.96
Arm D – Museum Road	0.51	1.3	11.28	0.87	6.1	29.58
2041 Do Minimum						
Arm A – Landport Terrace	0.43	0.87	6.36	0.73	2.6	16.44
Arm B – Kings Road	0.58	1.4	10.45	0.06	0.1	6.65
Arm C – Kings Terrace	0.84	5.2	23.47	0.81	4.1	16.32

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
Arm D – Museum Road	0.45	1.0	8.92	0.85	5.1	24.52

5.18.7 As indicated in the modelling results above, the junction in the 2041 Do Minimum scenario:

- Is within capacity across all arms, with the highest level of congestion indicated along the Museum Road arm in the PM peak, which sees an RFC of 0.85;
- The highest queue level in the 2041 Do Minimum scenario is seen along the Museum Road arm in the PM peak, of 5.1 PCU, and associated delays of 24.52 seconds;
- This sees a slight reduction from the highest RFC in the 2041 Baseline scenario, of 0.02 from 0.87.

5.18.8 This junction operates within capacity across all scenarios, consequently mitigation is not required on the grounds of capacity however mitigation has been considered on the ground of safety. Further detail of this is provided below.

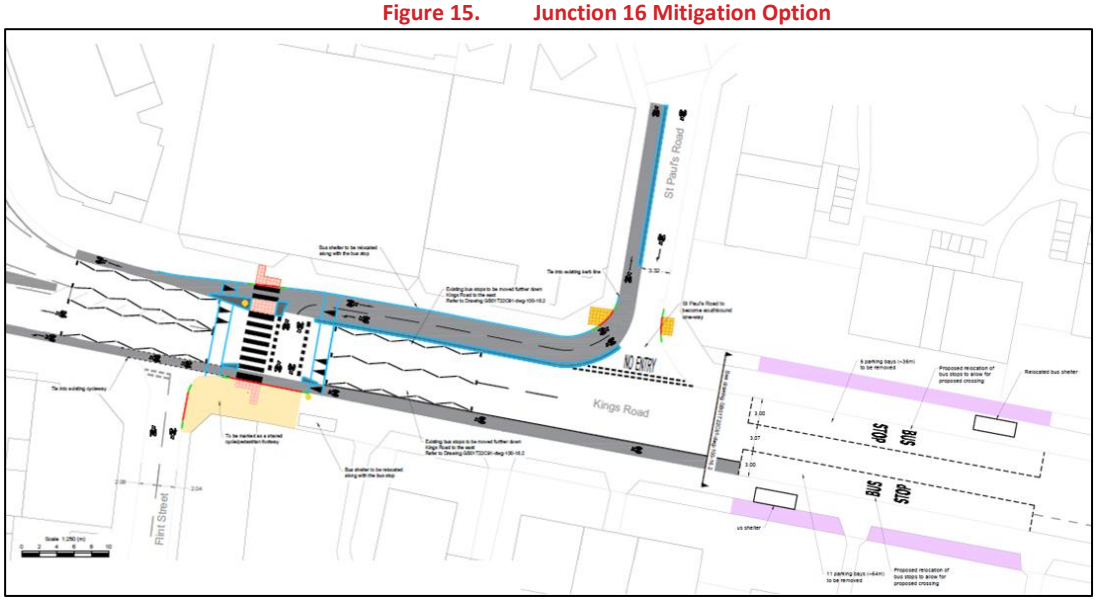
Mitigation Option

5.18.9 It is noted that whilst this junction operates within capacity, PCC has noted cycling safety issues at this junction. In addition, PCC have confirmed that the East West Active Travel Corridor is proposed to the west of the junction and therefore there is an aspiration to route cyclists on a parallel route running north to south along St Pauls Road and Flint Street. There is currently a lack of cycling infrastructure proposed from the junction to this active travel corridor to create a cycling link, further causing safety issues.

5.18.10 Therefore, mitigation at this junction has considered options for a cycling link, connecting Kings Road to the new active travel corridor, as shown in **Figure 15** and drawing GB01T22C91-dwg-100-16.1 and GB01T22C91-dwg-100-16.2 of **Appendix C**.

5.18.11 Delivery of the improvement scheme will require the removal of 17 parking bays (shared pay & display/permit holders) and the movement of bus stops/shelters to the east. As a result, a safe cycling route linking the junction with the East West Active Travel Corridor will be provided. Additionally, St Pauls Road will no longer allow for two-way vehicle movements, operating as a one-way link in southbound direction in order to accommodate the required width of the cycle lane. The junction modelling results remain unchanged, as the mitigation is associated with cycling to the east of the junction.

Figure 15. Junction 16 Mitigation Option



5.19 Junction 17 - Lake Road/ A2030 Holbrook Road/Church Street Roundabout

Junction Location

5.19.1 The Lake Road/ A2030 Holbrook Rd/ Church Street junction comprises a four-arm unsignalised roundabout, located to the east of the city centre. The Lake Road East and West, and Church Street arms all provide one entry lane to the junction.

5.19.2 Signalised pedestrian crossings are located on the south and west arms of the junction, approximately 32 metres to the west of the roundabout along Lake Road, and approximately 37 metres to the south of the roundabout along the A2030 Holbrook Road arm.

Flow Difference

5.19.3 The flow difference between the Baseline and the updated 2041 Do Minimum scenario flows are indicated in **Table 48** below.

Table 48. J17 2041 DM - Baseline Flow Difference

ARM		AM PEAK				PM PEAK			
		To							
		Arm A – Lake Road E	Arm B – A2030	Arm C – Lake Road W	Arm D – Church Street	Arm A – Lake Road E	Arm B – A2030	Arm C – Lake Road W	Arm D – Church Street
From	Arm A – Lake Road E	0	-69	83	-15	0	-69	83	-15
	Arm B – A2030	7	0	-327	6	7	0	-327	6
	Arm C – Lake Road W	35	-8	0	-1	35	-8	0	-1
	Arm D – Church Street	-3	-109	10	0	-3	-109	10	0

Junction Modelling

5.19.4 The junction model has been validated to align with SRTM data as per the February 2025 Strategic Transport Assessment. The capacity adjustments made is as follows:

- Arm B – A2030: AM peak +120 PCU/hr, PM peak +250 PCU/hr;
- Arm C – Lake Road W: AM peak NA, PM peak +48 PCU/hr; and
- Arm D – Church Street: AM peak -120 PCU/hr, PM peak -66 PCU/hr.

5.19.5 The Do Minimum results from the junction modelling are indicated in **Table 49** with commentary below, provided alongside the 2019 base and 2041 baseline as a reference comparison. It is noted that no change has been made to the 2019/2041 baseline results since the February 2025 published Strategic Transport Assessment.

Table 49. J17 Local Junction Model Results

ARM	AM PEAK			PM PEAK		
	RFC	Queue	Delay	RFC	Queue	Delay
2019 Base						
Arm A – Lake Road E	0.73	2.8	16.97	0.56	1.3	9.90
Arm B – A2030	0.84	5.0	20.86	0.98	20.7	60.41
Arm C – Lake Road W	0.68	2.2	23.99	0.88	6.2	38.95
Arm D – Church Street	0.88	6.9	29.07	0.94	10.2	65.22
2041 Baseline						
Arm A – Lake Road E	0.81	4.1	27.12	0.71	2.5	17.73
Arm B – A2030	0.74	2.9	7.62	1.04	44.8	111.26
Arm C – Lake Road W	0.53	1.2	8.30	0.93	9.6	56.59
Arm D – Church Street	0.97	16.9	69.77	0.95	12.1	56.61
2041 Do Minimum						
Arm A – Lake Road E	0.74	2.9	18.82	0.74	2.8	17.11
Arm B – A2030	0.58	1.4	4.96	0.68	2.2	5.67
Arm C – Lake Road W	0.56	1.3	8.81	0.61	1.6	11.29
Arm D – Church Street	0.87	6.8	33.12	0.85	5.5	26.48

5.19.6 As indicated above, in regard to the Do Minimum scenario:

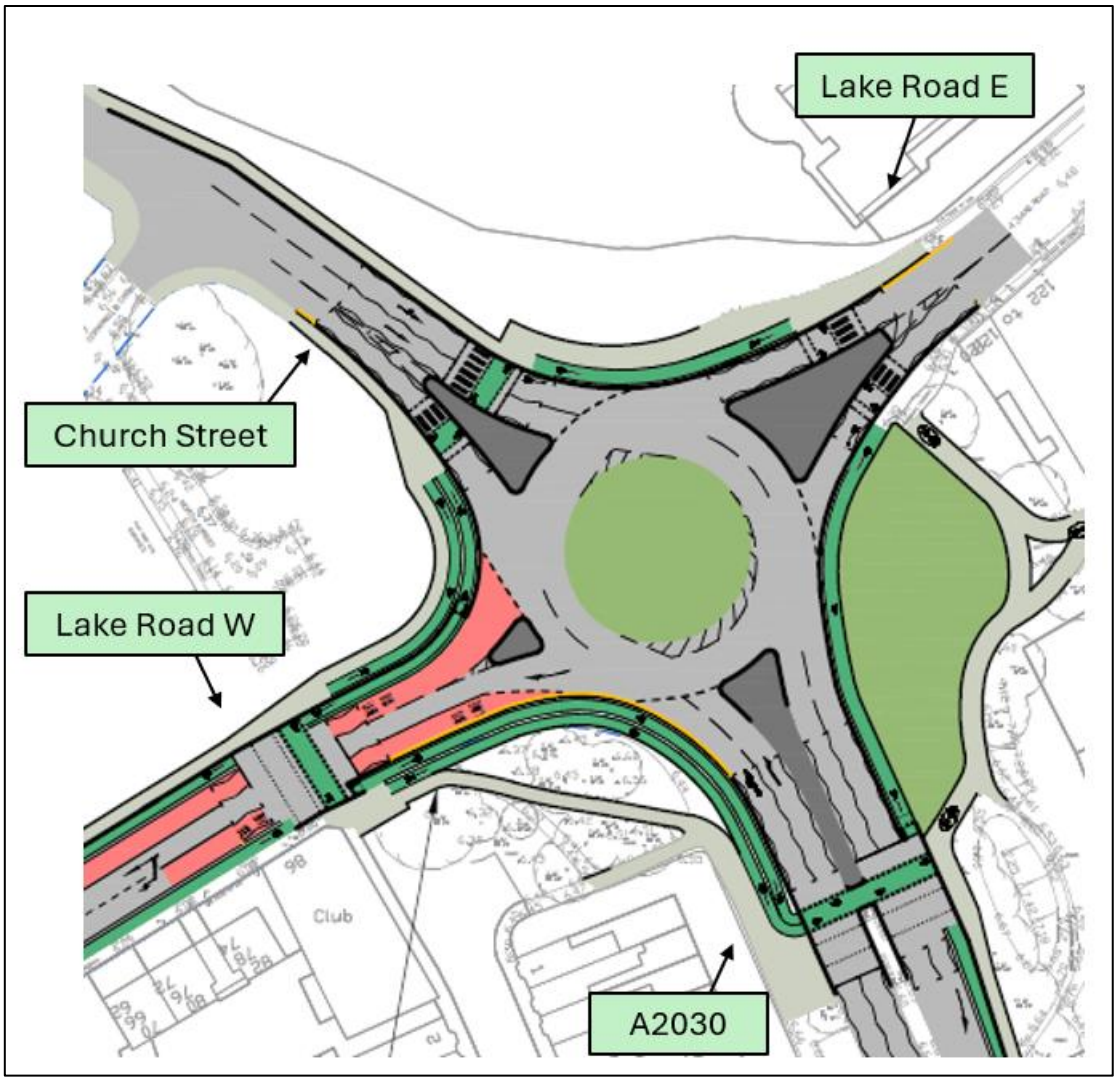
- The junction is within capacity across both AM and PM peak scenarios.
- The arm closest to capacity in both AM and PM peaks is the Church Street arm. This has an RFC of 0.87 in the AM peak and 0.85 in the PM peak.
- The largest delay and queue level is seen along this arm in the AM peak of 6.8 PCU and 33.12 seconds.

Do Something Modelling

5.19.7 This Junction is part of the wider City Centre road scheme, with the proposed scheme indicated in **Figure 16**. Local junction modelling has been undertaken with the Do Something flows and includes the proposed highway scheme adjustments associated with the City Centre road scheme.

5.19.8 The new layout of the full City Centre Scheme is shown previously in **Figure 10.**

Figure 16. Lake Road Roundabout Future Proposals



5.19.9 The proposed mitigation measures have been modelled within Junctions 10 software, with the Do Something results indicated in the table below.

Table 50. J17 Mitigation Model Results

	AM (08:00 – 09:00)			PM (17:00 – 18:00)		
Arm	RFC	Queue (PCUS)	Delay (S)	RFC	Queue (PCUS)	Delay (s)
2041 Do Something						
A – Lake Road E	0.05	0.1	2.03	0.11	0.1	3.98
B – A2030	0.03	0	2.05	0.11	0.1	6.32
C – Lake Road W	0.04	0	4.02	0.12	0.1	13.79
D – Church Street	0	0	0	0	0	0

5.19.10 In the 2041 Do Something scenario, all arms operate within capacity in both the AM and PM peaks, with RFC values well below the practical threshold. In the AM peak the largest delays are seen on Lake Road E, and records an RFC of 0.05 with a queue of 0.1 PCUs and a delay of 2.03 seconds. In the PM peak, Lake Road W is the closest to capacity with RFC 0.12, a queue of 0.1 PCUs and a delay of 13.79 seconds, and Church Street remains unconstrained with RFC 0.00 and no queues or delays. Overall, performance remains within capacity across both peaks, with Lake Road W reporting the highest RFC 0.12 in the PM peak.

5.20 Summary

5.20.1 Overall this section has presented the local junction model output results for the 2019 Baseline, 2041 Baseline and 2041 Do Minimum scenario. Where the results indicate that mitigation is required or that the existing baseline data review has indicated collision trend clustering which requires intervention, a series of mitigation schemes have been developed with the associated drawings provided at **Appendix C**. Through engagement with both PCC and National Highways during the development of the transport evidence base agreement has been reached on the principle of the mitigation and this section has tested to confirm that even under the refined Local Plan allocations, the mitigation measures proposed remain valid. The 2041 Do Minimum flows have been tested in both existing and proposed non-city centre layouts to consider the effectiveness of the proposed mitigation with the mitigation schemes considering wider improvements for active modes. The City Centre Road scheme junctions have been tested with the Do Something flows. This is due to the scale of flow change that the new road scheme layout brings due to substantial re-routing given the bus lanes, additional routing options and restrictions for through-routes. These interventions have subsequently been tested in the Do Something model run utilising the SRTM model to inform this final Strategic Transport Assessment Addendum.

5.20.2 Overall, the local junction modelling leads to no material change from the February 2025 Strategic Transport Assessment conclusions. As such, it is deemed that no change is required

to the previously submitted drawings, with proposed mitigations deemed sufficient for the updated 2041 Do Minimum flows.

6. TRIGGER POINT ASSESSMENT - PORTSBRIDGE ROUNDABOUT

6.1.1 Given the interaction with the Strategic Road Network at Portsbridge Roundabout, select link analysis has been undertaken to indicate the level of congestion to reach the Portsbridge Roundabout from the various development sites. This has been undertaken considering the housing and employment trajectory in the future years of 2030 and 2035 to indicate when the mitigation described in the previous section for Portsbridge Roundabout would be required to be brought forward. Portsbridge Roundabout has been selected as a critical junction to assess the timing of impacts given the significant level of mitigation proposed, and its intersection with the Strategic Road Network, of importance to National Highways; providing a level of future traffic growth reflective of both that from the Portsmouth Local Plan development and the wider regional level.

6.1.2 This has been undertaken using the SRTM strategic model for the 2041 Do Minimum scenario to reflect the scenario with Local Plan development included. The methodology for the trigger point testing has been scoped with PCC and National Highways and informed by a meeting on 23/9/25.

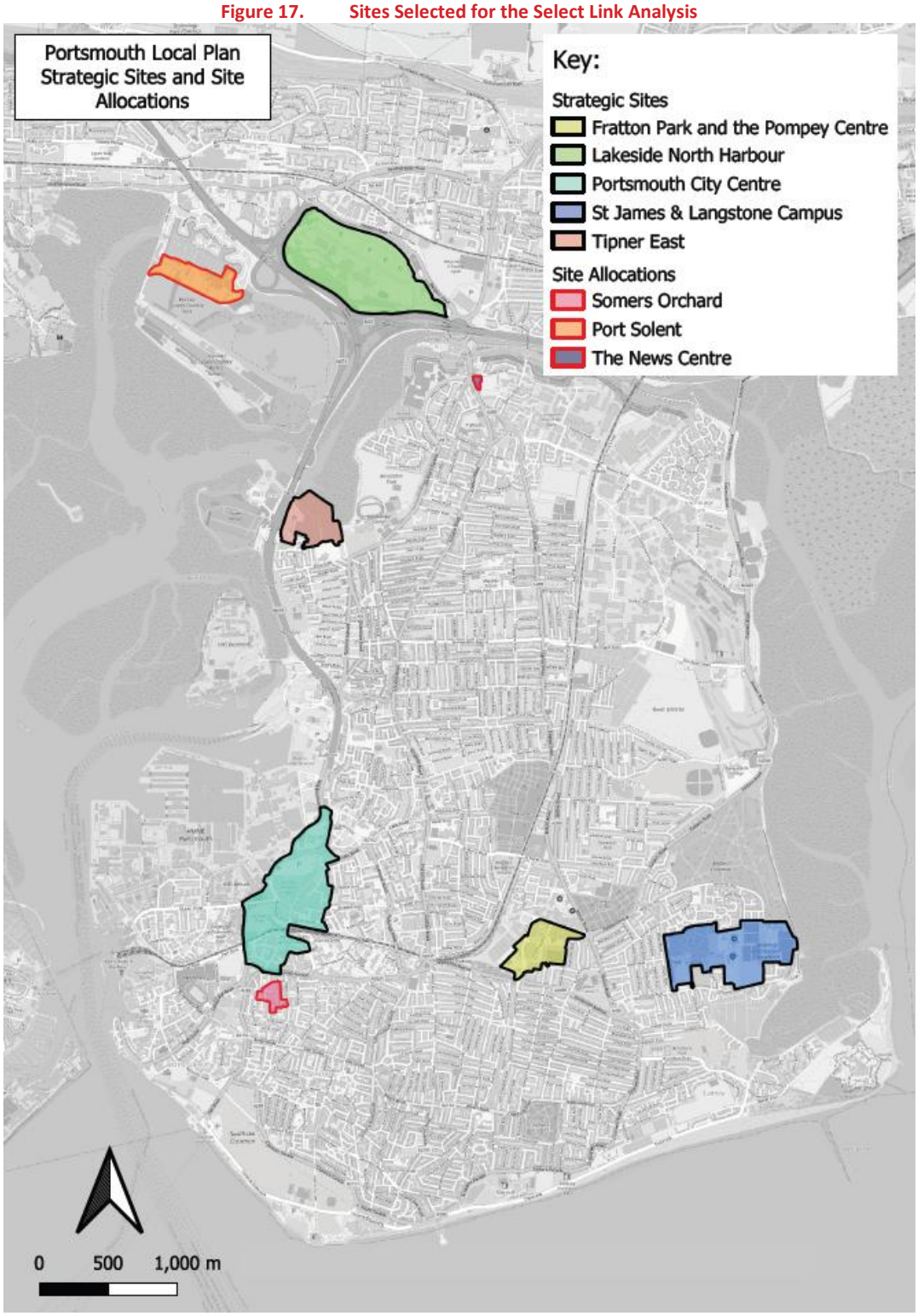
6.1.3 The sites selected have been agreed with PCC and reflect the sites which are forecast to route the highest level of trips via the Portsbridge Roundabout. Consideration of site scale and, routing options and proximity to Portsbridge roundabout are key factors which have dictated the selection of the sites and have been informed by high level analysis by comparing the Origin Destination pairs from the 2041 Do Minimum Model runs. The sites are as follows:

- Fratton Park;
- Lakeside;
- The News Centre;
- Somers Orchard;
- Tipner East;
- Port Solent;
- St James and Langstone Campus; and
- Portsmouth City Centre.

6.1.4 It is noted that a 10% uplift in trips has been applied to the total development trips reaching Portsbridge roundabout in order to capture trips associated with other sites which have not been taken forward for Select Link analysis to determine routing proportions via Portsbridge Roundabout.

6.1.5 The location of these sites is indicated in **Figure 17** below.

Figure 17. Sites Selected for the Select Link Analysis



6.1.6 The inbound/outbound traffic from these individual sites' model zones are indicated in **Table 51** and **Table 52** below. It is noted that in the strategic model, the zones for the individual sites contain background traffic growth additional to the sites. This is reflected in the flows presented below.

6.1.7 To account for smaller sites and windfall Local Plan development, a 10% uplift has also been applied to the development trips.

Table 51. Selected Sites Outbound Traffic (Full 2041 Allocation)

MODEL ZONE	OUTBOUND SITE TRAFFIC		REACHING PORTSBRIDGE		% REACHING PORTSBRIDGE	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Fratton Park	611	708	23	17	4%	2%
Lakeside	807	2307	255	643	32%	28%
News Centre	217	187	107	103	49%	55%
Somers Orchard	589	804	0	17	0%	2%
Tipner East	245	101	95	65	39%	64%
Port Solent	745	911	107	97	14%	11%
St James Site 1	646	720	44	22	7%	3%
St James Site 2	193	149	7	3	4%	2%
St James Total	839	869	51	25	6%	3%
Portsmouth City Centre model zone 1	1041	1407	30	39	3%	3%
Portsmouth City Centre model zone 2	316	228	2	12	1%	5%
Portsmouth City Centre model zone 3	110	74	1	4	1%	5%

MODEL ZONE	OUTBOUND SITE TRAFFIC		REACHING PORTSBRIDGE		% REACHING PORTSBRIDGE	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Portsmouth City Centre model zone 4	72	53	1	3	1%	6%
Portsmouth City Centre Total	1539	1762	34	58	2%	3%
TOTAL	5592	7649	672	1025	12%	13%

Table 52. Selected Sites Inbound Traffic (Full 2041 Allocation)

MODEL ZONE	INBOUND SITE TRAFFIC		ROUTING VIA PORTSBRIDGE		% REACHING PORTSBRIDGE	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Fratton Park	840	716	6	30	1%	4%
Lakeside	2158	1123	787	554	36%	49%
News Centre	216	214	76	62	35%	29%
Somers Orchard	796	665	3	13	0%	2%
Tipner East	70	199	24	87	34%	44%
Port Solent	720	556	51	88	7%	16%
St James Site 1	747	582	21	25	3%	4%
St James Site 2	122	148	4	7	3%	5%
St James Total	869	730	25	32	3%	4%

MODEL ZONE	INBOUND SITE TRAFFIC		ROUTING VIA PORTSBRIDGE		% REACHING PORTSBRIDGE	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Portsmouth City Centre Site 1	1018	757	6	20	1%	3%
Portsmouth City Centre Site 2	178	301	1	15	1%	5%
Portsmouth City Centre Site 3	57	105	0	5	0%	5%
Portsmouth City Centre Site 4	46	72	0	4	0%	6%
Portsmouth City Centre Total	1299	1235	7	44	1%	4%
TOTAL	6968	5438	979	910	14%	17%

6.1.8 As indicated above, from the sites selected for analysis, in the AM peak 12% of outbound trips and 14% of inbound development trips route through Portsbridge Roundabout. In the PM peak, 13% of outbound and 17% of inbound trips route through the roundabout.

6.1.9 The Local Plan allocation site noted to have the most significant impact on Portsbridge Roundabout is the Lakeside site, from which there are 1,042 two-way trips routing through the junction in the AM peak, and 1,197 two-way trips in the PM peak.

6.1.10 Whilst the Lakeside site results in the highest number of trips through Portsbridge Roundabout, the highest proportion of trips comes through the News Centre site, from which 49% of outbound trips in the AM peak and 55% of PM peak development traffic routes through the junction, but given the lower quantum of development this equates to 185 two-way trips in the AM peak and 165 two-way trips in the PM peak. Tipner East has a high proportion of trips reaching Portsbridge particularly in the PM peak at 64% which equates to 65 trips.

6.1.11 Whilst Port Solent is also in close proximity to the Portsbridge Roundabout, it is evident that more development traffic is likely to be routed west along the M27 and therefore away from the roundabout, with 14% of outbound AM and 11% of outbound PM trips routing through the junction, and 7% inbound AM peak and 16% of inbound PM peak trips routed through.

6.2 Development Trajectory

6.2.1 The percentage of development traffic from these development sites has been applied to the trajectory for the housing in the 2030 and 2035 periods for each site. The development trajectory is indicated in the table below.

Table 53. Development Trajectory

SITE	TOTAL DEVELOPMENT	DEVELOPMENT TRAJECTORY 2025-2030	% DEVELOPMENT COMPLETED 2025-2030	DEVELOPMENT TRAJECTORY 2030-2035	% DEVELOPMENT COMPLETED 2030-2035
Fratton Park and the Pompey Centre	460 dwellings	0 dwellings	0	460 dwellings	100%
Lakeside	50,000 employment space	0	0	0	0
Portsmouth City Centre	3458 – 4158 dwellings, 5,846sqm net employment floorspace	957 dwellings, -4,154sqm employment floorspace	28% (Resi), 0% (Employment)	1976 dwellings, 10,000sqm employment floorspace	57% (Resi), 100% (Employment)
St James and Langstone Campus	417 dwellings (405 excluding 12 dwellings completed prior to start of plan period)	285 dwellings	70%	120 dwellings	30%
Somers Orchard	566 dwellings	0 dwellings	0%	566 dwellings	100%
Tipner East	1056 dwellings	210 dwellings	20%	546 dwellings	50%
Port Solent	500 dwellings	0 dwellings	0%	250 dwellings	50%
The News Centre	100 dwellings, electric bus depot*	0 dwellings	0%	100 dwellings	100%

6.2.2 * It is noted that bus depot movements are not captured within the Select Link Analysis due limited bus routing forecasts at this stage. Additionally, the bus depot is a replacement of a nearby existing facility and therefore not all trips will be new trips on the network, however it is acknowledged that the facility will be expanded as part of the proposals. The 10% uplift applied across all of the selected sites is expected to account for these additional bus trips.

6.2.3 The % split from the sites reaching Portsbridge Roundabout has been applied to these development trajectories, and implemented into the select link analysis below.

Table 54. Development Site Trips reaching Portsbridge

SITE	2025-2030		2030-2035	
	Two-Way Trips AM Peak	Two-Way Trips PM Peak	Two-Way Trips AM Peak	Two-Way Trips PM Peak
Fratton Park and the Pompey Centre	0	0	29	47
Lakeside North Harbour	0	0	0	0
Portsmouth City Centre	10	24	32	80
Tipner East	26	33	92	118
St James and Langstone Campus	41	48	17	21
Somers Orchard	0	0	3	30
Port Solent	0	0	79	93
News Centre	0	0	183	165

6.2.4 Whilst the Lakeside development is anticipated to have the largest number of trips reach the Portsbridge Roundabout with the full buildout in 2041, as seen above, none of the development is expected to have come forward by the 2035 test year.

6.2.5 Due to the Portsmouth City Centre site being a development comprised of both residential and employment floorspace, it is determined that a separate study is required to determine the extent of both the employment and the residential use classes on the surrounding road network and Portsbridge Roundabout in particular. Due to the SRTM not containing specific use class inputs, the Office trip rate from the Portsmouth City Centre Transport Assessment (ref. 332110641/5500) prepared by Stantec has been used in comparison to the outputs from the Portsmouth City Centre sites, to determine how many should be attributed to employment and residential through the trigger point assessment.

6.2.6 This is indicated in the table below.

Table 55. Portsmouth City Centre Sites Office Trip Rate

TRIP RATE	OUTBOUND	INBOUND
AM Peak	0.251	2.155
Inbound	1.983	0.246

6.2.7 This has been applied to the net 5846sqm of employment floorspace associated with the Portsmouth City Centre site in the 2041 Local Plan year, and compared with the wider inbound and outbound trips to establish the percentage of trips which are associated with the employment floorspace as opposed to residential.

6.2.8 The trip generation from the Portsmouth City Centre North scheme has been utilised to gain an anticipated proportion of employment/residential trips. These are indicated in the table below.

Table 56. Anticipated Employment/Residential Proportion of Future Year Development Portsmouth City Centre

YEAR	EMPLOYMENT FLOORSPACE	RESIDENTIAL DWELLINGS	EMPLOYMENT %	RESIDENTIAL %	AVG %
2030	-4,154 sqm	957	0%	28%	14%
2035	5,846 sqm	2933	100%	85%	93%
2041	5,846 sqm	3458*	100%	100%	100%

*3,458 used in the assessment to align with the housing supply and trajectory (noted that the site allocation range is 3,458-4,158).

6.2.9 The average number from this has been utilised to provide the development quantum for the testing years.

6.2.10 As discussed with PCC and National Highways during the meeting on 23/9/25 in order to generate the 2030 and 2035 , the above routing has been assessed through the Portsbridge Roundabout along with 2019 Baseline data upscaled with TEMPRO data to the 2030 and 2035 future years. This has been selected for the Portsmouth region, and is indicated in the table below.

Table 57. TEMPRO Data

REGION	GROWTH YEAR	PRODUCTION	ATTRACTION	AVERAGE
Portsmouth	2019 – 2030	1.0986	1.0765	1.08755
	2019 – 2035	1.1163	1.0886	1.10245

6.2.11 The TEMPRO growth data when applied to the 2019 baseline matrices resulted in Reference Case traffic flows which were higher than the 2041 Reference Case flows from the SRTM and were not considered to be representative of an appropriate level of background growth. As such, the growth has been calculated through the subtracting the 2019 Baseline data from the 2041 Reference Case and applying a % uplift to the change which corresponds with the years of growth associated with 2030 and 2035. This is considered more accurate as the committed developments within Portsmouth are explicitly captured within the SRTM model runs. The flow inputs are presented below.

6.2.12 The Arms presented in the origin destination matrix below are as follows:

- Arm A: Northern Road A397 N;
- Arm B: A27 WB Off Slip;
- Arm C: London Road A3
- Arm D: Western Rd A27 N

6.2.13 These matrices denote the turning counts for each of the modelling scenarios for the AM and PM peaks, including the development only trips and the with development scenarios so the impact of the Local Plan development can be isolated.

Table 58. Recalculated Portsbridge Roundabout Base Flows

2019 Base AM

	A	B	C	D
A	43	439	741	204
B	356	0	472	562
C	617	577	1	675
D	293	399	478	0

2019 Base PM

	A	B	C	D
A	4	530	931	104
B	395	0	579	441
C	626	423	5	715
D	670	437	472	0

2041 Base AM

	A	B	C	D
A	57	462	751	172
B	360	0	545	604
C	726	571	1	724
D	307	348	541	0

2041 Base PM

	A	B	C	D
A	0	253	1136	87
B	279	0	772	459
C	692	466	5	775
D	840	346	659	0

Difference between scenarios AM

	A	B	C	D
A	14	23	10	-32
B	4	0	73	42
C	109	-6	0	49
D	14	-51	63	0

Difference between scenarios PM

	A	B	C	D
A	-4	-277	205	-17
B	-116	0	193	18
C	66	43	0	60
D	170	-91	187	0

Recalculated 2030 Base AM

	A	B	C	D
A	50	451	746	188
B	358	0	509	583
C	672	574	1	700
D	300	374	510	0

Recalculated 2030 Base PM

	A	B	C	D
A	2	392	1034	96
B	337	0	676	450
C	659	445	5	745
D	755	392	566	0

Recalculated 2035 Base AM

	A	B	C	D
A	53	456	748	181
B	359	0	525	593
C	696	573	1	711
D	303	362	524	0

Recalculated 2035 Base PM

	A	B	C	D
A	1	329	1080	92
B	311	0	719	454
C	674	454	5	759
D	794	371	608	0

6.2.14 The OD matrices for the development traffic reaching Portsbridge Roundabout is indicated in the table below. The road names for Arms A to D are detailed in the bullet points included at para. 6.2.12.

Table 59. Portsbridge Roundabout Development Traffic OD Matrices

2030 Development Trips AM Peak

	A	B	C	D
A	0	1	3	3
B	4	0	2	2
C	29	12	0	11
D	4	14	0	0

2030 Development Trips PM Peak

	A	B	C	D
A	0	0	14	0
B	1	0	12	1
C	16	5	1	15
D	0	0	20	0

2035 Development Trips AM Peak

	A	B	C	D
A	0	1	57	22
B	5	0	54	21
C	91	92	0	78
D	8	55	62	0

2035 Development Trips PM Peak

	A	B	C	D
A	0	0	98	2
B	1	0	90	31
C	91	59	1	122
D	3	23	124	0

6.2.15 The development flows in the above tables have been multiplied by 1.1 to reflect a 10% increase; accounting for a 5% increase due to smaller Local Plan sites not included in the select link analysis, and 5% associated with windfall developments. The OD matrices for Portsbridge Roundabout to be used within the trigger point assessment is therefore presented in the tables below.

Table 60. Portsbridge Roundabout Flows (with development)

2030 Combined AM +10% uplift

Full Flows

	A	B	C	D
A	50	451	749	191
B	362	0	512	585
C	703	587	1	712
D	304	389	510	0

2030 Combined AM +10% uplift

Full Flows

	A	B	C	D
A	2	392	1050	96
B	338	0	689	452
C	678	450	6	761
D	755	392	588	0

2035 Combined AM +10% uplift

Full Flows

	A	B	C	D
A	53	457	810	205
B	364	0	585	615
C	796	674	1	796
D	311	422	592	0

2030 Combined AM +10% uplift

Full Flows

	A	B	C	D
A	1	329	1188	94
B	312	0	818	488
C	775	519	6	893
D	797	396	744	0

6.2.16 The model results for the 2030 and 2035 scenarios are indicated in the table below.

Table 61. Trigger Point Assessment Portsbridge Roundabout

ARM	AM PEAK			PM PEAK		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
2030 Base						

ARM	AM PEAK			PM PEAK		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
Arm A – Northern Road A397	0.95	14.7	35.53	0.94	12.2	27.82
Arm B – A27 WB Offslip	1.04	46.2	95.61	1.10	82.2	162.46
Arm C – London Road A3	0.85	5.4	9.34	0.74	2.8	4.94
Arm D – Western Road A27 N	1.12	74.7	182.66	1.42	320.3	734.65
2030 with Development						
Arm A – Northern Road A397	0.96	15.7	37.83	0.95	14.7	33.2
Arm B – A27 WB Offslip	1.04	47.6	98.43	1.12	97.7	192.35
Arm C – London Road A3	0.88	7.3	12.45	0.75	3.2	5.53
Arm D – Western Road A27 N	1.17	101.1	246.69	1.45	354.1	811.0
2035 Base						
Arm A – Northern Road A397	0.95	14.3	34.64	0.93	10.6	24.50
Arm B – A27 WB Offslip	1.06	59.0	117.02	1.15	113.6	223.98
Arm C – London Road A3	0.86	5.9	10.15	0.74	2.8	4.94

ARM	AM PEAK			PM PEAK		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
Arm D – Western Road A27 N	1.14	84.5	206.37	1.46	368.9	833.12
2035 with Development						
Arm A – Northern Road A397	1.02	39.6	81.46	1.01	36.0	71.08
Arm B – A27 WB Offslip	1.13	109.8	227.63	1.32	246.3	599.92
Arm C – London Road A3	0.98	27.1	40.31	0.85	5.7	8.66
Arm D – Western Road A27 N	1.42	227.4	657.03	1.72	622.5	1461.15

6.2.17 As indicated above, the Portsbridge Roundabout experiences overcapacity across all of its arms. This is the case for both the baseline and the with development scenario, with Arm B (A27 WB offslip) and Arm D (Western Road A27) arms having RFC greater than 1 in the AM and PM peaks. Arm A (Northern Road A397) is approaching capacity in both AM and PM peaks and Arm C (London Road A3) is approaching capacity in the AM peak.

6.2.18 It is notable that with the introduction of development in the 2030 and 2035 model test years, the increase in congestion between the with and without Local Plan development is relatively slight, for instance in 2030 the highest increase in RFC of 0.05 is along the Arm D Western Road with all other increases either matching or being below this increase for both the AM and the PM peak.

6.2.19 In 2035, the highest increase in RFC between the with and without Local Plan development is forecast to be on Arm D Western Road, with an increase of 0.28 in the AM peak and 0.26 in the PM peak. It is important to note that the RFC is over capacity in the 2030 Reference case in both the AM and PM peak and model stability can be compromised once a junction exceeds capacity. It is noted that a significant increase in queue and delay time is identified across the junction, particularly along the Western Road arm which is oversaturated in the baseline and therefore there is an exponential increase in delay. Consequently, due to model instability the proportional impact of the vehicular flow increases after 2030, pointing to an uptick in impact post 2030.

6.2.20 It is noted that wider measures to support mode shift across the city as set out in Local Transport Plan 4, LCWiP and measures to reduce car dependency such as constrained parking ratios for certain strategic sites will seek to further drive down residual impacts on the development on the junction operation. These measures will also look to support connectivity for active modes to and from Portsbridge roundabout and other key category 1 junctions and to key destinations to support mode shift. The proposals at Portsbridge roundabout seek to improve bus priority, such as through a signalised bus gate which will help with wider mode shift through journey time improvements. Subsequent planning applications for Local Plan sites will be encouraged through the development of Travel Plans to monitor the level of trip making and increase or enable shift to active or sustainable modes, reducing the overall impact on the highway network. This will include ensuring that planning applications seek to constrain parking ratios to encourage modal shift which is anticipated to have further positive benefits on impacts by the 2030 and 2035 future years.

6.2.21 This Trigger Point study has given an idea of when the mitigation for Portsbridge Roundabout might be required to come forward. The results indicate that whilst the junction is noted to be significantly overcapacity with the introduction of Local Plan development traffic, this is not a significant impact beyond what the junction would be experiencing through the baseline traffic within the 2030 and 2035 future years. Particularly for the 2030 scenario the Local Plan impacts are minimal with the overall impact compared to the 2019 base attributable to background growth. Based on current evidence, it is envisaged that the mitigation would be required after 2030, but by or before 2035.

7. DO SOMETHING SRTM RESULTS

7.1 Overview

7.1.1 This chapter provides an overview of the results of the 2041 Do Something SRTM run, including Local Plan developments and the preferred mitigations proposed in Chapter 5. This Do Something run allows traffic distribution across the whole of the Portsmouth network to be analysed, to consider the impacts of vehicle re-routing with mitigations in place.

7.1.2 As with the 2041 Baseline and Do Minimum SRTM results, the series of figures below show data plots which forecast the future operation of the highway network with the Local Plan growth and identified mitigation in place.

7.1.3 Flow difference plots between the Do Minimum (2041) and Do Something (2041) scenarios comprise the following:

- Link Flows – presents the additional traffic flows in Passenger Car Units (PCU) along each link of the network (increase of 50 vehicles or more presented)
- Additional Delay incurred along each link of the network (seconds) (increase of 10 seconds or more presented)

7.1.4 By examining this data it is possible to identify how traffic patterns are expected to change based on mitigations proposed, compared to just Local Plan development. The pink lines on the plots represent increases and the blue lines represent decreases.

7.1.5 Absolute plots for the Do Something (2041) scenario comprising the following:

- Volume/Capacity Ratio – shows the absolute V/C ratio for links >50 (capacity on each link).

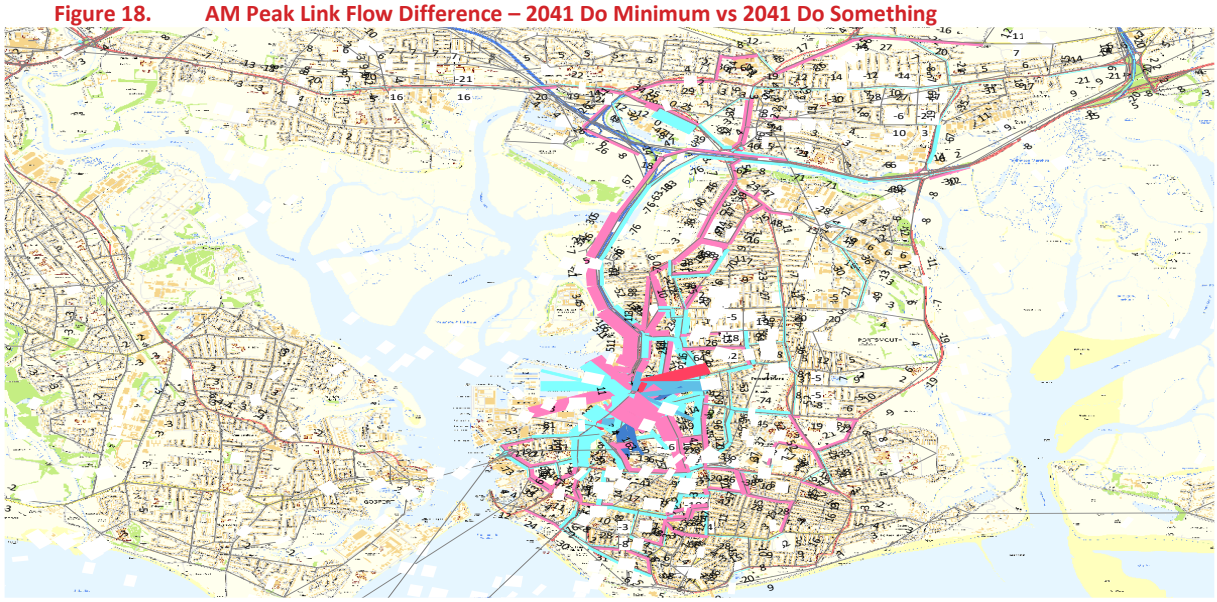
7.1.6 Additionally, in the City Centre where the road layout has significantly altered between the 2041 Do Minimum and 2041 Do Something layout, flow difference plots are not always representative between the highway links and therefore the absolute plots for flows, delay and V/C have been analysed to consider how the future network is forecast to operate with the City Centre road scheme in place.

7.1.7 A full set of the plots from these exercises (at full page size) are included at **Appendix D**. Additional zoomed in plots showing key outputs at key locations is included at **Appendix D** and has been used to assist with analysis of the Do Something model runs.

7.2 AM Peak Data Plots

Link Flow Difference Plot

Figure 18. AM Peak Link Flow Difference – 2041 Do Minimum vs 2041 Do Something

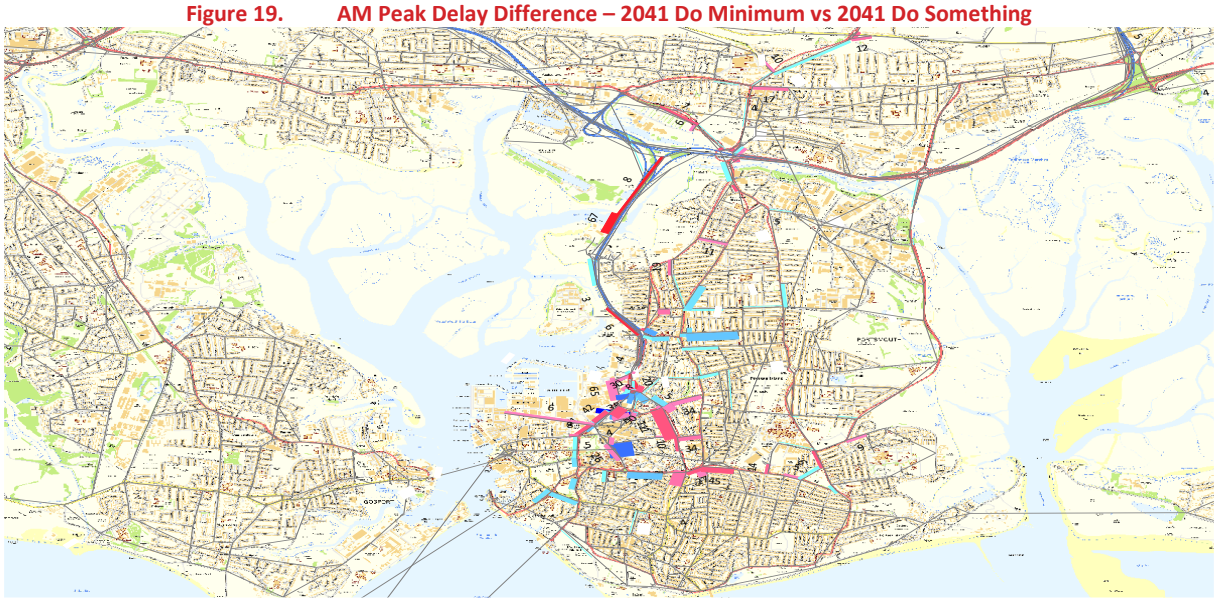


7.2.1 **Figure 18** and the zoomed in plots at **Appendix D** identifies the following:

- The addition of a secondary access to the Lakeside development is resulting in 483 vehicles shifting from the existing access to the new secondary access, hence resulting in 471 fewer vehicles along the A27 Western Road between the two vehicle access points.
- The level of flow change associated with the partial signalisation of Portsbridge roundabout is relatively modest, however it is noted that 54 additional vehicles exit Portsbridge roundabout via the A3 London Road which leads southbound towards the City Centre. This suggests that the proposed mitigation scheme at Portsbridge Roundabout and the Lakeside secondary access are having the desired effect of avoiding vehicles re-routing away from Portsbridge Roundabout and the Lakeside access roundabout.
- The absolute flow plots for the City Centre shows that the dominant movements are along the corridors between A3 Mile End Road and Lake Road (1488 vehicles travelling southbound and 1635 vehicles travelling northbound) as well as along A3 Marketway (1750 eastbound on approach to the junction with Cascades approach and 2394 after the junction and 1613 westbound on approach to the junction with Cascades approach and 1099 after the junction). 119 westbound movements and 120 eastbound movements are forecast in the AM peak along Charlotte Street. 446 vehicles are forecast to route along Cascades Approach southbound and 418 are forecast to route northbound.
- Holbrook Road in the City Centre experiences high flow volumes, with 1154 southbound movements and 1480 northbound movements forecast in the Do Something Scenario. Mile End Road is noted to experience the highest level of vehicular flow surrounding the City Centre scheme, with a southbound flow of 3053 vehicles when approaching the Mile End Road/ Hope Street junction, and 4293 vehicles travelling northbound when exiting this junction.

Delay Difference Plot

Figure 19. AM Peak Delay Difference – 2041 Do Minimum vs 2041 Do Something



7.2.2 **Figure 19** identifies the following:

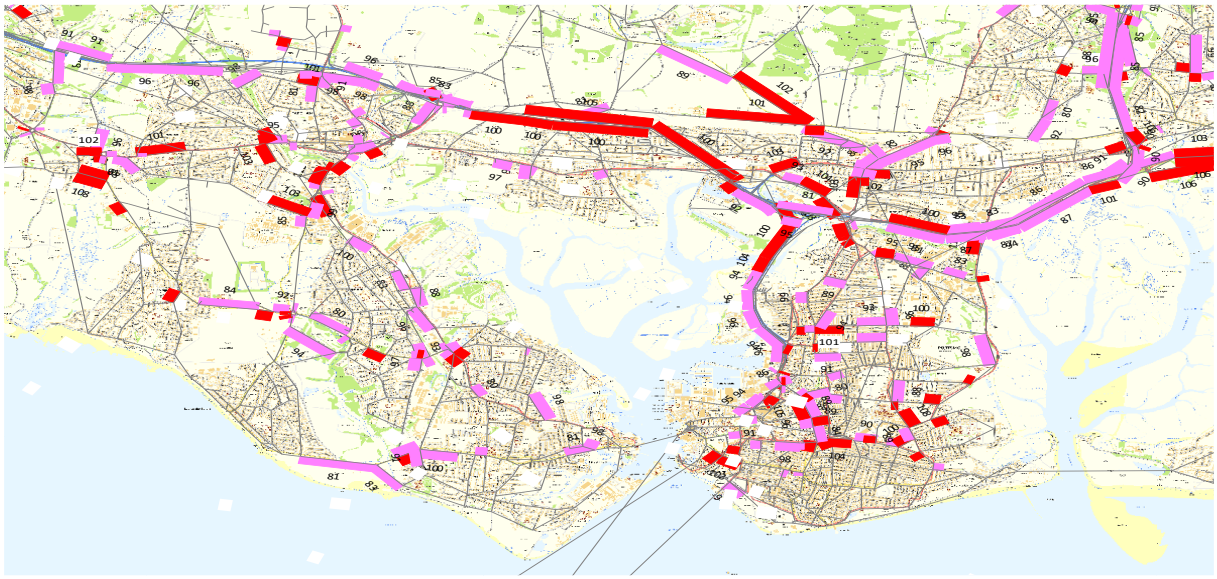
- There is a minor increase in delay of 7 seconds for southbound vehicles along the A27 Western Road on approach to the Lakeside roundabout. This minor increase in delay is considered offset with the wider benefits of alleviating pressure from a single point of access particularly in the PM peak.
- There is an increase of delay incurred of between 13 and 21 seconds for the internal circulatory for Portsbridge roundabout. This is to be expected given the introduction of signalisation at the northern section of the roundabout to allow balancing of movements across approach arms.
- There is an increase of delay of 61 seconds on the A397 Northern Road arm. This is expected due to traffic being held back on this approach arm to allow for the signalised bus gate and the internal roundabout circulatory traffic phase.
- There is a decrease in delay of 31 seconds for vehicles on the A3 London Road approach arm (northbound).
- As a result of the Rudmore roundabout scheme there is a decrease in delay of 41 seconds and then 19 seconds on approach to the roundabout along Kingston Crescent due to signalisation of this arm. Additionally, the A3 Stamshaw Road observes a decrease in delay of 112 seconds. Whilst there is an increase in delay around the circulatory of 10 seconds due to the signalisation, this is offset by improvements on the approach arms.
- In terms of absolute delay incurred within the City Centre, the A3 Marketway northbound is subject to a 43 second delay on approach to the new signalised junction providing one of the points of access to the City Centre strategic development site.
- It is noted that the updated City Centre road scheme layout enables vehicles to route via Cascades Approach, which in turn contributes to a delay of 87 seconds northbound on Cascades Approach, which increases to 103 seconds when approaching the junction.
- There is a delay of 158 seconds for vehicles exiting Commercial Road northbound, however give the bus lane along Commercial Road buses will bypass the majority of

this delay. Additionally, there is a delay of 38 seconds for vehicles travelling eastbound along Charlotte Street on approach to the Commercial Road/Lake Road junction.

- Hope Street experiences delay, with the southwest-bound vehicles on approach to the Marketway/ Cascades Approach junction experiencing a delay of 90 seconds.

V/C Absolute Plot

Figure 20. AM Peak V/C Absolute Plot – 2041 Do Something



7.2.3 A comparison of the Do Minimum V/C plots with the Do Something V/C plots presented in **Figure 20** identifies the following:

- There is no material change in V/C along the SRN mainline between the 2041 Do Minimum and 2041 Do Something scenario.
- The V/C forecast on the A3 London Road northbound approach to Portsbridge roundabout stays the same as the Do Minimum scenario with a V/C of 111. The A27 off-slip and A397 Northern Road are all operating within capacity, whereas the A27 Western Road is overcapacity, with a V/C of 108. A greater volume of vehicles may be attracted to route via Portsbridge roundabout compared to the Do Minimum scenario due to reduced congestion at the Lakeside Access.
- The A27 Western Road northbound approach to the existing Lakeside access has reduced in V/C from 111 to 108, due to vehicles exiting via the secondary access hence alleviating pressure at the Lakeside access roundabout.
- Several junctions within the City Centre are proposed to operate with a V/C ratio of over 100, and these correspond with the links seeing the greatest increases in delay as discussed above. The highest V/C is observed on Holbrook Road with a V/C on the northbound approach to the roundabout with Lake Road and the B2152 of 105.
- Commercial Road experiences a V/C of 101 and a delay of 158 seconds in the northbound direction. The link has a bus priority lane and it will be important to ensure that buses do not incur delay as an impact of vehicle flows from the Cascades shopping centre access. It will be important to consider how the signals

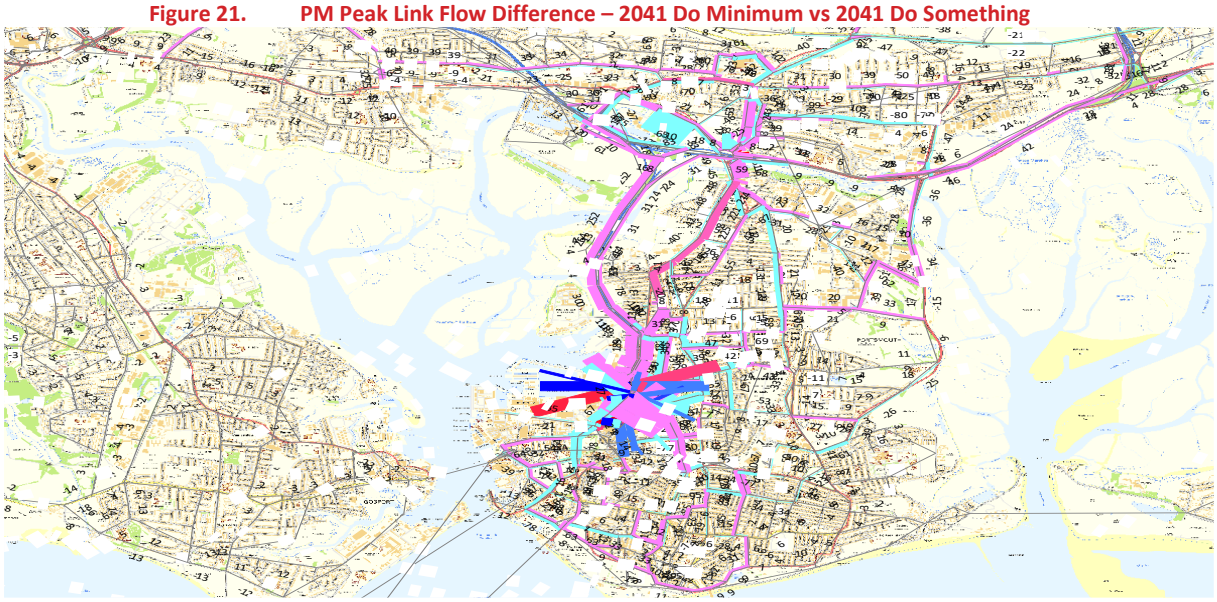
at the Commercial Road junction can prioritise the bus priority lanes to minimise journey time delays to buses.

- The Hope Street southbound approach arm to one of the signalised City Centre development access points has a V/C of 101.
- A high V/C of 101 is forecast between the two proposed signalised junctions on Church Street. Whilst within capacity, further build up could lead to significant issues in this location given the very limited stacking space between the junctions.

7.3 PM Peak Data Plots

Link Flow Difference Plot

Figure 21. PM Peak Link Flow Difference – 2041 Do Minimum vs 2041 Do Something



7.3.1 **Figure 21** identifies the following:

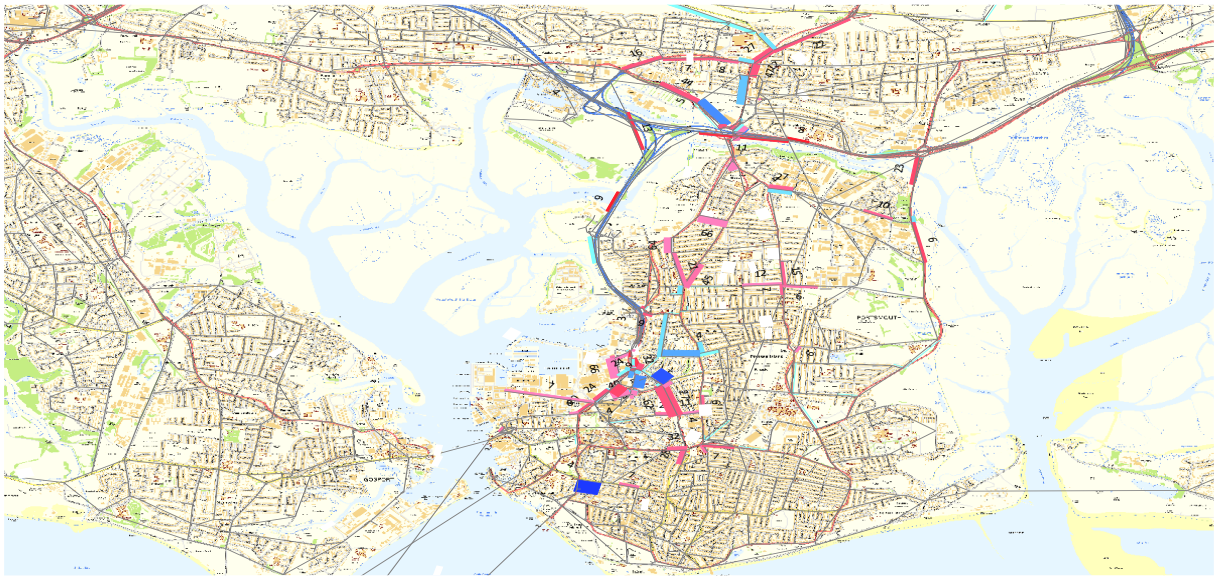
- There is a significant decrease in flows (-1254) travelling on the A27 Western Road westbound exit arm from the Lakeside roundabout in the PM peak. This is attributed to the proposed secondary access on the A27 Western Road, with approximately 1151 vehicles using the new proposed Lakeside access which is further west than the current access hence the reduction.
- The secondary access links to there being a decrease in trips travelling from Portsbridge roundabout to Lakeside roundabout (-83 northbound on Western Road), with the location of the secondary access further west resulting in more equal journey time route choice to either use the M275 J12 to travel to the SRN or Portsbridge roundabout where congestion issues have been reduced, due the location of the proposed new exit.
- The absolute flow plots for the City Centre show that the dominant movements are along the corridors between A3 Mile End Road and Lake Road (1449 vehicles travelling southbound and 1489 vehicles travelling northbound) as well as along Hope Street and A3 Marketway (2069 westbound and 2160 eastbound). Generally, the flows through the City Centre road scheme in the PM peak are similar to those of the AM peak. Commercial Road and Charlotte Street flows reflect the new road layout which provides bus priority and prohibits through routes for vehicles, with

vehicles only permitted for access to Cascades shopping centre car park. 119 westbound movements and 120 eastbound movements are forecast along Charlotte Street, west of the junction with Commercial Road. Additionally, it is forecast that 359 vehicles will travel northbound along Cascades Approach with 383 vehicles travelling southbound.

- Holbrook Road in the City Centre experiences high flow volumes, with 1221 southbound movements and 1454 northbound movements forecast in the Do Something Scenario.

Delay Difference Plot

Figure 22. PM Peak Delay Difference – 2041 Do Minimum vs 2041 Do Something



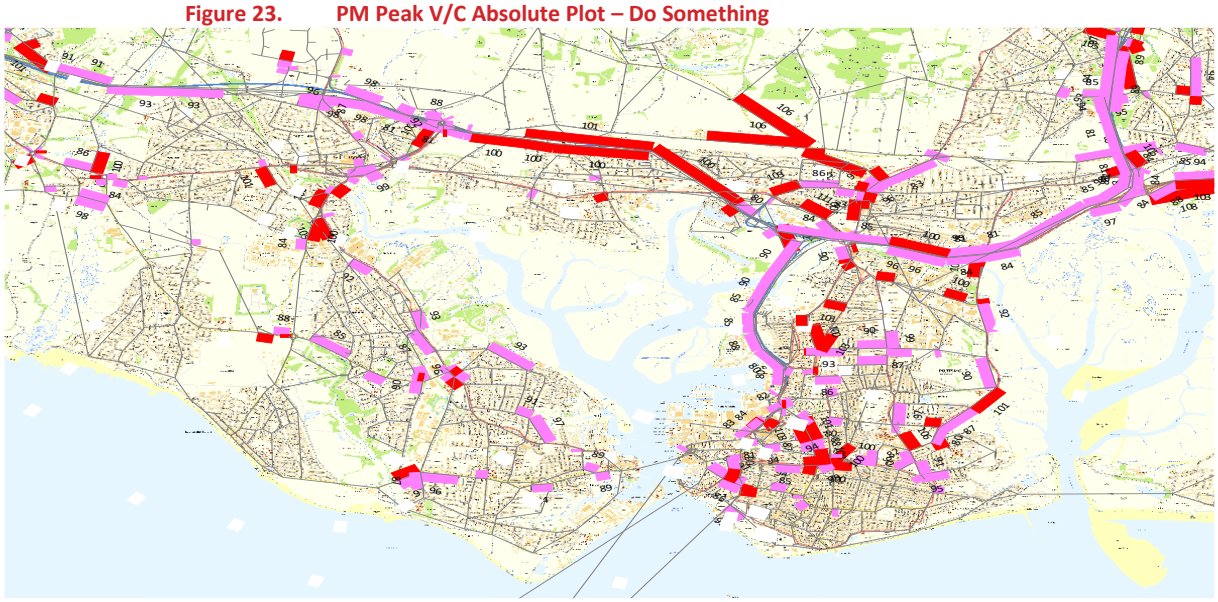
7.3.2 **Figure 22** identifies the following:

- There is an increase in delay of 44 seconds for the Lakeside Access roundabout, on the southbound A27 Western Road arm. This increase in delay is considered offset with the wider benefits of alleviating a higher level of pressure that would be seen through using a single point of access.
- There is a decrease in delay of 85 seconds between the Lakeside access roundabout to Portsbridge roundabout, due to the mitigation scheme at Portsbridge roundabout, which includes signalising this arm and widening the northern part of the roundabout. It is noted that the short link after the removed left turn bypass has an increase in delay (40 seconds) associated with the removal of the left turn bypass. Any queues here are not reported to impact the operation of the adjacent Lakeside access roundabout. A significant reduction in delay of 17 seconds is also observed along the bus lane feeding into Portsbridge Roundabout.
- In terms of absolute delay incurred within the City Centre, the A3 Marketway northbound is subject to a 25 second delay on approach to the new signalised junction providing one of the points of access to the City Centre strategic development site. In the opposing direction, Hope Street experiences delays of up to 104 seconds southwest-bound into the junction.

- Cascades Approach experiences a delay of 105 seconds travelling northbound into the signalised junction as a result of the increased flow due to the updated City Centre road scheme layout enabling vehicles to route via Cascades Approach
- There is a delay of 46 seconds for vehicles exiting Commercial Road northbound, with a 36 second delay incurred for buses travelling southbound on approach to the junction with Charlotte Street, noting that Commercial Road southbound is bus only. The maximum delay forecast along Lake Road is 39 seconds in the westbound direction.
- Holbrook Road experiences delay on approach to the Holbrook Road/ Arundel Street junction of 34 seconds and a 68 second delay on Holbrook Road upon its northbound approach to the roundabout with Lake Road and B2185.

V/C Absolute Plot

Figure 23. PM Peak V/C Absolute Plot – Do Something



7.3.3 **Figure 23** identifies the following:

- A comparison of the Do Minimum and Do Something V/C plots shows that there is no material change in V/C along the SRN mainline between the 2041 Do Minimum and 2041 Do Something scenario.
- There is an increase in V/C on the A27 Western Road arm southbound into the Lakeside access roundabout from a V/C of 101 to 111. The A27 Western Road northbound approach to the Lakeside roundabout operates within capacity with a V/C of 91.
- Portsbridge roundabout operates within capacity due to partial signalisation and a level of re-routing of Lakeside flows towards the M27 Junction 12, due to the new secondary left turn exit at the strategic site. At Portsbridge roundabout the highest V/C on the approach arms is 90 on the A3 northbound arm - a slight increase from 89 in the Do Minimum Scenario. The A27 off-slip has a V/C below 50, however the link between the left bypass and the roundabout is showing a V/C of 101 over this short link length as per the Do Minimum scenario.

- A few junctions within the City Centre are proposed to operate with a V/C ratio of over 100, and these correspond with the links seeing the greatest increases in delay as discussed above. The highest V/C is observed on Holbrook Road with a V/C of 103 on the northbound approach to the Holbrook Road/ Lake Road/ Church Street junction. Also a V/C of 101 on the southbound approach to the Holbrook Road/ Arundel Street junction was observed.
- A high V/C of 100 is forecast between the two proposed signalised junctions on Church Street. Queue build up could lead to issues in this location given the very limited stacking space between the junctions, however it is noted that bus lanes allow for bus priority. A V/C of 102 along the southbound Hope Street approach is also observed.

7.4 Do Something SRTM Results Summary

7.4.1 Overall, it can be seen that the preferred mitigations impact the trip distribution across the Portsmouth network positively, especially in the PM peak due to the addition of a Lakeside left turn exit only onto the A27 Western Road northbound.

7.4.2 The Portsbridge roundabout partial signalisation is having the desired effect of balancing any impacts between the local and strategic road network and minimising re-routing of vehicles away from Portsbridge and the Lakeside access roundabout to avoid delay.

7.4.3 Cascades Approach is open for vehicles in the revised strategic modelling results included above, whereas in the previous TA dated February 2025 this was only a link for non-motorised users. This is a result of further modelling undertaken associated with the City Centre Business Case, where the results forecast lower levels of congestion when the Cascades Approach link was open for vehicles.

7.4.4 The City Centre road scheme results in significant re-routing of vehicles associated with the proposed new road layout and certain routes restricting through-routes for vehicles. As modelled, the scheme does still result in congestion for private vehicles at certain junctions, however the scheme is having a significant improvement on bus operation with bus priority supporting a reduction in delay for this mode as shown by the overall levels of highway and public transport flows discussed below.

7.4.5 Within the City Centre road scheme boundary, model results show a slight reduction in highway flows compared with the 2041 Do Minimum scenario. This reflects some person trips switching to non-highway modes in response to increased delays, alongside a modest rise in public transport mode share. Therefore, it can be concluded that overall fewer vehicles are travelling in this area during both the AM and PM peak periods; once the City Centre Road scheme and other Do Something mitigation schemes are introduced. This appears to be driven by a combination of wider re-routing and some modal shift supported by enhanced sustainable transport infrastructure in 2041. Given the level of delay reported in the city centre, it is likely that, in practice, even greater modal shift to active and sustainable modes may occur as travellers respond to congestion.

7.4.6 The City Centre road scheme is necessary to release land and enable the planned development within this strategic site allocation. Without changes to the current highway layout, the model indicates high queuing and delay even in the 2041 Reference Case (without

Local Plan growth), worsening further in the 2041 Do Minimum scenario (with Local Plan growth).

7.4.7 Wider measures that encourage mode shift, such as the Sustainable Transport Hub at Tipner Park and Ride identified in Local Transport Plan 4, are expected to reduce queues and delays in the City Centre by lowering private vehicle trips. These measures will also reinforce the benefits of improved bus priority across the City Centre network.

7.4.8 Crucially, the modelling demonstrates that the City Centre road scheme is successful in prioritising bus movements over private vehicles. Bus priority measures deliver relative journey time and reliability benefits for public transport, whilst it acknowledged that general traffic does still experience congestion at certain junctions. This pattern in the results confirms that the scheme is achieving its objective to favour buses within the City Centre network.

7.4.9 Overall, this chapter has presented the impact of the preferred mitigations identified in the junction modelling stage on the Portsmouth transport network, from a holistic view considering wider distribution impacts.

8. SUMMARY, CONCLUSION AND NEXT STEPS

8.1.1 This Strategic Transport Assessment Addendum (STAA) has been prepared by SYSTRA Ltd (SYSTRA) on behalf of Portsmouth City Council (PCC, the Council), to provide an evidence base for the PCC Local Plan Addendum Submission stage.

8.1.2 The purpose of the Strategic Transport Assessment Addendum is to provide supplementary transport evidence to support the Local Plan Addendum. It forms an Addendum to the published Strategic Transport Assessment dated February 2025 and should be read alongside this document during review. Since the full Strategic Transport Assessment there has been a slight reduction in the overall quantum of development and updates to the quantum of certain strategic development sites to reflect the latest site development profiles. These changes have been tested in an update to the 2041 Do Minimum Model using the Solent Sub-Regional Transport Model (SRTM), compared with the previously presented results for the 2019 and 2041 Baseline scenarios. The outputs from the updated Do Minimum model run have then been used in updated local junction model assessments.

8.1.3 Key Policy documents have been summarised and have been included as a reference and updated since the previous full Strategic Transport Assessment submission to provide an overview of the context that the STAA has been prepared against.

8.1.4 There has been no significant change to the model assumptions which have been applied for the strategic and local junction modelling assessments and further detail is provided in the supporting Strategic Transport Assessment, including detail on the assessment scoping with PCC and National Highways. The only adjustment relates to parking availability for three city centre zones. Given large scale planning applications received for the City Centre, the city centre SRTM zones of 930, 931 and 932 have had a refinement to parking availability to denote a ratio of 0.3 spaces per unit for both the Do Minimum and Do Something model run. This approach better captures the high density, low car ownership developments being planned for the city centre with the reference to low car ratios reflected in the associated Local Plan policy.

8.1.5 The results of the updated SRTM model runs have been presented and the trends in terms of key routing patterns, areas of delay and high V/C remain consistent with the Strategic Transport Assessment, reaching similar conclusions, including:

- The levels of re-routing around the Lakeside roundabout evidence the need for a secondary access to support the targeted level of growth at Lakeside development.
- There is no material change in the V/C along the SRN mainline.
- There are some minor elements of re-routing associated with delay incurred within the city centre.

8.1.6 Given the same trends are reported in the strategic model outputs, the Category 1 junction locations remain relevant for assessment within the local junction models. The updated 2041 Do Minimum flows have been inputted to the junction model assessments. The conclusions have not significantly altered since the results presented in the Strategic Transport Assessment dated February 2025. Where the Local Plan is having a demonstratable impact, or the schemes have been identified as a result of know collision clusters resulting in safety concerns, the results suggest that the proposed schemes remain valid and no amendments to the overall mitigation package to support the Local Plan is required.

8.1.7 The below mitigation schemes have been taken forward into the Do Something SRTM model assessment, which captures the updated Local Plan development quantum as detailed within this Strategic Transport Assessment Addendum:

- Junction 2 Portsbridge Roundabout – Signalisation of A397 Northern Road arm, bus gate and opposing circulatory and signalisation of Western Road arm and opposing circulatory;
- Junction 3 Spur Road Roundabout - Circulatory reduced to two lanes and segregated cycle tracks on Southampton Road and Spur Road alongside introduction of a cycle crossing.
- Junction 4 Church Street Roundabout/ Junction 6 Marketway Roundabout / Junction 13 Hope Street Roundabout: PCC proposed a new layout of the City Centre road network, with these roundabouts proposed to be signalised junctions.
- Junction 7 Rudmore Roundabout: Signalisation of Kingston Crescent and associated circulatory;
- Junction 8 Lakeside Access: Add a secondary access to the northwest of the Lakeside development site (left turn exit and entry only);
- Junction 15 London Road / Southwick Hill Road: London Road Southbound offside lane to be allocated as right turn only and signal staging optimised;
- Junction 16 Museum Road/Landport Terrace/Kings Road/Kings Terrace: through cycle link on Kings Road, east of the junction linking with the East West Active Travel Corridor; and
- Junction 17 Lake Road Roundabout: As part of the City Centre road scheme this roundabout is proposed to include bus priority and pedestrian infrastructure improvements as well as approach arm widening on two arms.

8.1.8 The High level cost estimates presented in the February 2025 Strategic Transport Assessment remain valid and there has been no changes proposed to the designs.

8.1.9 In order to forecast the potential timing of the partial signalisation of Portsbridge Roundabout a trigger point assessment has been undertaken following a scoping exercise with PCC and National Highways.

8.1.10 This Trigger Point study has given an idea of when the mitigation for Portsbridge Roundabout might be required to come forward. The results indicate that whilst the junction is noted to be significantly overcapacity with the introduction of Local Plan development traffic, this is not a significant impact beyond what the junction would be experiencing through the baseline traffic within the 2030 and 2035 future years. Particularly for the 2030 scenario, the Local Plan impacts are minimal, with the overall impact compared to the 2019 base attributable to background growth. Based on current evidence, it is envisaged that the mitigation would be required after 2030 but by or before 2035.

8.1.11 It is noted that wider measures to support mode shift across the city as set out in Local Transport Plan 4, LCWiP and measures to reduce car dependency such as constrained parking ratios for certain strategic sites will seek to further drive down residual impacts on the development on the junction operation. These measures will also look to support connectivity for active modes to and from Portsbridge roundabout and other key category 1 junctions and to key destinations to support mode shift. The proposals at Portsbridge roundabout seek to improve bus priority, such as through a signalised bus gate which will help with wider mode shift through journey time improvements. Additionally, the City Centre road scheme prioritises sustainable travel modes with bus only lanes and an improvement in cycling and pedestrian infrastructure. There is a slight level of reduction in flows within the City Centre road scheme boundary compared to the 2041 Do Minimum scenario, as a level of the person

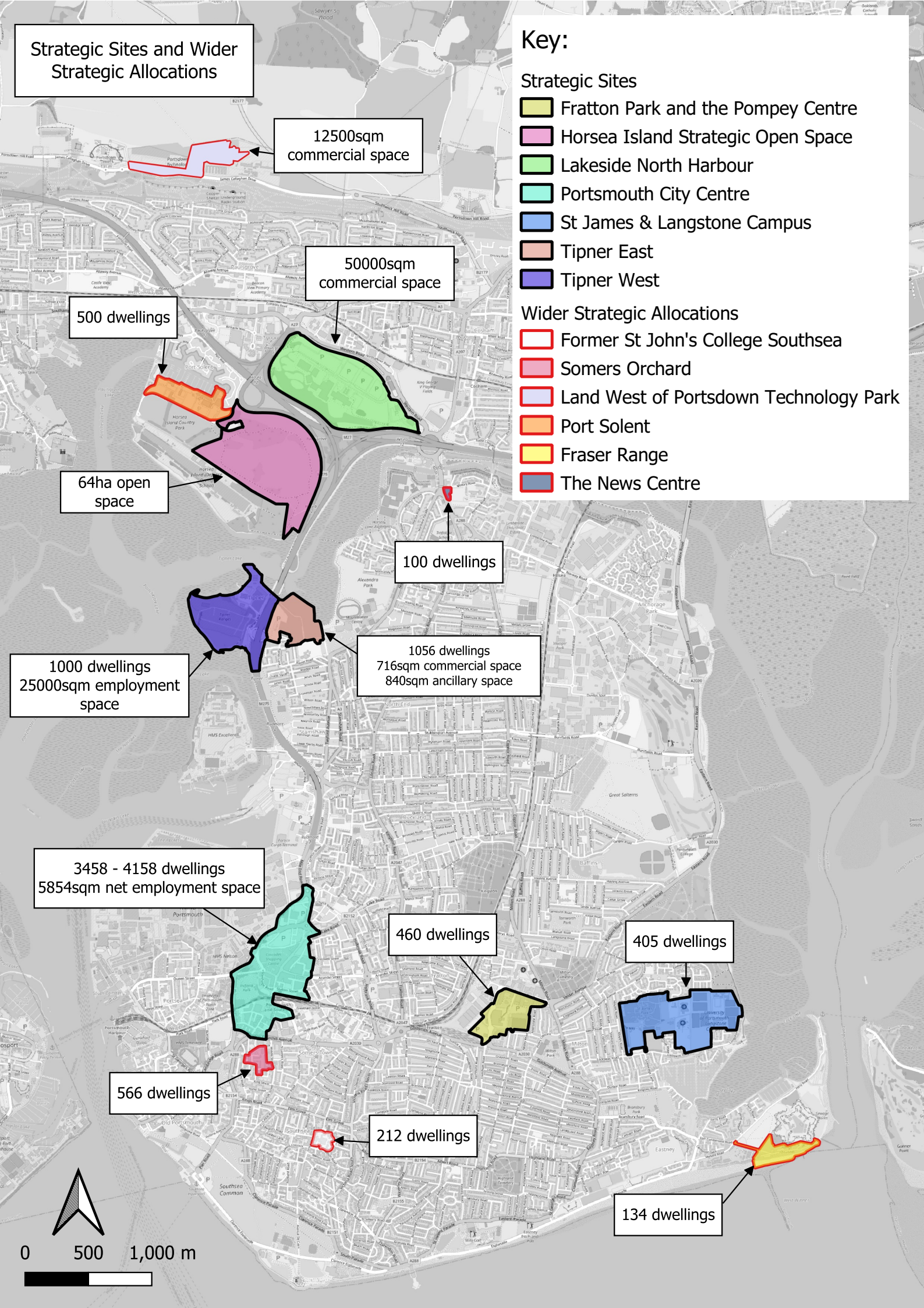
trips are opting for non-highway-based modes in the demand model due to re-routing and the level of delay incurred, this is alongside a slight increase in the public transport mode share, suggesting that the City Centre road scheme is contributing towards a level of modal shift as targeted within the Local Plan.

8.1.12 As detailed in the full Strategic TA, subsequent planning applications for Local Plan sites will be encouraged to target ambitious modal shift within Travel Plans to monitor the level of trip making and support shift to active or sustainable modes, reducing the overall impact on the highway network. This will include ensuring that planning applications seek to constrain parking ratios to encourage modal shift.

8.1.13 The Do Something strategic model runs have assessed the cumulative impact of the mitigation schemes and concluded that the mitigation is successful in addressing Local Plan growth impacts.

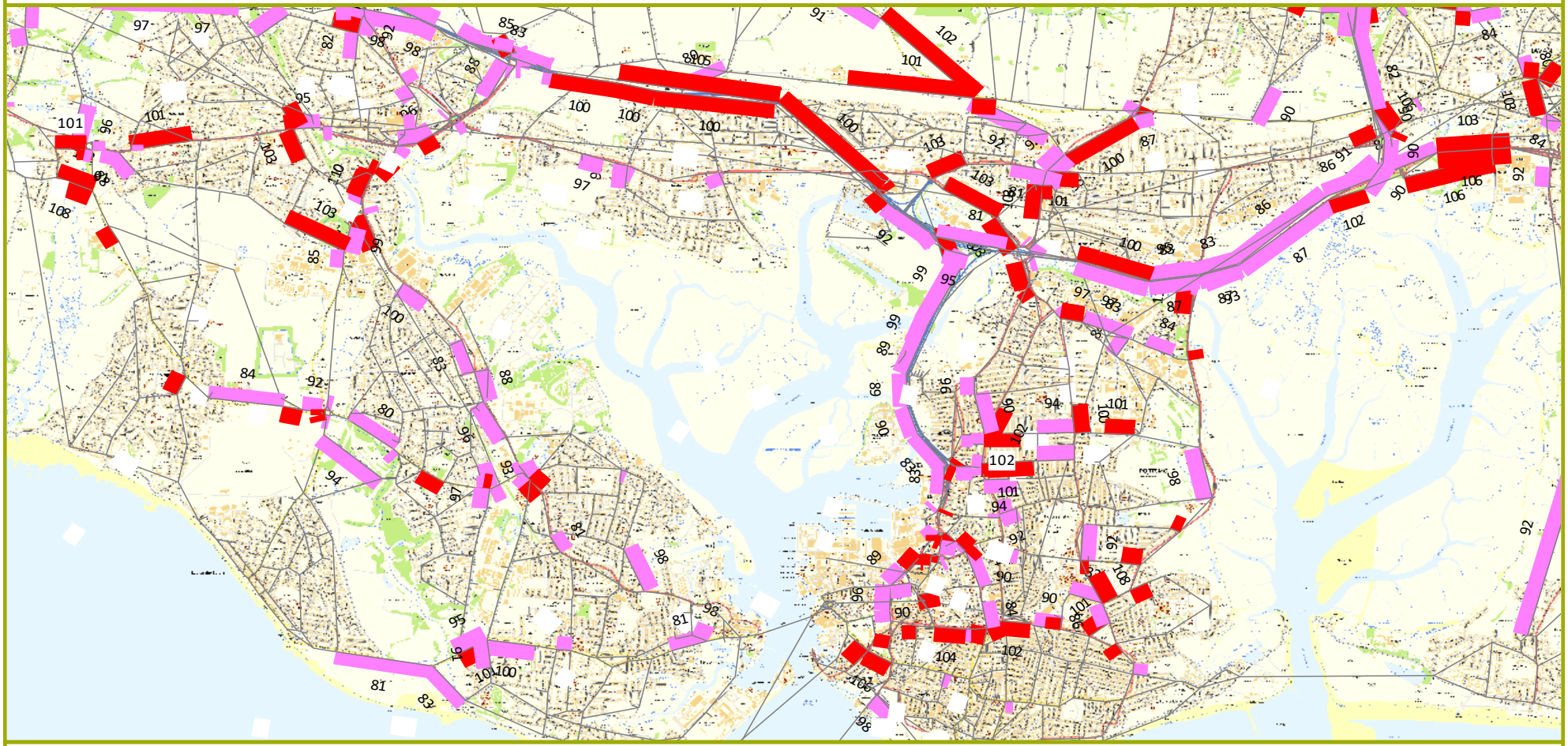
8.1.14 Overall, this STAA has provided a robust assessment of the forecast impact of strategic sites and site allocations proposed by PCC for their Local Plan. This STAA read in conjunction with the February 2025 Strategic Transport Assessment details the impact of these developments on the local and strategic highway network across the Portsmouth area. This has been achieved through a variety of technical assessments using standard modelling approaches. The conclusions balance priorities for the junctions based on junction locations, opportunities for improvement whilst considering sustainable travel modes.

Appendix A – Local Plan Strategic Sites and Site Allocations Map

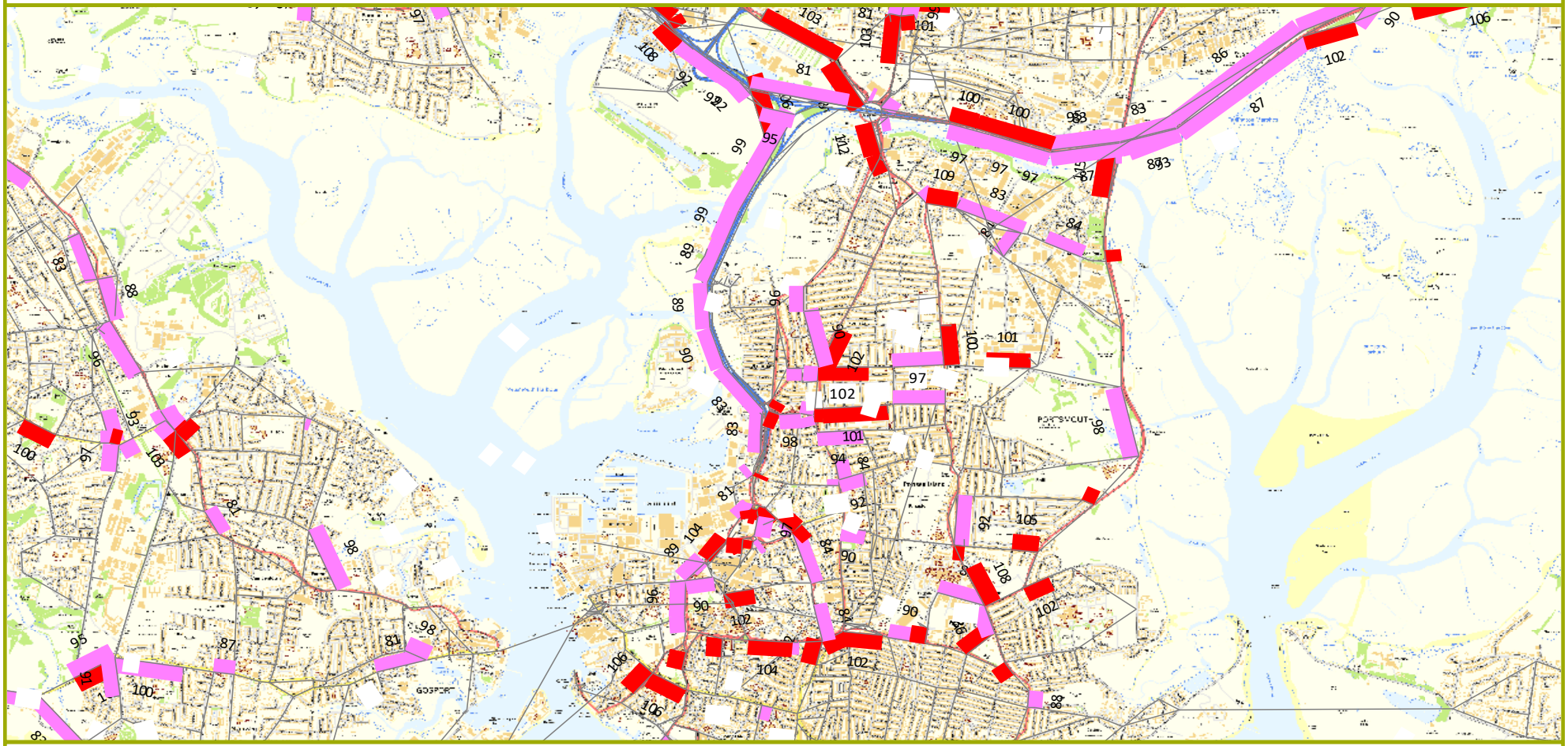

Strategic Sites and Wider Strategic Allocations
12500sqm commercial space
50000sqm commercial space
500 dwellings
64ha open space
100 dwellings
1056 dwellings
716sqm commercial space
840sqm ancillary space
1000 dwellings
25000sqm employment space
3458 - 4158 dwellings
5854sqm net employment space
460 dwellings
405 dwellings
566 dwellings
212 dwellings
134 dwellings
Key:
Strategic Sites
Fratton Park and the Pompey Centre
Horsea Island Strategic Open Space
Lakeside North Harbour
Portsmouth City Centre
St James & Langstone Campus
Tipner East
Tipner West
Wider Strategic Allocations
Former St John's College Southsea
Somers Orchard
Land West of Portsdown Technology Park
Port Solent
Fraser Range
The News Centre
0
500
1,000 m

Appendix B – SRTM 2041 Baseline vs 2041 Do Minimum Plots

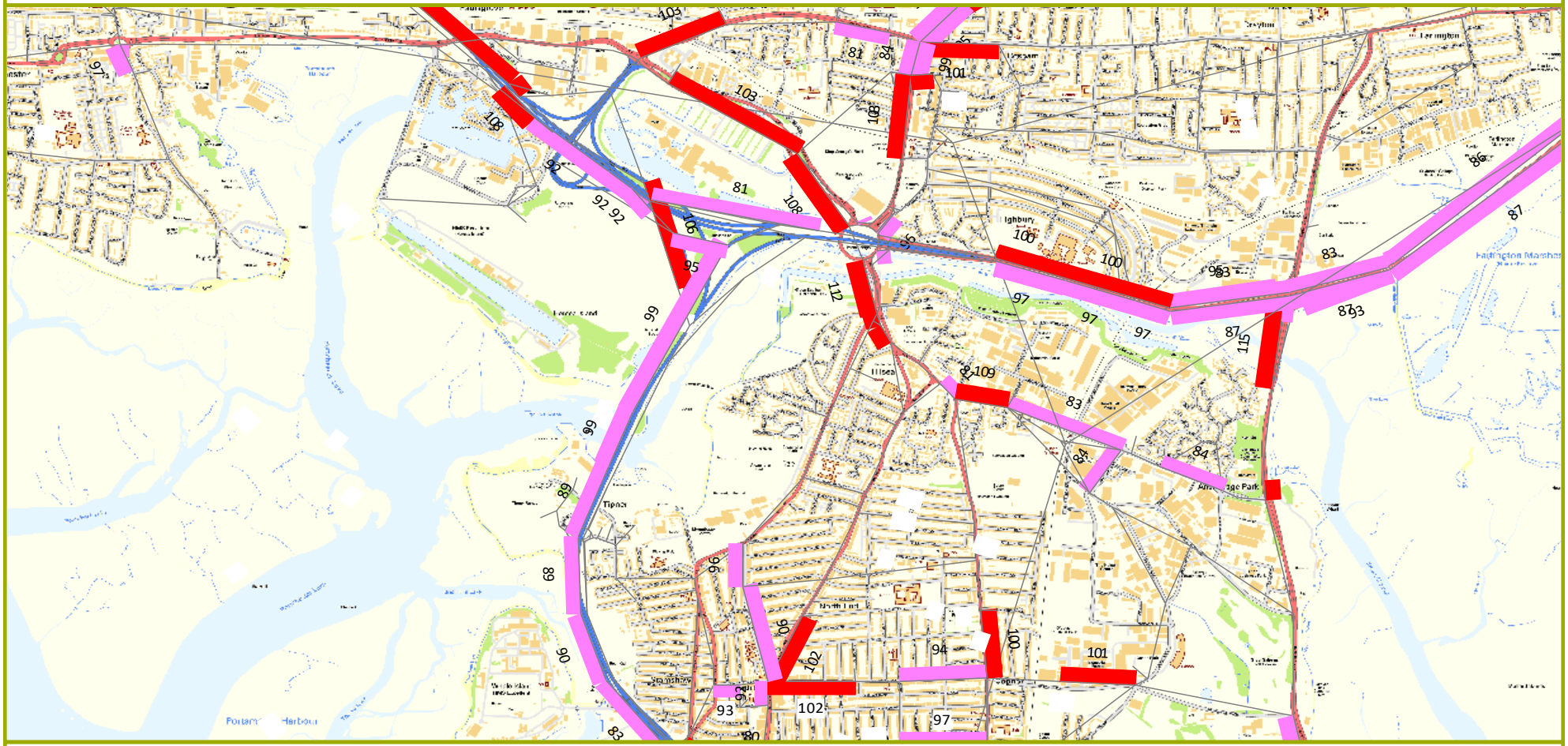
Portsmouth Local Plan Plots - 2041 - AM Highway V/C Do Minimum (GKG) - Strategic View



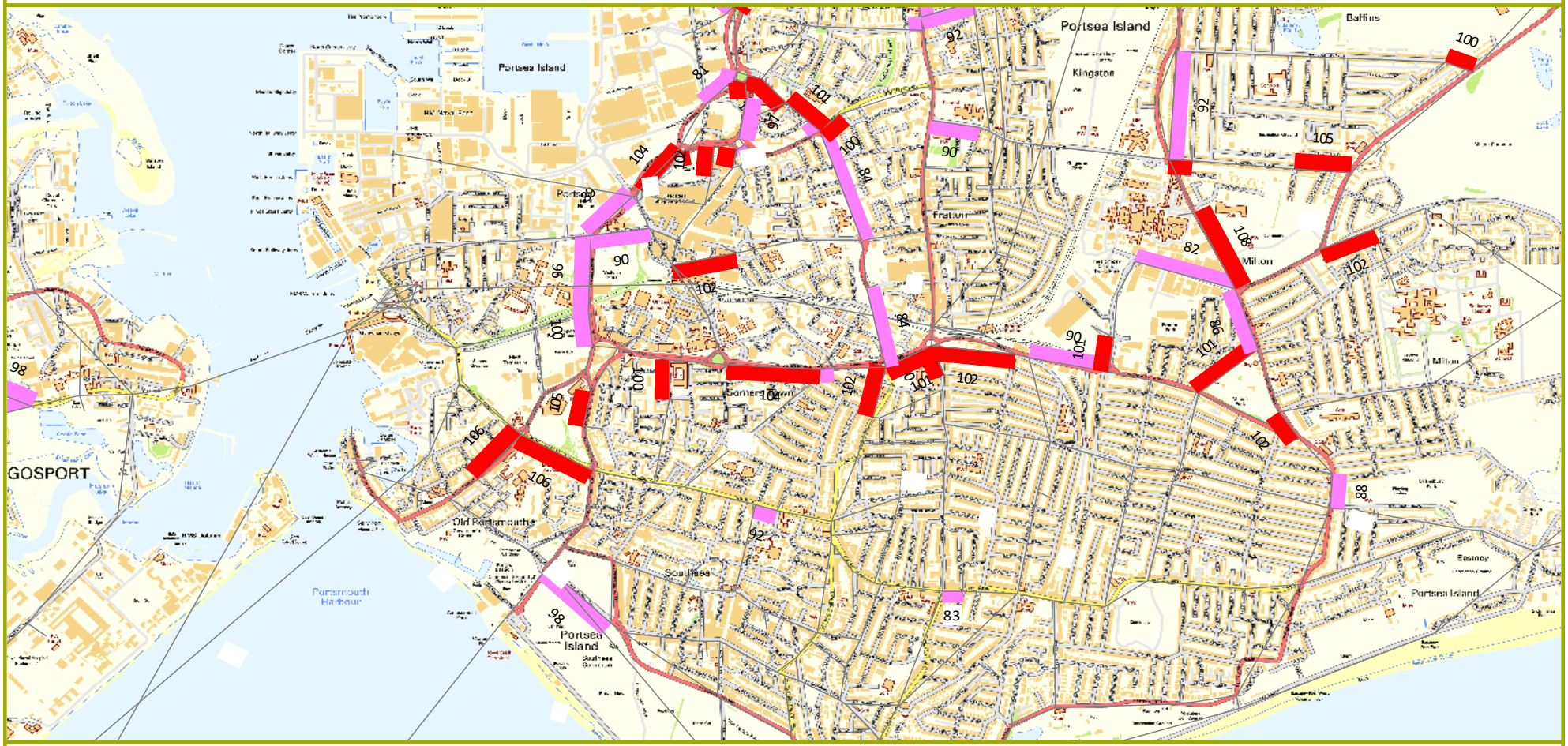
Portsmouth Local Plan Plots - 2041 - AM Highway V/C Do Minimum (GKG) - Wide View



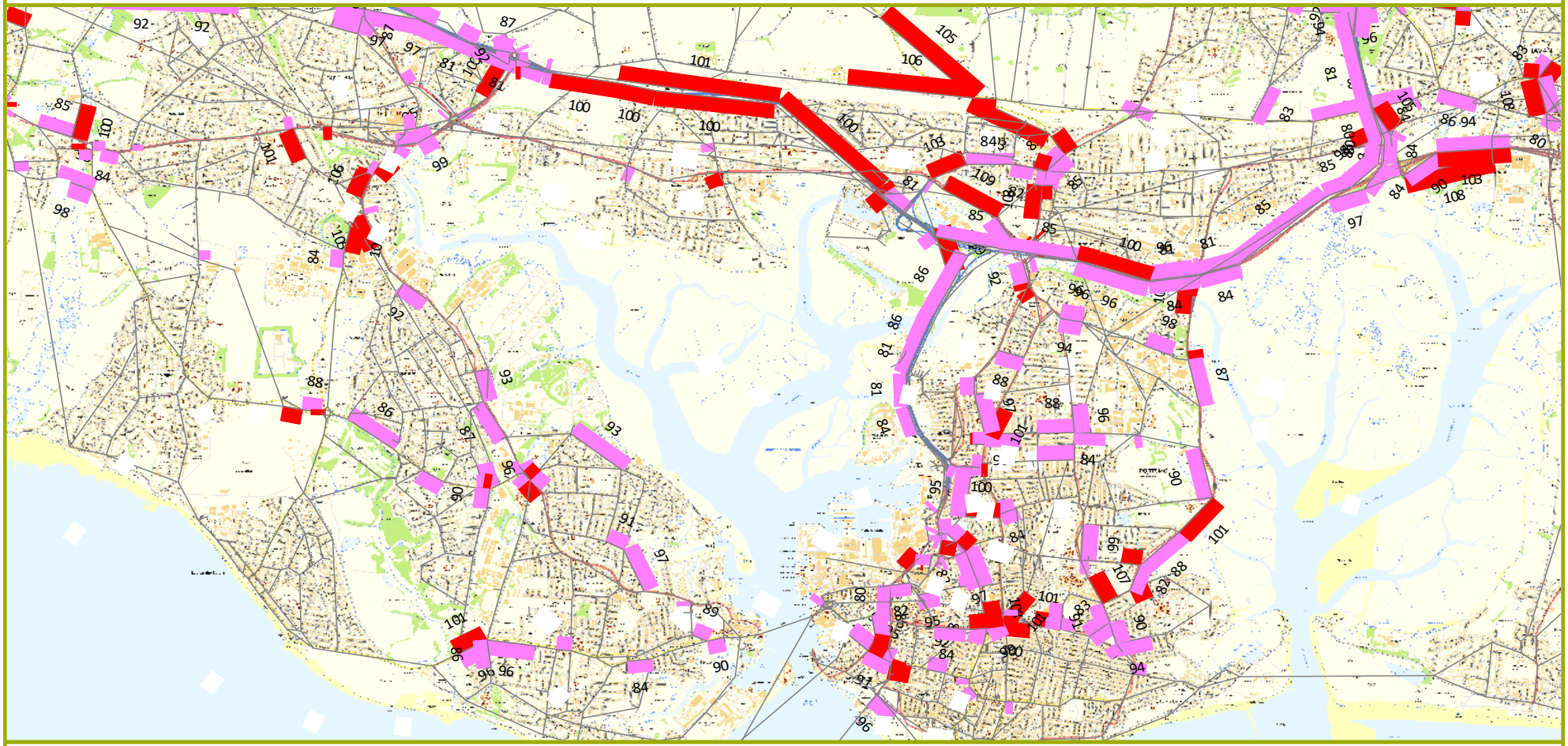
Portsmouth Local Plan Plots - 2041 - AM Highway V/C Do Minimum (GKG) - North View



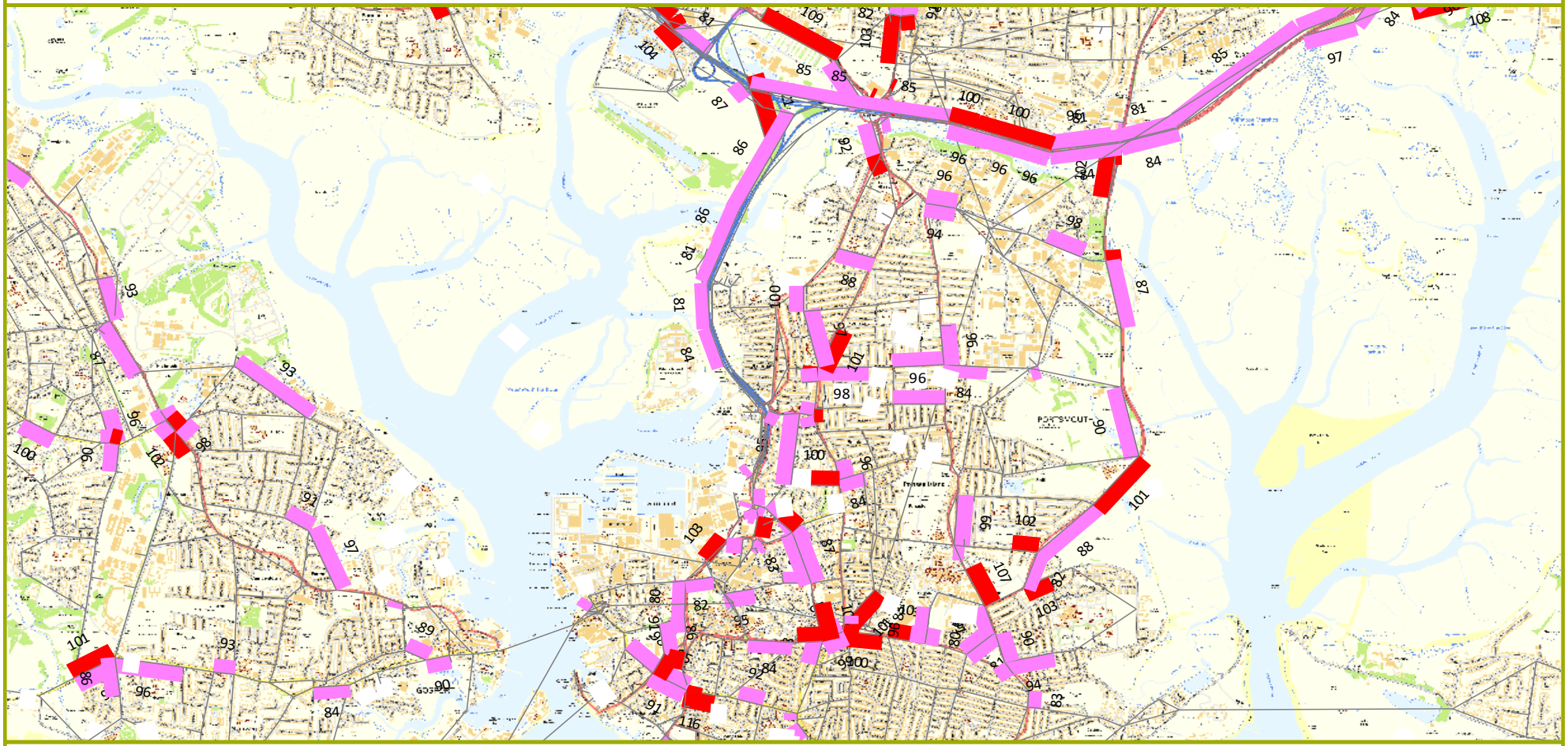
Portsmouth Local Plan Plots - 2041 - AM Highway V/C Do Minimum (GKG) - South View



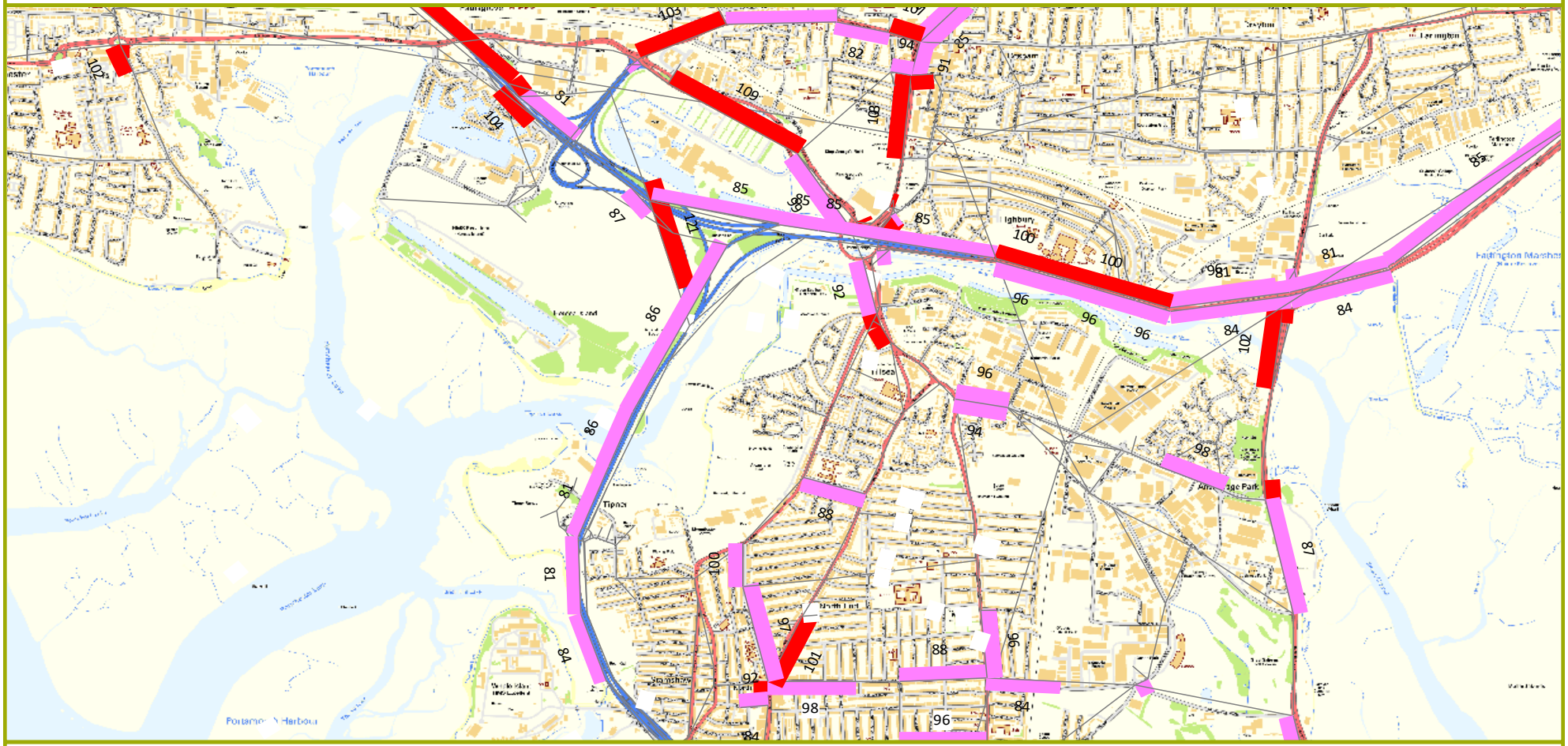
Portsmouth Local Plan Plots - 2041 - PM Highway V/C Do Minimum (GKG) - Strategic View



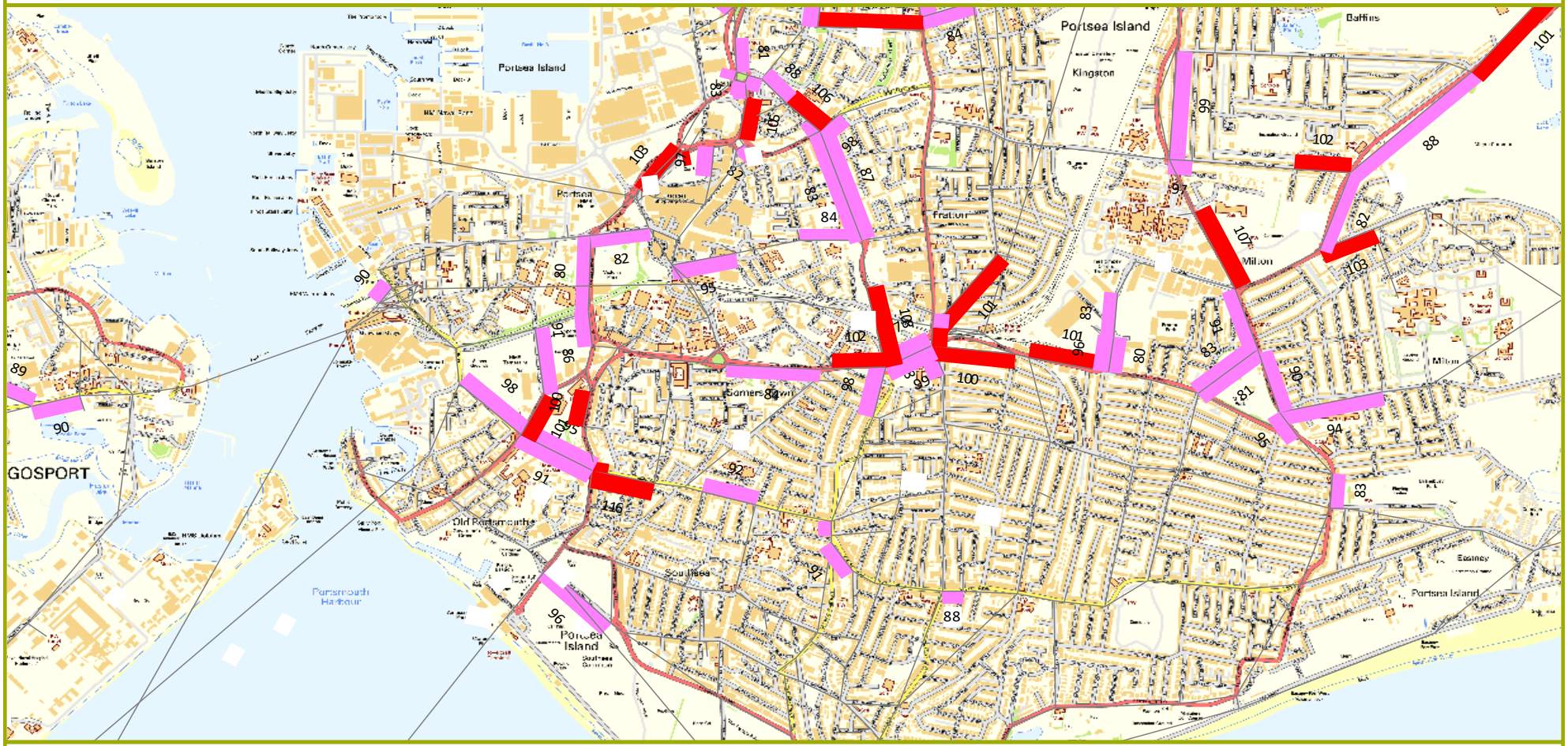
Portsmouth Local Plan Plots - 2041 - PM Highway V/C Do Minimum (GKG) - Wide View



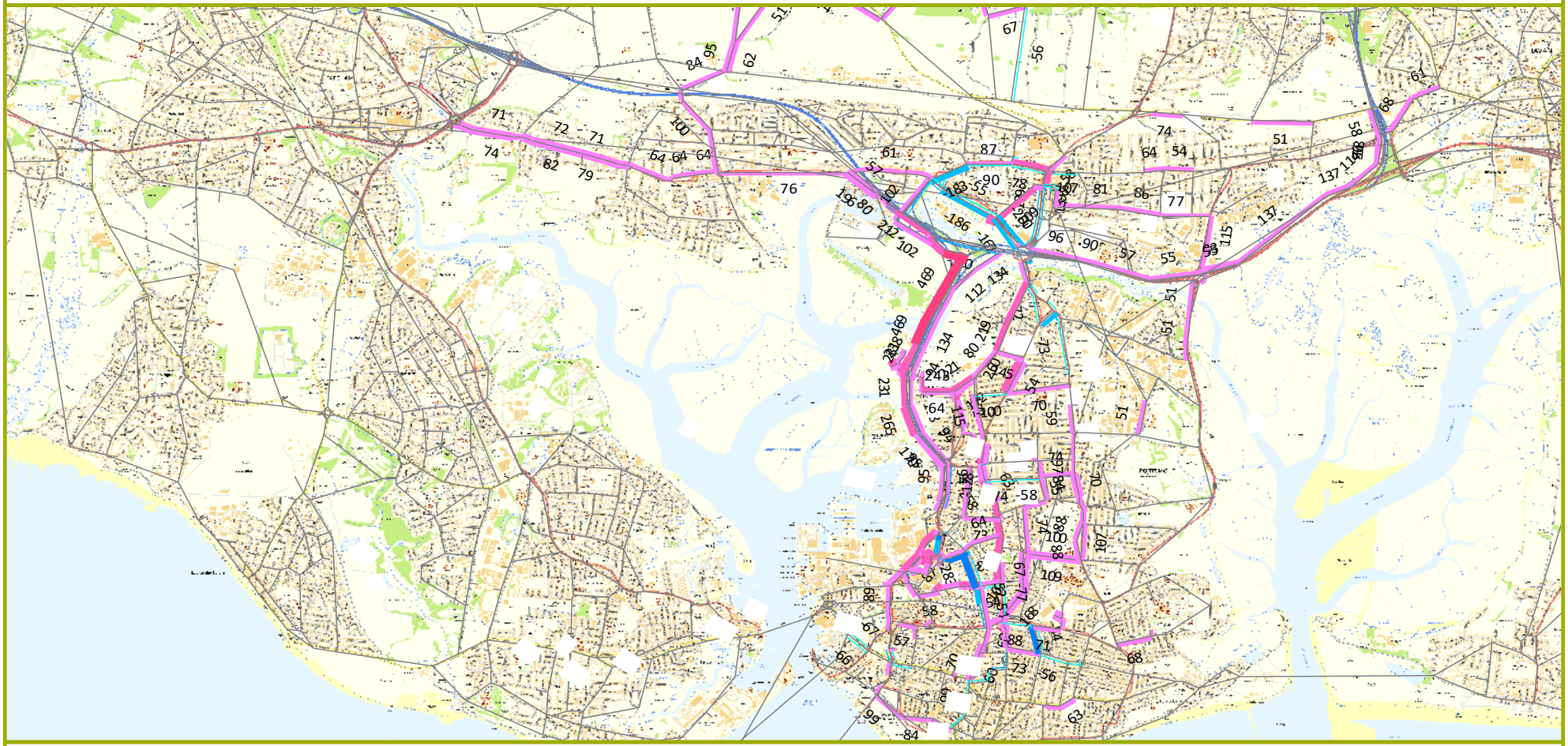
Portsmouth Local Plan Plots - 2041 - PM Highway V/C Do Minimum (GKG) - North View



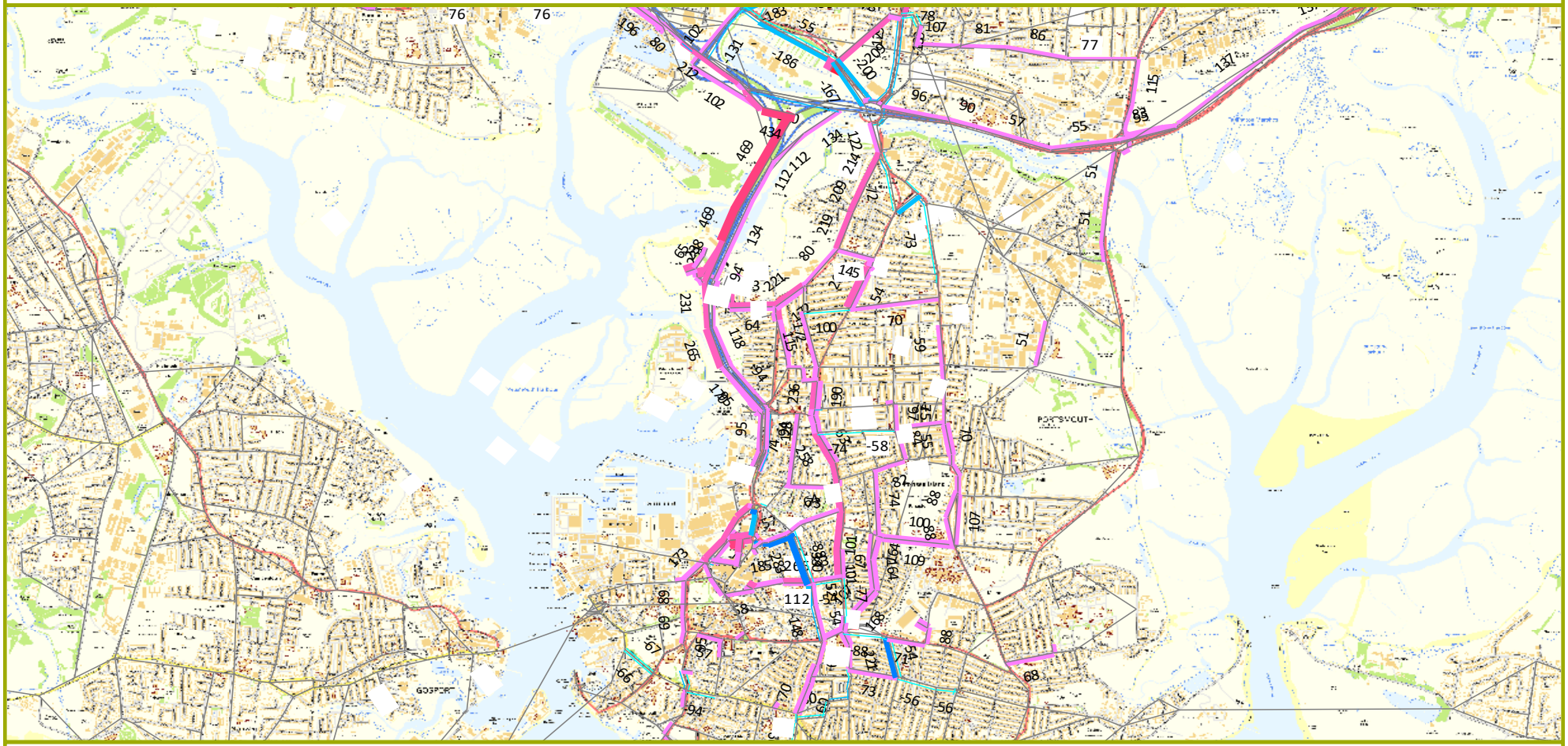
Portsmouth Local Plan Plots - 2041 - PM Highway V/C Do Minimum (GKG) - South View



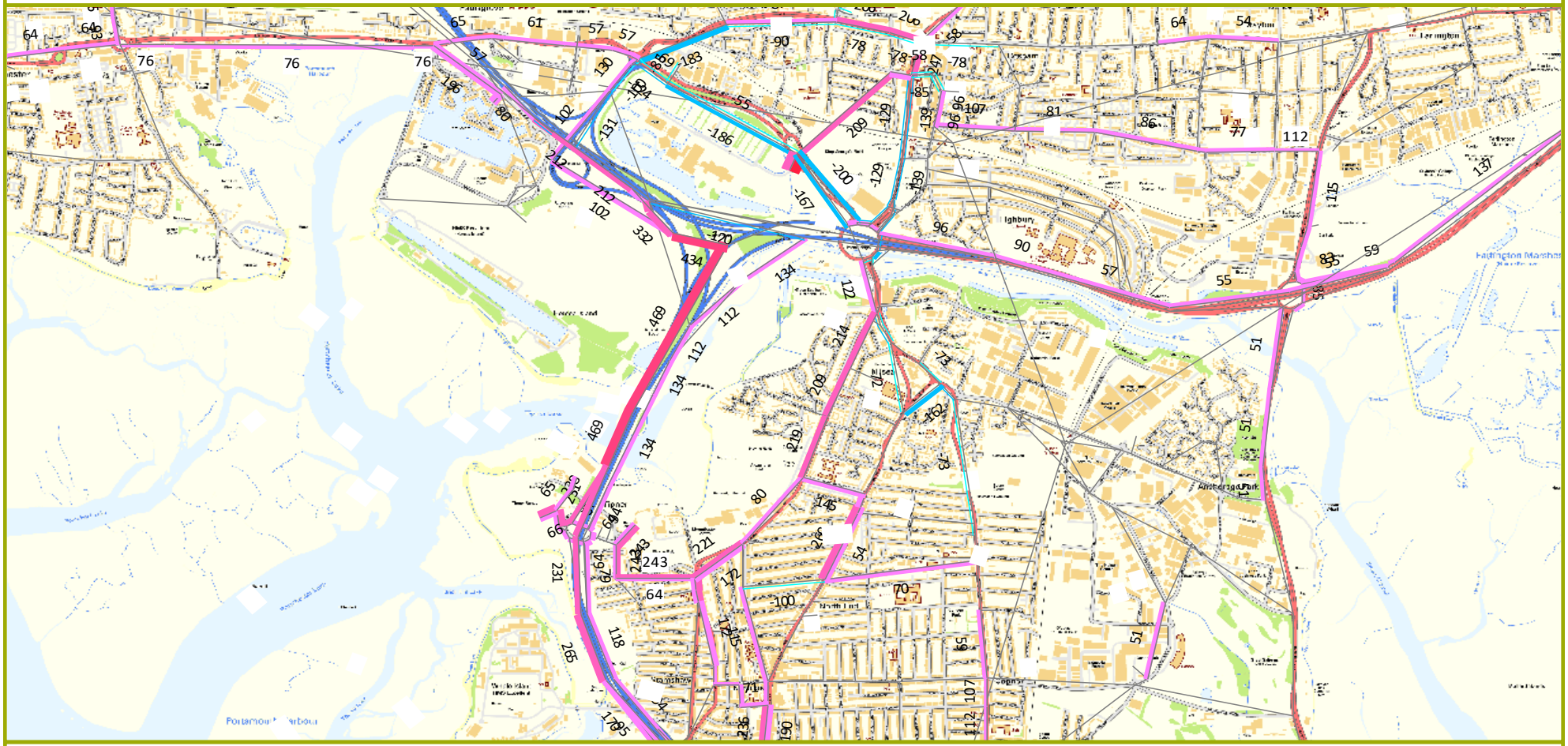
Portsmouth Local Plan Plots - 2041 - AM Highway Flow Differnence Do Minimum (GKG) vs Baseline - Strategic View



Portsmouth Local Plan Plots - 2041 - AM Highway Flow Differnence Do Minimum (GKG) vs Baseline - Wide View



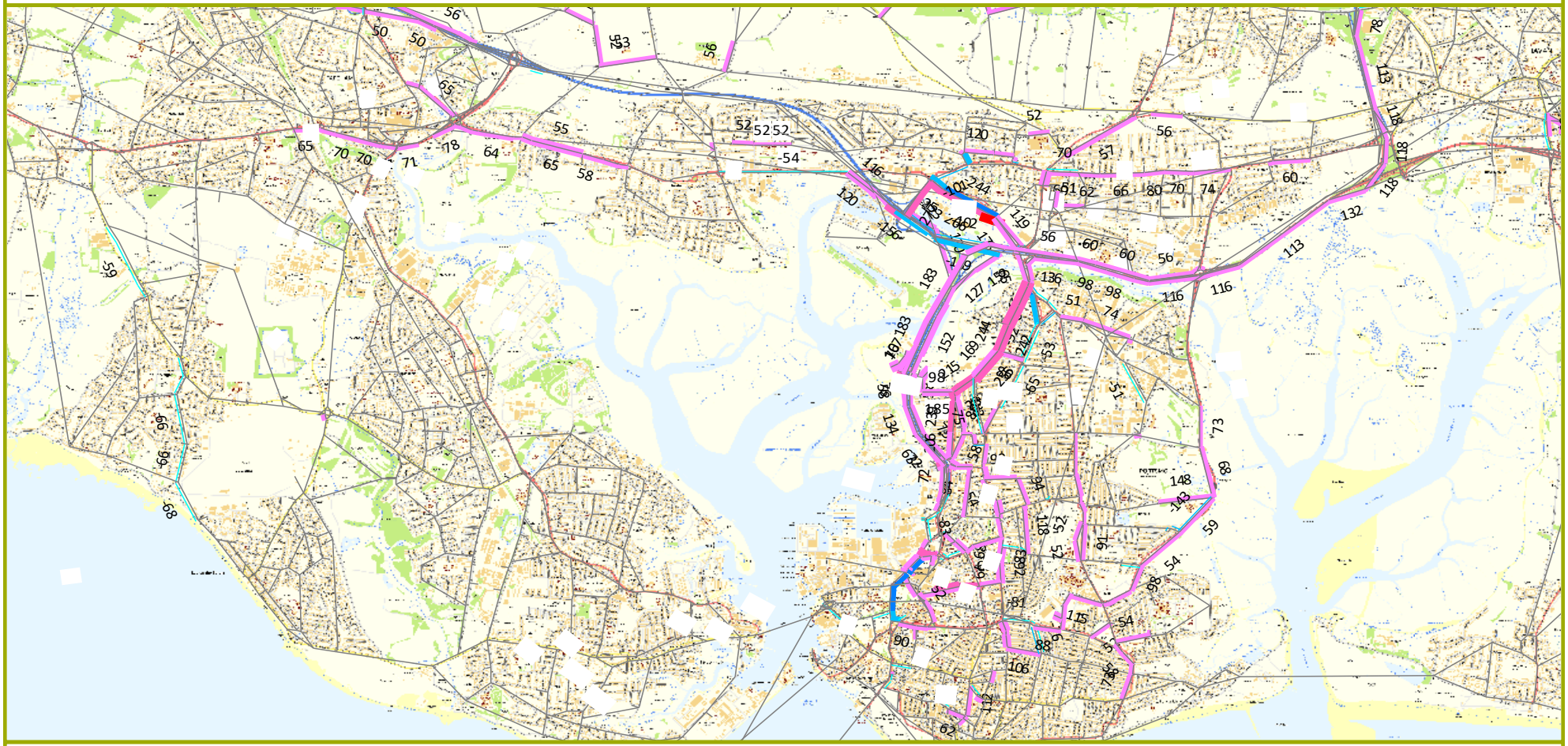
Portsmouth Local Plan Plots - 2041 - AM Highway Flow Differnence Do Minimum (GKG) vs Baseline - North View



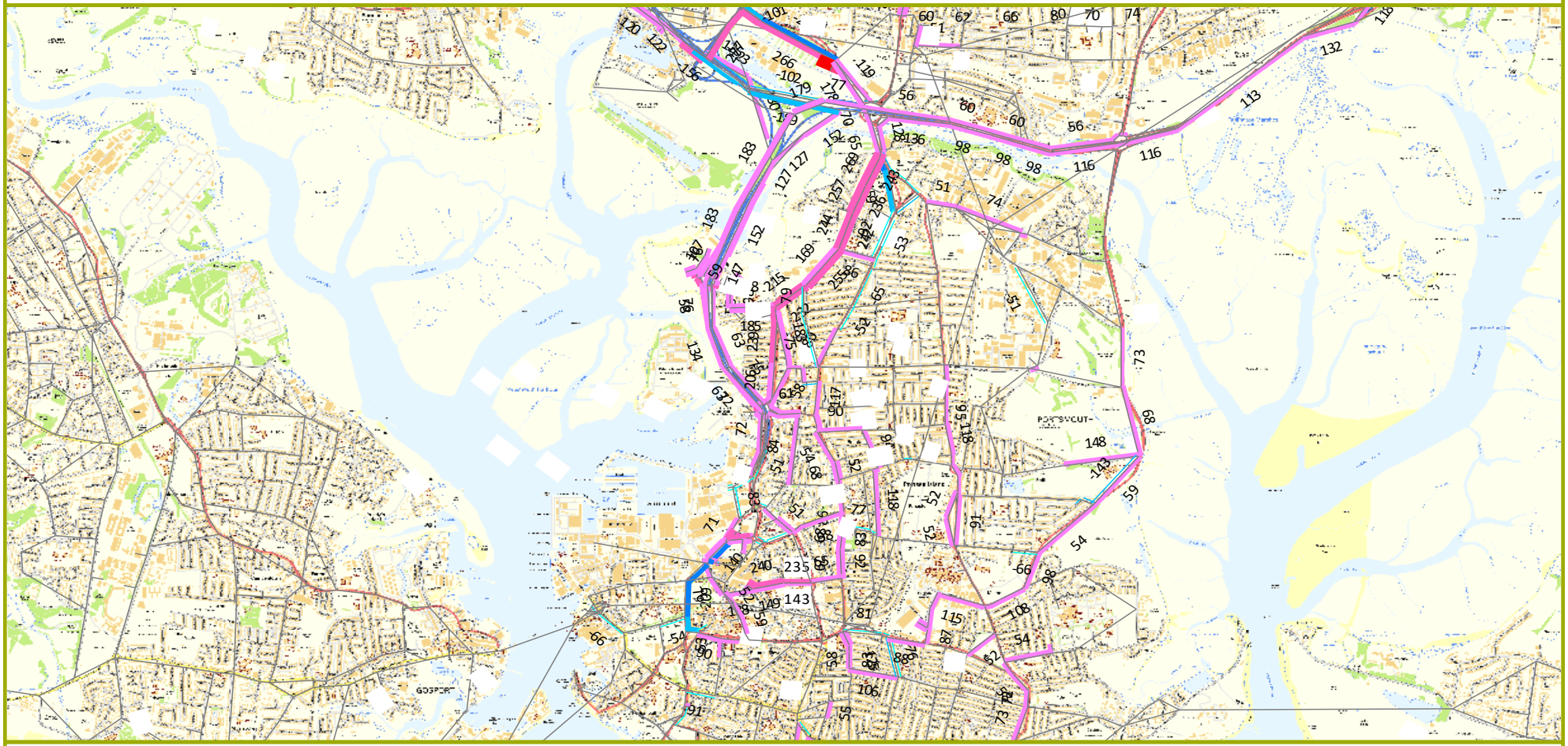
SYSTRA

Portsmouth Local Plan Plots - 2041 - AM Highway Flow Differnence Do Minimum (GKG) vs Baseline - South View

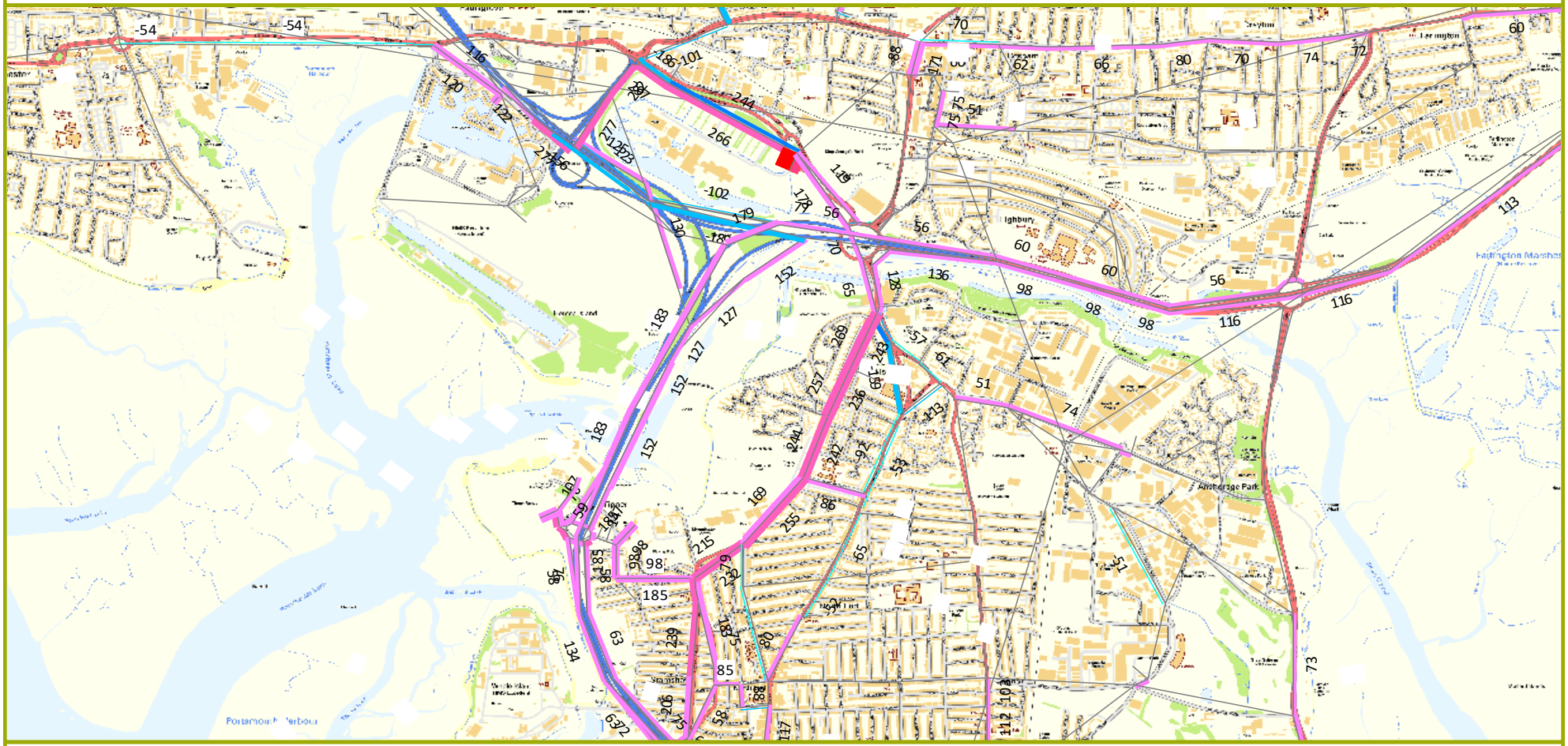
Portsmouth Local Plan Plots - 2041 - PM Highway Flow Differnence Do Minimum (GKG) vs Baseline - Strategic View



Portsmouth Local Plan Plots - 2041 - PM Highway Flow Differnence Do Minimum (GKG) vs Baseline - Wide View



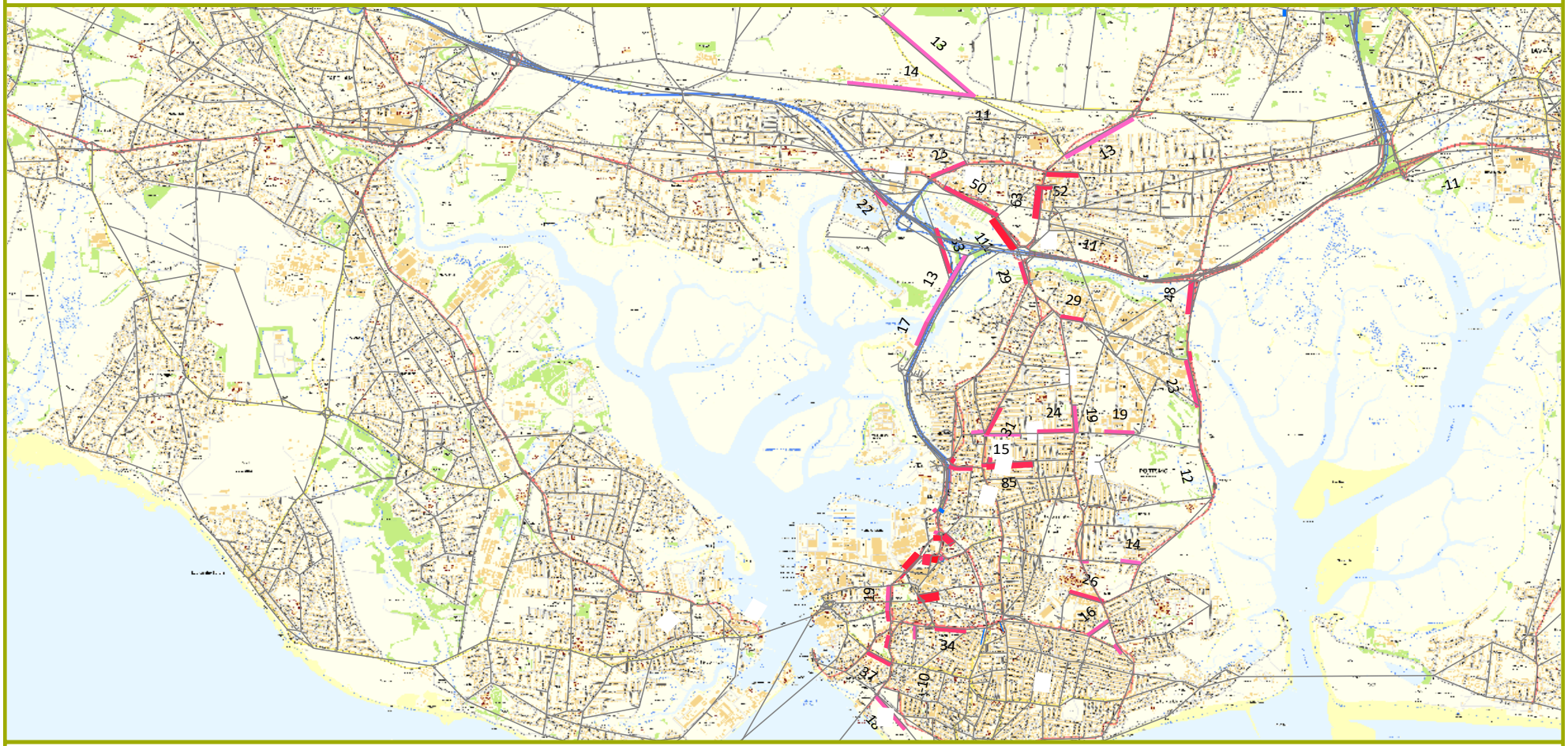
Portsmouth Local Plan Plots - 2041 - PM Highway Flow Differnence Do Minimum (GKG) vs Baseline - North View



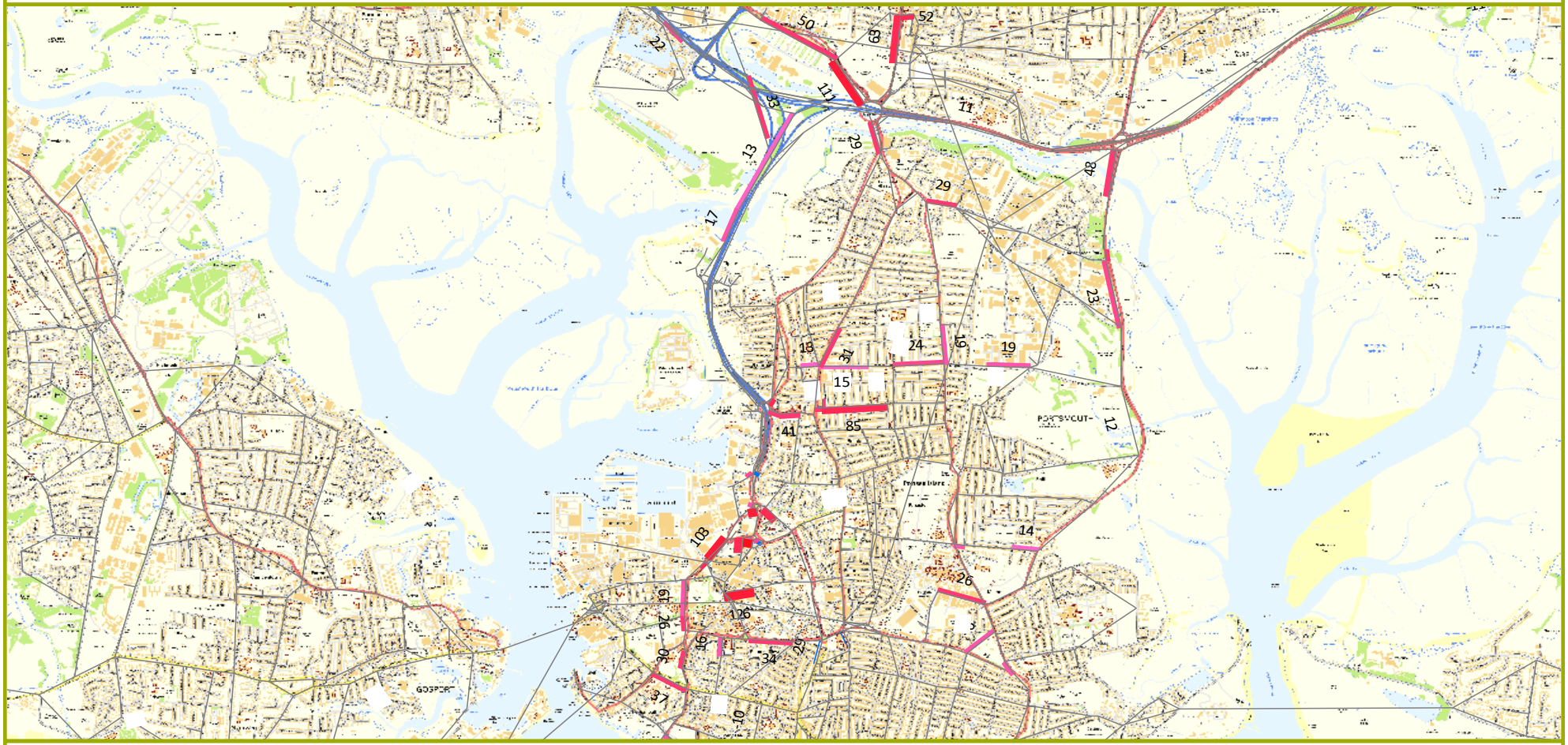
SYSTRA

Portsmouth Local Plan Plots - 2041 - PM Highway Flow Differnence Do Minimum (GKG) vs Baseline - South View

Portsmouth Local Plan Plots - 2041 - AM Delay Differnence Do Minimum (GKG) vs Baseline - Strategic View



Portsmouth Local Plan Plots - 2041 - AM Delay Differnence Do Minimum (GKG) vs Baseline - Wide View



Portsmouth Local Plan Plots - 2041 - AM Delay Differnence Do Minimum (GKG) vs Baseline - North View

SYSTRA

Portsmouth Local Plan Plots - 2041 - AM Delay Differnence Do Minimum (GKG) vs Baseline - South View

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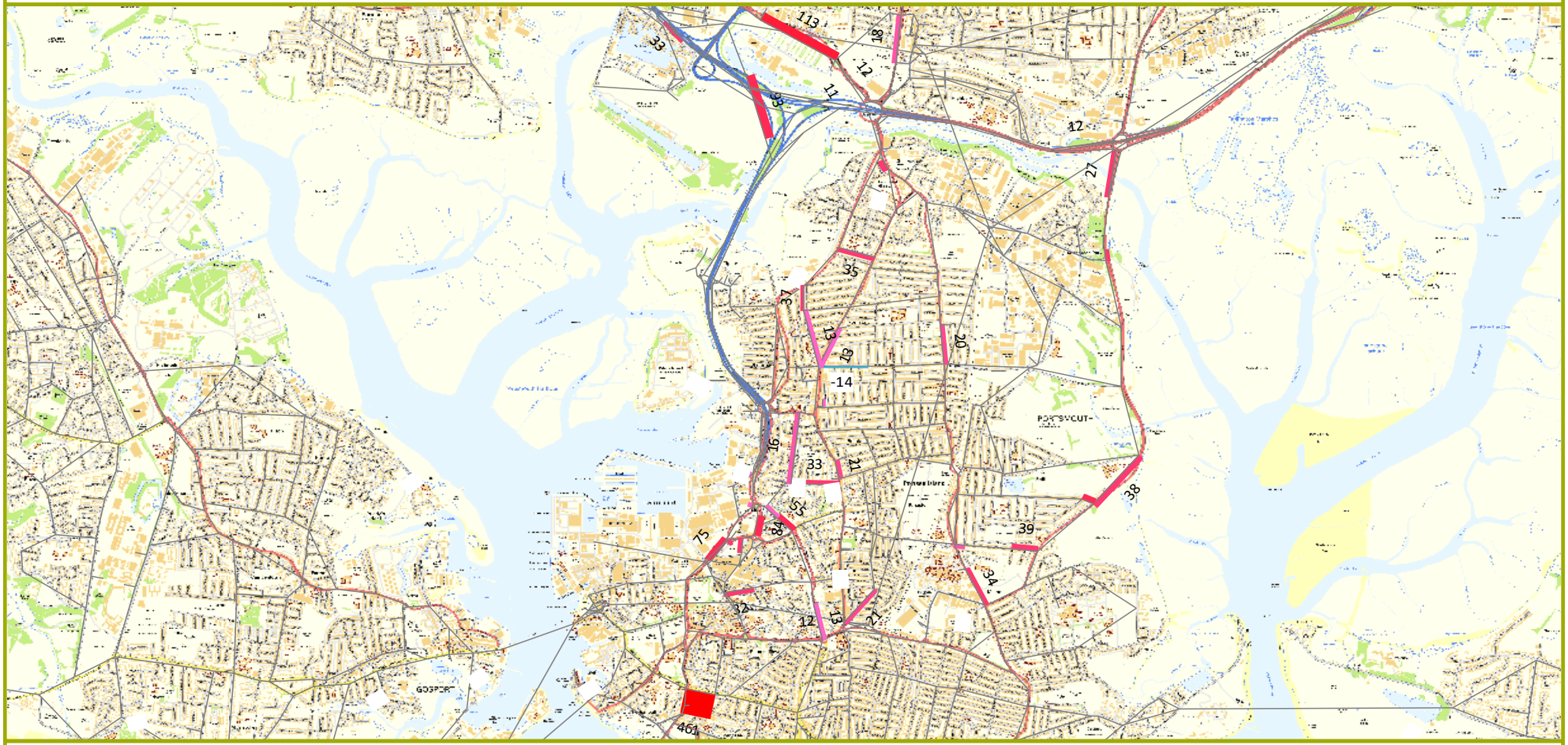
Portsmouth Local Plan Plots - 2041 - PM Delay Differnence Do Minimum (GKG) vs Baseline - Wide View

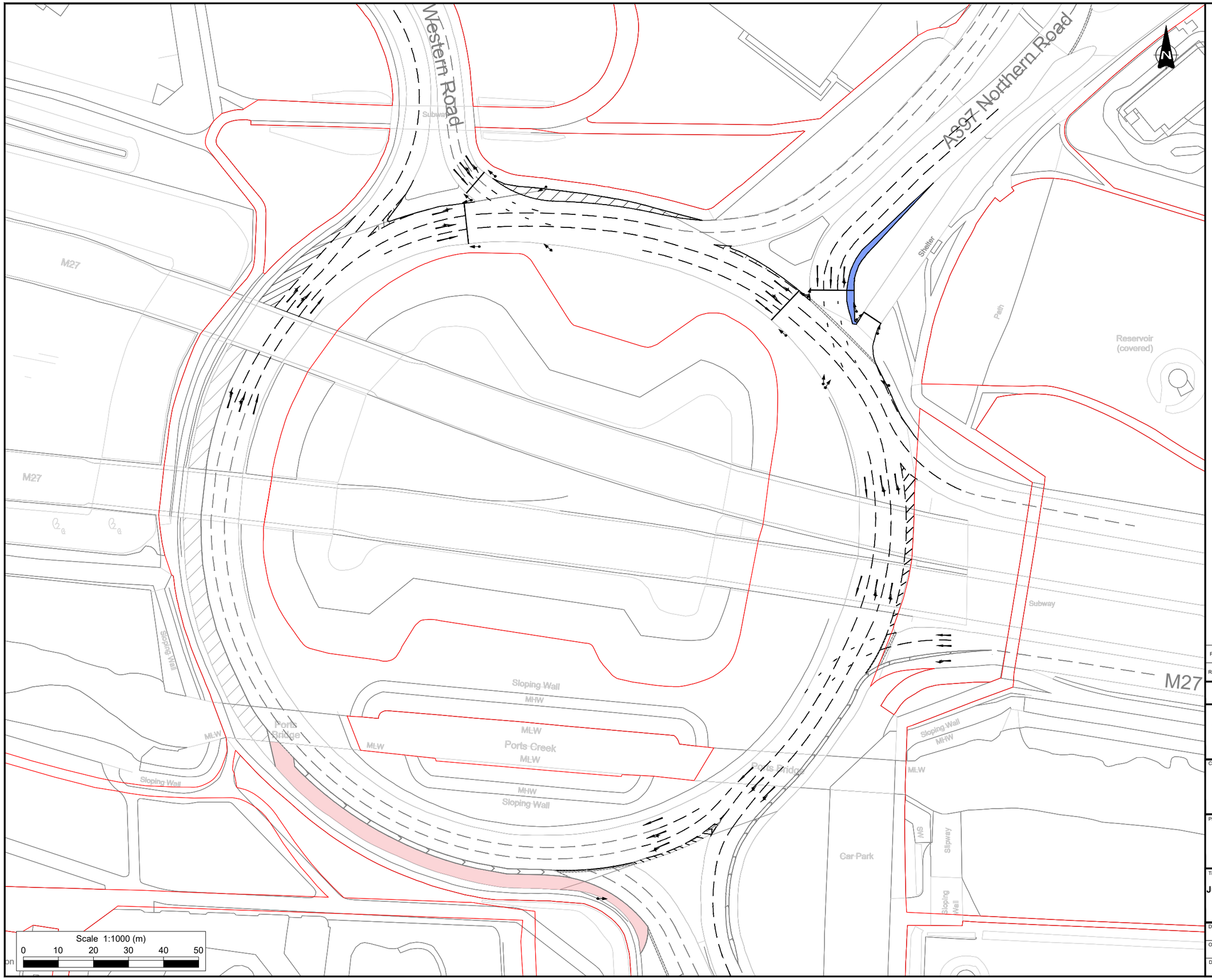


Portsmouth Local Plan Plots - 2041 - PM Delay Differnence Do Minimum (GKG) vs Baseline - North View

Portsmouth Local Plan Plots - 2041 - PM Delay Differnence Do Minimum (GKG) vs Baseline - South View

SYSTRA

Appendix C – Mitigation Drawings



Notes:

1. Do not scale from this drawing. If in doubt refer to the project manager for clarification.
2. All dimensions are shown in metres unless otherwise stated.
3. This drawing forms part of a design pack and should be read in conjunction with all drawings listed on the project drawing register.
4. Layout based on Ordnance Survey MasterMap, © Crown Copyright 2018. All rights reserved. Licence number 100022432.

Key:

- Existing Layout
- Highway Boundary
- Proposed Layout
- Proposed Signals
- Bus Lane / Bus Stop
- Proposed Carriageway

Rev	Date	Revision details	Drawn	Check.	Review	Approv
P0	11/12/23	Initial Issue	MIE	ARM	NL	NL

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Client

Portsmouth City Council

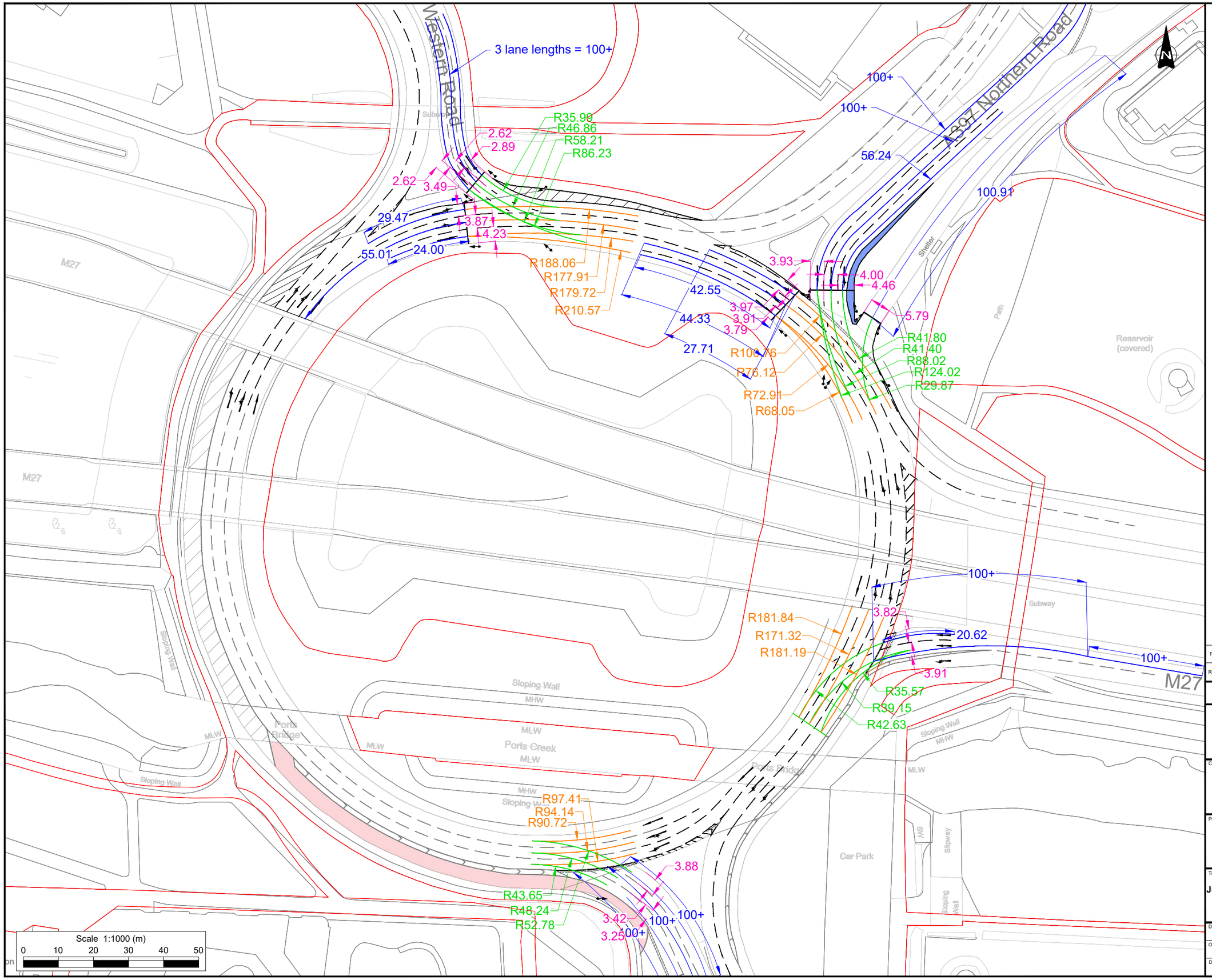
Project

Portsmouth Local Plan Strategic Transport Assessment

Title

Junction 2 - Portsbridge Roundabout Proposal - Option 3

Drawn	Checked	Reviewed	Approved
MIE	ARM	NL	NL
Original drg. size	**Date**	**Scale**	**Drawing Status**
A3	11/12/23	1:1000	Preliminary
Drawing Number			**Rev.**
GB01T23C11-DWG-101-2.5			P0



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Key:

- Existing Layout
- Highway Boundary
- Proposed Layout
- Proposed Signals
- Bus Lane / Bus Stop
- Proposed Carriageway
- Internal Turning Radius
- External Turning Radius
- Lane Width
- Lane / Flare Length

Rev	Date	Revision details	Drawn	Check.	Review	Approv
P0	11/12/23	Initial Issue	MIE	ARM	NL	NL

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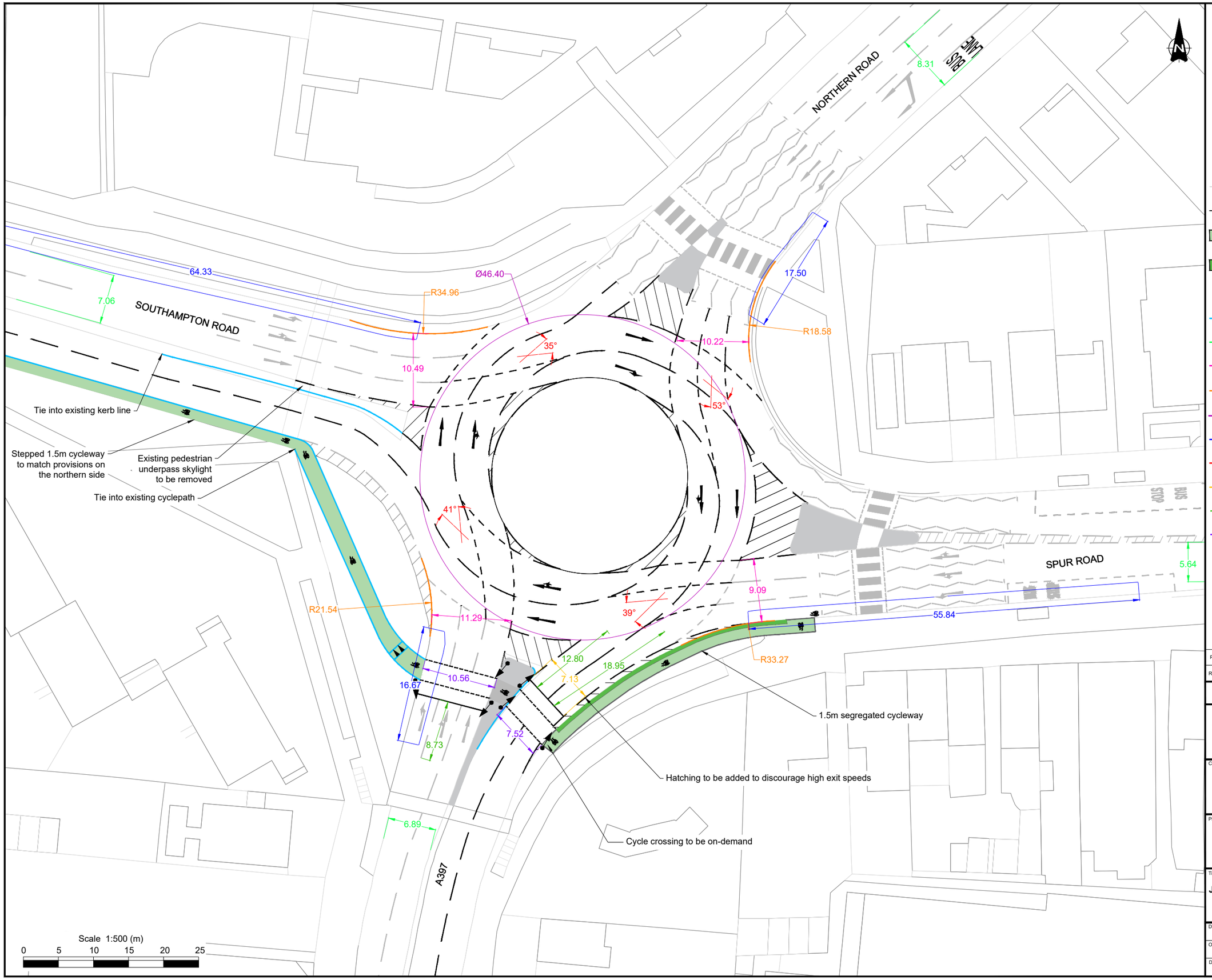
Client: **Portsmouth City Council**

Project: **Portsmouth Local Plan Strategic Transport Assessment**

Title: **Junction 2 - Portsbridge Roundabout Proposal - Option 3 - Geometries**

Drawn	Checked	Reviewed	Approved
MIE	ARM	NL	NL
Original drg. size	**Date**	**Scale**	**Drawing Status**
A3	11/12/23	1:1000	Preliminary
Drawing Number			**Rev.**
GB01T23C11-DWG-101-2.6			P0



Notes:

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3. This drawing forms part of a design pack and should be read in conjunction with all drawings listed on the project drawing register.
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Key:

- OS survey
- Proposed Road Markings
- Proposed Cycleway
- Proposed 0.5m Cycleway Segregation
- Proposed Signal
- Proposed Kerb Line
- Approach Road Half Width
- Entry Width
- Entry Radius
- Inscribed Circular Diameter
- Effective Flare Length
- Conflict Entry Angle
- Stop Line Width
- Lane Length
- Crossing Length

Rev	Date	Revision details	Drawn	Check	Review	Approv
P0	10/11/23	Initial issue	BG	ARM	NL	NL

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Client: **Portsmouth City Council**

Project: **Portsmouth Local Plan Strategic Transport Assessment**

Title: **Junction 3 - Spur Road Roundabout Proposal - Option 2 - Geometries**

Drawn	Checked	Reviewed	Approved
BG	ARM	NL	NL
Original drg. size	**Date**	**Scale**	**Drawing Status**
A3	10/11/2023	1:500	Preliminary

Drawing Number: GB01T23C11-dwg-101-3.2 Rev: P0

NORTHARBOUR ROAD

WESTERN ROAD

WESTERN ROAD

7.80

R30.00

5.00

50

7.20

R40.00

4.70

20

3.00

R10.00

R6.00

R10.00

R6.00

Forward visibility: 90m SSD to DMRB, assumed 30mph, as per Vectos Drawing No. VD15341-004-1 Rev. A

Scale 1:1000 (m)

0 10 20 30 40 50

Notes:

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Key:

- OS mapping
- Proposed kerbs
- Proposed road markings
- Tactile paving for crossing
- R40.00 Dimensions
- Forward visibility (160m), based on DMRB, speed limit 50mph
- Forward visibility (90m), based on DMRB, speed limit 30mph
- Change of speed limit

Rev	Date	Revision details	Drawn	Check.	Review	Approv
P0	02/01/24	Initial issue	MIE	ARM	NL	NL

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Client

Portsmouth City Council

Project

Portsmouth Local Plan Support

Title

Junction 8 - Lakeside Access Proposal - Geometries

Drawn	Checked	Reviewed	Approved
MIE	ARM	NL	NL
Original drg. size: A3	Date: 02/01/2024	Scale: 1:1000	Drawing Status: Preliminary

Drawing Number: GB01T23C11-DWG-101-8.1 Rev. P0

Bus shelter to be relocated along with the bus stop

Tie into existing kerb line

Existing bus stops to be moved further down Kings Road to the east
Refer to Drawing GB01T22C91-dwg-100-16.2

St Paul's Road to become southbound one-way

NO ENTRY

St Paul's Road

3.32

See drawing GB01T22C91-dwg-100-16.2

Kings Road

Tie into existing cycleway

To be marked as a shared cycle/pedestrian footway

Existing bus stops to be moved further down Kings Road to the east
Refer to Drawing GB01T22C91-dwg-100-16.2

Bus shelter to be relocated along with the bus stop

2.08

2.04

Flint Street

Scale 1:250 (m)

0 2 4 6 8 10

Notes:

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Key:

- OS survey
- Proposed Cycleway
- Proposed Segregation
- Proposed Kerb Line
- Proposed Drop Kerb
- Proposed Transition Kerb
- Proposed Road Markings
- Belisha Beacon
- Proposed Shared Footway
- Proposed Footway

Rev	Date	Revision details	Drawn	Check.	Review	Approv
P0	20/11/23	Initial issue	BG	ARM	NL	NL

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Client: **Portsmouth City Council**

Project: **Portsmouth Local Plan Strategic Transport Assessment**

Title: **Junction 16 - Museum Road / Landport Terrace / Kings Road Proposal - Geometries (Sheet 1 of 2)**

Drawn	Checked	Reviewed	Approved
BG	ARM	NL	NL

Original drg. size	Date	Scale	Drawing Status
A3	20/11/2023	1:250	Preliminary

Drawing Number: GB01T23C11-DWG-101-16.1 Rev. P0

St Paul's Road

3.32

NO ENTRY

Kings Road

See drawing GB01T22C91-dwg-100-16.1

6 parking bays (~36m) to be removed

Proposed relocation of bus stops to allow for proposed crossing

Relocated bus shelter

3.00

3.07

3.00

BUS STOP

BUS STOP

Relocated bus shelter

11 parking bays (~64m) to be removed

Proposed relocation of bus stops to allow for proposed crossing

Scale 1:250 (m)

0 2 4 6 8 10

N

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Key:

- OS survey
- Proposed Cycleway
- Proposed Segregation
- Proposed Kerb Line
- Proposed Drop Kerb
- Proposed Transition Kerb
- Proposed Road Markings
- Belisha Beacon
- Proposed Shared Footway
- Proposed Footway

Rev	Date	Revision details	Drawn	Check.	Review	Approv
P0	20/11/23	Initial issue	BG	ARM	NL	NL

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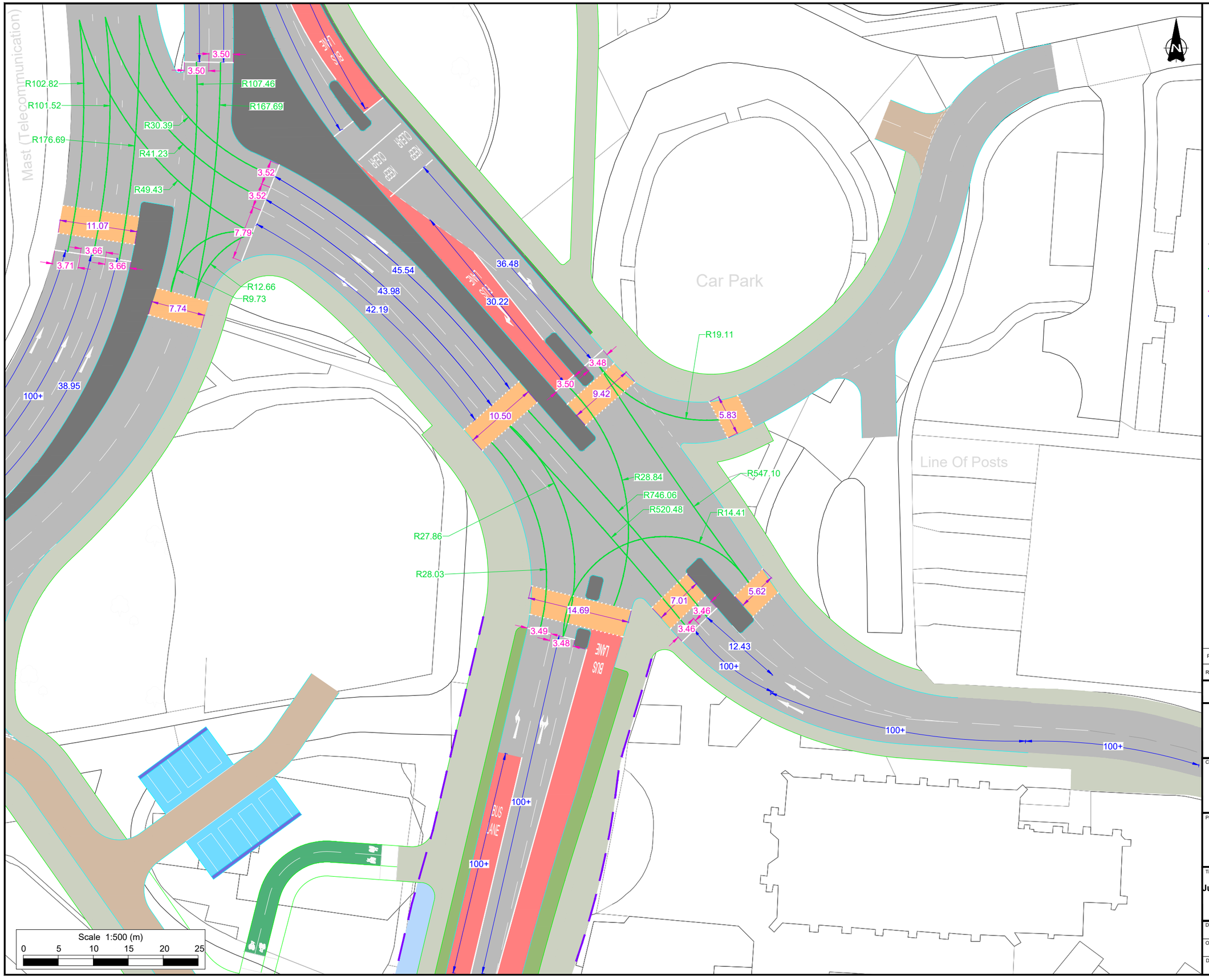
Title

Junction 16 - Museum Road / Landport Terrace / Kings Road Proposal - Geometries (Sheet 2 of 2)

Drawn	Checked	Reviewed	Approved
BG	ARM	NL	NL

Original drg. size	Date	Scale	Drawing Status
A3	20/11/2023	1:250	Preliminary

Drawing Number	Rev.
GB01T23C11-DWG-101-16.2	P0



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5. Design provided by Portsmouth City Council, geometries by SYSTRA Ltd.
6. Refer to Stantec Drawing No. 332110641/5501/SK046 - PROPOSED FULL SCEME HIGHWAY ARRANGEMENT

Key:

- OS survey
- Turning Radius
- Lane Width
- Lane / Flare Length
- Signalised Pedestrian Crossing Length

Rev	Date	Revision details	Drawn	Check.	Review	Approv
P0	20/11/23	Initial issue	BG	ARM	NL	NL

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Client

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Project

Portsmouth Local Plan Strategic Transport Assessment

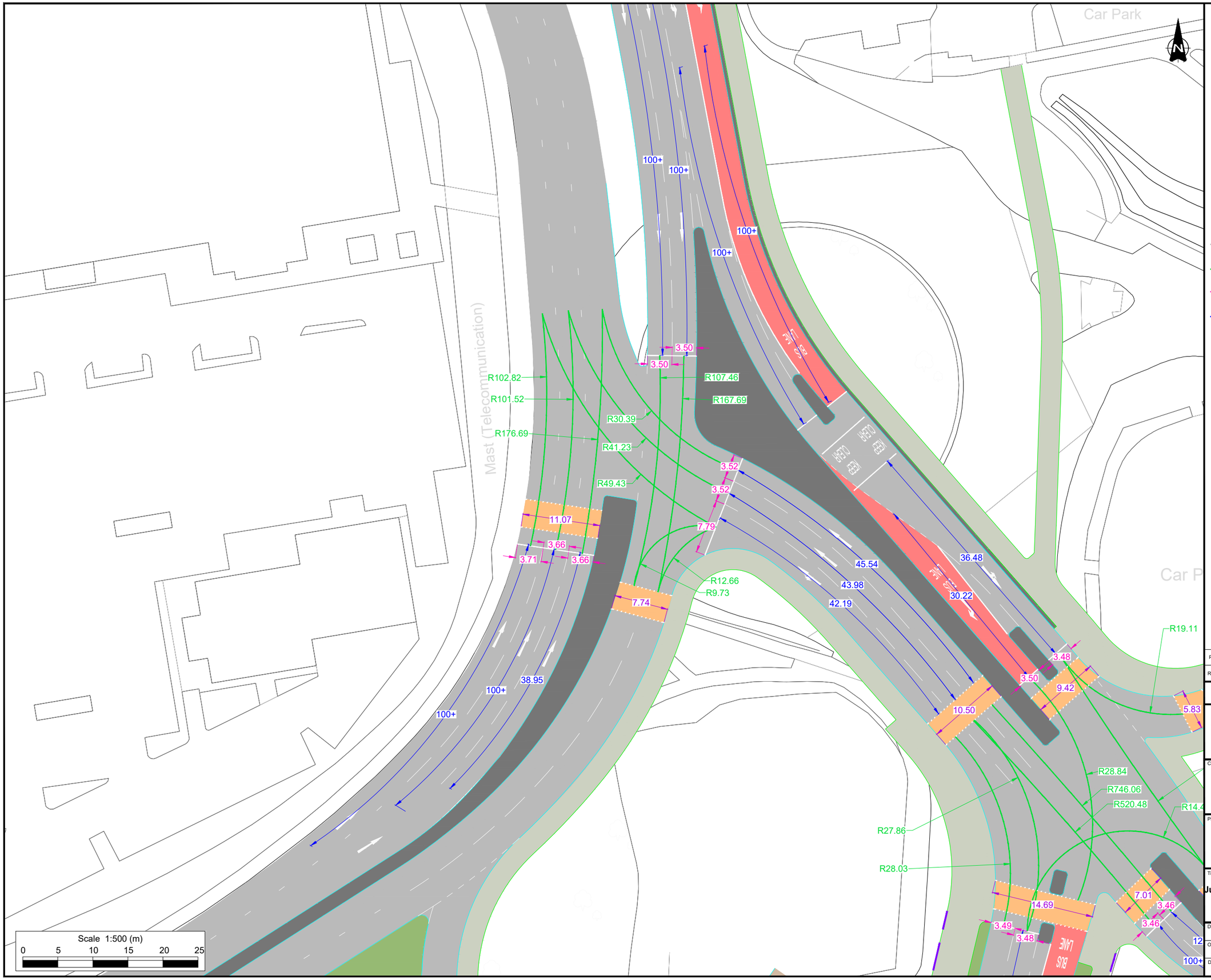
Title

Junction 4 - Church Street Roundabout Proposal - Geometries (Sheet 1 of 2)

Drawn	Checked	Reviewed	Approved
BG	ARM	NL	NL

Original drg. size	Date	Scale	Drawing Status
A3	20/11/2023	1:500	Preliminary

Drawing Number	Rev.
GB01T23C11-DWG-101-4.1	P0



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6. Refer to Stantec Drawing No. 332110641/5501/SK046 - PROPOSED FULL SCEME HIGHWAY ARRANGEMENT

Key:

- OS survey
- Turning Radius
- Lane Width
- Lane / Flare Length
- Signalised Pedestrian Crossing Length

Rev	Date	Revision details	Drawn	Check.	Review	Approv
P0	22/11/23	Initial issue	BG	ARM	NL	NL

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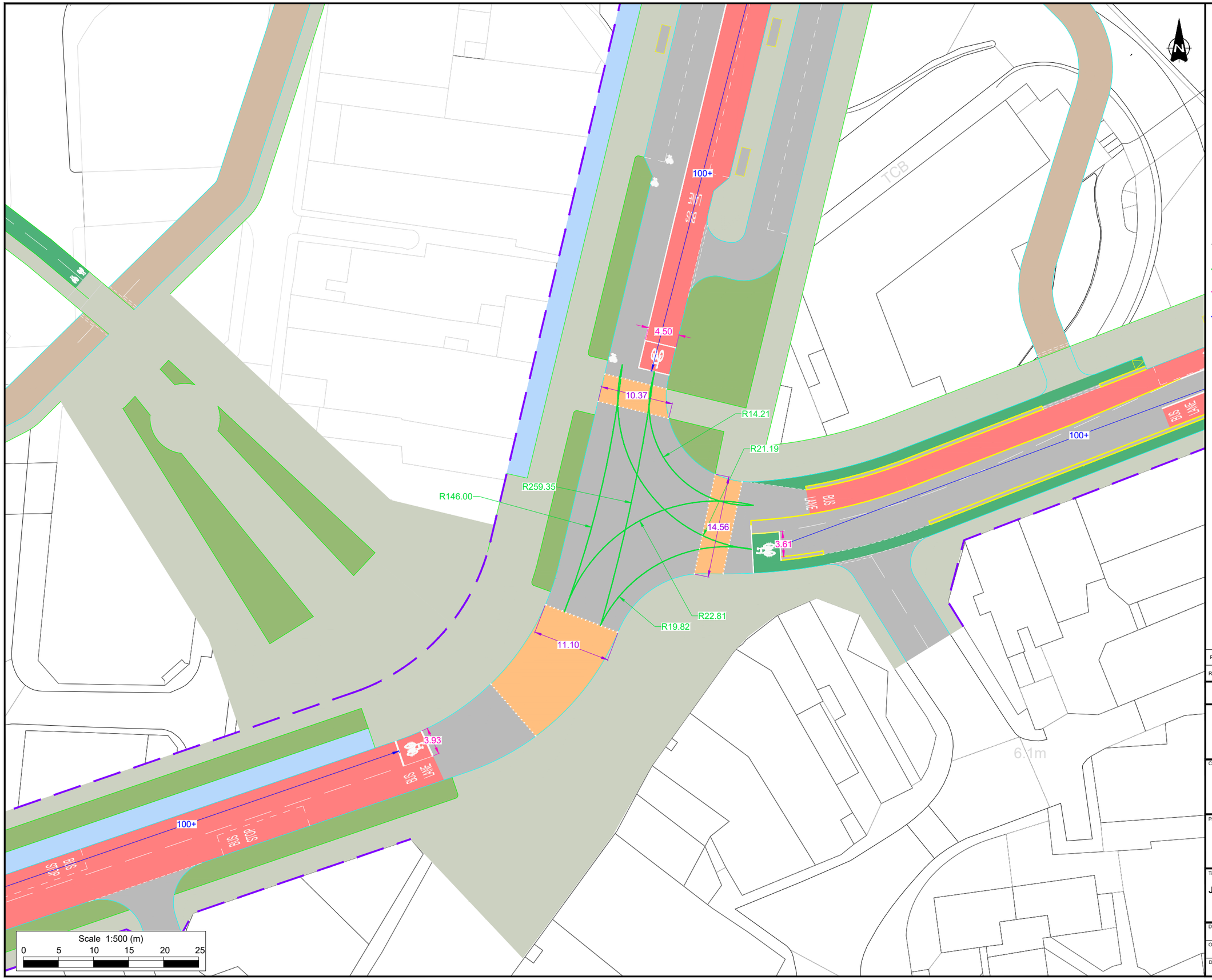
Project: **Portsmouth Local Plan Strategic Transport Assessment**

Title: **Junction 4 - Church Street Roundabout Proposal - Geometries (Sheet 2 of 2)**

Drawn	Checked	Reviewed	Approved
BG	ARM	NL	NL

Original drg. size	Date	Scale	Drawing Status
A3	22/11/2023	1:500	Preliminary

Drawing Number: GB01T23C11-DWG-101-4.2 Rev. P0



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6. Refer to Stantec Drawing No. 332110641/5501/SK046 - PROPOSED FULL SCEME HIGHWAY ARRANGEMENT

Key:

- OS survey
- Turning Radius
- Lane Width
- Lane / Flare Length
- Signalised Pedestrian Crossing Length

Rev	Date	Revision details	Drawn	Check.	Review	Approv
P0	20/11/23	Initial issue	BG	ARM	NL	NL

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Client

Portsmouth City Council

Project

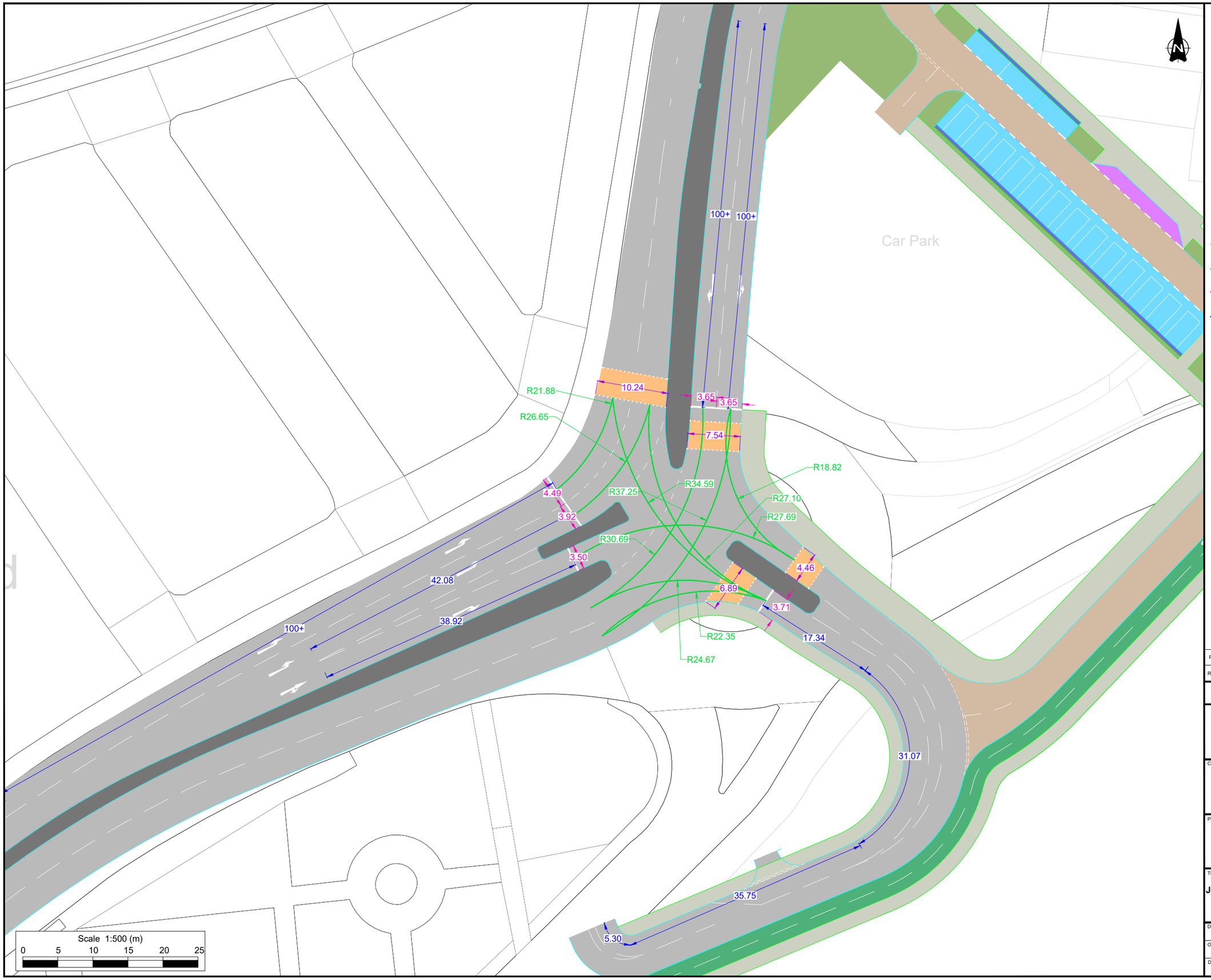
Portsmouth Local Plan Strategic Transport Assessment

Title

Junction 6 - Marketway Roundabout Proposal - Geometries

Drawn	Checked	Reviewed	Approved
BG	ARM	NL	NL
Original drg. size	**Date**	**Scale**	**Drawing Status**
A3	20/11/2023	1:500	Preliminary

Drawing Number: GB01T23C11-DWG-101-6.1 Rev. P0



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6. Refer to Stantec Drawing No. 332110641/5501/SK046 - PROPOSED FULL SCEME HIGHWAY ARRANGEMENT

Key:

- OS survey
- Turning Radius
- Lane Width
- Lane / Flare Length
- Signalised Pedestrian Crossing Length

Rev	Date	Revision details	Drawn	Check.	Review	Approv
P0	20/11/23	Initial issue	BG	ARM	NL	NL

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Client

Portsmouth City Council

Project

Portsmouth Local Plan Strategic Transport Assessment

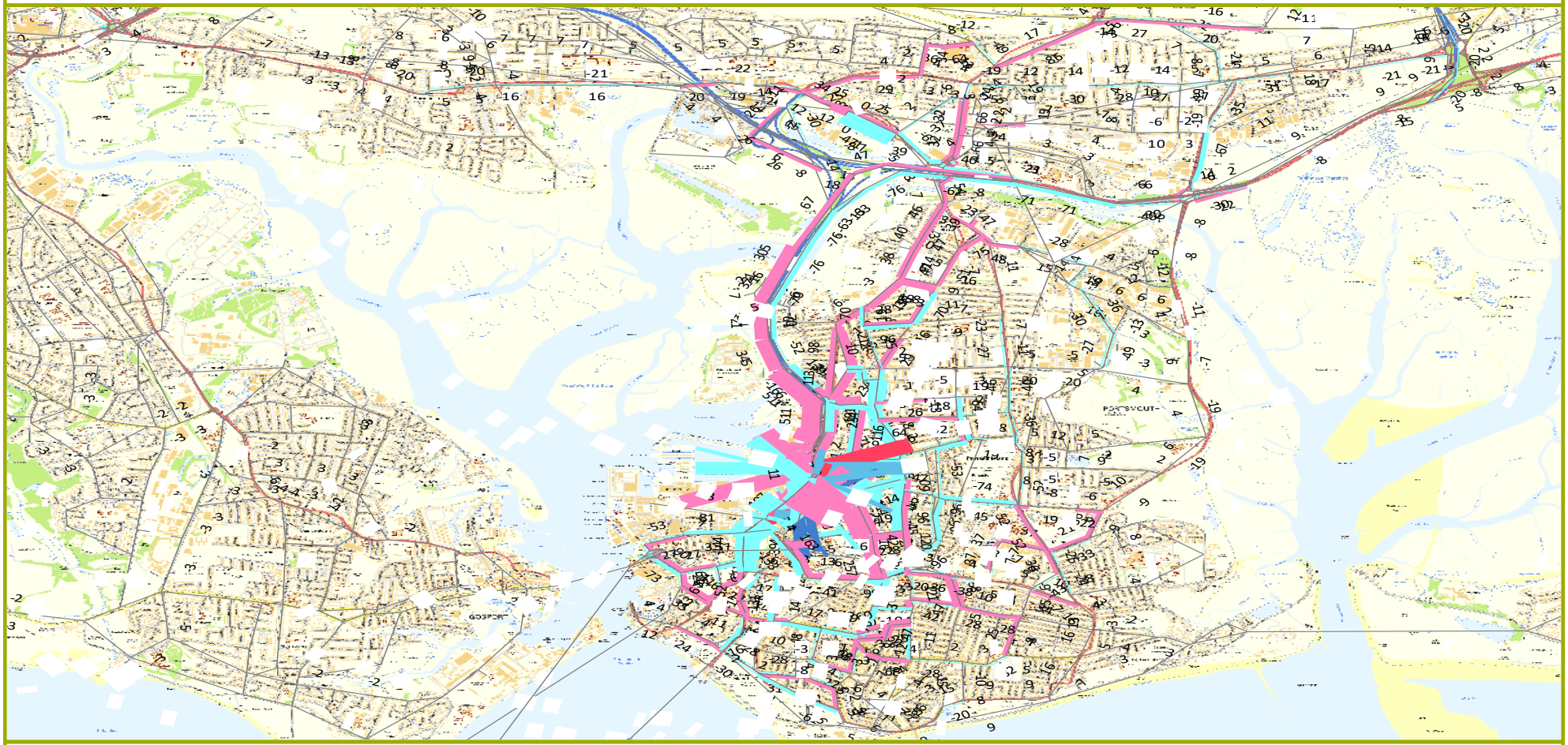
Title

Junction 13 - Hope Street Roundabout Proposal - Geometries

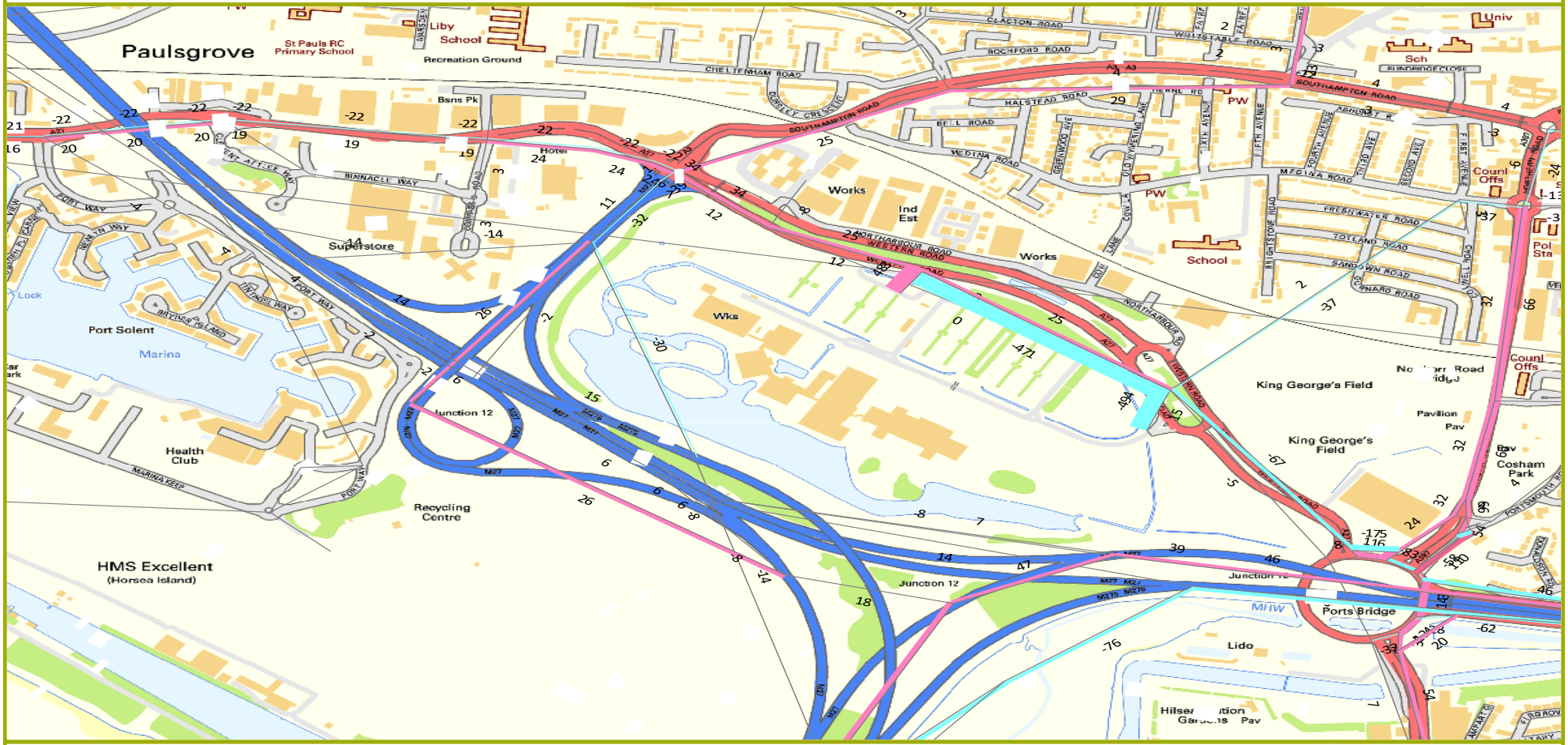
Drawn	Checked	Reviewed	Approved
BG	ARM	NL	NL
Original drg. size	**Date**	**Scale**	**Drawing Status**
A3	20/11/2023	1:500	Preliminary
Drawing Number			**Rev.**
GB01T23C11-DWG-101-13.1			P0

Appendix D – SRTM 2041 Do Something vs Do Minimum Plots

Do Something vs Do Minimum AM Flow Difference (Strategic view)

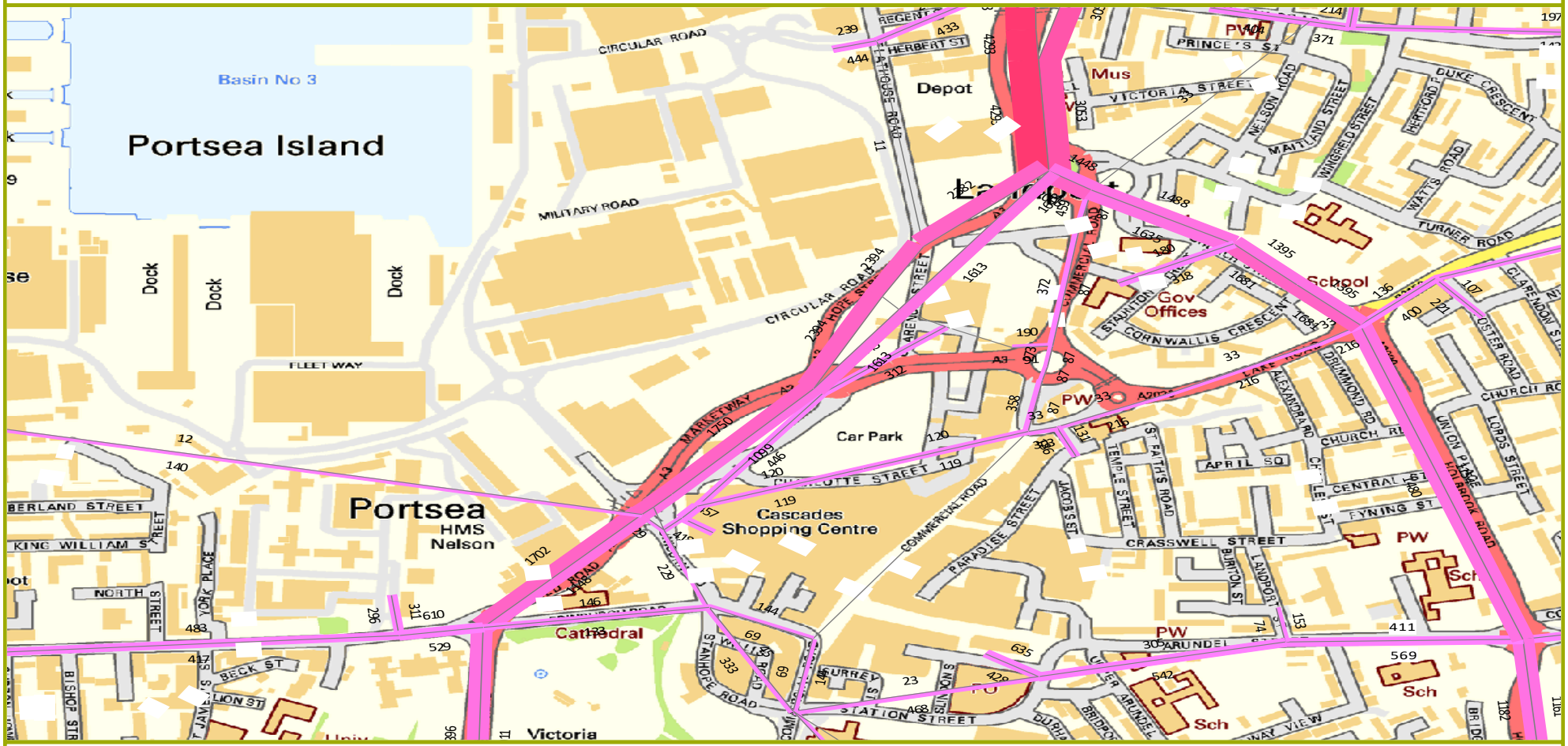


Do Something vs Do Minimum AM Flow Difference (Lakeside & Portsbridge Roundabout)



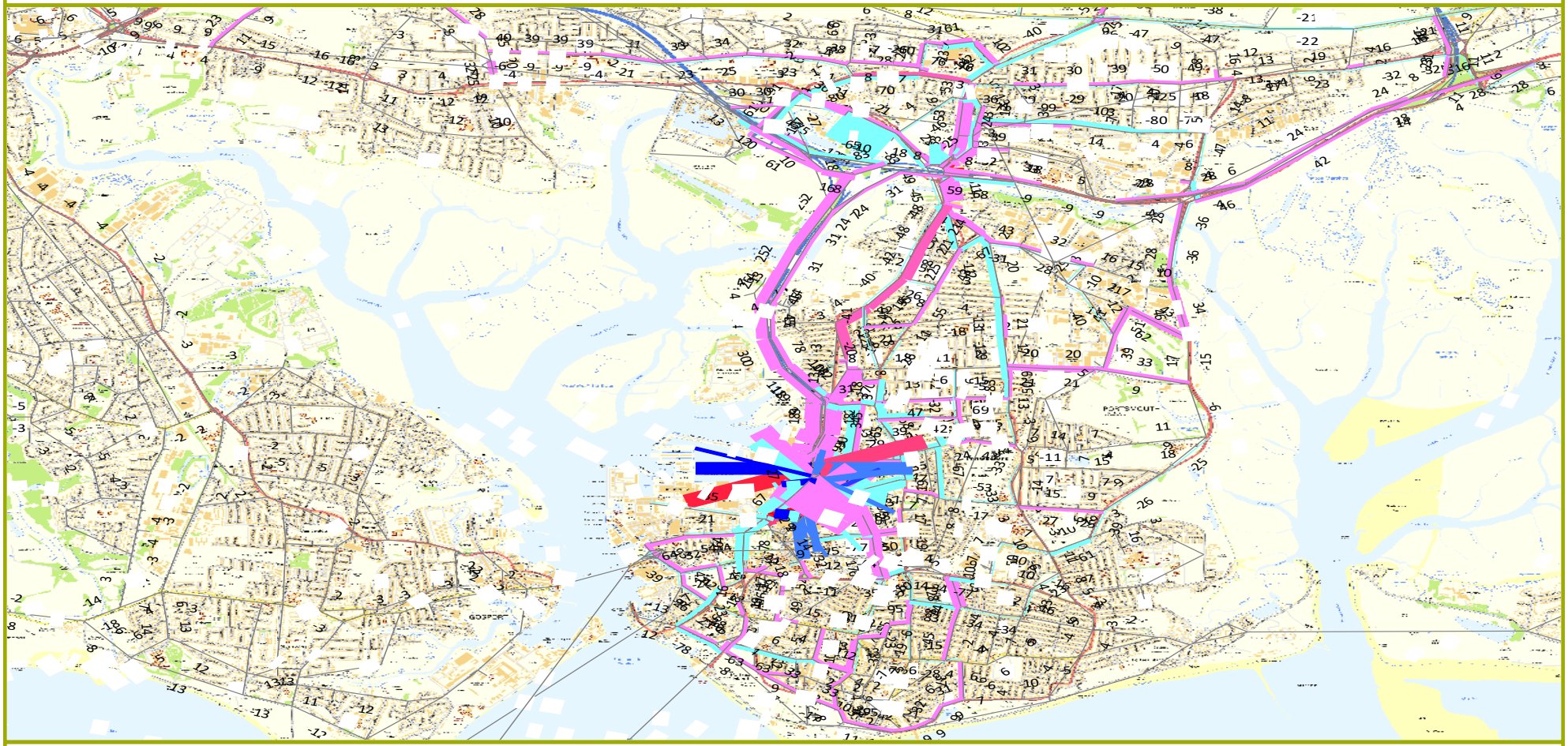
SYSTRA

Do Something AM Absolute Flow (City Centre)

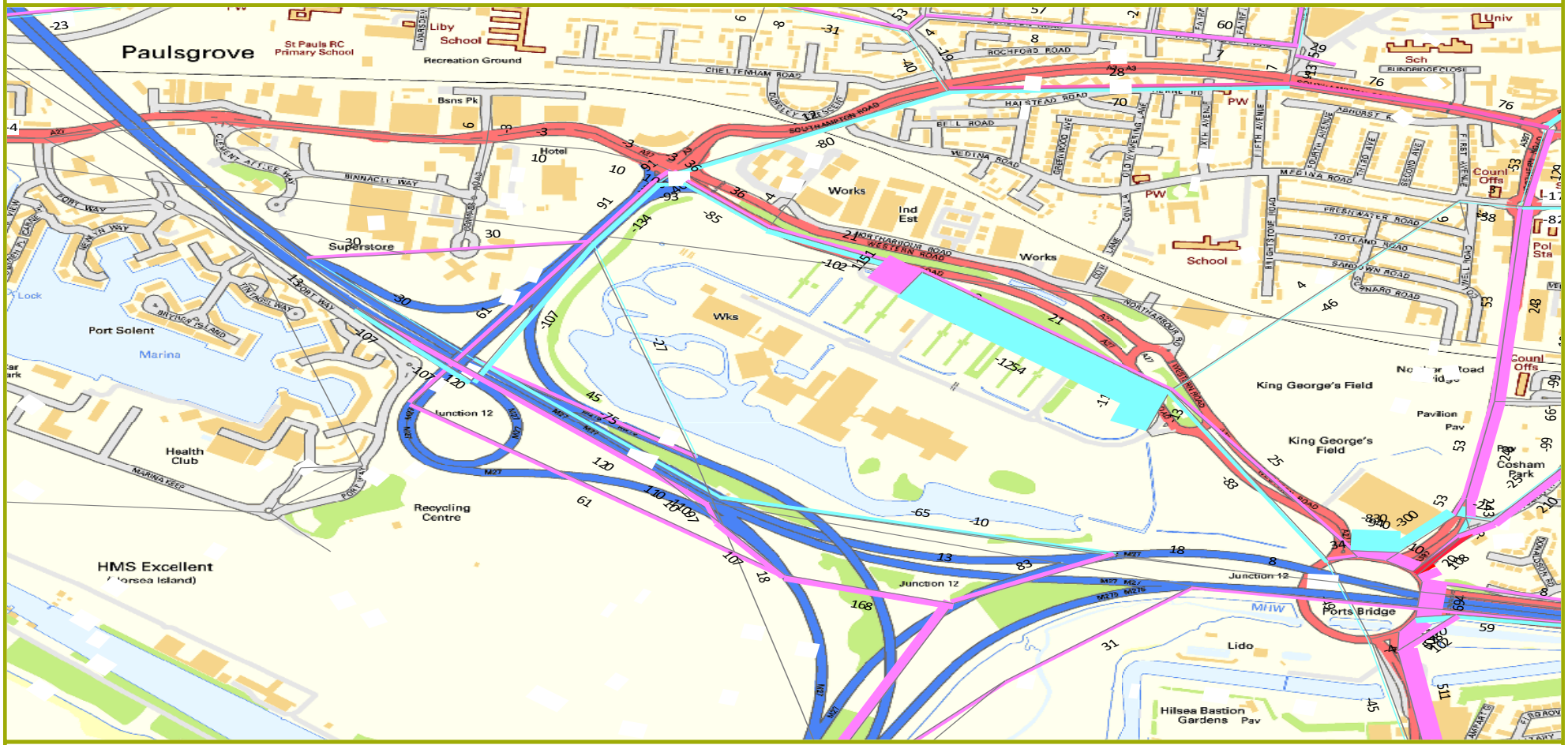


SYSTRA

Do Something vs Do Minimum PM Flow Difference (Strategic view)

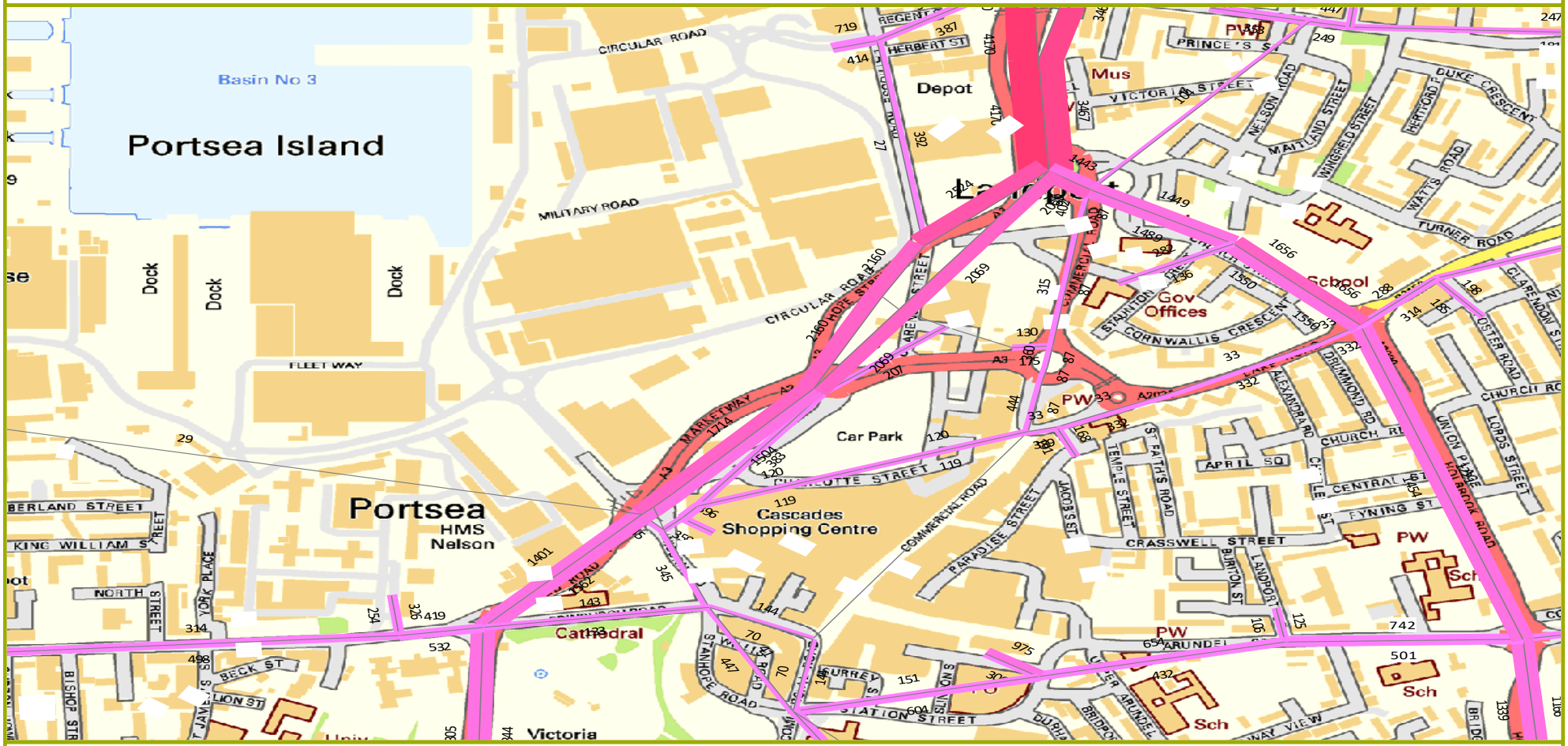


Do Something vs Do Minimum PM Flow Difference (Lakeside & Portsbridge Roundabout)



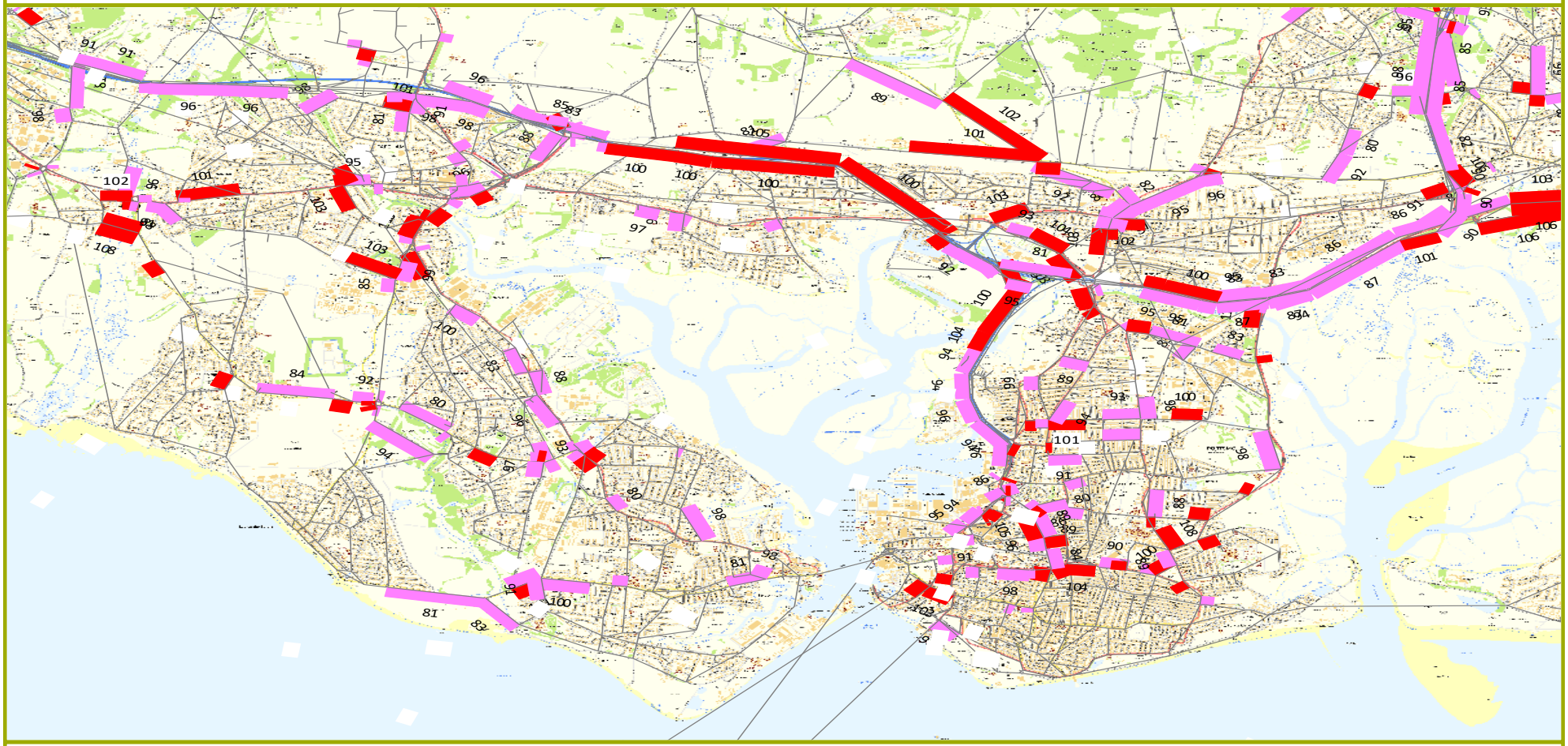
SYSTRA

Do Something PM Absolute Flow (City Centre)

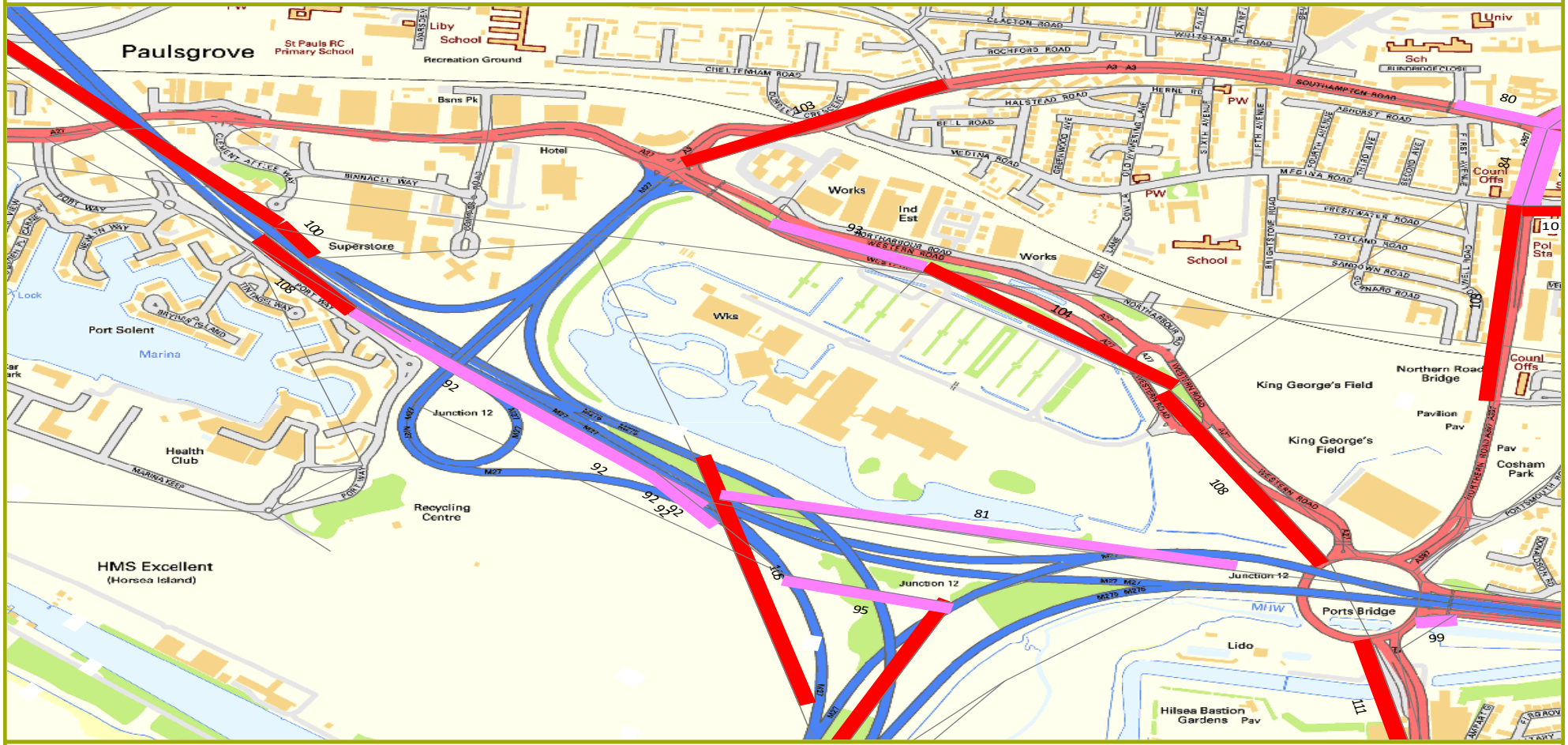


SYSTRA

Do Something Absolute VC AM (Strategic View)



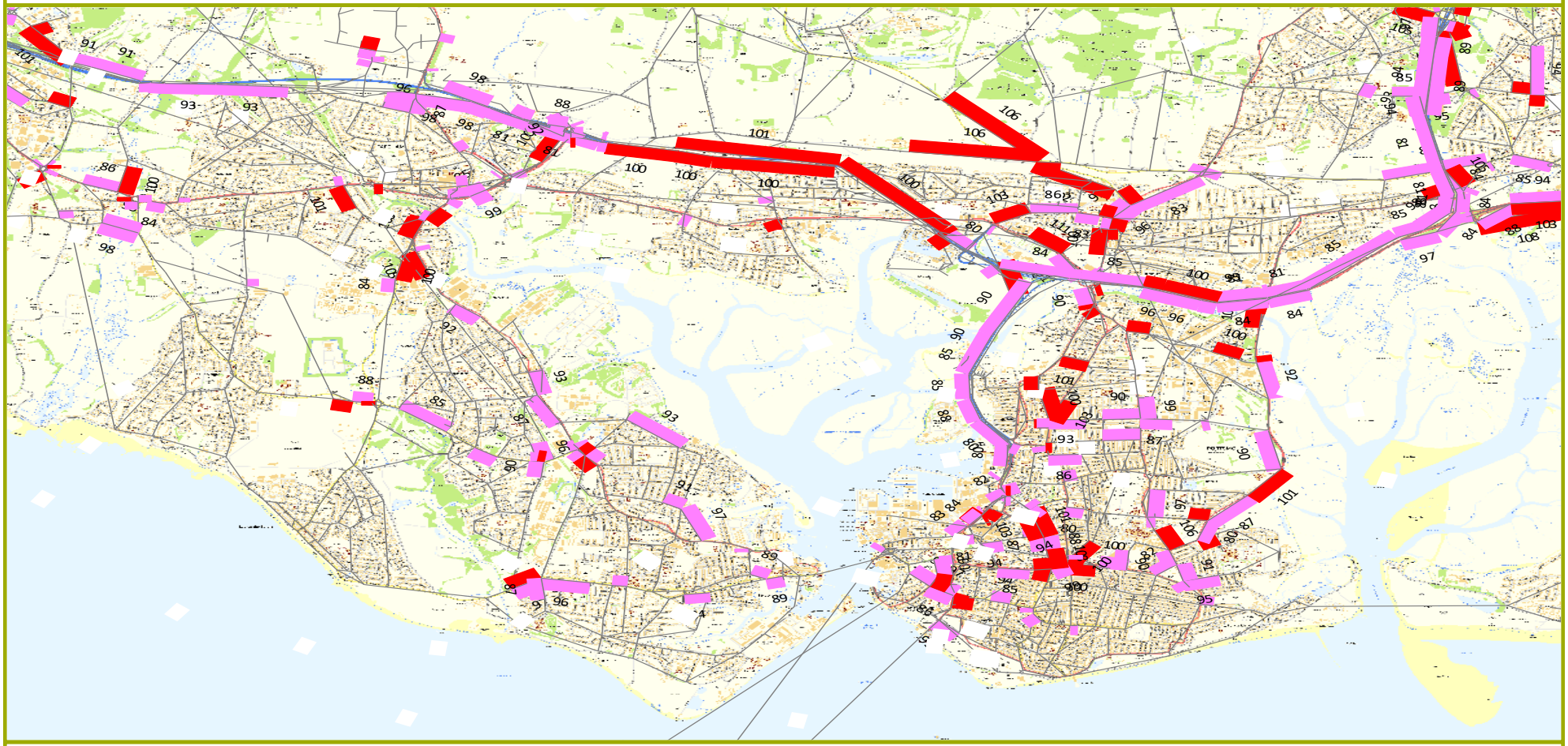
Do Something Absolute VC AM (Lakeside & Portsbridge Roundabout)



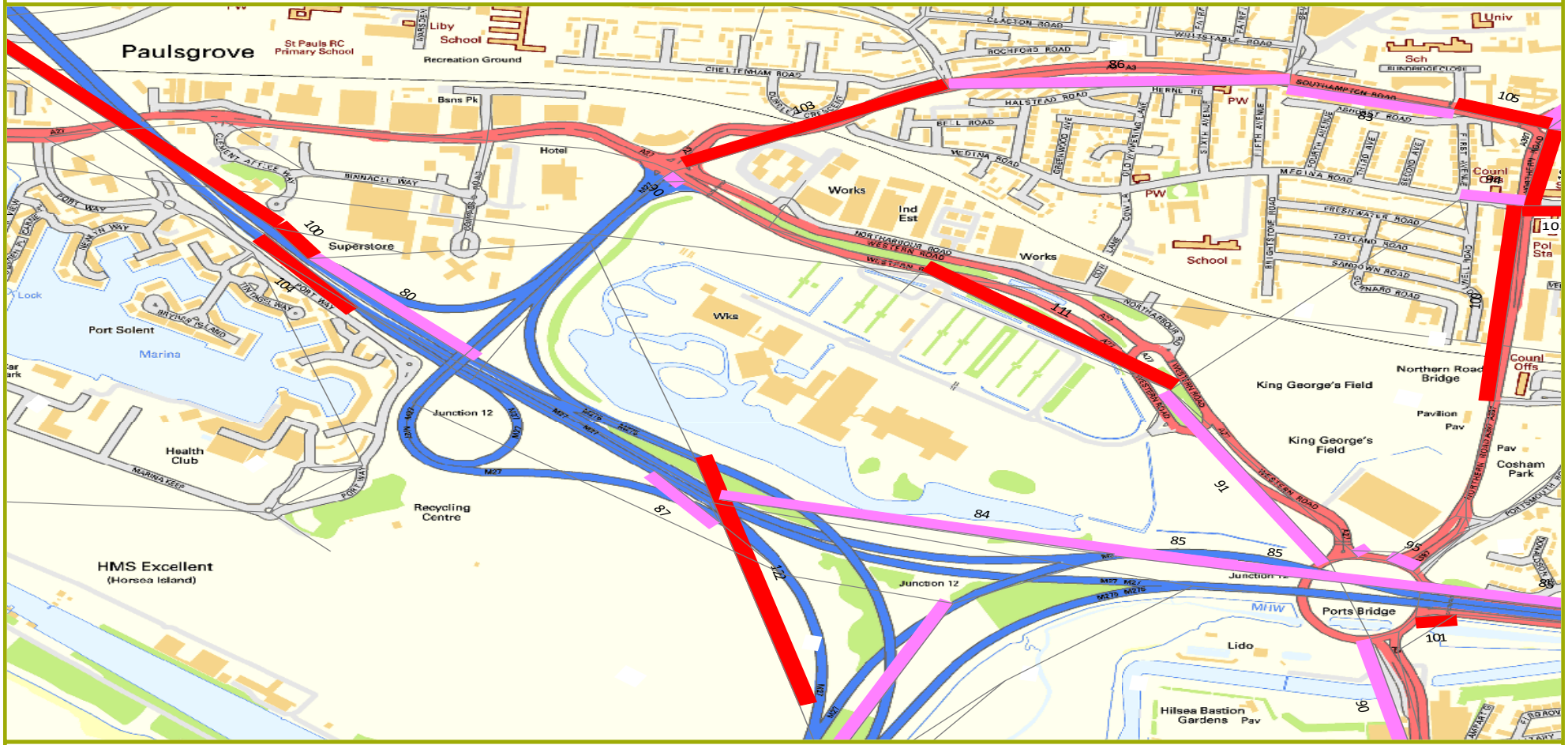
SYSTRA

Do Something VC AM (City Centre)

Do Something Absolute VC PM (Strategic View)

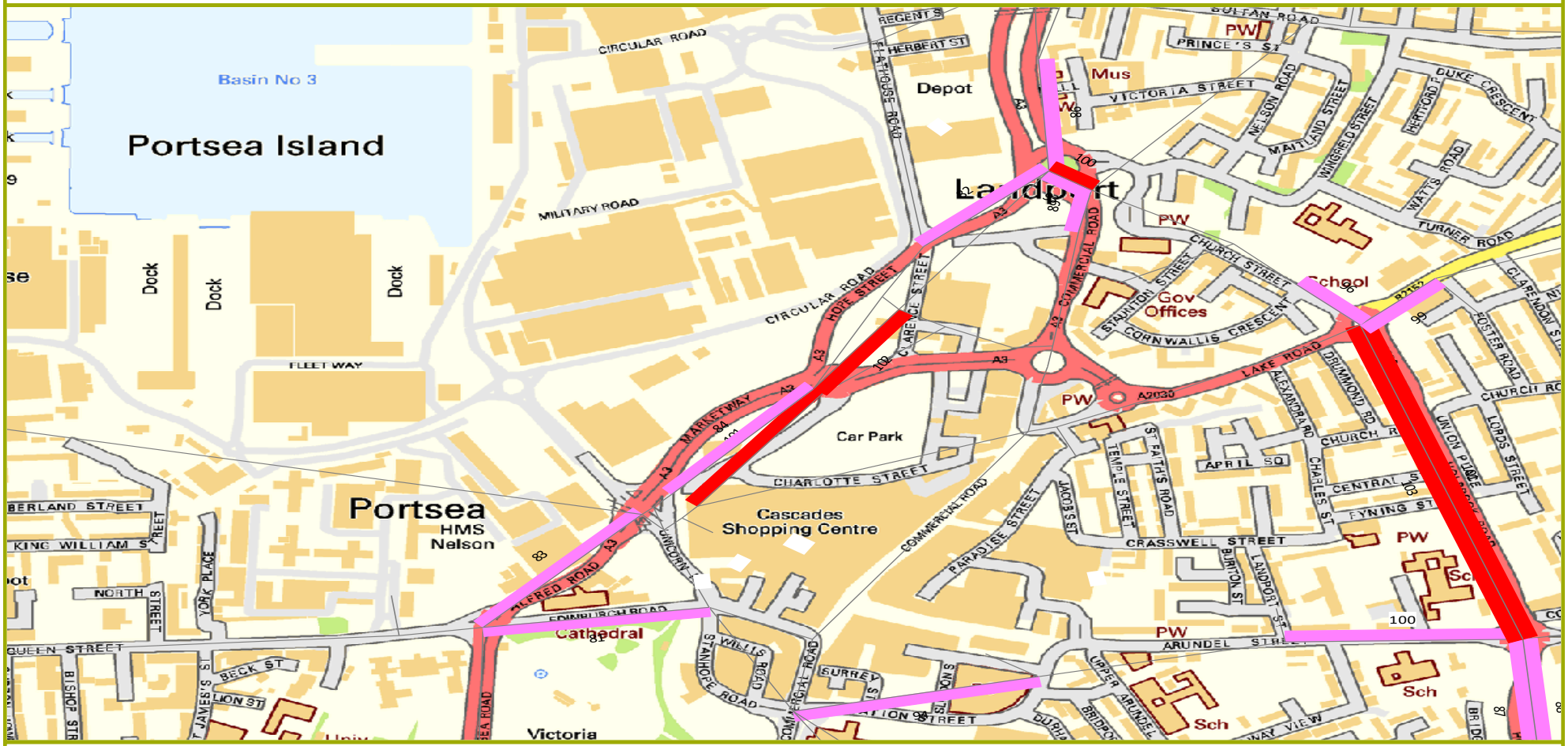


Do Something Absolute VC PM (Lakeside & Portsbridge Roundabout)



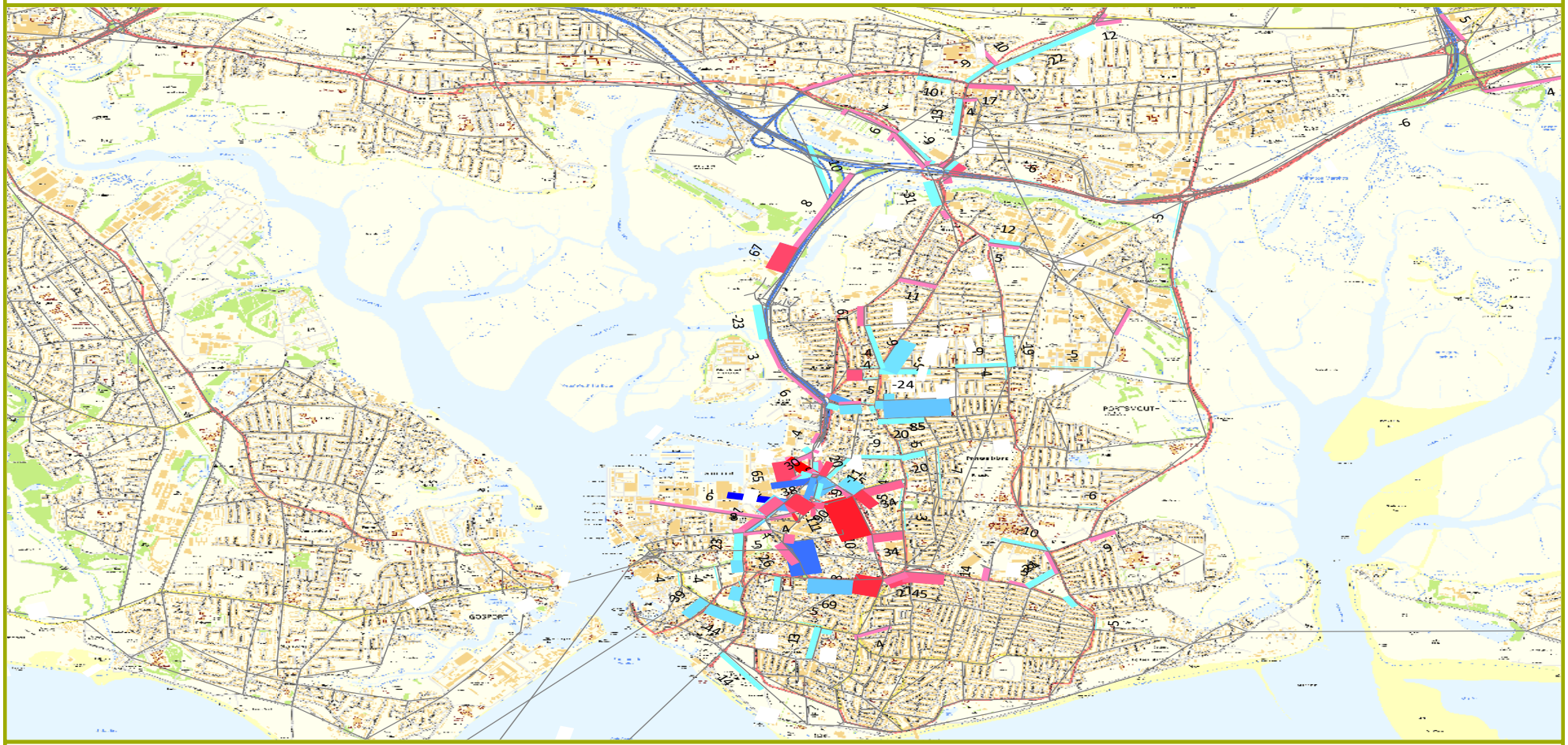
SYSTRA

Do Something VC PM (City Centre)

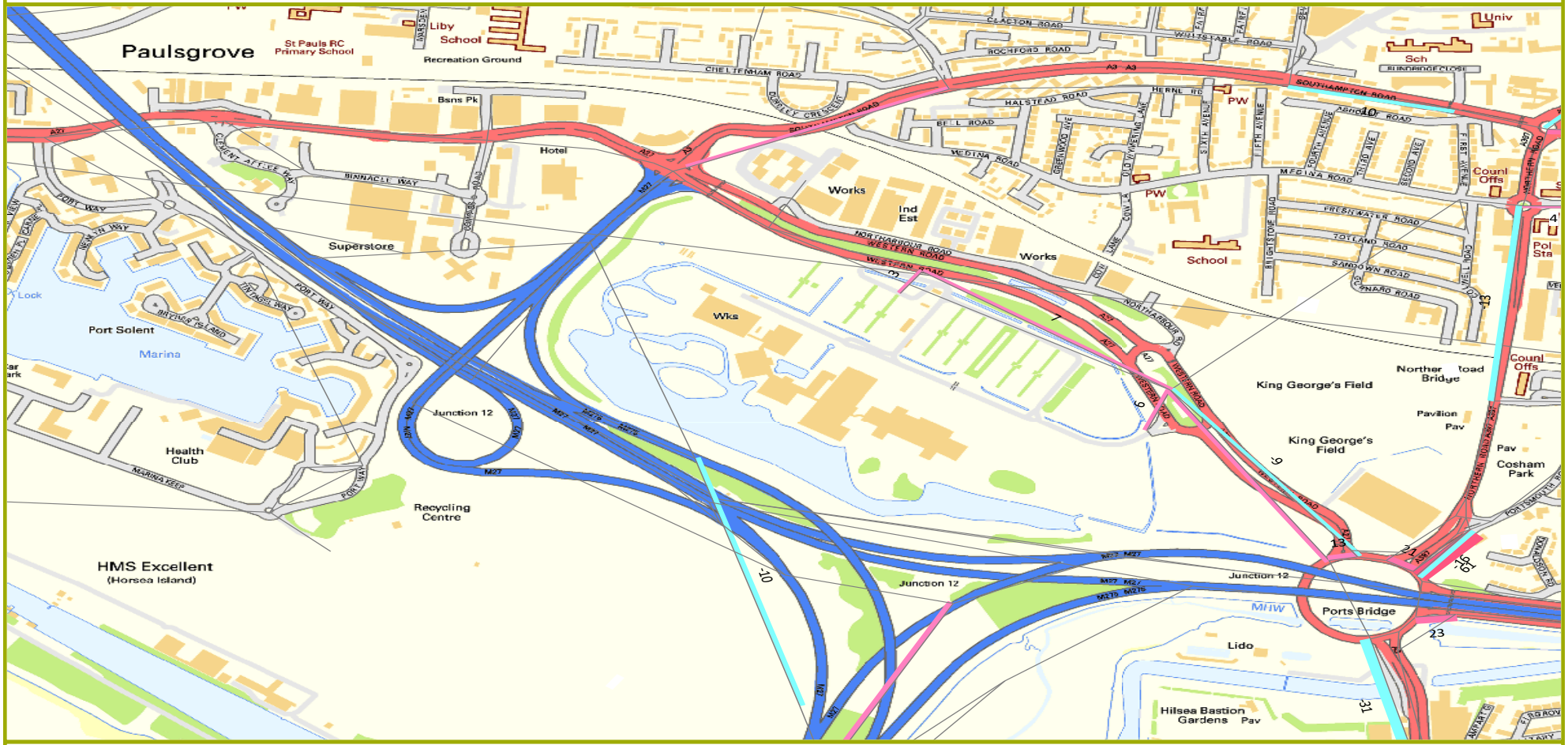


SYSTRA

Do Something vs Do Minimum Delay AM (Strategic view)

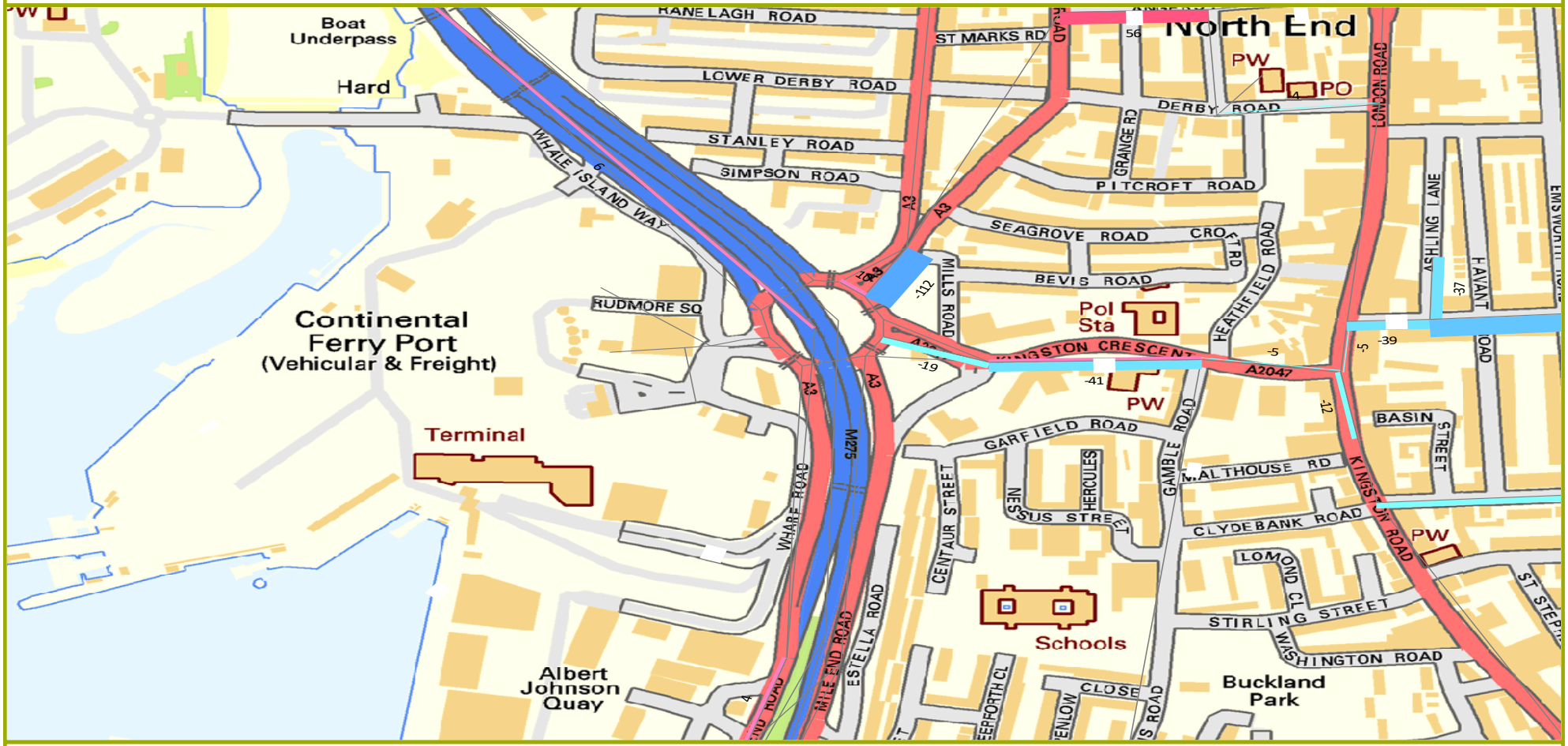


Do Something vs Do Minimum Delay AM (Lakeside & Portsbridge Roundabout)

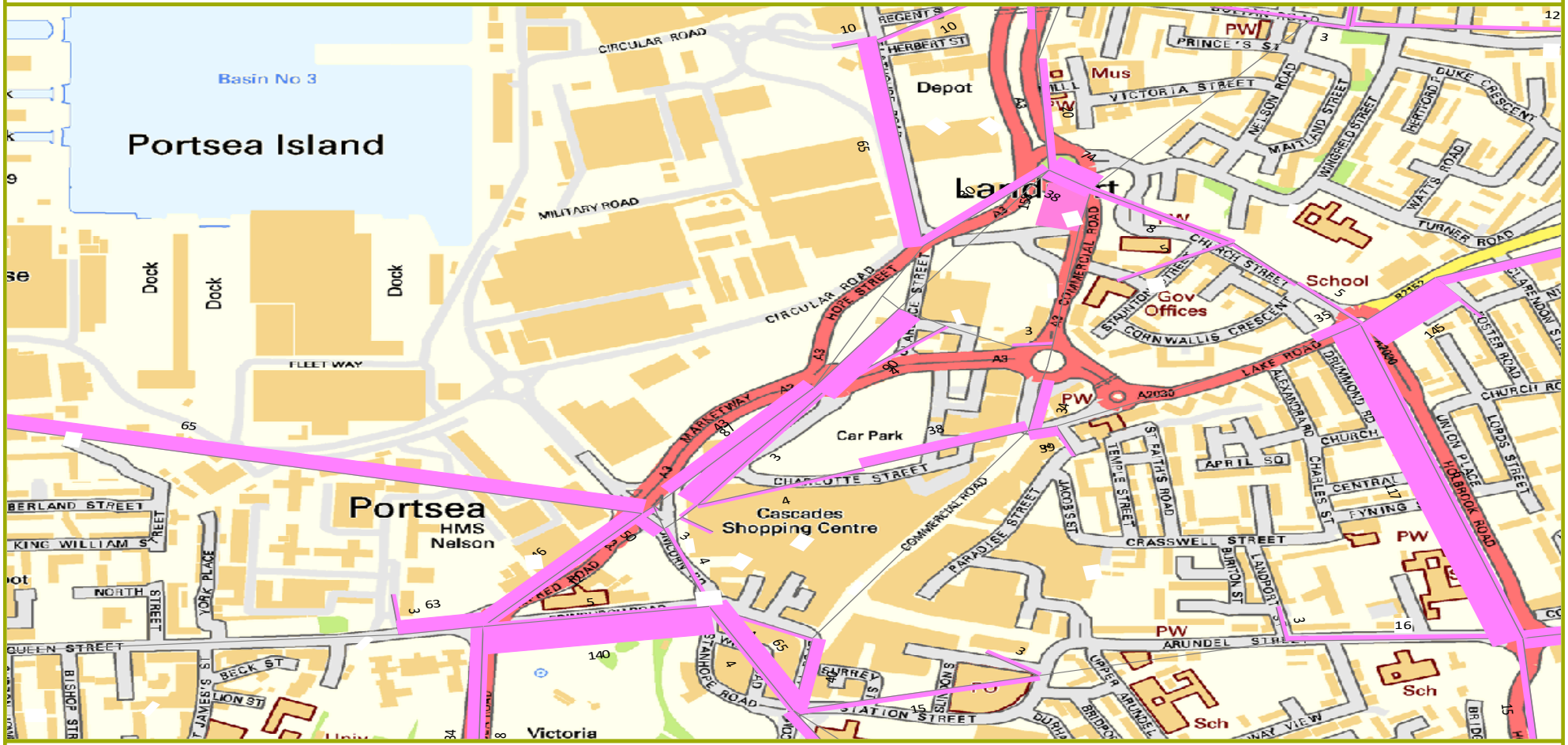


SYSTRA

Do Something vs Do Minimum Delay AM (Rudmore Roundabout)

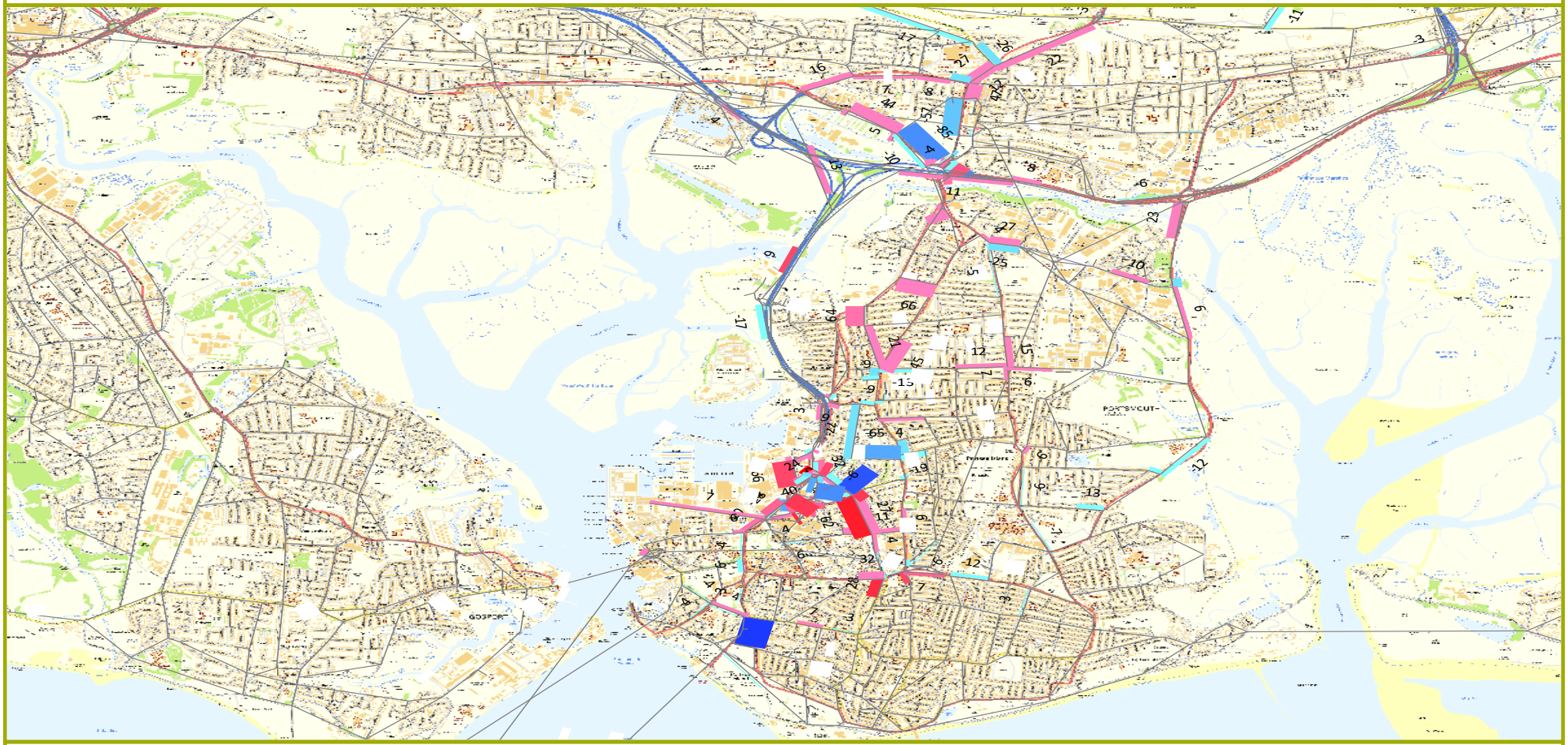


Do Something Absolute Delay AM (City Centre)

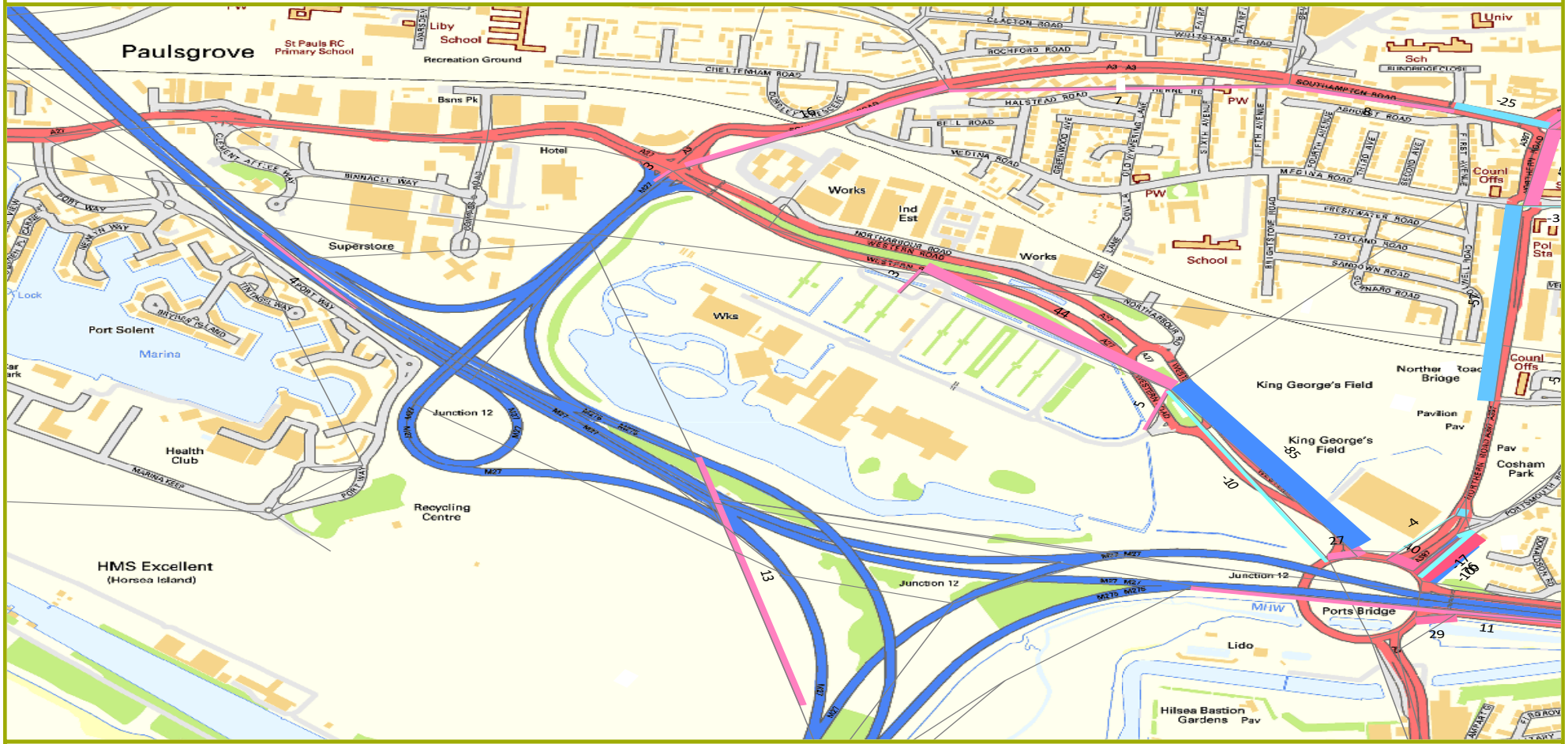


SYSTRA

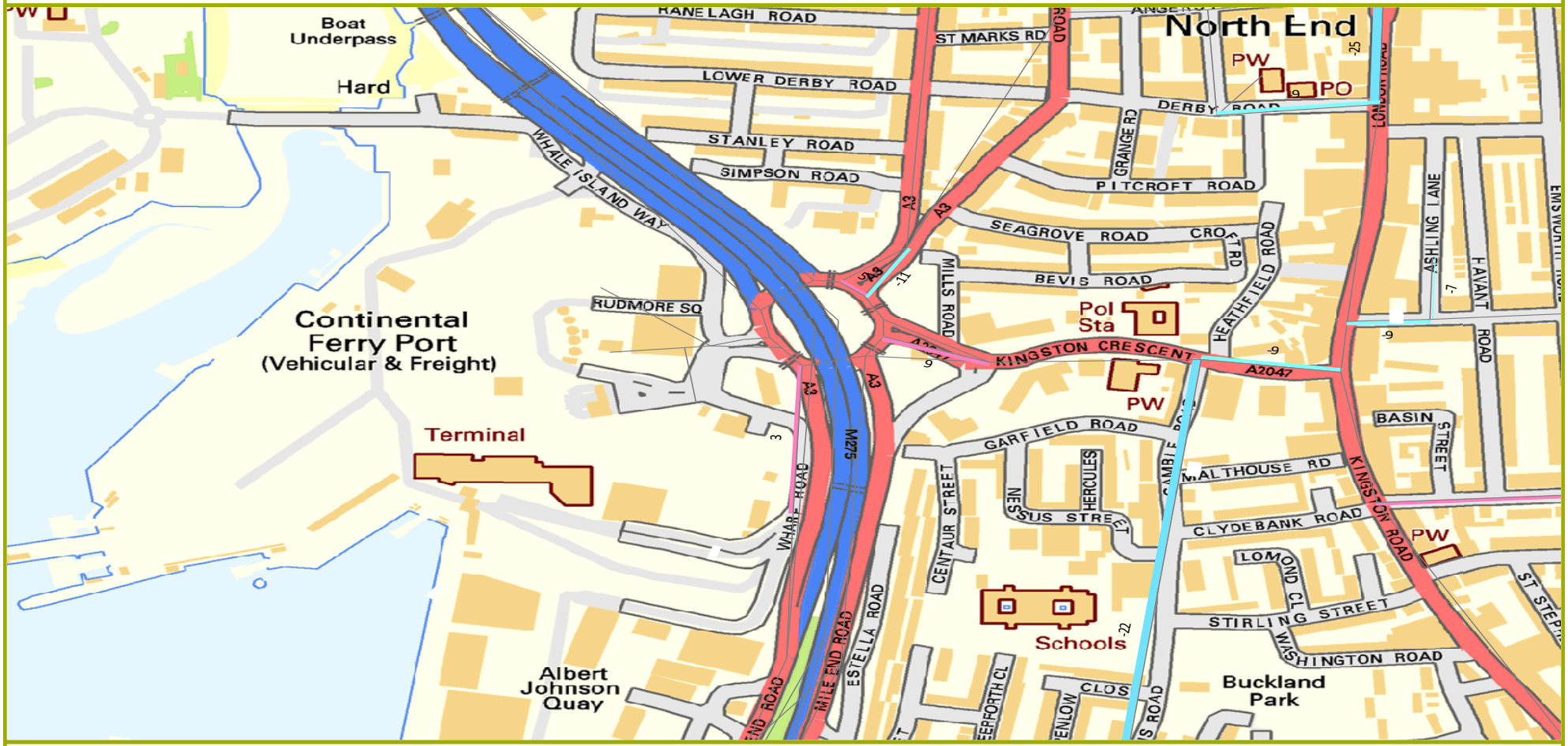
Do Something vs Do Minimum Delay PM (Strategic view)



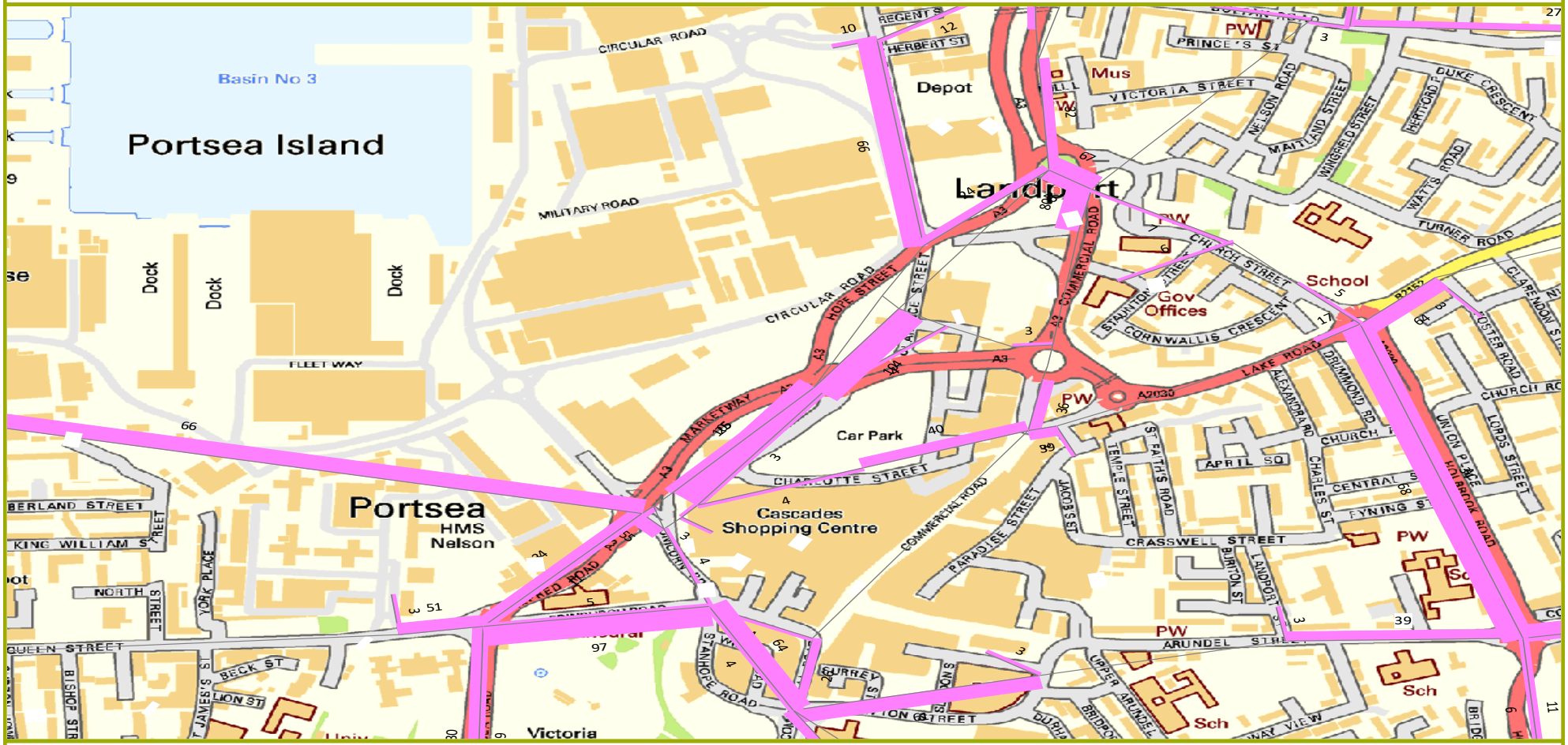
Do Something vs Do Minimum Delay PM (Lakeside & Portsbridge Roundabout)



Do Something vs Do Minimum Delay PM (Rudmore Roundabout)



Do Something Absolute Delay PM (City Centre)



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Belo Horizonte, Belém, Bogotá, Lima, Medellin, Mexico, Rio de Janeiro, Santiago, São Paulo

North America:
Bloomfield, Chicago, Los Angeles, Montreal, Newark, New-York, Philadelphia, Sacramento, San Francisco, Toronto, Washington

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