

Interim Transport Background Paper: Consideration of Initial Transport Modelling

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GOSPORT
Borough Council

SYSTRA – SRTM Modelling for Gosport Borough Local Plan 2038

Introduction:

In September 2019 the Borough Council commissioned SYSTRA to undertake transport modelling scenarios using Solent Transport's Sub-Regional Transport Model (SRTM) to help inform and evidence the Gosport Borough Local Plan 2038 (GBLP 2038). The modelling itself covers the period to 2036, the agreed end date of the Local Plan at the time of commissioning, however, it is considered the range of modelled options covers the quantum of development ultimately proposed in the consultation draft of the GBLP 2038.

The SRTM has been used to model the proposed land allocations and identify key transport implications resulting from the scale and location of the allocations. The SRTM has been used to compare a Baseline scenario with two potential growth scenarios.

This paper is aimed at providing a very high-level summary of the findings of the SYSTRA modelling work. The full report can be found within the suite of evidence studies.

The modelled scenarios are briefly described here:-

- 2036 Baseline – Housing and Employment growth including only committed sites within the Borough and committed highway schemes up to 2036. The committed highway schemes included were agreed in consultation with Solent Transport Officers (the reference case).

Outside of Gosport Borough, growth continues in accordance with adopted Local Plans and forecast changes in car trips. The Baseline scenario models the forecast transport network performance without the proposed Gosport Local Plan growth in order to assist in seeing the effects of the proposed growth scenarios.

- 2036 "Scenario 1" – Housing and Employment growth between 2016 – 2036. Housing growth at a rate of 190 dwellings /year.

Outside of Gosport development growth is identical to the Baseline, and the reference case transport schemes are unchanged, which allows the impacts of the Local Plan development proposals to be isolated.

- 2036 "Scenario 2" – Housing and Employment growth between 2016 – 2036.
- Housing growth at a rate of 238 dwellings /year. Most of the additional dwellings and employment figures would be associated with options around HMS Sultan post 2029.

As for "Scenario 1", outside of Gosport development growth is identical to the Baseline, and the reference case transport schemes are unchanged, which again allows the impacts of the Local Plan development proposals to be isolated for this higher growth scenario.

High-Level Findings from the Modelled Growth Scenarios:

- **2036 Do Minimum “Scenario 1” – Rate of 190 dwellings/year (totaling 2,503 additional dwellings)**

The 2036 Do Minimum “Scenario 1” includes the proposed Gosport Local Plan development for residential and employment allocations at a rate of 190 dwellings per year (totaling 2,503 additional residential dwellings), whilst the growth outside of the Borough is unchanged from the Baseline.

The additional Local Plan development for the Do Minimum “Scenario 1”, compared to the Baseline growth scenario, equates to a 6% increase of person trips to/from Gosport.

The addition of the Local Plan growth over the Baseline growth scenario increases trip generation to/from/within the Borough. It is forecast there would be a 9% increase in Vehicle hours and a 7.5% increase in Vehicle Kilometres over a 24 hour period on the network and average speed is forecast to reduce by 1.4% when compared to the Baseline growth scenario.

SYSTRA report that the forecast flow increases arising from the Local Plan appear to be localised and are dispersed by the time they reach the strategic network outside of the Borough. Most additional delays are all forecast to be under 1 minute, with the PM peak performing slightly better than the AM peak.

At a more detailed level SYSTRA have identified a total of 5 junctions classified as experiencing ‘significant’ impact and 4 as experiencing ‘severe’ impact within the Borough, which are detailed in the extracted table below¹:-

Table 7. Junctions Forecast to meet the ‘Significant’ or ‘Severe’ Criteria in Do Minimum 1

ID	JUNCTION	‘SIGNIFICANT’	‘SEVERE’
1	Forton Road/ Mumby Road/ Spring Garden Lane		✓
2	Brockhurst Road/ Military Road/ Fareham Road/ Elson Road Roundabout	✓	
3	Broom Way / Cherque Way		✓
4	Rowner Road/ Rowner Lane Roundabout	✓	
5	Privett Road/ Grange Road	✓	
6	San Diego Road/ Grove Road/ Mill Lane/ The Crossways Roundabout		✓
7	Forton Road/ Mill Lane		✓
8	Grange Road / Nimrod Drive	✓	
9	B3333 South Street / Creek Road	✓	

¹ The change in Volume/Capacity percentage (V/C) and delay between the Do Minimum “Scenario 1” and Baseline scenarios has been calculated to identify locations that worsen as a result of the Local Plan development, with the following criteria applied to show junctions that worsen:-

- Where the delay is greater than 60 seconds in the Do Minimum “Scenario 1” and has increased in the Do Minimum “Scenario 1” by more than 60 seconds compared to the Baseline.
- Significant - Where the V/C is greater than 85% in the Do Minimum “Scenario 1” and has increased in the Do Minimum “Scenario 1” by more than 5% compared to the Baseline.
- Severe - Where the V/C is greater than 90% in the Do Minimum “Scenario 1” and has increased in the Do Minimum “Scenario 1” by more than 10% compared to the Baseline.

The SYSTRA report also considers the “Highway Network Performance” and describes the impacts of the proposed growth on the AM and PM peak hours. As expected there is a general increase in traffic in the Borough, and locations with the greatest increase are consistent with the larger development allocations, such as the Haslar Peninsula, Gosport Town Centre and Daedalus development zones.

In the AM peak, outside of the Borough there are reported increases in flows on other local routes, including through Stubbington Village, Titchfield Road and Peak Lane. The changes in flows on the A32 (outside the Borough) and on the A27 are described within the report as being minimal.

For the PM peak, again general increases in flows are reported, which are again reported in comparison to the baseline and are consistent with the larger development allocation areas. As for the AM peak, flow changes on the A32 (outside the Borough) and the A27 are again described as minimal. During the PM peak there is a forecast increase in traffic on Broom Way and the Stubbington Bypass.

- **2036 Do Minimum “Scenario 2” – Rate of 238 dwellings/year (totaling 3,463 additional dwellings)**

The 2036 Do Minimum “Scenario 2” includes the proposed Gosport Local Plan development, but at a higher rate of growth of 238 dwellings per year (3,463 additional residential dwellings). As with the Do Minimum “Scenario 1”, the growth outside of the Borough is unchanged from the Baseline.

The additional Local Plan for Do Minimum “Scenario 2”, compared to the Baseline growth scenario, equates to an 8% increase of person trips to/from Gosport. As expected, as the growth rate is higher, the forecast changes are higher than in the Do Minimum “Scenario 1”.

For the higher growth rates, within Gosport, compared to the Baseline growth scenario there is a forecast 11% increase in Vehicle hours and a 9% increase in Vehicle Kilometres over a 24 hour period on the network and average speed is forecast to reduce by 1.5% when compared to the Baseline growth scenario. Again, these are all higher than the % increases shown with the Do Minimum “Scenario 1”.

The forecast flows arising from the higher growth option (Do Minimum “Scenario 2”) of the Local Plan are higher than forecast in the Do Minimum “Scenario 1”, however, likewise disperse once out of the Borough onto the strategic network. During the AM peak, it is reported that a couple of junctions are forecast delay changes of over a minute. The PM peak is again reported to perform better than the AM peak

At the detailed junction level the overall number of junctions impacted is increased over the “Scenario 1” forecasts. With the higher growth scenario, 8 junctions are classified as experiencing a ‘significant’ impact, and 5 ‘severe’, and are drawn out in the table below²:-

² The change in Volume/Capacity percentage (V/C) and delay between the Do Minimum “Scenario 2” and Baseline scenarios has been calculated to identify locations that worsen as a result of the Local Plan development, where the following criteria has been applied to show junctions that worsen:-

- Where the delay is greater than 60 seconds in the Do Minimum “Scenario 2” and has increased in the Do Minimum “Scenario 2” by more than 60 seconds compared to the Baseline

Table 9. Junctions Forecast to meet the 'Significant' or 'Severe' Criteria in Do Minimum 2

ID	JUNCTION	'SIGNIFICANT'	'SEVERE'
1	Forton Road/ Mumby Road/ Spring Garden Lane	✓	
2	Brockhurst Road/ Military Road/ Fareham Road/ Elson Road Roundabout		✓
3	Broom Way / Cherque Way		✓
4	Rowner Road/ Rowner Lane Roundabout	✓	
5	Privett Road/ Grange Road		✓
6	San Diego Road/ Grove Road/ Mill Lane/ The Crossways Roundabout		✓
7	Forton Road/ Mill Lane		✓
8	Grange Road/ Nimrod Drive	✓	
9	Brockhurst Road/ Eastbourne Avenue	✓	
10	Fareham Road/ Rowner Road Roundabout	✓	
11	Brockhurst Road/ Avery Lane	✓	
12	Browndown Road/ Gomer Lane/ Stokes Bay Road Roundabout	✓	
13	St Thomas's Road/ Elson Road/ Heritage Way	✓	

As for the “Scenario 1” analysis the report also considers the impacts of this higher growth scenario on the “Highway Network Performance”.

For this higher growth scenario there are again general increases in traffic, which is higher than with “Scenario 1” and again the greatest traffic increases consistent with the larger development allocations, such as the Haslar Peninsula Strategic, Gosport Town Centre and Daedalus development zones.

In the AM peak, outside of the Borough there are reported increases in flows on other local routes, which are reported as including Stubbington Lane, Mays Lane, Peak Lane and Stubbington Bypass. There are reported increases in flows on the A32 (outside the Borough) in a northbound direction and also on the A27 together with some re-routing of traffic from the A27 to Highlands Road and Catisfield Road. For the western section of the A27 (after the Titchfield Gyratory) the flow changes are described as being minimal.

For the PM peak, again general increases in flows are reported, which are again consistent with the larger development allocation areas. Within Gosport, the increases in traffic are reported as only resulting in very minimal re-routing

As for the lower growth scenario, flow changes on the A32 (outside the Borough) and the A27 are again described as minimal. As for the “Scenario 2” growth a higher increase in traffic flow is forecast on the Stubbington Bypass during the PM peak.

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- Significant - Where the V/C is greater than 85% in the Do Minimum “Scenario 2” and has increased in the Do Minimum “Scenario 2” by more than 5% compared to the Baseline
 - Severe - Where the V/C is greater than 90% in the Do Minimum “Scenario 2” and has increased in the Do Minimum “Scenario 2” by more than 10% compared to the Baseline

Next Stages:

Following on from this initial modelling work it is proposed to undertake further detailed analysis of the outputs from this initial modelling can be used as an evidence base for a Transport Assessment where the junctions affected by the proposed levels of growth can be assessed in more detail and consider where potential schemes are required to mitigate the impacts.

The scope of any future Transport Assessment work will need to be discussed and agreed with Hampshire County Council as the Local Highway Authority for the Gosport Area.