

Report to the Transport for South Hampshire Joint Committee

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Subject: Integrating the Isle of Wight within the Transport for South Hampshire Evidence Base

Purpose of the Report

This report reviews the coverage and efficacy of the Sub Regional Transport Model (SRTM) in respect of the Isle of Wight (IoW), provides a synopsis of the existing transport modelling capability of the IoW area and considers options for integration into a single evidence base.

Recommendation

- a) **That the Sub Regional Transport Model is updated to improve its capability for modelling the Isle of Wight as soon as the Isle of Wight Council is formally accepted as a Member of the Transport for South Hampshire Joint Committee by each of the three current Members.**

Introduction

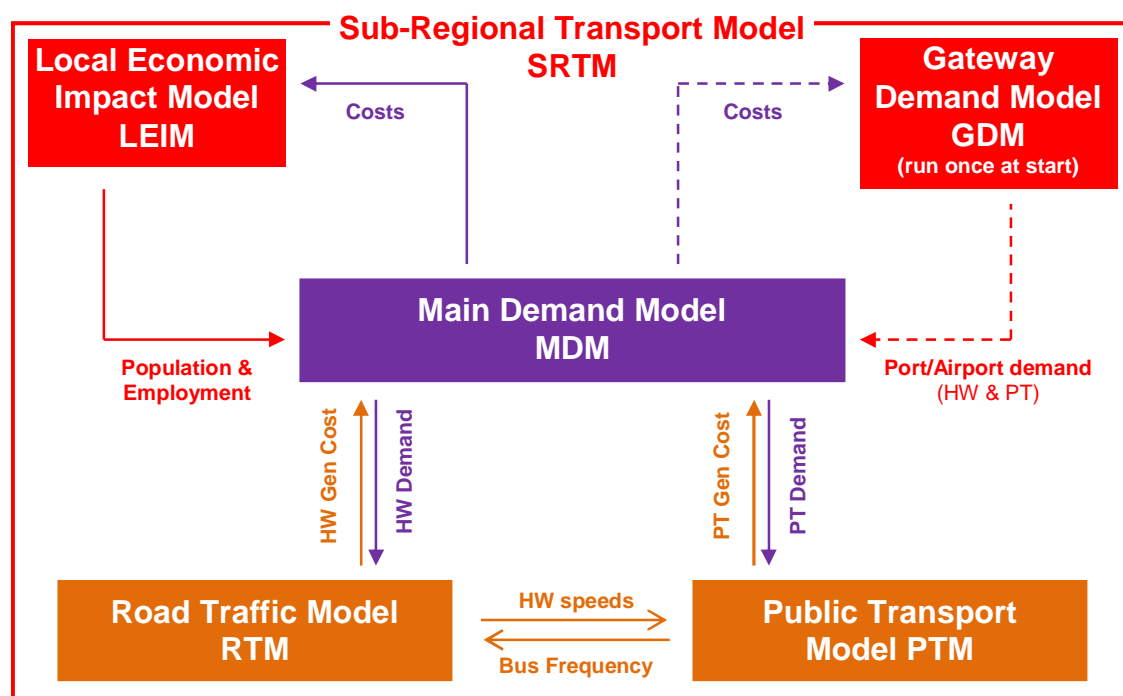
1. Following the expansion of Transport for South Hampshire (TfSH) to include the Isle of Wight, and with the desire to produce a Transport Delivery Plan for the TfSH area grounded in robust evidence, officers were tasked with identifying the extent of the evidence capability covering the Isle of Wight and propose a way of ensuring a consistent evidence base across the whole of the TfSH area.

Sub-Regional Transport Model (SRTM)

2. The capability of the TfSH SRTM has been reported to this Joint Committee previously (26 January 2011) so is not repeated in detail here. However, to summarise, the SRTM is an evidence based Land-Use and Transport Interaction model. It contains a suite of transport models and an associated Local Economic Impact Model (LEIM). The suite of transport models comprises the Main Demand Model (MDM), the Gateway Demand Model (GDM), Road Traffic Model (RTM) and Public Transport Model (PTM).

- Figure 1 shows the interaction of the various models within the SRTM. The LEIM interacts with the SRTM. Within the LEIM, forecasts of development, household and employment location are used to determine the demands for transport. The levels of accessibility calculated by the SRTM will, over time, influence the economy and land-uses in the LEIM. The Gateway demand model works in isolation as the drivers for sea port and airport demand are considered different from other transport demand drivers (e.g. the Cruise industry brings in passengers from a wider UK and an international market and employee shift patterns are different from normal commuting patterns).

Figure 1: TfSH Sub-Regional Transport Model



- The SRTM is consistent with WebTAG (*this is the Department for Transport’s web-based Transport Analysis Guidance for appraising transport projects and proposals*) and was developed by a working group including Department for Transport, Network Rail and Highway Agency. The base year of the model is 2010 (when survey data were collected) and there are four future forecast year *do minimum* “reference cases” (2014, 2019, 2026 and 2036).
- In addition to the core suite of models, environmental assessment tools have been developed and we are currently developing an urban realm appraisal tool.

SRTM Coverage of the Isle of Wight Area

6. At the time of commission and development of the SRTM the Isle of Wight Council did not form part of TfSH. The Island is included in the SRTM, but there are a number of simplifications in the way the SRTM treats land use and transport on the island:
 - (i) the zoning is coarse. 15 zones cover the Island. One covers all of Newport and its hinterland;
 - (ii) travel demand within the Island has been estimated by applying trip rates to land use data and gravity model for distribution, rather than on direct observation;
 - (iii) there has been no validation of intra-IoW demand;
 - (iv) highway link travel times are fixed and do not respond to changes in flows.

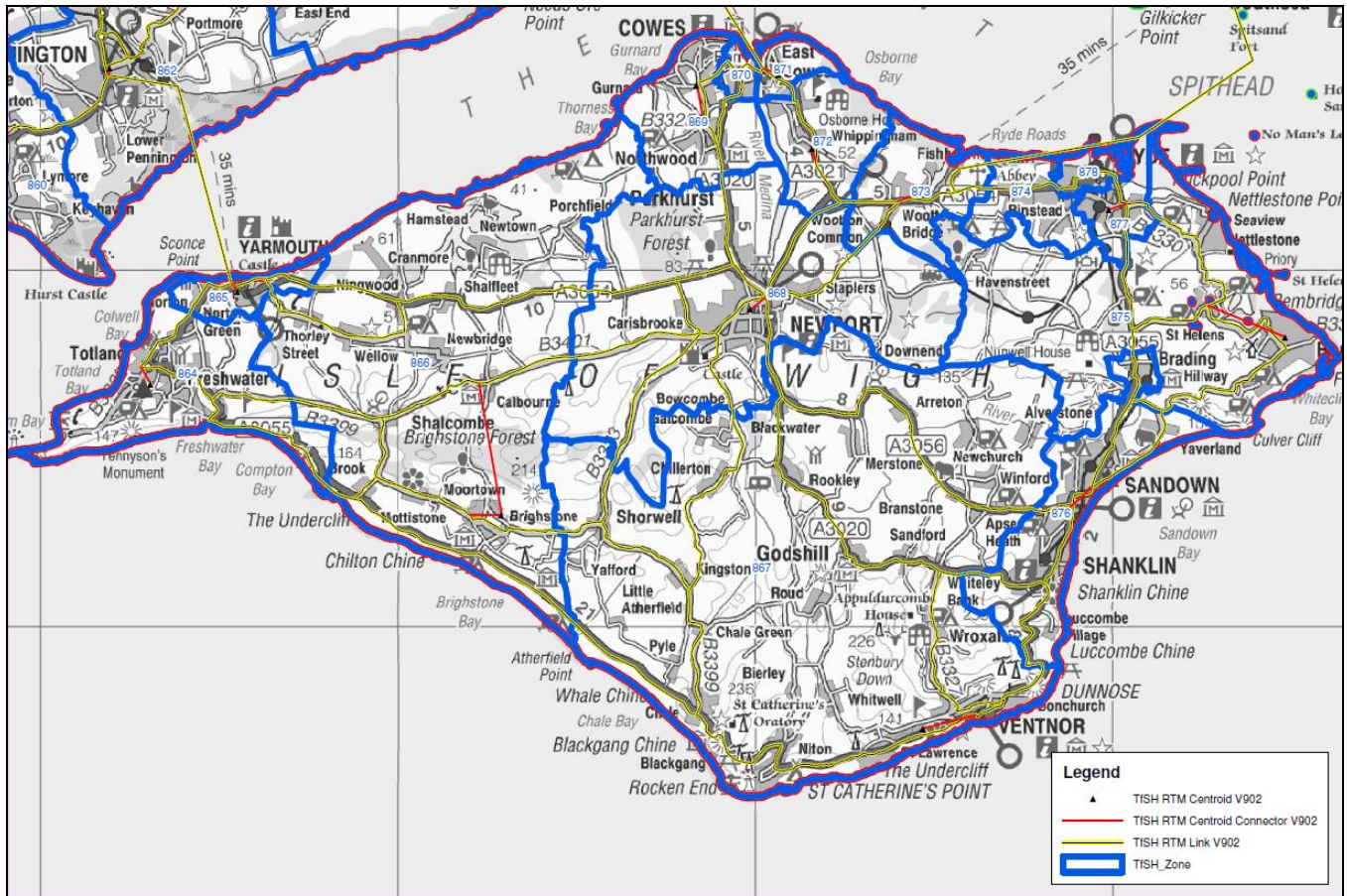
7. These simplifications result from the SRTM having been configured to focus on the mainland areas of South Hampshire and the model definition for the IoW was developed principally to predict the choice of ferry routes.

8. As a consequence of these simplifications in treatment of the Island within the SRTM, the following should be noted:
 - (i) highway proposals cannot be assessed;
 - (ii) public transport proposals cannot be assessed;
 - (iii) access times to reach ferry terminals on the IoW do not take account of changing levels of congestion;
 - (iv) future year mode and destination choice estimates on the Island are only partially captured;
 - (v) accessibility changes on the IoW cannot influence destination choice on the mainland for cross-Solent travellers;
 - (vi) accessibility changes on the Island cannot influence population and employment allocation (within the LEIM).

9. However, the Island is included within the fully modelled area of the LEIM, and therefore includes full planning data for the IoW. The LEIM is able to estimate car ownership as well as the build-out and occupation of development on the Island. The LEIM zones and the highway network shown in Map 1, below.

10. Map 1 shows that the principal roads on the IoW are included within the Road Traffic Model of the SRTM, whilst the Public Transport Model within the SRTM includes ferry routes, trains and main bus routes.

Map 1: SRTM Zoning and Highway Network Coverage of the Isle of Wight



Isle of Wight Council Transport Models

11. There are two existing highway assignment models covering the Island as summarised below.

	IoW Model	Newport Traffic Model
Developer	Colin Buchanan	Mott MacDonald
Base Year	2009	2007
Time Periods	0800 - 0900	0800 – 0900 1630 – 1730
User Classes	Car, LGV, HGV, Bus	<ul style="list-style-type: none"> • Demand matrices developed by vehicle type. • Assignment combines vehicle types.
Study Area	Whole of IoW	Newport
Network Detail	Main roads	Detailed in Newport
Flow / Delay Relationships	Link speed / flow	Junction simulation
Zones	114	80
OD Data	<ul style="list-style-type: none"> • 8 Road Side Interviews (RSIs) around Newport (2007) • 3 RSIs at the ports (2009) 	<ul style="list-style-type: none"> • 8 RSIs around Newport (2007)
Count Data	<ul style="list-style-type: none"> • 23 Automatic Traffic Counts • 46 Manual Classified Counts • Mix of 2007 and 2009 • Arranged into 5 screenlines 	<ul style="list-style-type: none"> • 8 Automatic Traffic Counts at RSI locations
Journey Time Data	11 Routes	2 routes in Newport

12. These models can help support the gaps in SRTM coverage of the island (as identified in paragraph 8, above), but are not of sufficient detail as to provide the same level of evidence as afforded by the overall SRTM.

Options for Integration of the Isle of Wight within the SRTM

13. Several options for improving the detail of SRTM coverage of the IoW exist. These range from cascading travel demand changes from the SRTM to the IoW models, to improving the SRTM such that the modelling of the IoW within the SRTM is of the same standard as that for the mainland TfSH area.
14. To improve the SRTM, such that the Island can be modelled to the same standard as that for the mainland TfSH area, would incur an indicative cost of £50,000 and would take four months to complete. Options for anything less than this would fail to address, in full, the deficiencies set out in paragraph 8, above.

15. The Budget Update Report (Agenda Item 7), identifies a contingency of £100,000. This coupled with the Isle of Wight contribution (£20,000) means that there is sufficient budget to fund an update of the SRTM.
16. The current key use of the SRTM is to appraise schemes as part of the development of a Transport Delivery Plan for TfSH - South Hampshire and the Isle of Wight and is also being used to assist districts in the south Hampshire area to test their Local Plan proposals and larger planning applications. If an update to the SRTM took place, the Isle of Wight Council would have improved capability to support their Local Plan development and to develop Business Cases to seek funding from future funding pots. In addition, if TfSH were to submit a bid or bids there would be no gaps in our evidence.
17. Paragraphs 6 to 12 demonstrate that a strong evidence base covering the mainland exists and that modelling coverage of the Island is currently not up to this level.

Conclusion

18. This report has summarised the current modelling capability across the recently expanded TfSH area and has summarised options for improving the detail of the SRTM in respect of the IoW so that the whole TfSH area is fully covered by a single, comprehensive modelling suite.
19. The SRTM fully includes the IoW on the land use side and includes coverage of the highway, public transport and ferry routes on the IoW. Two models exist, which are specific to the IoW; one covering the whole IoW area and one covering Newport. These are not of sufficient detail as to provide the same level of evidence as afforded by the overall SRTM.
20. The costs associated with updating the SRTM to provide full coverage of the Island can be accommodated within the TfSH budget.

Section 100 D - Local Government Act 1972 - background papers

The following documents disclose facts or matters on which this report, or an important part of it, is based and has been relied upon to a material extent in the preparation of this report.

NB the list excludes:

1. Published works.
2. Documents which disclose exempt or confidential information as defined in the Act.

TITLE

LOCATION

None.