

Transport Modelling Assessment Report

February 2013

Southend-on-Sea Borough Council (SBC) and Rochford District Council (RDC) have jointly developed the Southend Airport and Environs Joint Area Action Plan (JAAP). The JAAP sets out the proposals for the area and seeks to quantify the opportunities and challenges generated through the proposed employment provision linked to the growth of the airport.

Atkins has been commissioned by Southend-on-Sea Borough Council and Essex County Council, as the Local Highway Authorities for the areas, to develop a comprehensive forecast of travel conditions in Southend and the southern area of Rochford district in order to understand the impact of the development on the transport network and help identify mitigation measures to minimise the predicted impact..

The modelling assessment provides evidence for the travel conditions in a future year assuming all development in the JAAP, Rochford Local Plan and Southend-on-Sea Local Plan is realised. For instance the assessment determines if increased trip demand will result in unacceptable levels of highway congestion. The assessment is multi modal and therefore considers highway and public transport provision in a future year through the use of a model designed to consider traveller responses to changes in travel cost. The Southend multi modal model (SoSMMM) is a comprehensive trip forecasting tool developed in line with industry best practice (Department for Transport – Transport Analysis Guidance (webTAG)). The modelling reflects a 2021 travel year which was identified as being in line with the predicted planning horizon for the majority of JAAP led developments and the airport reaching its capacity of two million passengers per annum.

In response to the growth outlined within the JAAP area a number of proposed infrastructure improvements have already been identified. This includes improvements at individual highway junctions to increase capacity but also new bus corridors a better interchange at the airport to link the railway station, the airport terminal, hotel and employment destinations with the wider bus network. The proposals are considered in conjunction with the long standing aspiration to reduce congestion and improve reliability along the A127 corridor at recognised bottlenecks.

The results of this modelling work have been used to inform and test the approach taken to transport provision within the JAAP area. This approach is outlined within the JAAP document.

Summary of Key Findings

The assessment suggest the following outcomes by 2021:

The proposed improvements along the A127 are key to fully unlocking development at the Airport and JAAP site. Evidence from this assessment suggests these schemes will achieve the following:

- Journey time savings along the A127 corridor during peak periods and therefore likely increased resilience to incidents as the network operates at a lower ratio of total capacity. This is evidenced by the reductions in delays at the Bell and Kent Elms junctions.
- Reduced levels of rat running through Rochford which demonstrate lower flows along Southend Road and Hall Road through Rochford Town Centre but also along parallel routes such as the A13.

Analysis of trips at the Saxon Business Park indicates the success of improving public transport provision at this location. Of particular note is the significant increase in bus mode share from 14% to 18% from the do minimum to do something scenarios. More detailed analysis of the four new proposed corridors suggests that they will all be well patronised and locations in the JAAP site such as Nestuda Way and Saxon Business Parks are key contributors to this. There is a corresponding fall in highway based trips suggesting public transport provision is a good investment in this area. For example when mode share is considered in the do something scenario it is shown that highway proportions remain stable suggesting proportionally bus use increases at a comparable level.

An outline economic assessment for the do something package of proposals suggests a benefit to cost ratio of 5.62. This value is likely to be higher once the benefits for public transport users are also included i.e. through additional journey time savings through reduced highway congestion.

The JAAP document outlines a number of proposed improvements to walking and cycling infrastructure i.e. new cycling routes and improved pedestrian crossings at junctions. These measures are likely to support the continued growth in walking and cycling trips within the JAAP area and in turn increase the mode share for these trips.

This modelling work provides evidence based on the provision of key infrastructure. Underpinning the strategy for transport provision in the JAAP is the requirement for the implementation of Travel Plans by businesses in the area. The travel plans will provide incentives for employees to use more sustainable means of transport and will have a positive impact on the transport network servicing the JAAP.