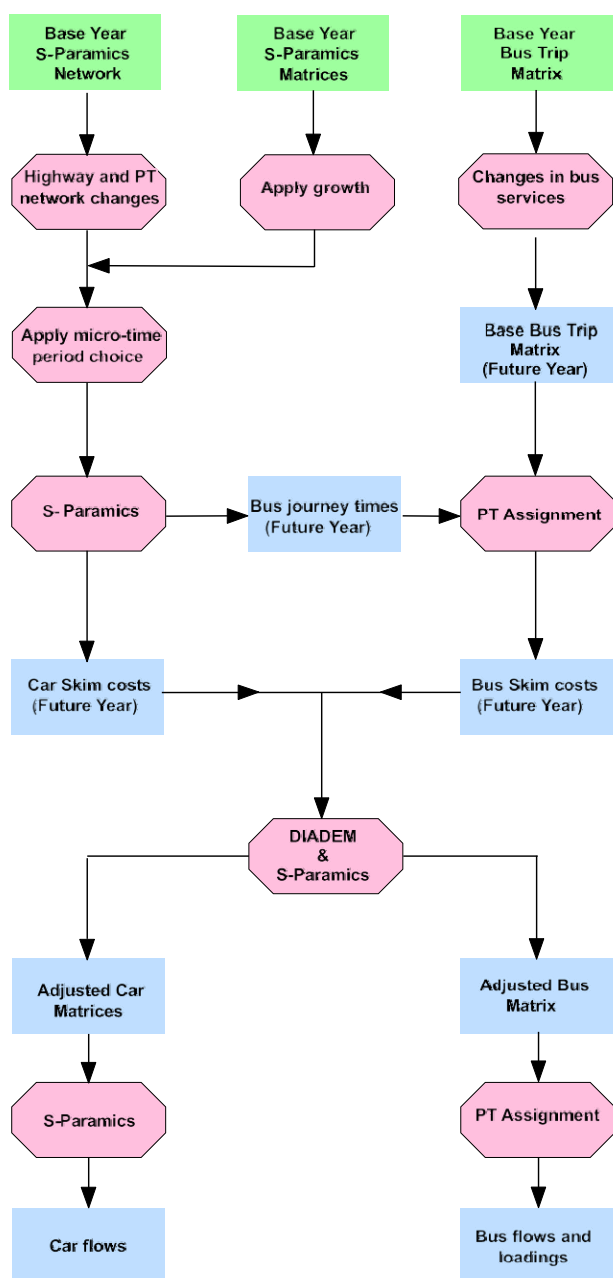


Public transport assignment, DIADEM and departure time choice

S-Paramics applies assignment procedures to individual private mode vehicles which choose appropriate routes based on road network knowledge and prevailing traffic conditions. S-Paramics doubles up as a valuable public transport planning tool because, although assigned to fixed routes and bus stops, buses within the model are treated in the same way as other vehicles, and are subject to the same conditions.

To date, no microsimulation system has assigned individual bus passengers to a potential choice of routes and services between one zone and another. It is important to be able to do this within a multi-modal context, because relative cost of travel between private and public transport is the key determinant for mode choice. S-Paramics is able to calculate travel costs very accurately for separate modes at different periods of the day.



The new S-Paramics public transport assignment procedure allocates PT trips to individual services. The PT travel times from the microsimulation model, together with walk, wait and interchange times, are used to build paths in accordance with WebTAG guidance. The PT passenger demand matrix is then assigned to the PT network using either a frequency-only or frequency-and-cost based assignment method. The output includes an analysis of PT flows by link, boardings and alightings by PT stop, and by service taken between OD pairs.

The production of trip cost matrices by mode and demand segment is an essential element for variable demand functionality. S-Paramics now produces these for input through an interface to the DfT program DIADEM, to determine mode and destination changes over time, in order to simulate a progressive set of traveller reactions to changing conditions. This is particularly relevant when modelling changes in policy, land use or transport infrastructure.

The coupling of S-Paramics and DIADEM, together with a new micro departure time choice procedure, provides the means to model changes in demand, including transfer to and from public transport, in response to proposed changes to road network, parking and/or public transport provision. The new ability to model departure time choice means that the effects of increasing levels of traffic congestion at various points in the day are also included. It should be noted that WebTAG gives this a higher priority than destination and mode choice, being second only to trip assignment as a principal contributor to traffic flow.

