

What is TEMPRO?

TEMPRO is the Integrated Transport and Economics and Appraisal developed by the Department for Transport (DfT).

TEMPRO stands for the **T**rip **E**nd **M**odel **P**resentation **P**rogram. It is designed to allow detailed analysis of pre-processed trip-end, journey mileage, car ownership and population/workforce planning data. The pre-processed data is itself the output from a series of models developed and run by the DfT.

What is TEMPRO's function?

TEMPRO has been in existence for several years and initially dealt with motor vehicles only. The current version (Version 5) is multi-modal, providing data on trips on foot, by bicycle, motor vehicle (both as a driver and passenger) by rail and by bus.

Analysis of the data can be any combination of:

- Geographical area (down to a "zonal" level of resolution, with each Local Authority area divided into several zones);
- Transport mode;
- Time of day of travel;
- Purpose of journey;
- Years of interest (from 1991 to 2041);
- Type of analysis (trips in terms of Producing/Attracting, Origin/Destination or Car Ownership).

Results are presented either in terms of growth over the selected period or in terms of the raw trip-end data.

The DfT and Highways Agency use the TEMPRO model as a tool in which to determine the areas for investment in transport infrastructure including road improvements and works etc... In this respect the model can be used as a reality check to ensure the suitable "co-location" of homes near jobs as a means by which to reduce commuting distances and the number of vehicles on the road.

What is TEMPRO based on?

Tempo uses Cambridge Econometrics forecasting (produced by Experian Business Solutions) as well as household forecasting to model future transport movements.

The software uses the base year demographic characteristics of each zone from the 2001 Census and from this "policy led" (i.e. not trend based) household projections and Experian data to generate consistent future year planning data.

In the case of the South East, the South East Plan (Consultation Draft) 2005 and Consultation data for the South East sub-regions, were used to establish the "policy led" basis for dwelling input assumptions.

The model also allows the underlying planning data used in generating the pre-processed data to be viewed and alternative assumptions to be entered to see what impact these would have on trip-end data.

The allocation of population and households makes a number of assumptions for the purposes of the Planning Data results. Where household capacity does not meet demand in a specific area, households will attempt to move to other areas within the study area and where spare capacity is not available in the overall area, household formation rates are reduced with an implied increase in household size.

The economic forecast is a sectoral based forecast undertaken by Cambridge Econometrics (Experian Business Solutions). The EBS forecasts are available for 2001 at district level and for 1991 to 2036 at County Level. The data trends are then projected forward to 2041. This economic forecast has been developed by the Government for transport planning and utilised by the secretary of state in considering and approving the Milton Keynes and South Midlands Sub Regional Strategy.

Job by employment sectoral information from the Experian data is assigned an equivalent TEMPRO type. The figures in TEMPRO are split into Male and Female, Part time and Full time (full time being more than 30 hours a week) and then sub-divided into 12 different categories which are as follows:

- EO3 Education (School)
- EO4 Education (Higher)
- EO5 Education (Adult/Other)
- EO6 Accommodation
- EO7 Retail Trade
- EO8 Health / Medical
- EO9 Services
- EO10 Industry / Construction / Transport
- EO11 Restaurant Bars
- EO12 Recreation and Sport
- EO13 Agriculture and Fishing
- EO14 Business

By calculating the number of jobs over this period of time in these various sectors an overall level of jobs can be established at a district level.

What weight can the TEMPRO economic growth projections be given in assessing housing demand?

The housing projections within TEMPRO being “policy led” limit the use of this element of data in determining future policy as they model the level of development proposed in existing policy.

As a simple model of housing demand output TEMPRO is of little weight as the model relies on the future dwelling requirements being the same as those existing.

However, by using the economic growth projections in particular, a housing demand assessment can be made, which will allow comparison of job creation as expected through TEMPRO and the number of participants in the labour market that will be generated by the level of dwelling requirements.

By using the dwelling requirements set out in the emerging policy and running these through the Chelmer Model (APU Projections) a figure for the change in the number of participants in the region, sub areas and districts can be established. It is worth noting that the term “participant” in this respect refers to all those who are able to work and therefore includes those who are currently unemployed but able to work.

The level of job change from the economic forecasting undertaken as part of the TEMPRO model can then be compared with the number of participants available through the proposed dwelling requirements. An assessment of the effects of such relationships in terms of commuting levels, distances and economic growth levels etc.. can then be considered.

The model's econometric data providing information on job creation has been used in a number of strategic policy reviews including the Milton Keynes and South Midlands Sub Regional Strategy, the East of England Regional Spatial Strategy and by the Department for Transport. Its robustness and foundation in application of the Experian economic modeling techniques has therefore been approved by Government departments and the Secretary of State.

As a sectoral based forecast, it can reasonably be argued that the TEMPRO economic forecast forms the "baseline" of growth and not any higher aspiration held by the Regional Economic Strategy.

Further Information

The TEMPRO V5 program and associated datasets for Government Regions and Scotland and Wales can be downloaded from the following website

<http://www.tempro.org.uk/Introduction.aspx>

A more in-depth assessment of the TEMPRO Planning Data has been published by WSP for the Department of Transport in July 2006 and is also available as an Adobe document from the above website.

A general note on the Version 5 model of TEMPRO was published in April 2006 and is also available from the above website.