Task 3.1.2 Specification the Review of the Current Land Use Model

An initial review of the information available on the existing model had defined the agenda for the review. The task of the full review is to identify a well-defined base model – the software, the specification and the projections – and then identify the actions required to turn this into the required deliverable.

Software Audit

To encompass:
☐ establishing the functional design of the software:
- a clear description of the modular structure (modules to include programs and data bases);
- for each module:
  - the broad content,
  - the functions they perform,
  - how they handle information,
  - data contents and structures,
  - program language or package base;
- interfaces with other modules, with the user and any external systems;
☐ obtain documentation on the detailed technical design of the software (while this overlaps with the model technical specification/description, it is focused on system architecture, data structures and algorithms);
☐ audit of the software itself; identify how it has been written and what quality assurance has been applied, including:
- rules, practices and conventions for software development,
- tools and techniques used in software development,
- version control and configuration management,
- verification of software:
  - processes used to confirm that it meets the technical specification,
  - checks to ensure that it achieves error-free operation by module and for the system as a whole,
- testing: checks to ensure that the model gives sensible, reasonable results (use of a test plan).

On the basis of all of this the outcome of the audit will be:
☐ a documented functional specification of the software;
☐ a statement on the documentation available on the system's technical specification and consequently the further documentation required;
☐ an assessment of the quality of the software and the degree to which this has been demonstrated; where there are gaps, recommendations are required on:
- the extent of documentation required on the tests which have been carried out;
- where no evidence is available on verification and testing, preliminary ideas on the tests that would be needed to verify and test the software: we require an acceptance testing programme.

Land Use Model Specification

Discuss model specification issues already identified in initial review – in all cases of uncertainty seek to get more detail to provide the basis of a draft technical specification. Issues to address which were identified in the initial review are:

- □ how consistency between the workforce and employment projections is assured,
- □ documentation of the employment projection procedures,
- □ documentation of educational enrolments projection procedures,
- □ documentation of the process by which zonal land capacity constraints affect population growth projections;
- □ check credibility of household size projection procedures;
- □ discuss our specific segmentation and zone system requirements for the new Wellignton model.

As a result, prepare/identify:
- □ functional and draft technical specifications of all currently unclear elements;
- □ potential specification problems, and their possible resolution;
- □ documentation requirements.

Projections

Develop a specification for the process of validating the model projections.