Project P4.51 & P4.55 | Greening the Greyfields

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Objectives   To develop a set of strategies and decision support tools based on the strategic application of spatial information to urban planning decision making with a view to enhancing economic, social and environmental outcomes of urban regeneration in the middle suburbs

Outcomes
- The development of a spatial decision support tool (Envision) for identifying the strategic and market redevelopment potential of land parcels
- The development of a visualisation and assessment system (ESP) for redevelopment scenario modelling and precinct sketch planning
- Applying Envision and ESP to real redevelopment projects in collaboration with local and state government, legal practitioners and community groups
- A manual of strategies and processes to accompany the developed tools for facilitating the regeneration of Australian and New Zealand middle suburbs

Background

This project is emblematic of the multidisciplinary nature of contemporary urban planning. It brings large numbers of diverse and typically inaccessible datasets together along with new technologies that will ultimately be used to engage stakeholders in new ways. It aims to create solutions for facilitating greyfield redevelopment and assist cities in becoming more sustainable. The project comprises 4 modules of which 2 have been the focus of recent research and development, namely modules 2 and 3.
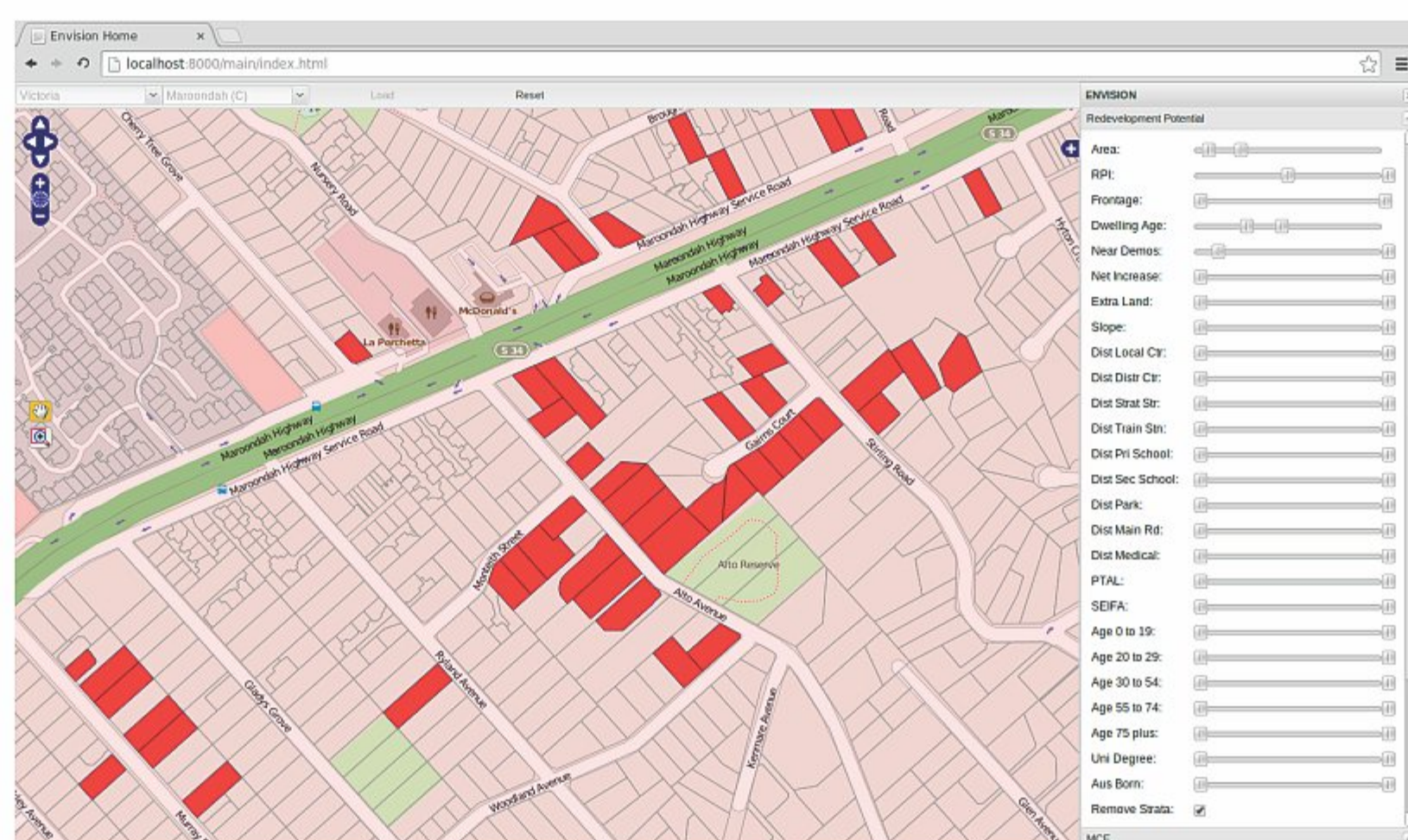
Module 2: Envision

The Envision system is web-based and consists of a suite of tools to explore the redevelopment potential and suitability of an LGA's land parcels.
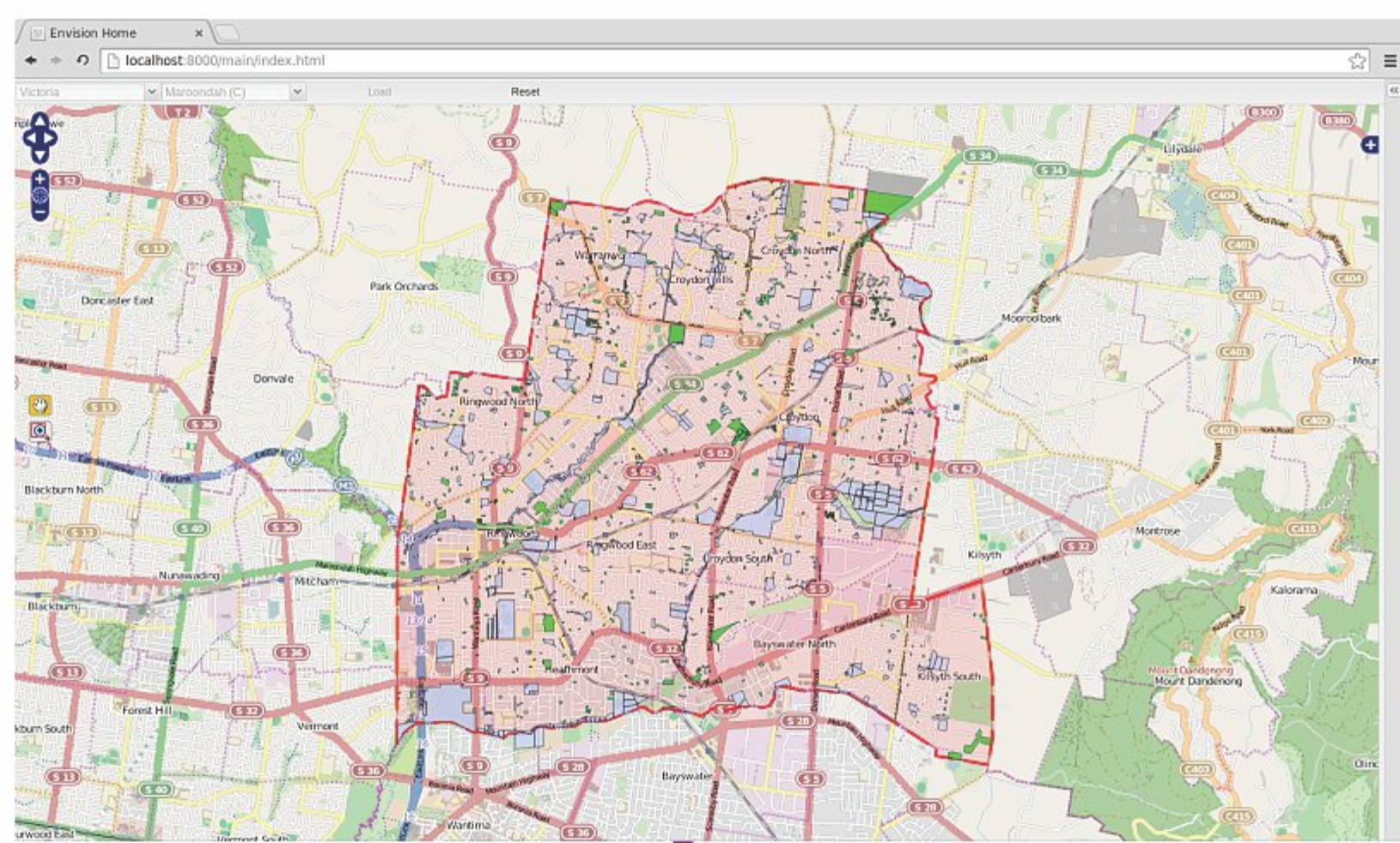
A multi-criteria evaluation (MCE) tool allows users to combine a variety of urban planning-related metrics to construct and visualise a a composite index.
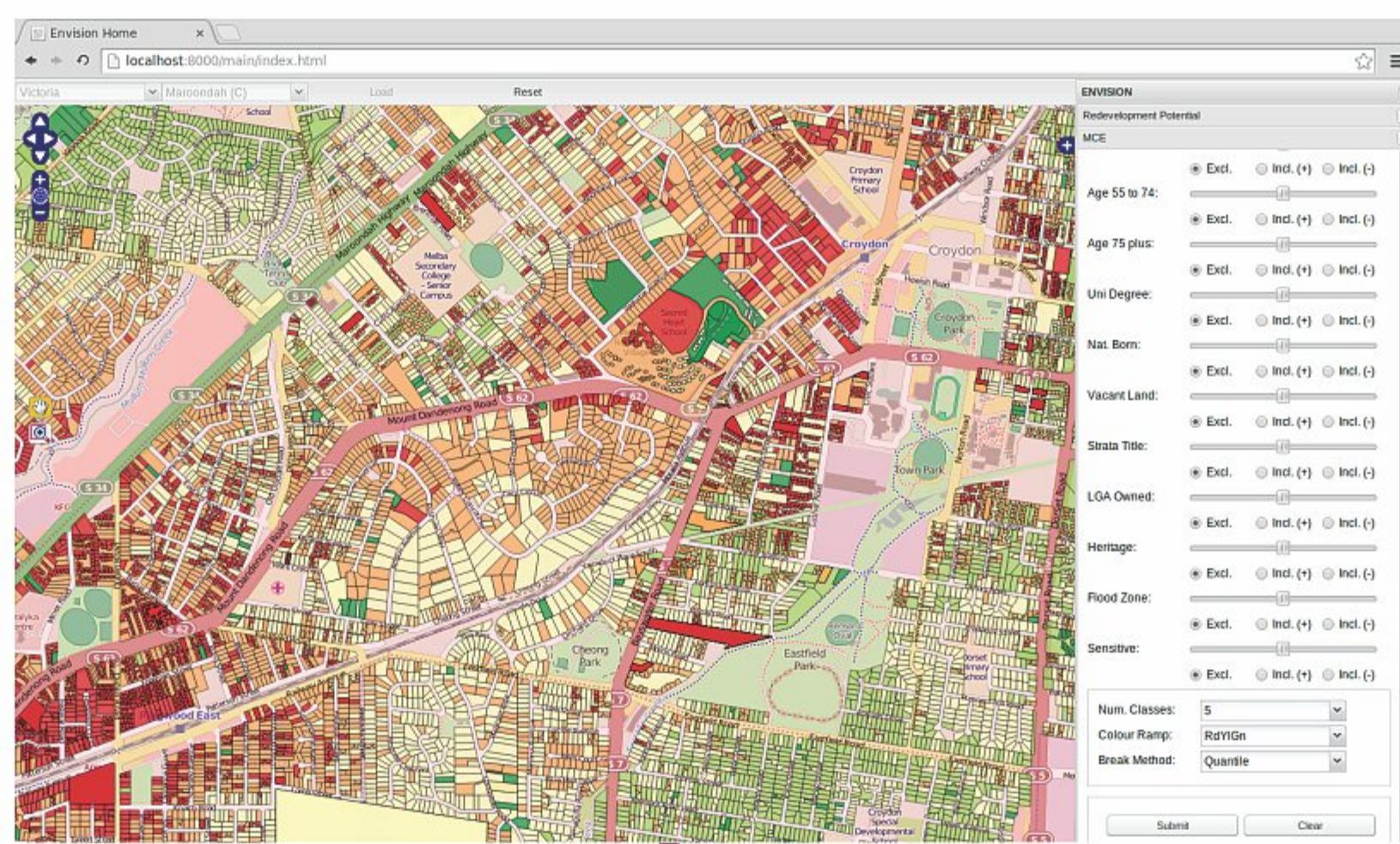

A market redevelopment tool allows users to refine a series of queries to find potential sites ready for redevelopment. A feasibility tool then evaluates the economic viability of redevelopment before a precinct layer is exported to ESP.
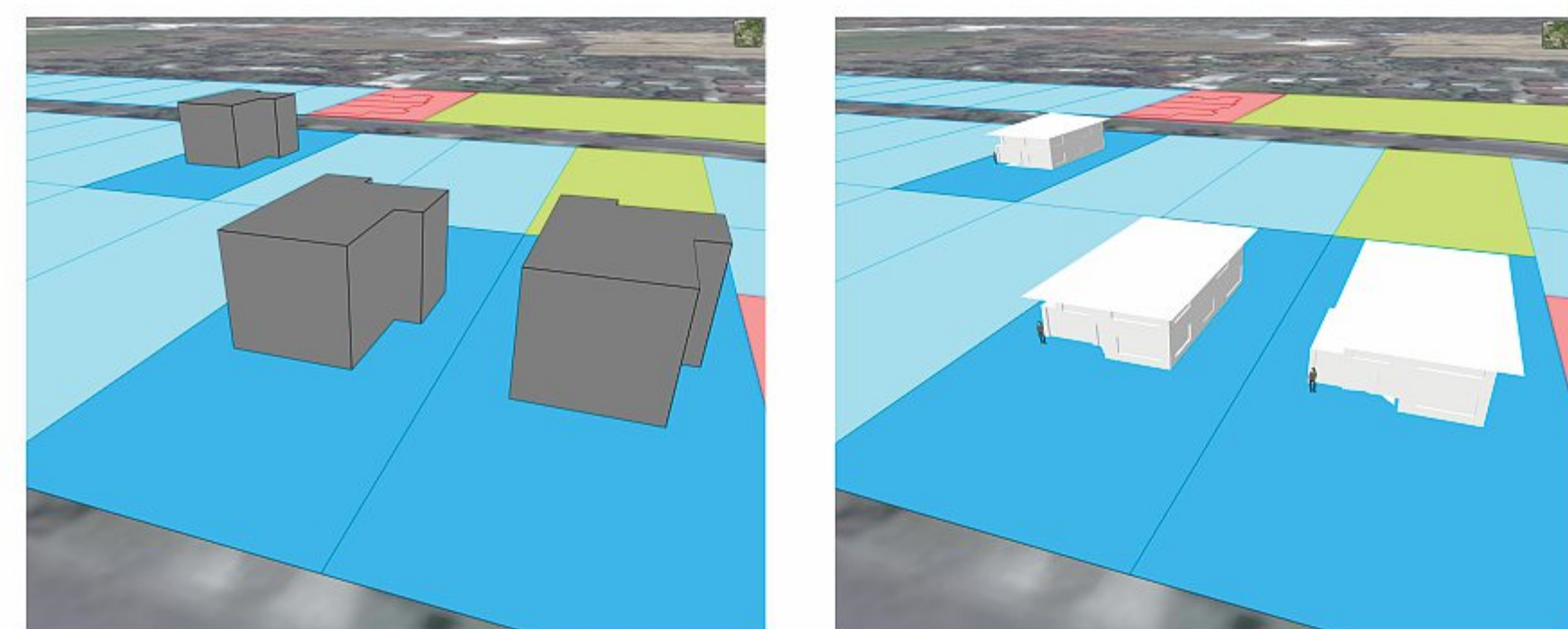

Module 3: Envision Scenario Planner (ESP)

ESP takes a precinct layer from Envision and allows users to design, visualise and assess potential redevelopment scenarios.
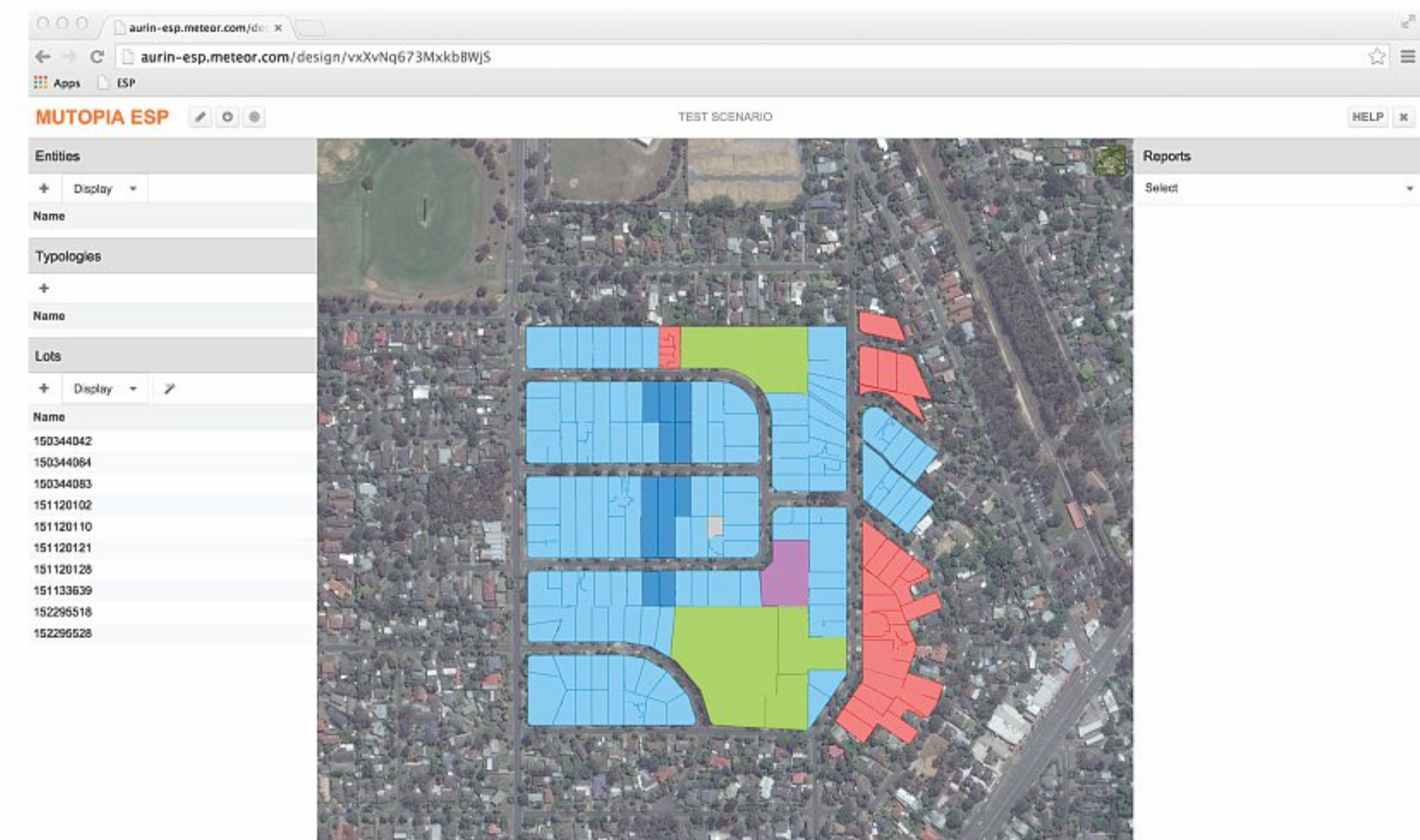
Land parcels can be populated from a library of building typologies and visualised by a variety of methods, including extruded footprints or 3D meshes.

Reports are generated based on the objects placed in the precinct and a set of global parameter values specified for the project.

ESP allows users to populate a precinct with residential, commercial, mixed use, open space and pathway objects, with reports able to be generated for each separately or cumulatively.

Data can be exported for visualisation in Augmented Reality (AR) applications being developed by HIT Lab NZ.

Next Steps: Once ESP completes in early 2015 the research focus will turn to applying Envision and ESP to real redevelopment projects with the project's local government stakeholders. This will involve identifying suitable redevelopment sites and then workshopping potential redevelopment scenarios with planners, community groups and other relevant stakeholders of the redevelopment process.