

Integrated Policy Model

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West Midlands
Regional
Observatory

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Context

To develop and implement appropriate regional strategies, we need to understand the potential impacts of various policy interventions, to answer such questions as:

- What's the impact on employment and population trends of major investments, such as the expansion of Birmingham New Street?
- What are the implications for local employment of specific property developments?
- Will environmental quality be adversely affected by new developments?
- How might the structure of employment change, and what are the implications for the demand on local services?
- For a given level of employment, what are the housing requirements?
- How might new developments impact on CO₂ emissions?

The Observatory's Integrated Policy Model is a major advance in policy decision support systems. It can provide evidence about critical issues of policy, such as these. It will allow policy-makers to get a better understanding of the long-term impacts of their plans, across a range of different policy areas and in different parts of the region.

What does the model provide?

The model represents an important step forward in the capacity for regional policy analysis. It provides:

- an accessible, interactive tool for policy makers and analysts
- a unified framework for exploring the implications of key regional strategies
- a scenario testing function that will help greater understanding of direct and indirect impacts that emerge over time
- a mapping tool that presents a unified framework for local authority, sub regional and regional levels

The model explicitly links economic activity, population changes, housing, travel costs between areas, access to services and environmental impacts.

How does our model improve on existing models?

Current economic models were originally developed to look at national problems. They are based on a statistical technique widely used in economics to measure the relationship between economic factors. This relies very much on the past trends being a reliable and consistent indicator of the future. But public interventions are intended to correct market failures; that is to change the course of long standing trends. So, an effective model must be able to allow changes to the underlying relationships. The sophisticated mathematical techniques that will be used have been developed to deal explicitly with these changes.

Existing models do not explicitly include the geography of economic and social activity. Spatial relationships arising from residence and employment locations impact through commuting patterns. These feed directly into environmental impacts such as air emissions, from transport, the location of essential services and the demand for new homes and employment centres.

Furthermore, there is an increasing call for the alignment of regional strategies, not least with the forthcoming Strategy for the West Midlands. The traditional approach of modelling individual issues, isolated from the links with other issues, does not allow for alignment.

Who could use the model?

The outputs from the model could be used by:

- Regional organisations such as Advantage West Midlands, West Midlands Leaders Board, West Midlands Regional Observatory and Government Office West Midlands
- Local Authorities
- Universities
- Private sector companies, to assess implications of major investment projects
- Property developers

How can I access the model?

The Observatory has supplied copies of the model to a small group of experts across the region, including some in local authorities such as Birmingham City Council, Staffordshire County Council and Warwickshire County Council. They have been, and will be able to use the model to support policy makers in their area. The number of expert users is expected to increase over time, as people develop the specialist knowledge required to get the best value from the model.

Anyone else who would like to use the model should get in touch with the Observatory to discuss their requirements. We will be able to provide a responsive service to all regional stakeholders, providing high quality evidence, based on analysis and interpretation of outputs from the model.