

PRSCO 2009

**International Geographical Union Applied Geography Commission, Special Session (1):
'Geographers at Work' project**

An introduction to the IGU Applied Geography Commission's 'Geographers at Work' book project

Robert Stimson (Commission Chair, University of Queensland), Kingsley Haynes (Commission Secretary, George Mason University)

Assessing support for rural innovation in the US

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A transport strategy for Pakistan

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**International Geographical Union Applied Geography Commission, Special Session (2):
'Geographers at Work' project**

Applying retail modelling to retail policy: The trading hours and centres land use experience in Australia

Robert Baker, Stephen Woods (University of New England)

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Robert Baker, Stephen Woods (University of New England)

Applying retail modelling to retail policy: The trading hours and centres land use experience in Australia

Abstract

The retail aggregate space-time trip (RASTT) model and its derivatives have been applied to a number of areas of spatial analysis, such trading hour determination, land use planning, gambling behaviour and internet traffic. These applications have drawn wide media interest demonstrating a relevant, testable and relevant modelling context. It is in the area of retail time and land use planning that the results have been applied directly to public policy decision-making since 1993. The development of the model has followed the challenges raised in the on-going debate fostered by the major chains producer sovereignty arguments. This paper maps the development from the 1993 'storewars' debate in Tasmania and Western Australia, the Bendigo Referendum and South East Queensland Sunday Trading determination in 1998, to the 2005 West Australian Referendum and South East Regional Queensland Sunday trading determination. The more recent application has been the impact that trading hour deregulation has on retail land use, including chain supermarkets locating in lower urban centres and the viability and vitality of Main Streets. The public policy implications of these current issues are explored.

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Graham Clarke (University of Leeds), Karyn Morrissey (National University of Ireland)

SMILE - An applied spatial microsimulation model for Ireland

Abstract

Much modelling in the social sciences takes an aggregate or meso-level approach. However, many policy-level analyses call for individual or household level analysis at the small area or regional level. Spatial microsimulation is a means of synthetically creating large-scale micro-datasets at different geographical scales. The development and application of spatial microsimulation models offers considerable scope and potential to analysis the individual composition of an area so that specific policies may be directed to areas with the highest need for that policy. SMILE (Simulation Model of the Irish Local Economy) is a static spatial microsimulation model. Using a combinational optimisation technique, simulated annealing, to match a number of small area level and micro-level datasets, SMILE produces a micro-level synthetic dataset for the whole population of Ireland. The dataset created by SMILE contains a variety of demographic, socio-economic, labour force and income variables for both individuals and family units. Furthermore, unlike other microsimulation models SMILE also contains a detailed farm and health component. As such, SMILE has been used to examine a variety of policy applications, ranging from agricultural, environmental, recreation, poverty, health and socio-economic analysis, at both the small area level and micro-level in Ireland. This paper provides an overview of the SMILE model and introduces a number of applications which SMILE has been used to examine. It also provides future model development and applications.

Jonathan Corcoran, Robert Stimson (University of Queensland)

Urban growth in the Brisbane-South East Queensland region and its implications for emergency services provision: A Geographical Information Systems-based approach

Abstract

Emergency services are vital in the protection of human life where the speed to respond to call-outs is central to their role. Urban growth can threaten the expediency of response therefore developing an understanding of its effect is essential for future policy. This paper summarises the results of an advanced Geographical Information System-based analysis that assesses the relative impact of three urban development scenarios on residential fire cover for the Brisbane-South East Queensland region in Australia in a collaborative project undertaken with the Fire and Rescue Service in State Government's Department of Emergency Services. Results tentatively indicate that a more compact urban form underpinned with policies promoting infill and intensification of land use as opposed to policies permitting urban expansion may be preferable for emergency service provision.

Kingsley Haynes (George Mason University)
Assessing support for rural innovation in the US

Abstract

This project focuses on identifying innovations systems at different spatial scales and looking a federal, state and local investments to support such activities. One component will examine the management procedures for rural incubators and assess their impacts on local firm formation. A second component will examine the context of local innovations systems in terms of access to research and labour development and high quality labour supply.

Roger Stough (George Mason University)
A transport policy for Pakistan

Abstract

Pakistan has been developing for 15 years or so a transport policy as an element of the country's development plan. The author was contracted by the Asian Development Bank to assist the development leadership and the transport ministry in Pakistan to finalize the transport policy in 2008. The author was asked to create a synthesis of a number of studies that had been conducted over the past decade aimed at contributing to the finalization of a national transport plan that would complement the national development plan. Working with various government agencies and external NGOs a draft plan that focused on strengthening the transport and infrastructure corridor from Karachi to Peshawar along which most of Pakistan's population lived and most of its infrastructure (transport, telecommunications and water supply) exits. The plan included elements to strengthen and modernize road, rail and water transport in the corridor. It also included two other elements of importance: cross route links to the interior to the west and to strengthen links to the east to India especially in the Punjab, although such initiatives have for some time been constrained by political relationships with India. The policy aimed to strengthen trade linkages to Iran, India, Afghanistan and China as well as what may become the most direct route to central Asia from the Indian Ocean. All of these topics and issues face significant geo-political issues and resource issues regarding their implementation. This paper examines the development of the transport policy, its provisions and issues in execution all of which face various geographic realities and complications.

Mike Taylor, John Bryson (University of Birmingham)
West Midlands regional planning: Coping with uncomfortable truths

Abstract

Under the current Labour government in the UK, regional planning in England has been devolved to the regions where two bodies, currently in the process of being amalgamated, develop plans. The

Regional Assembly, comprising delegated local government politicians, develop a regional spatial strategy (RSS), and an unelected Regional Development Agency (RDA) develops a regional economic strategy (RES). This study reports the generation and the fate of theoretically informed and empirically supported academic research produced to inform the revised RES being developed from 2006 on by the RDA for the West Midlands in England, 'Advantage West Midlands'. What emerged from this research process was a set of 'uncomfortable truths' on the functional and spatial dimensions of the regional economy that did not fit preconceived notions of the spatial and functional dynamics of the region with which the policy formulators were comfortable. What the process of policy formulation shows in the regional context is the interplay of politics, bureaucratic politics and research. What it demonstrates is the uncomfortable truth that research will be the first casualty when it challenges policies based on preconceived ideas and extant political power structures. It leads to the uncomfortable conclusion that, in a period of what could be prolonged recession, regional policy may well be out of kilter, at least in the English regions, with the very processes it is there to facilitate.

Bernard Weinstein (North Texas University)

Using GIS to assess the economic, fiscal and development impacts of toll roads in the Dallas (Texas) region: a 40 year perspective

Abstract

The Dallas-Fort Worth Metroplex is the second fastest-growing major urbanized region in the nation. With a population over 6 million and more than 3 million residents gainfully employed, the region has achieved prominence in information technology, logistics, health care, and many other industries. By the year 2030, the Metroplex's population is projected to expand nearly 63 percent and account for 35 percent of the state's job growth. In recent decades, most of the Dallas area's population and employment growth has occurred in northern Dallas County and the northern suburbs. Without question, the Dallas North Tollway (DNT) and the President George Bush Turnpike (PGBT) have enabled and encouraged this northward development, a phenomenon that began in the late 1960s when the first section of the DNT was constructed from downtown Dallas to the Lyndon B. Johnson Freeway (LBJ). The DNT and the PGBT have been among the largest public infrastructure projects undertaken in Dallas during the past fifty years. Adjusted for inflation, outlays to complete the DNT and PGBT will approach \$1.6 billion. Expenditures of this magnitude will have added almost \$2.6 billion to the regional economy while supporting about 25,000 person years of employment. In addition, the annual operations of the North Texas Tollway Authority (NTTA) generate about \$88 million in economy activity while supporting over 1,000 jobs. But the most significant impacts of the DNT and PGBT have been on the size and pace of residential and commercial development adjacent to the two thoroughfares. By using advanced GIS techniques, we can illustrate graphically the patterns and timing of this development and also calculate the new property values that have been created since construction began on the first segment of the DNT in the 1960s. To date, about \$28 billion of valuation has been added to the Dallas, Collin and Denton County tax rolls. These additions currently generate about \$562 million annually for the counties, cities and school districts that abut the DNT and PGBT.