Visualising Landvaluescape: developing the concept for Britain

"Part B" Full Proposal for a grant from the RICS Educational Trust, from Tony Vickers MRICS

Background and objectives of the research

There has been in the UK, compared to a number of other countries with a well developed land market, a dearth of property value data in the public domain. Consequently the property market and public understanding of its workings have suffered. However there have been major changes in the availability of such data in recent years, which are barely known about among those working in the property market. The aim of this research is to identify barriers to – and opportunities for – developing the science and art of Value Mapping in Britain today.

- Issue / problem being addressed by this research: barriers to development of property value mapping in Britain.
- Theory that provides the basis for this research: 'landvaluescape' is a universal reality and the absence of value mapping in Britain is largely the result of historic factors relating to English laws on: data confidentiality and copyright; land registration and tenure; and property taxation.
- Why this research is necessary: All the above factors are undergoing change, the data needed for value mapping is becoming available and a cost / benefit analysis now is likely to show that 'landvaluescape visualisation' (Value Mapping) is not only worthwhile but that it could greatly improve the workings of the property market, have significant benefits to good governance, economic and social justice and the environment. In the process it could help make British surveyors world leaders in the art.
- Research carried out to date and how this proposal builds on it: the applicant is a Fellow of the Lincoln Institute of Land Policy, Cambridge MA USA and has just completed a three-year study of how land value taxation (LVT) might be introduced to Britain, in which he concluded that nation-wide land value maps are essential and achievable within a few years (Vickers 2003). This study led to him being asked in 2001 to develop his concept of "landvaluescape" as a doctoral thesis at Kingston University School of Surveying. He has begun to study several countries that use value maps, although not all have LVT. This research will explore further the conditions that favour development of value mapping, identify whether Britain has those conditions and if so how they can be exploited.

Budgetary details

The applicant is self-employed, trading as "Modern Maps", but has not practiced as a chartered surveyor since shortly after retiring from the Army in 1995. He is funding himself through a PhD entirely from independent academic research contracts, his UK armed forces pension, occasional lectures at Kingston University and elsewhere and his allowance as a local councillor. He works from home and does not currently employ anyone. His budget for the project pre-supposes that expertise required to complement his own skills will be supplied at no cost to him, on a partnership basis by those who share his view that if his hypothesis proves correct then the work will generate income in future from its exploitation. It is only the essential costs of bought-in administrative and data acquisition work that is included here, together with personal expenses such as travel and accommodation.

- Names of persons to be employed on this research: names, other than of the applicant himself, are not known. The only parts of the research that will not be conducted by the applicant are: land valuation (see note 1); property data analysis, geographic modeling and manipulation (see note 2); stakeholder research (see note 3); and general administration.

- Number of days input per person: The applicant expects to be working full time on the project (and his associated PhD) from November 2003 until July 2005 (apart from an average of 10 hours a week on council duties). His own time is not included here. General administrative and stakeholder research assistance (possibly by the same person) could amount to 50 days over 14 months, at times and on duties outlined in the following section of this proposal.
- Costs per person per day: the Applicant charges his own time at only £120 per day (carrying that cost himself) but will incur considerable costs in terms of office expenditure, travel, accommodation and fees (e.g. web-site and ISP charges), totaling £4,500 ; he would seek to employ a part-time general assistant in Newbury at £60 per day, for about 50 days = £3,000.

Budget Item	Description	Cost	Remarks
1	Administrative / research assistant	£3,000	Part-time Dec 03 – Feb 05, approx. 50 days total @ £60/day, suitable for geography student, possibly home-based
2	Travel to meetings in UK	£500	Either by applicant or assistant
3	Overseas flights to Australia, USA, Denmark & Lithuania	£1500	By applicant, includes internal travel in US, AUS
4	General office expenditure	£500	Stationery, phone, ISP, use of home, postage
5	Accommodation and subsistence on overseas and UK visits	£1560	13 nights in hotels @ £120, otherwise using friends' hospitality
6	Printing and publication of reports	£1200	Includes colour maps and graphic design produced by others
7	Meeting venue costs	£700	3 or 4 UK seminars in late 2004. Sponsorship will be sought.
	TOTAL	£8960	

Programme and methodology

This research will inform and complement the applicant's PhD thesis and the methodology therefore links with that currently in draft with his Kingston University tutors. However a viable PhD dissertation exists without the in-depth stakeholder research that a grant from RICS Educational Trust will allow. It is this added value work that is described below.

- Methodology proposed for this research: in outline, a range of stakeholders in Value Mapping will be identified and their views about the prospective costs and benefits of developing the concept for Britain will be obtained and analysed. The method will be iterative: types of stakeholders, potential benefits and cost headings will be identified from research (indirect and direct, through visits) of experience in selected 'comparator' countries; a 'test-bed' landvaluescape model will be produced for an area of the UK as a

demonstrator to explain the concept to domestic stakeholders; different techniques will be used for the each type of stakeholder, with the focus on data providers, software suppliers, property tax administrators, urban planners and sponsors of existing national *e-government* projects.

- Comparator Countries. These are Australia, Denmark, Lithuania and the United States. Reasons for this choice are given in the justification for methodology.
- Stakeholder types. Ten types have been identified. The table below lists them, with reasons for choosing them.

Group No.	Stakeholder Group	Reasons for likely interest in Value Maps
1	Property and GI data providers	Increased revenue from sales and use of property related data in Value Mapping.
2	Software suppliers	A new application area to be developed, sold and supported, with prospects of increased net revenue.
3	Tax administrators	Improved accuracy, timeliness, acceptability and/or extensive use of property tax assessments and collection rates, leading to enhanced status for professions and individuals in it, securing the future of property taxation in the UK.
4	Urban planners	Potential for giving better advice and improved decision making processes and outcomes, hence enhanced professional status. Better prospects of local and regional plans being achieved, if value mapping is taken up by tax reformers.
5	GI 'N-project' sponsors	Potential cost-sharing through synergy between projects, help in justifying extra funding for projects already approved.
6	Politicians and campaign groups	Aid in campaigning and persuading the public of benefits of tax and other land policy reforms. Better information sharing and understanding of relationship between different policies and outcomes.
7	Property investors	Earlier identification of trends, better understanding of workings of the market, improved project evaluation and decision making, reduced financial risk.
8	Insurers and underwriters	Better risk assessment, premium structuring by location.
9	Business	Improved decision making in choice of location, leading to better investment of capital and greater profitability.
10	Estate agents and their customers	Better information about the value of particular locations when considering buying and selling or renting.

- Delphi Process. A Delphi Group will be formed at the outset consisting of key individuals belonging to the 'enabling' stakeholder groups (1, 2, 3 & 5 above), who are likely to see a financial interest in the outcome of this research and hence its effective conduct. The Group will, by end November 2003, have been sent a paper setting out the hypothesis, the methodology and the emerging proposals for Value Mapping in Britain, and invited to comment on it and to collaborate in the research and contribute appropriate resources. The prospective Delphi Group members have been identified (see note 4) and are being approached during October 2003. They will be consulted at every stage of the research.

- Overseas Stakeholder Research. The Delphi Group's 'opposite numbers' in the comparator countries will be approached as early as possible, with a version of the same paper. The applicant's intention, subject to funding, is to make fact-finding overseas visits during the period January-June 2004. The initial approach will include a request for contact details of representative users (actual and prospective) of Value Maps. The applicant already holds details of some suitable contacts but will refine his visit programmes based on the findings from this exercise. Visits of between four and eight days to each of Australia and US, one or two days to Denmark and Lithuania (preferably in that order, because of the maturity and number of known applications) will be made, with the aim of establishing as comprehensive a range of types of use (and user) as possible, as well as facts and figures on costs and benefits, problems encountered and future developments planned. As much as possible will be done by means of internet, e-mail and telephone, from the UK, both before and after the visits, using the research assistant.

- Acquiring a Landvaluescape Demonstrator. Data from a small area of inner city Liverpool has been acquired (40 ha. / 62 land parcels) from a previous project by the applicant (Vickers 2003) but it is felt that a larger and more representative area needs to be used in this research. Use of data from a project under way in Whitstable, Kent (the whole of the former UDC area), being conducted by a valuer and a planner based at the College of Estate Management (CEM), Reading, is being considered (McGill and Plimmer, 2003). However this data is not guaranteed (a funding bid by CEM has been made) and will not be available until late 2004 at the earliest.

  Another possible trial area is of some 3000 land parcels (residential, commercial, leisure and agricultural) near Oxford, where the county and district councils have resolved to undertake a desk study of LVT (Godden 2003). The applicant has been invited to apply for a grant from Lincoln Institute to enable him to commission a professional valuation of this area, in support of his PhD work, using the same valuer who worked with him in Liverpool in 2002. GIS assistance is being sought from postgraduates at Kingston University (KU) and Vale of White Horse DC (VoWH) , who aim to have a model created by April 2004 into which value data can be inserted. Making the model work in a teaching environment is seen as an excellent MSc GIS research project, which the applicant's tutor at KU is investigating.

- Stakeholder Group Presentations. A report will be written after the overseas visits and the creation of the demonstrator, in July 2004, revising the prognosis for UK Value Mapping and setting out the detailed methodology for the remainder of the project. Seminars focused on the subject, if possible hosted by Delphi Group members' organisations, will be arranged in suitable places in late 2004, depending on the choice of trial area (probably three from Oxford, Canterbury, Liverpool and London, but possibly also Edinburgh, Cardiff and Belfast if resources allow). Representatives of stakeholder groups 1 through 8 will be

selected and invited, if possible via their umbrella bodies, who will receive a summary of the above report. The Delphi Group will receive the full report. After the short two-hour seminars, delegates will be asked to complete a questionnaire and to say whether they would be prepared to be interviewed in more depth.

- Wider Stakeholder Surveys. Some stakeholder groups are unlikely to be sufficiently interested in Value Mapping, or possess enough technical background knowledge, to come to a seminar. However it is felt that groups 9 and 10 (chambers of commerce, small businesses and estate agents) can be engaged in some way, through a very simple questionnaire and follow-up telephone interviewing. This activity will focus on the Landvaluescape demonstrator, which will show areas the target audience knows.
- Final Analysis. The results from all the surveys and feedback from seminars and the Delphi Group will inform the final report, likely to take six months in early 2005.

- Justification of the Methodology. The field of study is very large and there has been very little recent UK research that is relevant. This is firstly because the data has hitherto not been available, so that such research would have had to involve expensive data capture (Howes 1980). Secondly the public policy environment has not been favourable: discussion of property tax reform has become quite common, as has *e-government,* the search for new ways to fund public infrastructure from land values (Riley 2001, Whelan 2003) and public participation in planning.

  With such an unfamiliar topic and the difficulty of 'reading across' from overseas experience to a British context (see Note 5), there is little scope for objective research into either the costs or benefits of Value Mapping in the UK. Therefore what objective evidence there is (e.g. from data providers) needs to be supplemented by subjective opinion. Property valuation is itself largely 'informed guesswork'; Value Mapping graphically presents collections of results of that guesswork; this research will assess and draw conclusions about perceptions of Value Mapping.

  Proving the hypothesis therefore depends less upon quantitative costs and benefits than upon whether appropriate experts believe *ex ante* that the statement "Value Mapping is worth undertaking by UK plc" is true, having had the opportunity to give the subject proper consideration. With such a wide range of potential benefits and beneficiaries, of varying levels of knowledge, no single survey method is appropriate for all stakeholders. Each stakeholder group needs to be engaged at the right level.
- Data and information issues to be addressed by the study. There are two kinds of issue that will need to be carefully covered. Firstly the quality of property value data and whether 'landvaluescape' even exists in a meaningful sense; secondly the representativeness and quality of responses to the various surveys of opinion, both as to costs and benefits.
- Proposed timescale for the project, dates of milestones for production of progress reports. The aim is to complete the project during the first half of 2005. Milestones are the issue of papers to the Delphi Group in November 2003 and July 2004.

Relevance and applicability of this research

The general topic was regarded as sufficiently relevant for the applicant to be invited to enrol as a PhD student at Kingston University School of Surveying in 2001. It has already led to the creation of stronger links between the university's Science Faculty (where GIS resides) and Art, Design and Music Faculty (where architecture and surveying are taught). It has helped to develop cross-Faculty links which have resulted in the newly RICS accredited programme of BSc (Hons) Property & Land Information Systems. It can continue to act as a catalyst for links between RICS Geomatics, Valuation and Environment faculties. The applicant is a member of all three and

believes the concept of Landvaluescape to be fundamental to the sustainable future of the property profession and society.

- How the results of this research can be applied to address the issues being considered: this research will uncover barriers to the development of Value Mapping in the UK and indicate ways in which those barriers can be overcome. It will also give policy makers and relevant professional bodies some idea of the steps that can and ought to be taken, in education, further research and investment, to initiate development of the art. In essence, it will provide an outline business case.
- Practical benefits that will accrue from the application of this work and range of potential beneficiaries. These are tabulated above under stakeholders. In addition, the Landvaluescape model used in this research could become a valuable teaching aid for surveyors and a way of improving public understanding of the property market. Every opportunity will be taken to disseminate the findings through teaching modules (the applicant gives occasional lectures at KU) and conference papers.

Personnel employed on the project

The applicant is a chartered geomaticist with wide experience in the public, private and voluntary sectors, in construction, defence mapping and land policy research, who has conceived and managed a number of similar projects (see CV attached) for Ordnance Survey, UK Ministry of Defence and the Australian and Hong Kong Governments. Names and details of other staff involved cannot be given at this stage but he will be guided throughout by his three PhD supervisors from Kingston University, whose brief details are given in Note 6.

Notes.

1. Land Valuation. An estimate has been provided by Robert Ashton-Kane FRICS, IRRV of Clark Scott-Harden (CSH) of the cost of carrying out valuations for LVT of an area near Oxford. This is on the basis that much of the work would be done by students and/or volunteers under qualified supervision, also that all relevant data held by the local county and district councils would be made freely available. The estimate is confidential and the funds for this work are **not** part of this grant application. Lincoln Institute has indicated interest in helping to fund the creation of a UK Landvaluescape Demonstrator, especially the provision of site valuations to populate it.
2. GIS Work. The applicant is not skilled in hands-on GIS and will need assistance with all aspects of geo-data capture and manipulation in the creation of the landvaluescape model. The Head of GIS at VoWH has agreed to assemble the data and work with any researchers that are assigned to the project, which has political support from the council. The ESRI ArcView/ArcGIS systems used by VoWH and KU are fully compatible. Details of this aspect of the project have yet to be discussed but VoWH is seeking official funds for its part.
3. Stakeholder research. The applicant will manage this aspect of the work but hopes to delegate much of it either to an administrative assistant, who will need general internet and clerical skills, or to a geography, surveying or GIS student as part of an undergraduate or postgraduate project that could be tailored with overlapping objectives. The aim here is to create a database of potential UK users of Value Maps, after finding out what kinds of users there are in other countries and before – for this research – surveying their current attitudes towards the concept. Funds to enable the applicant to delegate much of this work **are** part of this grant application.

4. Delphi Group. The names and organisations are only indicative: those concerned have not yet been approached. Further expressions of interest should be sent without delay to tonyvickers@cix.co.uk [Names of individuals are kept confidential.] By the time an award decision is made, the Group composition will have been confirmed.

No.	Stakeholder Group No.	Organisation / project	Individual (job title, name if known)
1	1	VOA	
2	1	HMLR	
3	1	Intelligent Addressing	
4	1	IDeA (Local Government Information House)	
5	1	Ordnance Survey	
6	2	ESRI (UK) Ltd	
7	2	Causeway Data Systems Northern Ireland	
8	5	National Land Use Database (NLUD)	
9 10	5	ValueBill project (improving business rate collection through GIS)	confidential
11	5	Project Acacia (land management information)	
12	5	INSPIRE (EC 2002)	
13	3	RICS	
14	3	Rating Surveyors Association	
15	3	Institute of Revenues Rating & Valuation (IRRV)	
16	3	RICS	
17	5	ODPM / AGI (NLIS policy)	

5. Comparator Country Selection. A pilot survey of over 200 members of Federation Internationale Geographique (FIG, the World Congress of Surveyors) was conducted in Dec 2001 – Jan 2002 at the start of the applicant's PhD studies, to find out the state of Value Mapping and related national geo-data projects (Thurstain-Goodwin & Vickers 2002). Replies were received from over 20 FIG representatives in 16 countries, almost all being relatively well developed in terms of land information infrastructure. From these, a number were seen as of particular interest for the following reasons:-

a. Australia. All states exhibit sophisticated cadastral mapping and LVT. Two states (Victoria and Queensland) have recently re-engineered their LVT assessment systems to become fully dependent on Value Maps. It is thought that Australia exhibits the greatest maturity and breadth of experience of making and using Value Maps in the English speaking world, at state level. It also has a legal system with considerable similarities to Britain.

b. Denmark. Although having had LVT for as long as Australia (over 80 years) and computer aided mass assessment (CAMA) for property taxes for 20 years, the Danes recently gave up using Value Maps within their CAMA system. They appear to have re-considered this and to be planning to introduce GIS maps at national level. Formerly their property tax administration was managed at municipal level and used non-computerised maps. Denmark is the nearest country to Britain that has used Value Maps widely and it is felt that much can be learned from their current experiences.

c. Lithuania. A small, EC-candidate, post-Communist regime with an immature property market has adopted LVT without the encumbrance of heritage systems. It has had considerable assistance from northern European and American property tax and surveying experts and is known to have begun introducing Value Maps. The Lithuanian 'clean slate' approach will be of considerable interest.

d. United States. Possessing a huge variety of property tax and geo-data systems at state, county and city level, a few jurisdictions in the US are known to be highly developed in the art and use of Value Maps. As well as offering at least one example (Lucas County Ohio) where they have become an indispensible tool for the local property market and economic development (Ward *et al* 2002), there will be opportunities to discuss the reasons for many other cities and counties **not** to have adopted Value Maps – and assess the prospects for them to spread and grow in importance. The issues of copyright, data pricing and privacy are dealt with in a very different way to the UK and may prove to be crucial in the overall business case.

6. Project Supervision. In addition to review by the Delphi Group at several stages, the applicant's work will be subject to thorough academic scrutiny by his three PhD supervisors:

   a. Professor Sarah Sayce FRICS. Head of the School of Surveying at KU since 1991, she worked in private practice and in industry before becoming an academic. Her research interests are in property valuations and appraisal methodology and regulation, also sustainability issues affecting property and in professional education. Sarah is currently supervising several research students. She also publishes regularly with Professor Owen Connellan (see below), with whom she has undertaken work in the past funded by RICS Education Trust. She currently holds a Trust Award jointly with her colleague at KU, Dr Frances Plimmer.

   b. Dr Munir Morad. GIS course director and Principal Lecturer at KU, Munir's research interests include management issues in geographical databases and land resource management information systems. He is

active in the development of teaching methods using GIS and internet and a member of the New Zealand Institute of Surveyors (NZIS). Most of his career has been based in NZ. He has supervised four successful doctoral theses and recently became a member of the organising committee of the newly formed Property Special Interest Group of the Association for Geographic Information (AGI), which works closely with RICS.

c. Professor Owen Connellan. A chartered surveyor and valuer and member of the International Association of Assessing Officers (IAAO)who has specialised in rating and property taxation, Owen is a Senior Research Fellow at KU. He was previously Head of the School of Surveying there and continues to collaborate on research projects involving the School. Prior to his academic career he was in private practice and commercial property organisations, closely involved in town centre redevelopment projects. He has published several Working Papers for Lincoln Institute and assisted the applicant in his Lincoln Fellowship research (Vickers 2000 & 2002), which led to the forthcoming publication of a book on LVT in Britain which Dr Plimmer and the applicant are also involved (Connellan *et al* 2003).

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