

## Value Maps: The Next Utility?

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### SUMMARY

Surveys among FIG Commissions 3, 7, 8 and 9 in 2002 and 2004 indicate a global trend of increased use of Value Maps. These are based on data from national property tax systems but sometimes have wider uses in both the public and private sectors. However, as yet, no such development has occurred in the United Kingdom.

The paper describes a doctoral research project in the School of Surveying, Kingston University, London which used a Policy Delphi to establish the issues surrounding development of Value Maps in the UK and the indicative costs and benefits of implementing a possible Action Plan to implement a national programme of land valuation to achieve this. The research also involved visits to selected European countries (Denmark, Sweden, Lithuania) that use Value Maps and to key agencies and stakeholders in the UK.

The main fieldwork was carried out in 2004-5 and consisted of three Delphi 'rounds' of questionnaires which brought together some 30 UK-based experts and stakeholder representatives in a controlled manner that secured anonymity and mutual learning. A draft final report was presented to the Delphi Group and others in July 2005. An attempt was also made to create a demonstration dataset of a small area near Oxford, which served to illustrate the current difficulties in land valuation of England and was of limited use in support of the main strand of this research.

The study found that the main barriers to Value Mapping in the UK are institutional inertia among public bodies and a lack of political will to consider: (a) property tax reform; (b) reform of land use planning laws; and (c) the liberalization of conditions of use of spatial public-sector-owned information. However there was a growing realization within certain industries (insurance, mortgage lending and commercial property investment) that Value Maps could improve future business performance. The authors therefore recommend that the private sector actively pursues a market-led approach to public-sector bodies that act as custodians to key datasets. 'Industry pull' rather than 'policy push' is probably the key to unlocking what could become a key instrument of good governance, hence 'the next utility' for spatial planning and land management.

The paper ends with a look at current political moves in the UK to unblock the three areas of reform mentioned above. The authors conclude that the political barriers to Value Mapping

may become less daunting. They also see relevance in the growing threat to valuable coastal zones from climate change.

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## 1. INTRODUCTION

In a paper for FIG XX, Connellan, Vickers and McCluskey (1998) concluded that there was a role for members of many FIG Commissions, especially land surveyors and geomaticists, in Land Value Taxation (LVT) through the increasing use of geographic information systems (GIS) and computer assisted mass assessment (CAMA) in property taxation. A follow-up paper for FIG XXI (Vickers and Thurstain-Goodwin, 2002) outlined the concept of Landvaluescape and explained how the situation in the United Kingdom (UK) regarding land information and property taxation systems made it uniquely difficult among developed nations for the concept to be developed in order for Value Maps to become available.

Since 2001 Vickers has been undertaking doctoral research into the development of Value Maps for the UK, under the supervision of Sayce (as Director of Studies and Head of the School of Surveying at Kingston University London), Connellan and Morad. The hypothesis he has been testing is that, despite the institutional and political obstacles and costs involved, there is a case for undertaking a programme of national land valuation using CAMA on available and emerging property market datasets. The resultant Landvaluescape model of the UK, if maintained consistently at a sufficient level of accuracy, would satisfy the needs of certain property-related industries by better informing the markets. It would also meet the needs of modern sustainable national land management and spatial planning. In summary, *“Revealing Landvaluescape would mean an end to planning in the dark”* (Vickers 2003a) – for the UK no less than for other countries with a freely functioning property market.

The main method used in Vickers’ research was a Policy Delphi, which is *“a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem”* (Linstone and Turoff, 1975). It was selected from among a number of Future Studies research methods (Assakul 2003) for the following reasons.

- suits modern internet communications
- obviates the need for participants to physically meet
- allows a mixture of quantitative and qualitative analysis
- flexible research method by being iterative, allowing controlled feedback
- anonymity between participants prevents excessive influence by dominant individuals
- is a mutual learning process, valuable for all concerned.

The Delphi Process was supplemented by the creation of a demonstration Landvaluescape dataset as the by-product of land valuations carried out for a study of LVT in Oxfordshire and by short visits to several European countries which had been identified in surveys through the FIG Bureau by Vickers as having made significant recent developments in Value Mapping. There were also fact-finding visits to - and discussions with - a number of key agencies in the UK, some of which had involvement in the Delphi but also some which had not.

## **2. THE UK VALUE MAPS DELPHI PROCESS**

A Delphi Process consists of at least three stages.

- Stage 1. Exploration of subject matter and selection of participants
- Stage 2. Identification and prioritization of issues, and offering options for future action
- Stage 3. Exploring disagreements among participants and allowing moderation of views
- Stage 4. Final evaluation: time and resources prevented, as is normal in any Delphi, the resolution of many disagreements between participants

It is essential that a Delphi is concluded in a timely fashion, otherwise participants' enthusiasm diminishes. Once the initial Delphi Group starts to break up, the Process cannot continue. In this case, external events in the political sphere as well as problems with the demonstration Landvaluescape caused delays and a fourth Delphi Questionnaire was abandoned in favour of a Workshop to discuss interim findings, prior to final evaluation.

### **2.1 Selection of participants**

The number of participants in a Delphi is a function of the range of disciplines and stakeholder groups involved in the subject being studied. For statistical purposes, at least 15 people are normally required. In this case, initial analysis indicated that four areas of expertise (see Table 1) were needed to inform the Group as a whole.

The initial brainstorming by the authors on Value Mapping concluded that ten stakeholder groups were potentially significant, either as 'enablers' or as 'beneficiaries' (see Table 2), or possibly as both. Of these, two were seen as difficult to involve in a Delphi because finding individuals sufficiently representative and engaged throughout the Process was unlikely and a different method of involving larger numbers of representatives over a shorter timeframe was planned for when the demonstrator UK Value Maps were available.

Most of the eventual 30 Delphi Group members were found from among the existing contacts of the authors and persuaded to join the Group by personal letter or email from Vickers or Sayce between November 2003 and February 2004 when the deadline for the first questionnaire was set.

A Landvaluescape website was created for registration, over 100 emails were sent out with request for onward distribution, drawing attention to an introductory paper (Vickers 2003b) and to the potential value for the addressee's organization of participation. A form asked potential participants to self-score their expertise in each of the four chosen fields and to identify which stakeholder group they felt they belonged in.

**Table 1 – Delphi Group Expertise**

<b>Field of Expertise</b>	<b>No. Expert</b>	<b>No. Good</b>	<b>No. Moderate</b>	<b>No. Minimal</b>
Geo-statistical Spatial Analysis Techniques	3 (3)	5 (3)	6 (3)	8 (6)
Property Valuation	2 (2)	5 (4)	7 (5)	9 (6)
Land (Taxation) Policy	2 (2)	5 (3)	12 (9)	8 (4)
Geographic Information Policy	4 (3)	8 (5)	6 (5)	9 (4)

Note: first set of figures are for Round 1; in brackets are nos. who remained in Round 2

**Table 2 – Value Mapping Stakeholder Groups**

<b>Group name</b>	<b>Ben. rank</b>	<b>Enab. rank</b>	<b>Nos. (exp.)</b>	<b>Likely reasons for having a stake in Value Maps</b>
Prop/GI data providers	7	2	2	Increased revenue from sales and use of property related data in Value Mapping.
Software suppliers	10	3	5 (3)	A new application area to be developed, sold and supported, with prospects of increased net revenue.
Tax administrators	2=	4=	3 (1)	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.
Urban planners and developers	4	4=	7 (2)	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.
National GIS project sponsors	5=	4=	2	Potential cost-sharing through synergy between projects, help in justifying extra funding for projects already approved.
Politicians and campaign groups	9	1	5 (2)	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.
Property investors	2=	9	2 (1)	Earlier identification of trends, better understanding of workings of the market, improved project evaluation and decision making, reduced financial risk.
Insurers and underwriters	1	7	1 (1)	Better risk assessment, premium structuring by location.
Business	5=	8	2 (1)	Improved decision making in choice of location, leading to better investment of capital and greater profitability.
Estate agents	8	10	0	Better information about the value of particular locations when considering buying and selling or renting.

Note: "Nos." column shows the number who participated in Delphi. In brackets is the number of experts.

The final Delphi Group included at least two members of each of eight stakeholder groups (except one: Insurers – see Table 2) and at least two self-assessed experts in each field (see Table 1). This ensured an independent check on the views of each individual. Within larger

groups (e.g. Urban Planners and Political Campaigners) there was a wide variety of background and range of opinion. Nobody with a known prejudice for or against LVT was allowed to be formally in the Delphi, although several LVT campaigners were observers.

The composition of the Group varied through the three 'Rounds' undertaken over 15 months, owing to pressure of work or change of career by certain individuals. However 27 out of 29 people who initially enrolled in the Delphi took part in at least two of the three Rounds and a re-working of the Round One analysis to exclude the six people who failed to complete Round Two showed very little difference in group scores. Of the 29, more than half were surveyors in the FIG sense and three quarters were property professionals.

## 2.2 Conduct of Rounds

The Round One questionnaire (Vickers 2004a) introduced four Concepts: Landvaluescape; a National Land Valuation; Rolling Revaluation; and a Tax Effect Demonstrator. It asked participants to score their level of agreement with statements relating to each concept. It then presented 28 Issues, each associated with one of the Concepts, and asked for a score according to Importance in the context of UK Value Mapping. Some Issues were technical, others were policy-related. In addition to scoring, participants were invited to make comments. The forms could be completed on-line through the Landvaluescape website by anyone, or they could be issued as email attachments and completed electronically or on paper and faxed back to the researcher.

The responses were transferred to an Excel spreadsheet and analysed in detail, with each Concept and Issue given a Group Score and differential responses of each kind of expert and stakeholder discussed with their comments included (anonymously quoted) to inform the Group in a 17-page report which accompanied the Round Two questionnaire (Vickers 2004b). In this second questionnaire, the Group was asked to score most of the Issues again in the light of the Round One report, this time in four 'dimensions': Relevance; Desirability; Feasibility; and Confidence. This last score was used to weight the other scores of each individual, because it indicated how much confidence that person had in the validity of their views on each Issue. A few Issues were re-worded and/or combined.

The researcher also presented seven Policy Options (POs) "*some conclusions from Round One*" for the Group to consider, testing what courses of action might be acceptable to stakeholders. Again, comments were invited as well as scores for each PO, according to desirability (in one case feasibility).

A version of the Round One report (Vickers 2004c) was also prepared for FIG to distribute electronically to Commissions 3, 7, 8 and 9, which had helped Vickers test his hypothesis at the outset of his studies (Vickers 2002).

This was accompanied by a questionnaire designed to elicit the status of Value Mapping in other countries. However the response was very disappointing: only five forms were returned, compared with 18 in the initial 'Pilot' questionnaire two years earlier. It was therefore not possible to use the FIG survey results to inform the UK Delphi Group as to the global status

of Value Mapping in a quantitative sense, although the small sample of countries who did respond showed positive progress.

There was a nine month gap between the second and third Rounds, during which several conference and seminar presentations were organized for the two large but relatively disengaged stakeholder groups: estate agents and general business. It had been intended that the Oxfordshire LVT Trial - and from it a Demonstrator UK Landvaluescape dataset - would be completed in time for these events but problems arose in the Trial outside the control of the research team and it was necessary to proceed with these events without the benefit of a sufficiently convincing Value Map Demonstrator. Consequently the feedback from these events was inconclusive and not very useful for the Delphi Group, nevertheless it did form part of the third and final paper sent to participants in November 2004 (Vickers 2004d).

The Round Three questionnaire was relatively simple and in three parts: a Draft Action Plan upon which scores and comments were invited (both as to the relevance, desirability and feasibility of each Action and on the structure of the whole Plan); a table of Stakeholder Groups, against each of which a ranking by Enabler and Beneficiary was requested (see Table 2); and a set of questions about the Delphi Process itself, so that the methodology of the research could be discussed in the final report. The Round Two report was merely posted on the website and not mailed to every member of the Group. As a result perhaps of not making participants read too much or possibly because it was easier to respond to a set of proposals than to score more abstract Issues and POs, there were more completed responses to Round Three than to Round Two with several 'drop outs' returning to participate.

### 2.3 Findings

At the outset of the Delphi Process – and again after Round Two – participants were asked when they thought “*Britain will have been value mapped by..*” Most initially gave a date earlier than 2015. As the process went on, individual estimates converged towards this date, extremes varying from 2006/2050 initially down to 2008/2030. This both shows how a Delphi can moderate opinions and how varying in confidence this group of relatively well informed people remain about the prospects for Value Mapping the UK. However when the Action Plan is studied it can be seen that many difficult questions remain unresolved and also that it is necessary to define whether 'Value Mapping' is to be detailed or crude.

The most fundamental issue in any Action Plan – and one which produced widely varying views from among the Group - is the extent to which the private sector or the public sector should lead. It appears that there are key actions which Government alone can make – and must make – if actions by the private sector are to happen. It also appears that there is a limit

to the extent to which Value Maps can be exploited without full engagement by Government, in particular in the spheres of geographic information (GI) and property tax policy reform. Two possible parallel sets of actions can be defined that may or may not come together to produce a full UK Value Mapping implementation. This is illustrated in Figure 1, where the top set of actions is for a very limited 'market led' implementation (valuing geographic



entities no smaller than, say, electoral wards or postcode sectors), whereas full 'tax reform led' Value Mapping follows the lower set of actions and would value down to land parcel level. The indicative costs and benefits of each are evaluated in Table 3, together with a likely timescale for completion.

**Table 3 – Indicative Costs, Benefits and Timescale of UK Value Mapping**

	Costs £m	Benefits £m	Timescale (yrs)
Market Led / Crude	2.3	5-10	1.5
Tax Reform Led	213+	330+	5-9

It can be seen that both Action Plans show significant positive return on investment. The market led plan is very modest in cost and risk but has the advantage that it would help reveal and 'sell' the potential benefits of a much higher cost/risk tax reform led plan. To call even the crude implementation 'market led' is misleading, since even here few of the necessary Actions can be carried out without Government involvement.

In terms of perceived relevance, the Delphi Group felt that three Actions scored most highly: Government to state support for the idea of a national land valuation; the undertaking of a Value Maps Market Analysis; and appointment of a Government GI Champion. Clearly only Government can do the first and third of these (Actions 1 and 7). The second (Action 6) might either be purely an industry initiative – with results perhaps influencing Government towards property tax reform in partnership – or a joint initiative with Government from the outset. However this was one Action where several people were extremely unhappy to see any private sector involvement.

Three other Actions scored highly in desirability: acceptance that key datasets should be monitored continuously not periodically (Action 2); completing the UK Land Registers (Action 8); and re-engineering property tax IT systems. All three would require Government action and probably for this reason alone were scored quite low in feasibility. In the case of the last, the decision by Government in late 2005 to postpone the revaluation of domestic property for local council tax has perhaps made it more likely that a more fundamental re-engineering of systems will follow when a decision is finally made on local government finance in late 2006.

It is significant that most Actions were scored relatively low in feasibility by most Delphi participants, which indicates a degree of pessimism as to the political will being found to

initiate a tax-reform-led Value Mapping programme. For this reason the final section of this paper deals with political prospects for property tax reform.

The full table of Actions with Delphi Group scores is at Table 4. Prior to the final workshop in July 2005 some Actions were split and these are shown in Figure 1. The overall ranking in

Table 4 gives equal weight to the raw scores given by each participant for each of the 'dimensions'.

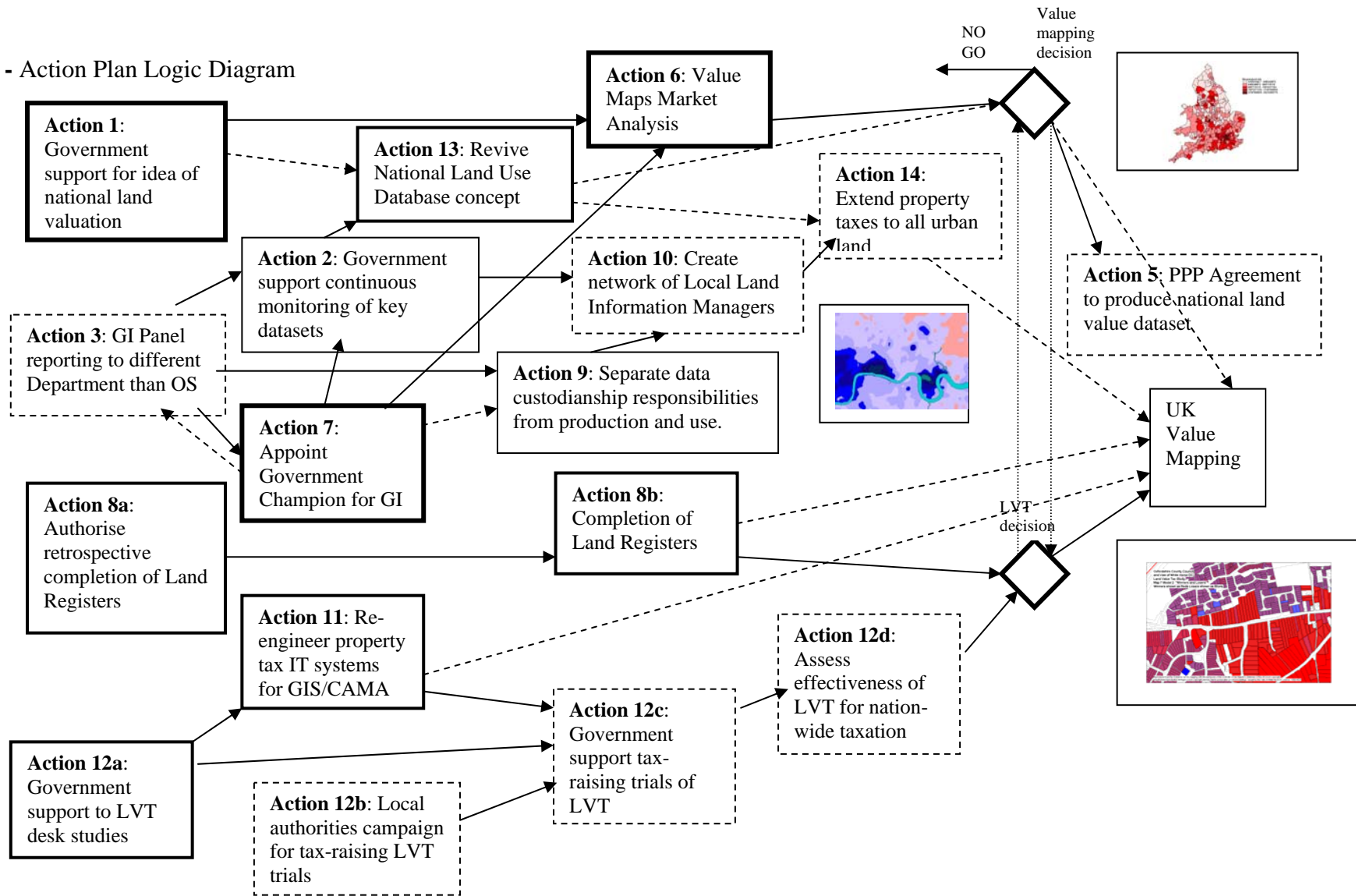
**Table 4 – Ranking of Candidate Policy Actions**

Action No.	Brief Description	Group Ranking (Score)			
		Rel.	Des.	Feas.	O/A
1	Support for the idea of a national land valuation	1 (4.75)	3= (4.5)	4= (3.6)	2
2	Monitoring of all key datasets should be continuous	4 (4.25)	3 (4.5)	9 (3.3)	5
3	“GI Panel” to report to a different Department (see note)	14 (3.45)	11 (3.68)	3 (3.74)	10
4	Consortium offer to Government to fund national land valuation	10 (3.95)	14 (3.4)	14 (2.7)	14
5	PPP Agreement to produce consistent all-embracing land value dataset	6 (4.15)	9= (3.75)	10 (3.2)	9
6	Value Maps Market Analysis	2 (4.55)	6 (4.3)	2 (4.05)	1
7	Government Champion for GI	3 (4.3)	7 (4.25)	1 (4.2)	3
8	Completing the UK Land Registers	9 (4.05)	1 (4.79)	6 (3.11)	7
9	Separate data custodianship responsibilities	8 (4.06)	8 (3.83)	11= (3.5)	8
10	Local Land Information Managers	11 (3.78)	12 (3.67)	11= (3.11)	12=
11	Re-engineer property tax IT systems	7 (4.1)	2 (4.7)	8 (3.35)	4
12	Allow tax-raising trials of LVT	12= (3.7)	14 (3.5)	7 (3.4)	11
13	Revive National Land Use Database	5 (4.21)	5 (4.32)	5 (3.53)	6
14	Extend property taxes to all urban land	12= (3.7)	9= (3.75)	13 (3.1)	12=

**Note on Action 3:** The GI Panel was set up in July 2005 to provide independent advice on GI policy to Government. It had been signalled in late 2004 that this would happen but the Panel Chair was (and still is) the Chief Executive of national mapping agency Ordnance Survey (OS), whose duties always included advice to Ministers on GI matters. Many feel that the Panel's advice cannot be 'independent' of OS until it has a non-OS Chair and reports to a different Minister than the one to whom OS reports. However this has little relevance to Value Mapping.

The low score for Action 4 led to it being dropped from the final Action Plan altogether and several other Actions are regarded as being non-essential (see Figure 1, which shows these in boxes with pecked outlines). Non-essential logical links between Actions are similarly pecked arrows. The most relevant Actions are shown in bold outline. The full analysis of Round 3 and interim findings at the end of the Delphi Process are set out in Vickers (2005a).

**Figure 1 - Action Plan Logic Diagram**



### 3. POLITICAL PROSPECTS FOR UK PROPERTY TAX REFORM

It has been impossible to disentangle the prospects for UK Value Maps from the highly political issue of property tax reform, specifically LVT. Any implementation of UK Value Maps would almost certainly be of little benefit without the imperative of a national land valuation at land parcel level as part of national implementation of LVT.

Since the concluding workshop of the Delphi Process, Vickers has been closely involved in a review of tax policy by the UK's third largest political party - the Liberal Democrats (Lib Dems) - as one of two property professional members of its Tax Commission (TC), whose policy paper was endorsed for publication on 11 July 2006 (Liberal Democrats 2006). This paper makes a clear statement of support for LVT. Given that many political commentators expect the next UK Parliament to have Lib Dems in a coalition 'Progressive' Government (as they have been in the Scottish Parliament since 1999) this must improve the prospects for LVT, in Britain at least: Lib Dems do not contest elections in Northern Ireland.

Assuming the TC's recommendations are supported by the Lib Dems' Federal Party Conference - its supreme policy making body - in September and will therefore form part of the Party manifesto, it is worth looking at how a commitment that LVT is the "*direction of travel*" of a Progressive Government would affect the Value Maps Action Plan in Figure 1. The speed and distance of travel towards LVT are not important so long as a UK Government is committed in that direction. A manifesto commitment to LVT by any Party with a chance of becoming Government starts to focus attention among property professionals and tax stakeholders on related matters such as Value Mapping in a way that has not been evident for several decades.

A Progressive UK Government would automatically support Actions 1, 8, 11 and 12: national land valuation; completion of land registers; re-engineered property tax IT systems; and tax-raising trials of LVT. By implication, it would also support the case for Actions 2, 13 and 14: continuous monitoring of key (land-related) datasets, because as one Delphi respondent put it "*continuous monitoring is essential because the 'intangibles' about choice of location can cause prices to fluctuate rapidly*"; revived interest in a National Land Use Database, to ensure that the highest-and-best use of each land parcel is formally recorded for valuation purposes; and extension of property taxes to all urban land. On that the TC is clear: "*it would be advantageous to base a property tax on the unimproved value of the site*" and "*Eventually the system for valuation of domestic land could be integrated with that for ... business properties in England*" which "*we propose to restructure ... to ensure that the rate is applied only to land values...*" (Liberal Democrats 2006).

It is not only the Lib Dems who have signalled they would move towards LVT. A former Conservative Local Government minister still in Parliament has said that Site Value Rating is preferable to the Labour Government's proposed Planning Gain Supplement (Curry 2006): a property transfer tax applied at the time of development. Labour's probable Leader before the

next General Election has said he supports some method of capturing the unimproved value of land for community use (Brown 2004) and a section of the Labour Representation Committee – a group of left-wing Labour MPs - as well as the whole Green Party explicitly put LVT in their manifestos at the last General Election. The political environment has shifted significantly in favour of LVT since this study began, which has made it much more likely that the Delphi Group median date for achieving Value Mapping of Britain – 2015 – will be achieved. The time that it is likely to take for a tax-reform-led implementation of Value Mapping is under ten years (Table 3).

#### **4. HOW USEFUL ARE VALUE MAPS?**

Many of the issues highlighted at the UK Value Maps workshop facilitated by the authors in July 2005 would not be dealt with simply by a decision to implement LVT. These include:

- Quantifying commercial benefits of Value Maps. A Market Analysis would still need to be undertaken, if the net cost to the taxpayer of implementing LVT (possibly £200m, see Table 3) is to be offset as much as possible.
- Assuring non-tax users of Value Maps that the underlying data currency will be fit for their purposes.
- Establishing a workable business model for land information and its by-products including Value Maps, balancing copyright revenue for custodians against the need for hassle-free accounting.
- Obtaining reliable site valuations in all circumstances, including areas with low levels of transaction and on the other hand high rates of change in use and value.
- Fulfilling the expectation of enrichment in the supply of property information needed to derive site valuations, such as Home Information Packs which will be compulsory from 2007.

Most commentators on LVT ignore the potential of wider uses for land value data in such things as Value Maps to offset the cost of producing and maintaining the datasets for the tax system. Because in other countries the tax system is self-justifying and the high initial cost of creating the system doesn't have to be faced, the issue hardly exists. Although there is evidence that insurance companies such as Norwich Union are prepared to invest in the creation of new datasets purely to give market advantage by dramatic improvement in risk assessment based on location (e.g. flood risk mapping now acquired by Environment Agency from NU), no cross-sectoral market analysis of the value of Value Maps has been done in any country.

A political climate favourable towards studies of the costs and benefits of a comprehensive Tax Shift involving LVT has come too late to enable any more than the crudest of estimations to be produced for the doctoral research project that the authors have managed these past few years. However when it is realized that the proportion of the total value of an average house in England that is accounted for by land rather than building has risen from 13% in 1965 to

60% in 2005 (Liberal Democrats 2006), it must be clear that a more robust method of arriving at land values is needed. Only the 40% accounted by 'bricks and mortar' needs to be underwritten by insurance policies. Similarly the development value of a site is essentially not to be found in the buildings that exist on it but in the location value of the site when stripped of those buildings, so that investors ought to be far more interested in site values than in the exchange value of property as it exists for current uses.

These issues are a few of the "*important questions raised*" in the paper which the Lib Dems' TC recommends "*further work*" is "*set in train*" if its proposals are accepted the week after FIG XXII (Liberal Democrats 2006).

Finally, if there was any doubt that LVT and Value Maps could form an important part of the policy agenda associated with sustainable development and climate change, it should be noted that the first known use of the word Landvaluescape outside this research project was in the context of a study of the economic assessment of the impact of coastal erosion funded by the European Commission. As sea levels start to rise, some extremely difficult decisions will need to be made by governments worldwide about which stretches of coast to abandon to the sea and which to protect by manmade defences. These decisions will undoubtedly need to be largely informed by evaluations of the economic value of areas threatened with inundation, as against the cost of creating defensive works. Much of the world's most valuable real estate is close to sea level, for obvious reasons. The cost of producing Value Maps is trivial compared to the cost of defending coastal cities and fertile food producing alluvial lands from rising sea levels. The time that it will take to produce them is well within the period of uncertainty about the likely extent of sea level rises but not far short of the time that it might take to build those defences. The cost of defending land ought to be borne predominantly by those whose assets are being defended. Whether it is the state as ultimate guarantor or the insurance industry as partner to the state, the issue of what land is defended and at whose expense seems to cry out for Value Maps. The United Kingdom, with its extensive coastline largely in the front line, needs its Landvaluescape revealed.

## REFERENCES

- Connellan O, McClusky W & Vickers A 1998, The Surveyor's Role in Land Value Taxation, paper for FIG XX Brighton
- Vickers A & Thurstain-Goodwin M 2002, Visualising Landvaluescape without a Cadastre, paper for FIG XXI Washington DC
- Vickers A 2003a, Landvaluescape website homepage created Nov 2003
- Linstone H A & Turoff M (eds) 1975, The Delphi Method: Techniques and Applications, Reading MA USA, Addison-Wesley
- Assakul P 2003, Futures Studies Methods  
[http://www.cambridgeuniversityfutures.co.uk/Futures\\_Studies\\_Methodology.pdf](http://www.cambridgeuniversityfutures.co.uk/Futures_Studies_Methodology.pdf)  
posted 18 Jan 2003
- Vickers A 2003b, Visualising Landvaluescape: The Concept in a British Context, paper published at [www.landvaluescape.org.uk](http://www.landvaluescape.org.uk) Nov 2003

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