

Acacia Programme

Final Progress Report, 22 June 2004

The Acacia Programme : New Reports and the Way Ahead

The Acacia Group of four Government Departments, Royal Mail and the Local Government Information House has completed its programme of work on preparing the way for a National Infrastructure of addresses, with related mapping and property information, in accordance with its vision of December 2002 to promote the development of:

a definitive, consistent and joined-up national infrastructure of property addresses and related data with the related mapping so as to facilitate major economies, efficiencies and service improvements both in the public sector and throughout the economy.

The Group envisages that the proposed infrastructure would build wherever possible on what already exists.

At the request of Phil Hope MP, Parliamentary Under Secretary of State at ODPM, the Group is today publishing on the web sites of member organisations the present progress report (and annex) and new reports on:

1. the piloting work at Basingstoke & Deane and Aylesbury Vale and related research work (final report by the pilot project managers, Rob

Walker and Kate de Groot, working for the Programme Technical Team)

2. a study of multi-occupancy issues based on Nottingham City (report prepared by Robert James, Rob Walker and Robin McLaren)
3. a high-level study of user and stakeholder business requirements for addressing (report prepared by Rob Walker Consultancy)
4. a preliminary study of benefits and costs of a national infrastructure on the lines proposed (report by Frontier Economics)
5. supporting technical research papers and reports (see below).

The Annex to this Notice summarises some key messages from the reports.

Mr Hope has said:

“The Group has provided very useful, firm information about the need for and problems with providing a single national address database. I will be studying the reports carefully as I consider the appropriate next steps for ODPM.”

The independent Chairman of the Group's Board, Andrew Edwards, has said:

“In the past twenty months, with help from ODPM, we have:

- (a) formulated a vision for the suggested national infrastructure and clarified many aspects of it,
- (b) conducted and disseminated a substantial amount of piloting and research work, which we believe will be invaluable,
- (c) helped in preparing the foundations for a

- (d) business case for the national infrastructure, and identified options for what should happen next.

Our Group is not in a position to decide or implement the proposed national infrastructure itself. We believe, however, that we have now done all we realistically can to prepare the way for such decisions. Our Group will not, therefore, continue in its present form, although the members expect to keep in close touch and to work together to the extent possible.”

Background briefing

Acacia is a joint programme which has been pursued in consultation with the Office of the Deputy Prime Minister (ODPM) by four government departments (Ordnance Survey, Land Registry, Registers of Scotland and the Valuation Office Agency), the Local Government Information House and Royal Mail.

The aim has been to test out proposals for a properly integrated and maintained national infrastructure of definitive addresses, street names, objects without postal addresses, land ownership and occupancy parcels, and other property information, all related to definitive mapping and building wherever possible on existing initiatives.

Although the programme has centred on England and Wales, the aim has been to examine solutions capable of application throughout the United Kingdom alongside similar initiatives in Scotland and Northern Ireland. The main reason for the involvement of Registers of Scotland has been to ensure that the parallel initiatives under the Acacia and the Definitive National Addressing - Scotland programmes follow a complementary path.

In addition to the main reports listed above, the Board is making available on the Ordnance Survey's web site <http://www.ordnancesurvey.co.uk/oswebsite/aboutus/reports/> the following supporting technical research papers and reports:

- RA1 Objects without postal addresses
 - RA2 National Street Gazetteer
 - RA3 Cross-referencing
 - RA4 Quality issues
 - RA5 Impact of MasterMap / Positional Accuracy Improvement
 - RA6 Maintenance
- Report by Northgate blue8 on data matching at Basingstoke & Deane and Aylesbury Vale.

Questions about this final progress report can be addressed to the Chairman at ajcedwards@aol.com.

The Acacia Programme

Some Key Points from the Latest Reports

Final Report by Project managers on Pilot and Research work

This Report summarises the findings from the pilot work at Basingstoke & Deane and Aylesbury Vale, and from the six major research topics pursued by the Programme Technical Team with help from outside consultants as well as the Project Managers. All members of the Group other than Registers of Scotland contributed data to the pilot projects, as well as the local authorities concerned. The involvement of Registers of Scotland has helped, among other things, to ensure that the parallel initiatives under the Acacia and the Definitive National Addressing - Scotland programmes follow a complementary path.

Some lessons learned and conclusions drawn from this and earlier work that are particularly relevant to the proposed national infrastructure are:

- i. The pilot and research work has strengthened earlier beliefs that a national infrastructure as envisaged in the Acacia vision is feasible in technical terms.
- ii. None of the existing address products currently meets all the needs of the national infrastructure.
- iii. The key issue is to ensure a robust and maintained national infrastructure of addresses that can facilitate the linking up of application datasets, based on different requirements and views of the world.
- iv. A proper governance structure under a lead-Department, working to a defined remit, with suitable empowerment and dedicated staff resources, will be critical to success.
- v. The solution adopted should apply nation-wide alongside DNA Scotland and Pointer (Northern Ireland).
- vi. The roles and responsibilities of all the partners in address creation and maintenance should be defined. A clear allocation of responsibilities for individual elements in the addresses and other data and in the development and maintenance processes is essential.
- vii. The first stage of a joined-up national address infrastructure is the linking of source datasets. Such an infrastructure requires selection of the best quality source for each category of data, matching source data and resolution of matching failures.
- viii. Address data matching is important in order to eliminate duplication, facilitate ease of future use and ensure that new records are properly recognised. Such matching is best done once rather than by all partners.
- ix. It is not sensible to try to match all data with all. The minor errors, omissions, duplications and discrepancies in the source datasets mean that it is not possible to match them entirely. Matching rates can be deceptive if the matching criteria are too loosely set and erroneous matches are thereby produced. Resolution of matching issues requires a major effort involving local knowledge and may necessitate inspection on the ground.

- x. Maintenance is all-important. A centralised change information model, with close involvement of the data suppliers, is needed. Data suppliers and users should obtain new addresses from the definitive source, where possible, rather than create their own. Responsibilities for core components should be clearly allocated to the appropriate organisations. Alternative models for a national system should be evaluated.
- xi. The technical requirements include a definition of categories of addressable objects, adoption of core-address components, a clear address life-cycle, a rule-base to manage other aspects and data and quality management.
- xii. The address life-cycle model should be further developed. A national infrastructure needs to recognise the needs of individual stakeholder organisations for change information at different points in the address life-cycle, especially in the early stages of a new address, while also enabling them to avoid the clutter of unwanted information.
- xiii. Local authorities, with their local knowledge and statutory obligations, have a key role to play in the national infrastructure and in resolution of anomalies. The naming and numbering function needs to be integrated with the street and land and property gazetteer functions. LLPGs need to be completed and maintained to a very high standard.
- xiv. Rigorous processes should be established to ensure that local authorities, Royal Mail and others notify each other of approved addresses and changes, or proposed changes, without fail and in an agreed format, and that change information is shared as required with other players in the co-operative maintenance process.
- xv. The importance of accurate mapping co-ordinates in checking addresses (especially of objects without postal addresses) remains undiminished.
- xvi. Stakeholders and users need to adapt their processes and extend their data quality and management functions, with changes as required to business processes.
- xvii. Improved and extended guidelines, more effectively disseminated, covering the practical application of the BS 7666 standard, the rule-base, data and quality management and other issues, are needed for local authorities working on local land and property gazetteers and for others working on addresses. The guidelines and the revised standard need to take account of the findings from the Acacia work.
- xviii. The key categories of object that need to be included in the addresses infrastructure have been identified. At the highest level these are residential buildings, commercial properties and public buildings and facilities. The initial classification proposed in the Acacia work should be further developed.
- xix. The National Street Gazetteer in its current form is inappropriate for addressing purposes. The 'New NSG' process, used to provide street names to NLPG, appears to offer a viable feed of street name information.
- xx. Further consideration is needed of the best technical approaches to linkages and cross-referencing, bearing in mind processes, costs, practicability and time-scales, without forgetting that hybrid approaches may work best in practice.
- xxi. An independent data quality audit should be carried out on the NLPG and on other datasets as necessary.

- xxii. Issues of access, pricing, intellectual property rights and licensing, which were set aside to enable the pilot work to proceed, will need to be resolved alongside the issues of future governance.

Study of multi-occupancy issues based on Nottingham City

There is widespread recognition that multi-occupancy buildings present some of the most intractable problems in developing, reconciling and maintaining address datasets. In the pilot work, high error rates were found in matching sub-units of multiple occupancy properties and in relating sub-unit to main unit. This study examined accordingly some real-life problems with addresses in multi-occupancy buildings of various kinds in Nottingham City.

Some key points to emerge are:

- xxiii. Each of the Acacia partners stores the data in a different format, follows different rules for data content and has a different view of multiple occupancy
- xxiv. No partner has a comprehensive record of multiple occupancy, follows consistent standards for data input, has comprehensive quality control or has integrity checks for cross-references
- xxv. As a result, there are significant matching difficulties, uncertainty as to scope of issue (number and types of multi-occupancy), and increased risk of error, mistakes and revenue loss in systems that rely on this data
- xxvi. It is suggested that all partners should:
- use standard definition(s) of multiple occupancy
 - collect all multi-occupancy addresses within scope of their data set
 - move towards supplying data in BS7666 format
 - agree a set of standards for data content of multi-occupancy property entries
 - establish and publish quality control standards for multi-occupancy properties
 - publish the basis on which their data for multi-occupancy properties is collected
 - work with other partners to maintain data on multi-occupancy properties to the highest standards
 - ensure that integrity of cross-references is maintained in their data.

Study of addressing needs and processes

This study examines for a range of key organisations their dependence on addresses, the uses made of them and the problems caused by deficiencies in present addresses data. The organisations covered include local authorities, Valuation Office, Royal Mail, Ordnance Survey, the Land Registries, and the Office for National Statistics, and, at a higher level, the Emergency Services, other Government Departments, Utilities, and the private sector. The study confirms, by implication, the need for a national address and mapping infrastructure, as envisaged in the Acacia vision.

The study suggests that:

- xxvii. The next steps should be
- establishment of a robust governance and management structure, with appropriate Government direction and funding, for development and implementation of the national infrastructure
 - establishment of a central resource for maintenance and dissemination of quality assured data
 - a more detailed requirements analysis (elaborating the present high level review)

- development of optimum processes for address creation and maintenance, reflecting actual data lifecycles
- a feasibility study of technical and business options for implementation
- preparation of a full business case for implementing the Acacia vision and the national infrastructure.

Study of benefits and costs

This study makes a preliminary examination, necessarily highly selective, of the costs and (in particular) the benefits of developing and maintaining a national infrastructure of definitive addresses with the related mapping, readily accessible, as in the Acacia vision. Some key points to emerge are:

- xxviii. Organisations across the economy depend heavily on addresses information and spend substantial sums on address sets and troubleshooting where data are deficient.
- xxix. The six Acacia organisations alone reported spending £15 million a year in this area. Local authorities probably spend at least as much again, not least in user departments, and probably over £100 million a year on related functions.
- xxx. It would be possible to spend either more or less on completing development of the proposed infrastructure than the estimate made last autumn (£15 to 17 million of central development costs, about half of it for Local Authorities to supplement their existing programmes, and annual costs of £2 million financeable from revenues).
- xxxi. The potential benefits foreseen, when multiplied across the economy, are clearly substantial.
- xxxii. The benefits include savings in data collection, handling and maintenance costs, for example in the Land Registries and credit reference agencies (where the report identifies potential savings of over £1 million a year across just three organisations).
- xxxiii. Major savings should be available throughout the local authority sector, especially in the many LA departments that use addresses rather than central addresses departments. To give some idea of scale, savings of staff time equivalent in total to only one or two full-time staff members per district authority would yield savings of some £10 to 20 million a year across England and Wales.
- xxxiv. The business case for the related Valuebill project targets cost savings of £24 million a year and increased revenue of £200 million a year from collection of local taxes. The scope for realising these depends heavily on data quality and access improvements from completing LLPGs and the national infrastructure.
- xxxv. There should also be scope for savings in many other organisations across the economy which have to invest resources in their addresses lists.
- xxxvi. Probably more significant than cost savings are the potential benefits to provision of services (existing and new) in Government, local government and the private sector resulting from quality and access improvements in the data. The report identifies some of these among a very small subset of users. A wide range of other users and stakeholders would be likely to benefit as well.
- xxxvii. In addition to local authority services, emergency services, and property and location related services of all kinds, where the benefits are mostly relatively clear and tangible, such benefits are likely to include significant applications in databases linking persons and businesses with addresses, personal identity

checks, e-delivery of services, information about local populations and policy formulation as well as in other areas not yet identified. The importance of high-quality, up to date addresses data tends at present to be under-perceived.

- xxxviii. As discussed in the addressing requirements and multi-occupancy studies, stakeholders are in no doubt that the status quo is unsatisfactory.
- xxxix. Some benefits can only be realised, and additional costs avoided, if there is certainty about the way forward and clarity about the likely form of the national framework, allowing stakeholders to identify benefits not currently foreseeable. Early resolution of present uncertainties will therefore be important.
- xl. Stakeholders emphasised the need for clarity about access costs, and commercial and IPR arrangements.