
Parcel Management Program Business Plan Template

**February 2006
Version 1**

FGDC Cadastral Data Subcommittee

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Audience:

This document provides a template for state or regional organizations to build a business plan to support the conversion, maintenance, publication and integration of spatial parcel data. The audience for this template are the state spatial data managers that will work with the cadastral community to build a parcel management business plan. State agencies have been identified as the logical developers of these business plans, but it is recognized that some states may chose to organize as a set of regions.

Purpose:

This business plan template has been developed from the components of successful parcel management programs as identified in a seven state survey (Stage, 2006)¹. This template is designed to document and refine existing parcel management programs or to be used as a guide to create a new parcel management program that will:

- 1) assists local governments to spatially enable their parcel data;
- 2) facilitate the publication of a subset of the local data to be used by emergency responders and planners in a regional setting; and
- 3) encourage assistance from the beneficiaries of this spatially enabled data by using standards that will meet a wide user community.

Background

The FGDC Cadastral Data Subcommittee (Subcommittee) has found that there is a growing interest in parcel data for emergency response and regional planning accompanied by a willingness of these programs to provide funding to support the creation and maintenance of published parcel data that is readily available and meets the business needs of the user agency. In a recent survey on the status of parcel information in the 50 states² it was found that parcel automation is largely completed in the urban areas of the United States but there is a need to complete parcel conversion and publication in the more rural areas. Likewise it was discovered that many of the consumer agencies that would utilize this parcel information if it were available are willing to contribute in-kind services or financially for the development of the parcel data. The purpose of the business plan template is to facilitate partnerships between the parcel data producers and potential funding organizations to complete the national parcel coverage and provide ready access to published parcel data.

Each state's institutional infrastructure, the availability of state resources, the status of parcel automation, its geography and demographics will determine how a state designs its parcel management program. The template provides a way of describing the components

¹ *An Assessment of parcel Management Programs in Seven States*, 2006, David Stage (published report is in draft form and will be available at <http://www.nationalcad.org>)

² The results of the 50 states surveys form 2003 and 2005 are available at <http://www.nationalcad.org>

of a state’s parcel management program, the standards or guidelines being used and the strategy for implementation. The completed parcel management business plan will be used by the Subcommittee to facilitate the establishment of federal partnerships to assist with all phases of parcel data automation that result in the publication and maintenance of a statewide parcel data layer.

Production vs. Publication Data:

The Subcommittee has found that there is continued confusion about the production and publication of parcel data and that is useful to review the differences. *Production data* is the parcel data (spatial and attribute information) that are used by the assessor or other parcel data producer to maintain the parcel information and to conduct daily business operations. These are quite complex systems that are updated daily and even though there may be state standards there can be considerable variation between jurisdictions. *Publication data* is a subset of production data consisting of approximately twenty attributes and spatial geometry that is published into a uniform format on an annual update cycle. The publication data standards have been defined by the Subcommittee and are called the Cadastral NSDI Data Standards³.

Parcel Conversion, Integration and Publication:

FGDC Cadastral Subcommittee defined the stages of the Cadastral National Spatial Data Infrastructure (NSDI) and the data components of the published data set in 2004. This information, with slight modification to better illustrate the production and publication environments, is as shown below in Table 1.

Table 1 A comparison between production and publication environments.

Phase	Component		
	Data	Partnerships	Technology
Production Environment	The complex database used by assessors and other data producers to manage their own business needs and to support maintenance which are typically updated on a daily basis. There can be considerable variation between counties (producers)..		
Initial Collection and Conversion	Content standards, CAMA database standards and quality assurance	Data producers, assessors, land surveyors, and supplementary data	Field collection, computational software, and mapping software
Maintenance	Content standards and quality, transactions and currency	Data contributors, Field collection custodianship and stewardship	Mapping and computational software, and data integration tools
Publication Environment	A small subset of the assessor’s data that is updated at least on an annual basis.		
Local Publication and Distribution	Cadastral NSDI Standard, access and currency	Data publishers, distribution and access	Internet tools, data distribution and access tools, access security
Regional or Statewide Integration	Cadastral NSDI Standard, access and currency	Publishers and Data Integrator	Internet tools.

³ *Cadastral NSDI Reference Document*, December 2005, FGDC Cadastral Subcommittee, Internet, [http://www.nationalcad.org/data/documents/Cadastral NSDI Reference Document v4.pdf](http://www.nationalcad.org/data/documents/Cadastral%20NSDI%20Reference%20Document%20v4.pdf)

Initial Collection and Conversion is the phase where landownership, parcel or survey data are first automated. This stage involves collecting existing hard copy information and assembling it into a digital representation. The focus of the Cadastral NSDI at this phase is to identify all of the stakeholders in an area so that a single representation of landownership can be assembled to meet the many needs of the stakeholders. Additionally, the Cadastral NSDI provides a Data Content Standard for production systems that are used to collect and then maintain this information⁴.

Maintenance is the phase where landownership, parcel and survey data are kept current and updated as transactions occur. In this phase updates from transactional information, such as new parcels or new owners, or positional improvements are made to existing digital data sets such as adding new control or improved measurements about existing features. This phase includes the resolution of existing disparate data sets, such as a Register of Deeds System, Assessor information, GIS and land use information into a single representation of cadastral information that can be used by all stakeholders.

Local Publication and Distribution is the phase where cadastral information is made available to all potential users and applications. The data is typically moved from a production environment, where the maintenance and updates occur, to a publication environment where the data is packaged for users and may be made available on the Internet, published to CDs or DVDs or accessed through an intranet network. The content for published data should reflect the Cadastral NSDI Standard⁵. The publication or single view does not have to be a single database as it may be a confederated system that views data from multiple databases.

Regional or Statewide Integration occurs when the published data from available counties or other producers is compiled into a statewide or regional coverage. Pilot projects by the Subcommittee in several areas of the country have found that it is not always necessary to edge match adjoining counties and that it is possible to present the data as is without adjustments. In other cases, poor spatial alignment created confusion about the extent or existence of parcels. In these cases some spatial adjustment was necessary. In either case consistency in the attributes and their presentation is desirable.

Since 2004 the Subcommittee has completed several case studies and inventories to validate and further refine the 2004 findings. This business plan incorporates those findings.

⁴ FGDC Cadastral Data Content Standard version 1.3, May 2003, FGDC Cadastral Data Subcommittee, Internet, <http://www.nationalcad.org/data/documents/CADSTAND.v.1.3.pdf>

⁵ Cadastral NSDI Reference Document, December 2005, FGDC Cadastral Subcommittee, Internet, [http://www.nationalcad.org/data/documents/Cadastral NSDI Reference Document v4.pdf](http://www.nationalcad.org/data/documents/Cadastral%20NSDI%20Reference%20Document%20v4.pdf)

Business Plan Components

The following template provides a list of the components for a state parcel management program, a description of what should be reported for each component along with examples and supporting documents.

Component	Description	Example and Supporting Documents
Managing Agency and Contact Information	Identify the lead agency(s) and a state contact(s) for the program. The state contact should also be registered on http://www.nationalcad.org as the state cadastral contact.	A list of current state cadastral contacts can be found on the land records inventory at http://www.nationalcad.org
Program Overview	A brief description of the state strategy for parcel conversion, adherence to standards and publication of the parcel spatial data and attributes by each of the participating counties or other parcel data producers. The program overview may also include a summary of the business drivers for the program that briefly describe the reasons why the business plan is being developed. The supporting documents refer to several sample case studies that may be used as business drivers. For local governments the primary business driver is often improvements to the real estate tax system.	The Hurricane Isabel and Wildland Fire case studies are examples of business drivers for statewide parcel information. Other business drivers that have been identified include statewide equalization and uniformity of property assessment , economic development, inventories of state and federally owned lands, energy resource management and statewide land use planning. ⁶⁷
Participants	Identify by name or organization the data producers, data integrators and data publishers.	It is anticipated that this would be a continually changing and evolving list and may be maintained on a web page or separate from the business plan document
Parcel Data Inventory	An inventory of the status of parcel data and supplementary data by county. The inventory includes the availability and phase (see matrix above) of the following: <ol style="list-style-type: none"> 1. digital parcel attribute data 2. digital parcel mapping 	The FGDC Subcommittee for Cadastral Data will provide each state with an inventory tool. This tool will be housed through the Subcommittee’s web sites. Information collected through this tool will be incorporated into nation-wide status tracking.

⁶ Stage and von Meyer, *Parcel Data and Hurricane Isabel: A Case Study*, August 2004, FGDC Cadastral Subcommittee, Internet, http://www.nationalcad.org/data/documents/Hurricane_Isabel_Final.pdf

⁷ Stage, von Meyer, Ader, *Parcel Data and Wildland Fire Management*, 2005, FGDC Cadastral Subcommittee, Internet, http://www.nationalcad.org/data/documents/Parcel_Data_and_Wildland_Fire_Management_Final_Oct_2005_c.pdf

	<ol style="list-style-type: none"> 3. parcel data maintenance 4. availability of supporting data that meets stated standards <ol style="list-style-type: none"> a. aerial photography b. orthoimagery c. geodetic control d. corners of common control e. hydrography f. transportation g. soils 5. integration of parcel data across jurisdictional boundaries 6. publication and availability of parcel data 	
Supporting Data	Data needed for parcel conversion or for assessment purposes.	
<i>Aerial Photography and Orthoimagery</i>	<ol style="list-style-type: none"> 1. Guidelines and standards for aerial photography that is acceptable to both the parcel (assessment) and the user community. 2. Brief description of status and state acquisition efforts 	<p>Florida Department of Revenue scope of work for the acquisition of aerial photography. http://www.nationalcad.org/data/documents/FL_Aerial_Photography_Scope_of_Work.pdf</p> <p>Digital Imagery for the Nation, National States Geographic Information Council. http://www.nsgic.org/committees1/documents/Jan%2016%202006%20Imagery_for_the_Nation_Flyer_NSGIC_V14.pdf</p>
<i>Geodetic Control</i>	<ol style="list-style-type: none"> 1. The National Geodetic Survey has standards and processes for this related data element and in many cases a state geodetic advisor can assist with this inventory 2. Brief description of status and state acquisition efforts 	<p>State Geodetic advisors http://www.ngs.noaa.gov/ADVISORS/AdvisorsIndex.shtml</p>
<i>Corners of Common Control (PLSS)</i>	<ol style="list-style-type: none"> 1. This is additional control that ties parcel information to the national geodetic framework. These points are often an inherent part of the parcel information and are classified as a cadastral framework theme. 2. Brief description of status and state acquisition 	<p>Wisconsin point identifier http://www.nationalcad.org/showdocs.asp?docid=156&navsrc=Search&navsrc2=</p> <p>BLM point identifier http://www.nationalcad.org/data/documents/BLM-PointID-standard-summary.pdf</p>

	efforts	
<i>Hydrography and Transportation</i>	<ol style="list-style-type: none"> 1. These themes have been recognized as essential reference themes to support parcel mapping. 2. Brief description of status and state acquisition efforts 	FGDC standards for these themes can be found at http://www.fgdc.gov/standards/standards_publications/index.html
<i>Soils</i>	<ol style="list-style-type: none"> 1. The soils data are the agricultural soil polygons that provide soil type and soil characteristics. 2. Brief description of status and state acquisition efforts 	The Agricultural soils have been automated by the NRCS and information on these are generally available through local county extension offices. http://www.apfo.usda.gov/images/maps/cluallsources.pdf
<i>Stewards</i>	Identification of the principle data stewards (state and federal) for the supporting data	
Training and Education	<p>Training plan including description of</p> <ol style="list-style-type: none"> a) provider agency b) how training will be brought to the counties c) subjects to be covered 	
Status of Phases		
<i>Phase 1 - Parcel Data Initial Collection and Conversion</i>	<p>Mapping Guidelines: Standards or guidelines to assure that the parcel conversion effort uses mapping standards that are acceptable to both the assessor and the user community.</p>	<p>Florida Parcel Data Model Parcel data model adopted by the Florida Department of Revenue. http://www.nationalcad.org/data/documents/FLParcelDataModel.pdf</p> <p>New Mexico The handbook for the local assessors manual http://www.nationalcad.org/data/documents/NM-parcel-handbook.pdf</p> <p>Florida Cadastral Mapping Guidelines Florida Department of Revenue Cadastral mapping guidelines compiled by the Florida Department of Revenue, Property Tax Administration Program, Mapping & GIS Section to provide direction and assistance to the county property appraisers of Florida. The stated objective of these guidelines is to develop a multipurpose cadastre to facilitate the share parcel data among all users. http://www.nationalcad.org/data/documents/FLCadastralMappingGuidelines.pdf</p>

<p><i>Phase 2 - Publication</i></p>	<p>The publication format, attributes and publishing cycle for parcel data to meet regional business needs. Publication data is a subset of the assessor’s parcel database. Regional business needs are those attributes that would be needed to address regional business requirements such as hurricanes, Wildland fires, earth quakes etc.</p>	<p>Cadastral NSDI Reference Document This document describes the data and organizational relationships for the maintenance of the data that is the Cadastral NSDI. This document serves as a standard for the Cadastral NSDI content. http://www.nationalcad.org/data/documents/Cadastral NSDI Reference Document v4.pdf</p> <p>Example from Arkansas cadastral data standard. http://www.nationalcad.org/data/documents/AK Cad_standard_FINAL.pdf</p>
<p><i>Phase 3 - Integration</i></p>	<p>Identification of how the published data can be compiled into a statewide or regional coverage and contact information. Which organization will be responsible for collecting the parcel data from each of the counties? Will there be an effort to integrate this data into a state or regional coverage.</p>	<p>Utah legislation that calls for a state-wide parcel map http://www.le.state.ut.us/~2005/htmldoc/hbillhtm/HB0113S01.htm</p> <p>Oregon program http://www.ormap.org/index.cfm?opt=laws</p>
<p>Contract Management</p>	<p>Contracts and MOUs to ensure the use of appropriate mapping, data sharing and adherence to publication standards.</p>	<p>Arkansas Memorandum of Understanding This MOUS is used to facilitated geospatial technology transfer in support of Arkansas assessors. http://www.nationalcad.org/data/documents/AK MOU AGIO and AACD.pdf</p>
<p>Hardware and Software</p>	<p>State Policy: Describe who, county or state, will be responsible for acquiring hardware and software and how will it be updated.</p>	
<p>Funding Strategy</p>	<p>Identification of funding by the state and the costs share arrangements between the county and the state.</p>	<p>Wisconsin funding model http://www.doa.state.wi.us/section_detail.asp?linkcatid=216</p> <p>Montana legislation http://data.opi.state.mt.us/bills/mca_toc/90_1_4.htm</p>
<p>County Contribution</p>	<p>A policy statement identifying the counties responsibilities. This statement should be included in contract or memorandum of understanding between the grant managing agency and the county.</p>	
<p>Strategic Planning</p>	<p>County strategic plans as to how they will convert the parcel data into a digital product, the maintenance of that data and its publication.. State agency parcel data strategic planning, such as that for state-owned parcels, maybe included.</p>	