Land Parcel Data for the Mortgage Crisis: Results of the Stakeholders Meeting

June 30, 2009

**Prepared by the Federal Geographic Data Committee (FGDC)
Cadastral Subcommittee Mortgage Study Team**

Preface

The Mortgage Stakeholders meeting resulted from a request by the Federal Geographic Data Committee's (FGDC) Steering Committee to the FGDC Subcommittee for Cadastral Data. In October 2008 the Cadastral Subcommittee established the Mortgage Study Team to begin investigating the role of land parcel data and the mortgage crisis. Subject Area Experts, who were added as the project advanced, had unique knowledge of policy or technical issues and were also able to assist with the identification of key stakeholders in both the public and private sector. The registrants (Appendix B) is the complete list of persons who attended the meeting or provided assistance to the Mortgage Study Team through telephone interviews, participation in the Stakeholders Meeting or by providing feedback to the documents.

Cadastral Subcommittee Mortgage Study Team - Steering Committee:

Name	Organization
Nancy von Meyer	Cadastral Subcommittee
David Cowen	University of South Carolina
David Stage	Cadastral Subcommittee
Bob Ader	Bureau of Land Management
Don Buhler	Bureau of Land Management
George Donatello	International Association of Assessment Officers
David Moyer	University of Wisconsin, Madison

Cadastral Subcommittee Mortgage Study Team - Subject Area Experts

Name	Organization
George Beatty	Florida Department of Revenue
Larry Clark	International Association of Assessment Officers
Randy Covington	National Association of Counties (NACo) – Register of Deeds
Stewart Kirkpatrick	Montana State Government
Pierre Le roux	Aero-Metric, Inc.
Willy Miranda	Mortgage Study Team
Susan Marlow	Spatial Data Solutions
Scott Oppmann	ESRI
Jon Sperling	Department of Housing and Urban Development

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Introduction

The Federal Geographic Data Committee (FGDC) Cadastral Subcommittee in collaboration with the International Association of Assessing Officers (IAAO) hosted a meeting of stakeholders in Washington D.C. on May 7, 2009 to explore the potential uses of land parcel data for more effective management of mortgage and financial oversight programs and activities. This meeting was requested as part of the FGDC examination of the recommendations offered in the 2007 National Research Council (NRC) Report *National Land Parcel Data: A Vision for the Future* and is a continuation of related ongoing work of the FGDC Cadastral Subcommittee. Other strong advocates for the meeting were the National Geospatial Advisory Committee (NGAC), The Management Association for Private Photogrammetric Surveyors (MAPPS), IAAO and the Coalition of Geospatial Organizations (COGO). As Michael Howell, Deputy Administrator of the Office of Management and Budget (OMB) and Co-Chair of the FGDC Steering Committee, stated during his welcoming statement:

> "This meeting [Mortgage Crisis Stakeholders Meeting] is very timely, we [OMB] are working across governments and with multiple stakeholders to develop effective responses to deal with the distressed housing and mortgage markets. We need to be open to innovative and creative ways to address this complex set of problems and take advantage of new tools and capabilities to develop effective responses. Parcel data is an excellent case in point. I think you will see from some of the examples today the powerful capabilities that land parcel data can provide when combined with other data sets and analytical tools and technology"

The objectives of the stakeholder meeting were to:

- Seek input and **feedback from key stakeholders on their needs** for land parcel data to support the indicators and measures used for tracking and responding to the mortgage crisis.
- Illustrate **existing tools and sources of data** to support capabilities to effectively utilize land parcel data for tracking and responding to the mortgage crisis.
- Gather information to **produce a report** on the requirements for land parcel data as well as the relationships to other sources of information to support tracking and responding to the mortgage crisis by federal agencies.

There were over fifty participants at the meeting representing federal agencies, state and local governments, non-governmental organizations and the private sector. The morning and early afternoon sessions reviewed the Cadastral

Subcommittee's Mortgage Study Team's initial research on the subject[1]. During a two-hour session in the afternoon the participants were asked to identify indicators and issues that would improve their ability to monitor and respond to the distressed housing market.[2] The following are the findings and recommendations from the pre-meeting research, stakeholder input and follow up discussions.

Findings

Parcel Information:

Parcel information is defined as all the documents, surveys, maps, and information that depict rights and interests in land. It includes information on ownership such as the chain of title and mortgage records, and information on the value of the land and improvements, the address, and the amount of assessments. Broadly speaking, parcel information is used to inform and track information about value, ownership, land use and zoning, address, and legal descriptions. [3] The parcel information required to support the mortgage and financial communities are centered on the value of land and improvements and parcel location information including:

Attribute	Description
Parcel ID	Local parcel identifier
National Parcel ID	Local parcel identifier with jurisdiction code prefixes to make it nationally unique
Site Address	The location address, one parcel may have none, or many site addresses
Improved Value	The total value of improvements on the parcel
Land Value	The total value of the land
Assessor Use Code	The use code assigned by the local assessor
Geometric Representation	The representation of the location of the parcel as either a polygon or a point.

With these attributes and the geometry it is possible to conduct spatial analysis and mapping. Most of the parcels in the United States, approximately 82%, are mapped in a digital format that can be used for spatial analysis.

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[1] http://nationalcad.org/showdocs.asp?docid=1086&navsrc=Project (last accessed May 22, 2009)

[2] The discussion and findings of the indicators can be found at this site http://www.nationalcad.org/projects.asp?projectid=13&navsrc=Projects (last accessed May 22, 2009)

[3] For more information on parcel information see GIS and Land Records, 2004, von Meyer, Nancy, Redlands, California, ESRI Press, ISBN 1-58948-077-5, 169 pages.

Sources of Parcel Data:

Local government assessors collect parcel value information for the purposes of fair and equitable property taxation. The local government source is termed the authoritative source, or "an entity that is authorized by a legal authority to develop or manage data for a specific business purpose." [4] Typically the Assessor is the authoritative source for the value information and often the tax parcel maps that reflect property ownership on a tax roll. The assessor's data is certified after exhaustive quality control. In most jurisdictions the certified assessment roll is updated annually.

While assessors are charged with tracking market values, the actual property transactions are recorded in the Register of Deeds or equivalent local government office.[5] These transactions are used by assessors to obtain sales and ownership information. However, they may not maintain a linkage to specific mortgage and foreclosure related documents. Therefore, most local governments do not operate a "one stop shop" for ownership, value and loan information. In many cases representatives of private firms "harvest" information from local courthouses to provide value added services that assemble and standardize information relating to real estate transactions.

Information Needs of Analysts/Decision Makers:

The information that an analyst needs to address the distressed housing market is similar to the information needed to evaluate a loan application, which includes the parcel information listed above, credit bureau reports, current market value, mortgage loan application information and the current property condition. Mortgage and property information collected by the Federal Government under the Home Mortgage Disclosure Act (HMDA) is aimed at tracking discriminatory lending practices rather than monitoring the current housing market. The HMDA data individual records include a census tract identifier and other jurisdictional information and are updated annually. Although HMDA data is very extensive in its coverage it does not include the entire country and does not track all mortgage activities. The most important issue is that the level of spatial and temporal aggregation currently available from HMDA data does not provide the level of detail needed by analysts that can be provided by authoritative locally maintained parcel information.

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[4] For additional information on authoritative and trusted sources see this Cadastral Subcommittee document. http://www.nationalcad.org/showdocs.asp?docid=1045&navsrc=Report&navsrc2= (last accessed June 9, 2009)

[5] In most parts of the U.S. deed and mortgage recording is not mandatory although in practice most sales are recorded. In some states the amount of the sale price is not required to be reported. Capturing current and accurate sales values is one of the obstacles to overcome in non-reporting states.

Benefits of Parcels:

While HMDA data provides a snap shot in time of a mortgage transaction, local government parcel data provides current information at the individual parcel level that that allows other information such as utility shut offs, code violations and undelivered mail to be tied to a common unit, the parcel. Parcel data makes it possible to relate disparate data together to get a complete picture of individual mortgage and housing conditions. Parcel data also provides the connection to local governments, which can provide community context and engage those most affected by mortgage crisis events.

Early Warning and Triage Monitoring:

Because the distressed housing market, like a contagious disease, tends to infect some communities while leaving others relatively untouched, the strategy for creating an early warning system should be a tiered process that would first identify "hot spots". Within and neighboring hot spots additional and more detailed and granular information could be collected for further analysis. If warranted a third level of detail would follow with the collection of even more detailed information about individual properties. The New York Times developed an interactive web based prototype of such a system for the New York Metropolitan area.[6] In this system trends in foreclosure rates are monitored at the Census Tract level on a regular basis and can be dynamically mapped through time. By zooming into a specific neighborhood one can see a point level pattern of specific foreclosed properties. Several local governments and commercial providers have similar functionality or components of a system that enable the user to interactively obtain detailed information about foreclosed properties. One can quickly find a number of applications that demonstrate the feasibility of such a system that could operate to meet citizen transparency and federal government needs for an early warning system. Appendix A contains a listing of the indicators identified at the stakeholders meeting that could be used to develop such an early warning system.

Existing Applications:

Non-governmental organizations and the private sector have developed applications that demonstrate the benefits of combining the mortgage loan application and current mortgage status data with local parcel information. Some local governments have also developed foreclosure-tracking sites.[7] Generally the existing applications either cover a focused area such as a single county or they cover the most populated areas of the country and are non-existent in under-served communities that are generally more rural and less populated. These applications

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[6] The New York Times interactive map can be viewed at this site http://www.nytimes.com/interactive/2009/05/15/nyregion/0515-foreclose.html (last accessed May 22, 2009)

[7] Orange County Florida has recently launched a foreclosure monitoring site. http://www.ocpafl.org/foreclosures.html (last accessed June 20, 2009)

illustrate the technical feasibility and benefits of using parcel level data as a platform to associate related data sources.[8]

General Findings:

- Local government parcel level information is essential to the monitoring of the distressed housing market.
- Many private firms are actively creating, assembling and standardizing parcel data for a wide range of customers including the Federal Government.
- Currency requirements for monitoring the distressed housing market for transactional data (mortgages and sales) are at least quarterly, with monthly availability preferable.
- The source, age and lineage of all data should be known (lineage being any modifications to the authoritative source).
- Accurate valuing and appraisal of properties, particular in distressed markets which are experiencing rapid changes, requires current (quarterly) information about the property in question and knowledge about the neighboring properties (occupancy, foreclosures, recent sales, etc.).
- Many jurisdictions use annual orthoimagery or oblique imagery to detect changes and to assist with valuation of properties. When change or variations are noted in the imagery field inspections or site visits are initiated.
- The best way to determine the current condition of a property is with a site visit.
- Automated Valuation Models (AVM) are now very mature applications however they are dependent on the validity of the data used in the model.
- Supporting Data: There are a number of indicators that can be acquired from local governments that are predictors of financially distressed mortgages that can be tied to individual properties (utility shut offs, unemployment, occupancy, undelivered mail, zoning violations, etc).
- Credit bureaus can provide compiled statistics on mortgage delinquency rates that could be compiled to census tracts to provide an indicator of potentially distressed areas.

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[8] The morning presentations provided many examples of existing applications. They are available at this site http://www.nationalcad.org/showdocs.asp?docid=1086&navsrc=Project (last accessed May 22, 2009)

Recommendations:

The pre-meeting research and feedback from the stakeholders meeting suggest that there are three key recommendations that could improve the ability to track and monitor the status and progress of mortgage and property value conditions in the U.S.

1. Add the local Parcel ID to the HMDA data

The parcel identification number (Parcel ID or PIN) provides the unique key for linking property to a wide range of attribute information. It is also a critical part of all legal transactions. It would not be a burden for a lender to include the PIN when submitting a HMDA report because it is included in the documentation used to process a mortgage. The PIN provides the link to the local government property assessor's data allowing the mortgage to be accurately located for mapping and analysis of conditions in any neighborhood. This also provides an excellent way to track first time homebuyers and individuals taking advantage of the new Hope for Homeowners and neighborhood stabilization programs. The addition of the PIN would place the transactions into a common location based information platform that could be assessed through a set of web services. Once this platform has been created refinements can be made to utilize records from public agencies or from the private sector.

2. Develop a Parcel Early Warning System

Much as the Center for Disease Control (CDC) tracks early warning indicators for public health, there is a need for a national system that can use early warning indicators of financially distressed housing and mortgage markets. The Stakeholders Meeting identified a range of indicators and these need to be further refined to identify the most appropriate indicators that that could be mapped monthly at the census tract spatial resolution to provide a "dashboard" or quick overview of national trends. By using a system, such as the one deployed by the New York Times or other commercial services, (such as Zillow, RealtyTrac, First American Spatial Solutions, etc.), analysts could establish rules that would trigger reports on exceptional or outlier conditions to identify those census tracts that are trending toward problems, so they could be targeted for the collection of additional detail.   The three levels are:

Early Warning Level: Census Tract geography with monthly data updates displayed with a dashboard map that can be scrolled through time with a presentation of early indicators such as credit reports (percent delinquent mortgage, averaged credits score trends by tract) unemployment or other indicator measures.

Triage Monitoring Level: When a census tract begins to trend in a negative direction, perhaps for one quarter, or starts trending toward a "distressed level" it triggers the collection of additional housing and

mortgage indicators and otherin and neighboring the hot spots.
Response Level: If the results of the triage monitoring validates or further identifies a distress trend then the response level would trigger the collection of even more detailed information in the critical areas and could involve investigations of individual mortgages or properties.

3. Complete the standardization and availability of parcel data nationwide

Although nearly 82% of parcels are available in a digital GIS format, these existing data need to be standardized and the publication and availability of core data needs to be implemented in jurisdictions that currently have limited capabilities or limited distribution policies. However, more than a thousand counties do not have digital parcel data at all. These remaining jurisdictions, which are generally found in persistently impoverished rural areas, need to have their parcels converted to a digital format.

These are three achievable recommendations that could be accomplished with current technology. They would provide a significant improvement in the available information to address the current mortgage crisis and could be achieved quickly.

Suggestions for Implementation of Recommendations:

Establish a National Coordination Work Group:

The FGDC Cadastral Subcommittee, International Association of Assessing Officers (IAAO), HUD and the Census Bureau should form a Task Force or work group to carry out the tasks of completing the parcel coverage, standardizing the existing data and working with states and local governments to host the data, making it freely available for government-to-government data sharing. The Department of Homeland Security has identified the need for parcel data to support disaster response programs and should also participate in this work group. Suggested objectives of the work group would be to:
- Provide support to the Federal Reserve for implementing the changes to HMDA.
- Serve as a liaison between the providers (local governments and state parcel coordinating entities) and the users (federal agencies and nongovernmental organizations) of parcel data and related indicators to facilitate the most efficient acquisition and use of the data to address the mortgage crisis issue and other disasters.
- Explore federal funding mechanisms to address the gaps in the national parcel data infrastructure (in persistently impoverished communities)
- Explore integrating Census geography (blocks and tracts) with local parcel data and providing Census collected address points to local governments for a more seamless representation of related data.

The group should be led by HUD, which is charged through the Office of Management and Budget's (OMB) Circular A-16 with the lead on housing related data sets.

Fund the Work Group through the Relevant Federal Agencies:
The funding for the Work Group should be channeled through the agencies including base operational funding. This would allow agencies to use existing grant making authority and to collaborate on grant requirements and provide guidance and support through the work group.

Additional HMDA Data Enhancements:
The participants identified a number of elements that, if included in the HMDA data, would improve their ability to analyze properties and mortgage conditions once an area has been identified as a *hot spot*. These include:

- Interest rate of loan
- Loan Term
- Loan Pricing Type (ARM or fixed rate) (ARMs tend to default more than fixed rate)
- Broker origination indicator (broker originated loans tend to perform more poorly)
- Age of mortgage lendee (borrower)
- Loan origination data
- Quarterly flags
- Jurisdictions (County, City)
- Multi-family Unit Code (improved discretion of 1-2-3-4 or multiple units)
- Price and Year of Sale
- Site Address (With the addition of parcel id the site address may not be needed)[9]

HMDA Confidentiality Issues: While the HMDA data includes important information about a loan applicant, it does not include the name of the applicant. HMDA data are available from a Federal Reserve web site providing information about income and loan amounts for individual mortgages. This modification would simply provide a way to improve the geographic detail about important property transactions occurring in neighborhoods that should be monitored. Confidential information used by the lending institution to reach a decision would remain confidential.

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[9] The site address is an indirect method of tying a mortgage to a property and subject to many vagaries of street addressing whereas the parcel id is unique and precise, directly linking a mortgage to the local government assessment data.

Mortgage Crisis Hot Spot Indicators:

There are a number of supporting data elements that could serve as indicators that are not collected through the HMDA process, but could be obtained once a national parcel data set was completed. The parcel data set would provide the common platform for integrating this information across the nation in a consistent and uniform basis.

- Utility shut offs
- Credit Bureau mortgage payment status
- Unemployment
- Crime Statistics
- New Housing Starts
- Undelivered Mail
- Zoning Code Violations
- Demolitions

Non-Governmental Organizations: Non-governmental organizations (such as the Urban Institute) are playing a significant role in addressing distressed market issues. The federal agencies should work with these organizations to explore ways of sharing information for the monitoring and recovery efforts.

Private Sector: The private sector has developed a significant number of effective applications and related data sources that can be tied to parcels and used to analyze housing markets. These added value applications could use the improved HMDA data and the nationwide parcel data to improve support for home mortgage decision makers. These applications are being used by some government agencies but strategically the use of these data and applications needs to be further explored for use across all related agencies.

The private sector also plays a large role in the automation of hard copy records. Many local governments contract directly with private companies to perform the conversion of parcels into digital products.

There is also a robust market for collections of parcels in standardized format. Significant business has developed around these collections. Customers for these collections include companies in the real estate sector, utility companies and even the Federal Government. [10]

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[10] A review of some of the major private sector firms was provided in the afternoon session at the Stakeholders Meeting.
http://www.nationalcad.org/showdocs.asp?docid=1092&navsrc=Project (last accessed June 12, 2009)

Appendix A: Indicators Sorted by Warning System Level

The following are a compilation of the indicators of distress or emerging problems that would affect the mortgage status. At the May 7th Stakeholders Meeting the participants provided a wide range of information about properties, people and loans that would be used at various phases of response to the mortgage crisis. This is an edited list that combines some duplicates and classifies the indicators according to the level of use in a proposed warning system.

Early Warning Level – Census Tract geography on a monthly update of a dashboard map that can be scrolled through time with a presentation of early indicators such as credit reports (percent delinquent mortgage, averaged credits score trends by tract, unemployment or other indicator measures).

Triage Monitoring Level – When a census tract begins to trend downward, perhaps for one quarter, or starts trending toward a "distressed level" this would trigger the collection of additional information about the housing, mortgages and other indicators.

Response Level – Finally if an area is identified as a distressed market this would initiate the need for local level response that would include the collection of more detailed information about the geography and may involve individual mortgage or property investigations or reactions.

The indicators are categorized according to their primary source. This is just an indication of the source and will be further refined as the indicators are more defined.

> Loan – Information is on the loan document and may be in HMDA
> Location – Information available if the parcel is mapped
> People – Information about an individual may be in credit bureau reports
> Parcel – Local government property records
> Structure – Information on a specific structure, local government property and permitting files or site visit information
> Support Data – Information that may not be tied to parcels traditionally or comes from a source removed from traditional parcel sources.

Level for Warning System	Category	Description	Notes
Level 1 - Early Warning	Loan	**Foreclosure Status** – where is it in the foreclosure process.	Aggregated to the census tract for the early warning system
Level 1 - Early Warning	Loan	**Mortgage Payment Delinquency Status** - Mortgage payment currency of the scheduled payments	Aggregated to the census tract for the early warning system - percentage delinquent by number of months
Level 1 - Early Warning	Loan	**Mortgage Payment Amount:** Monthly payment amount	Average loan amount by census tract with a range for the early warning system
Level 1 - Early Warning	Location	**Jurisdiction:** What county/city/jurisdiction it is in	What city, county state is the census tract in for the early warning system. As the system drills down more specific taxing district information
Level 1 - Early Warning	People	**Unemployment Rate:** by Census Tract by Month	
Level 1 - Early Warning	Parcel	**Primary Residence:** Is the structure a homestead, is it a primary residence or a rental	Number of primary residences versus rental versus commercial/industrial in a census tract.
Level 1 - Early Warning	Parcel	**Sale Price:** Current verified sale amount	For the early warning component the average sales amounts by month aggregated to the census tract. Categorized by structure use type such as residential, vacant land or commercial/industrial would be helpful
Level 1 - Early Warning	Parcel	**Assessed Value - Standardized**: Date base on the assessed value	**Core Data;** Assess value varies considerably in meaning
Level 1 - Early Warning	Support Data	**Labor Statistics:** New Jobs by sector; community; sic codes; labor statistics; life and death of community there are indicators for community	Can only be applied to "areas" and not to individual properties
Level 1 - Early Warning	Support Data	**Unemployment Compensation:** The state has unemployment records tied to address	Unemployment records are normally confidential in most states. Use restrictions will need to be identified.
Level 2 – Triage Monitoring	Location	**Spatial Relationships - Foreclosure:** Near by foreclosures – these could be found by geography	Having spatially enabled information about anyone indicator will provide relationships to all properties by definition.

Level 2 – Triage Monitoring	Location	**Neighborhood Code** – assessment neighborhood is any area acted on by similar economic factors, other neighborhoods are geographically related.	To be useful beyond the source of origin it would require a definition of neighborhood by the local jurisdiction and ideally a national standard for neighborhoods.
Level 2 – Triage Monitoring	People	**Debt to income Ratio (DTI)**	
Level 2 – Triage Monitoring	People	**Credit Score** at origination – can be any source but have to have the basis of the score so it can be normalized. Credit score needs to be provided on a regular basis to monitor progress	
Level 2 – Triage Monitoring	Loan	**Loan Pricing Type** (ARM or fixed rate) (ARMs tend to default more than fixed rate)	
Level 2 – Triage Monitoring	Loan	**Broker Origination Flag –** Broker originated loans tend to perform less well than other origination types.	
Level 2 – Triage Monitoring	Parcel	**Site Address:** Standardized site address	**Core Data**: Assessor's collect the mailing address of the owner the trend is to also collect the site address. Probably available in most of the large metro areas but it should be researched.
Level 2 – Triage Monitoring	Parcel	**Parcel Id:** _Use_ Standardized parcel id	**Core Data:** Creating a standardized parcel id is a moot point. The standard of parcel id is state, county FIPS code and existing parcel id. This creates a national unique parcel id without impacting local governments.
Level 2 – Triage Monitoring	Parcel	**Land Use Code**: - How the parcel is used and the land use for how it is planned and the land use from the master plan - standardized	**Core Data**; Variation from state to state ranging from as simple as residential, commercial, agriculture to 100 primary and 100 secondary codes. Usually uniform within a state. Complex codes can easily be aggregated to residential, commercial and agriculture.
Level 2 – Triage Monitoring	Parcel	**Multi-family Unit Code - Standardized:** 1-2-3-4 or multiple units on property; 1-2-3-4 (more than this is multi-family units) condos are handled individuality	HMDA (Multifamily Yes/No) Needs more discretion.

Level 2 – Triage Monitoring	Parcel	**Assessed Value:** Taxed assessed per year property tax bill	**Core Data**: The meaning of "assessed value" has a wide range of meanings; Standard is to include the State and County FIPS codes with the parcel id to provide a unique number. It is unrealistic to change parcel number.
Level 2 – Triage Monitoring	Parcel	**Condition of Property:** quality rate; quality of construction	
Level 2 – Triage Monitoring	Parcel	**Time on Market** - when was the property listed and how long has it been on the market	MLS listing information
Level 2 – Triage Monitoring	Structure	**Occupancy Status**: tenure of owner/rent/no one home	There is a mixture of information for occupancy from the assessor to local government data sources. Homestead exemption means the owner lives there; utility shut off, undelivered mail are examples of indicators of occupancy.
Level 2 – Triage Monitoring	Structure	**Undelivered Mail - Occupancy Status**	
Level 2 – Triage Monitoring	Structure	**Utility Shut Offs - Occupancy Status**	
Level 2 – Triage Monitoring	Structure	**Zoning and Code Violations** like failure to shovel snow or mow grass or algae pools	From local permits and zoning code enforcement actions
Level 2 – Triage Monitoring	Structure	**Demolitions**	
Level 3 - Response	Support Data	**Crime:** Reported by smallest level of granularity (coordinates)	May need to develop categories of crimes that relate to property issues
Level 3 - Response	Support Data	**Flood Insurance:** Does the house carry flood insurance	Insurance firms or private sector
Level 3 - Response	Loan	**Action Taken**	Loan Originated; Approved not accepted; Denied; Withdrawn by applicant; File closed for incompleteness; Loan purchased by institution; Preapproval request denied by financial institution; Preapproval request approved by not accepted (optional reporting).
Level 3 - Response	Loan	**Gross Annual Income**	In thousands of dollars
Level 3 - Response	Loan	**Application Date**	No, Yes, Not Available

Level 3 - Response	Loan	**Loan Origination Date**	HMDA currently has application date and the status of loan within a given year.
Level 3 - Response	Loan	**Deed Restrictions**	
Level 3 - Response	Loan	**Channel of Origination** for loan; mortgage broker or bank name of the comply	Arm length sales (ALS) are sales that are carried out under normal market conditions. Short sales, nominal sale for property transfers are not considered arms length sales. ALS are the only sales that should be used in Automated Valuation Models (AVM) under normal conditions.
Level 3 - Response	Loan	**Property Liens**: Mechanic liens / lis pendens / legal financial actions against the property	
Level 3 - Response	Loan	**Lien Status**	Secured by first lien; Secured by a subordinate lien; Not secured by lien; Not applicable
Level 3 - Response	Loan	**HOEPA**	HOEPA loan, Not HOEPA
Level 3 - Response	Loan	**Mortgage Balance:** Amount of mortgage remaining.	
Level 3 - Response	Loan	**Personal Income**: Income of the mortgage holder	
Level 3 - Response	Loan	**Transaction Attempts**: How many times has the deal been shopped?	
Level 3 - Response	Loan	**Profile of Mortgage Applicant:** Age, gender, race, ethnicity of the head of household or loan originator	
Level 3 - Response	Loan	**Loan Purpose**	Home purchase; Home improvement; Refinance
Level 3 - Response	Loan	**Sale Type:** Type of sale - arms length (fair sale); short sale; stress sale; etc	Can this come from the assessor?
Level 3 - Response	Loan	**Loan Term (Years)**	
Level 3 - Response	Loan	**Loan To Value Ratio (LTI)**	
Level 3 - Response	Loan	**Conventional, FHA, VA, FSA/RHS**	
Level 3 - Response	Loan	**Home Equity Loans:** These are in addition to the home loan, how many and what value	Loan type in HMDA (Home purchase, Home Improvement, Refinance)
Level 3 - Response	Loan	**Interest Rate:** subprime/term	

Level 3 - Response	People	**Employment Status:** of owner	
Level 3 - Response	People	**Properties Owned by Person**: How many structures does the person own	A first cut can be acquired by matching name and tax mailing address.
Level 3 - Response	Parcel	**Zoning Data**	Challenge: Zoning information is not the same as the Assessor's land use code and is typically not included in the Assessor's records. Zoning is typically the responsibility of *city councils* and *county commissions* and the zoning can change at any meeting. Although the data (zoning and the Assessor's land use) is tangentially related it is rarely synchronized. Boundary files for "zones" are dubious so spatial analysis is difficult without local knowledge.
Level 3 - Response	Parcel	**Sale Price:** Current verified sale amount	The current sale price shows up in the Assessor's record approximately 3 to 6 months after the transaction depending upon the jurisdiction. The MLS is probably more current but is not compiled nationally. This is being worked on.
Level 3 - Response	Parcel	**Year of Sale:** Year of the transaction	Definition varies; Date could be last improvement to property which could be an addition. Histories may not be kept or limited although the trend is towards a more historical record. This item would have to be looked at carefully for State to State. One might have to look at the mortgage history.
Level 3 - Response	Parcel	**Area of Lot:** Standard description of (lot size the size of the parcel, legal description of the boundary in a standardized format) or derived from geometry	
Level 3 - Response	Parcel	**Perimeter** measurement of structures	Part of a normal assessment.
Level 3 - Response	Parcel	**Area of Structure**: Size – square foot of living area	Not zoning.
Level 3 - Response	Parcel	**Parcel Age:** When was the parcel first platted or created	
Level 3 - Response	Parcel	**Easements** on the property	

Level 3 - Response	Parcel	**Comparable Sales**; True comparable sufficient to get comparable – comparable bed rooms, construction material, roof type, condition, bathrooms	
Level 3 - Response	Parcel	**Condition of Property**: Interior inspection of the foreclosure property and the same for the non-foreclosed property at the time of sale or transfer	
Level 3 - Response	Structure	**Permits**; what permits have been issued and what is their status	
Level 3 - Response	Structure	**Picture of the Structure** ground or oblique	
Level 3 - Response	Structure	**Structure Type -** Mobil or manufactured home, custom or spec home	MLS listing information
Level 3 - Response	Structure	**Persons Per Structure:** Home many people are in the structure	
Level 3 - Response	Support Data	**Flood Plain Status**	Spatial Relationship issue. In or out of flood plain. Flood plain maps can be overlaid on parcels to determine if the property is in or out of a flood plain.

Appendix B: Stakeholder Meeting Registrants

The following table is a list of the registrants of the Stakeholders Meeting. Although some registrants were not able to attend because of last minute scheduling problems all were sent the pre-meeting documents and asked to review the Preliminary Findings.

First Name	Last Name	Organization
Bob	Ader	BLM Co-Chair - FGDC Subcommittee for Cadastral Data
George	Beatty	Florida DOR
Stafford	Binder	USGS - FGDC
Don	Buhler	BLM Co-Chair - FGDC Subcommittee for Cadastral Data
Bill	Burgess	National States Geographic Information Council (NSGIC)
Billy	Burle	Smart Data Strategies
Glenn	Canner	Federal Reserve Board
David	Chadwick	First American Federal Solutions
Kee Nam	Cheung	Housing And Urban Development (HUD), Office of Policy and Urban Development
Larry	Clark	International Association of Assessing Officers (IAAO)
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