

**Testimony of
Susan Marlow
on behalf of
MAPPS
Before the
Subcommittee on Oversight and Investigations
House Committee on Financial Services
U.S. House of Representatives**

**Hearing on
“Utilizing Technology to Improve TARP and Financial Oversight”
September 17, 2009**

Mr. Chairman, members of the Subcommittee, it is my privilege to testify before the subcommittee on behalf of MAPPS (www.mapps.org), the national association of more than 160 private geospatial firms throughout the United States and around the globe. I have the pleasure of serving as chair of the MAPPS Cadastre Task Force and I was a member of the National Research Council/National Academy of Sciences committee on Land Parcel Databases that produced the report, *National Land Parcel Data: A Vision for the Future*. I am also the President of Smart Data Strategies, Inc. (SDS), a woman owned business in Franklin, TN, established in 1989. SDS provides software and services for parcel systems, land inventories, and asset management.

There are countless reports detailing the devastating effects foreclosures have had on our society. Foreclosures not only have a national and international financial impact, but adversely affect neighborhoods and communities through a rise in crime, theft, and vandalism, blight, and unsafe health conditions. When homes are abandoned, an Urban Institute study shows there is a negative impact on school age children’s behavior and social development such as the disruption of routines, changing schools, and an increase in dropout rates.

The right to private property ownership is an important characteristic of any free and democratic society; it’s why it is part of what we call “the American Dream”. The current mortgage crisis leaves no doubt that land ownership and the associated rights, interests, and value of property are fundamental to our entire socioeconomic system. Therefore, it is imperative that we utilize available technologies, such as parcel-based geospatial data and systems, to monitor and protect something so vital to our country’s well being.

As the owner of a small geospatial business with many government clients, I have seen the geospatial market mature, both technologically and professionally. The introduction of Google Earth and Microsoft Virtual Earth and the disasters of 9/11 and Hurricane Katrina have all had a significant impact on the rapid adoption and application of location based technologies. The geospatial market is expanding into every area of business through the enhancement of visualization and analytical capabilities. The use of this decision support technology has been identified as critical to all levels of government. While significant milestones have been accomplished by Federal agencies in the adoption of this technology, the proper tools and data are still not implemented to monitor and track our greatest assets. By comparison, many industrialized nations throughout Europe, Asia, Africa, and Latin America already have a “cadastre” or national parcel database with many of them being funded by U.S. tax dollars through the World Bank and other multilateral institutions. The US has the intellectual capital and the technology necessary to create the most accurate geospatial database in the world by coordinating efforts and funding, establishing and implementing standards, and utilizing such data to address national issues.

When faced with a crisis it is important to look back, not to point fingers or play the blame game, but to determine how we got here, ascertain if it could have been prevented or minimized, and how we could learn

from it in order to recover and prevent future crisis. A study for Washington, DC's Department of Insurance, Securities, and Banking by the Center for Responsible Lending, the Urban Institute, The National Reinvestment Coalition, Capital Area Asset Builders, and The Reinvestment Fund did just that and discovered that if you have the right tools and the right data in place you could build predictive models using very basic statistical analysis that accurately forecast where foreclosure and delinquency hotspots are likely to occur, thus providing an early warning system.

The "right data" is the most important element in that statement. Today, many analysis and decisions are being made using the wrong level of geography. The Census tract data that is being used was created by forming blocks and tracts that were logical for counting people. They were divided by cultural features such as roads, creeks and natural boundaries. There was not a need to have very accurate block boundaries since they were just a representation for the purpose of grouping information about people. If you overlay the Census blocks on an accurate parcel layer you can quickly see that the Census blocks are off by as much as 150 feet or more. This puts individual parcels in the incorrect census block for analysis purposes.

The parcel layer is much more detailed and includes the information required for an early warning system. It contains information about the value, improvements, taxes, and something that none of the current mortgage datasets, including the Home Mortgage Disclosure Act (HMDA), maintain – the physical location of the property. The parcel layer is collected at a local level primarily for tax purposes which means that each local jurisdiction has the ability to define their own data standard based on their unique needs. There are some 3200 counties in the United States and as a result, when it comes to parcel data, there are 3200 plus puzzle pieces that don't quite fit together. However, with the proper coordination, they certainly could. While millions of dollars are spent on the creation and maintenance of this data at the local level, the investments are not being realized at the Federal level due to a lack of coordination.

For decades, numerous reports, analyses, and studies have recommended the use of parcel data at the national level and called for improved national coordination. Of particular note are the following studies:

The Need for a Multipurpose Cadastre (1980) recommended a nationwide land parcel system with strong coordination from the Federal government. It is astonishing to note that the National Research Council/National Academy of Sciences found that the technology at that time (1980) was adequate for the task, but major obstacles to its establishment are "organizational and institutional".

Toward a Coordinated Spatial Data Infrastructure for the Nation (1993) helped define the National Spatial Data Infrastructure (NSDI), established by President Clinton in Executive Order Executive Order 12906 and later reaffirmed by President Bush, which established seven framework layers of geospatial data for Federal investment -- geodetic control, parcels (cadastral), orthoimagery, elevation, hydrography, administrative units, and transportation. Sadly, now fifteen years later, not only is the NSDI not complete, but there is no record of how much progress has been made on any of the framework layers. Parcels have received the least attention at the Federal level.

Curbing Predatory Home Mortgage Lending (2000) in the report of the National Task Force on Predatory Lending chaired by Secretary Cuomo and Secretary Summers, it said "FHA will customize data from its Neighborhood Watch system to develop early warning indicators of emerging foreclosure 'Hot Zones' ... help local officials better assess real estate trends and spot possible patterns of appraisal abuse ... This public information will include performance data on individual appraisers generated by the Credit Watch for Appraisers system and posted on the HUD website." This was never done.

GIS for Housing and Urban Development (2003) conducted by the National Research Council found "The development of a parcel-level layer for metropolitan areas is particularly important to HUD, to the

communities HUD serves, and to national initiatives, including the NSDI”, “PD&R (HUD Office of Policy Development and Research) should take the lead within HUD in efforts to integrate grantee and other data at different levels: parcel, neighborhood, municipality, school and school district, metropolitan area, state, and national” ... “HUD should promote the development of a parcel-level data layer and other urban framework layers to create a USDI as a component of the NSDI for housing and urban development” and “HUD should promote the development of a parcel-level data layer and other urban framework layers to create a USDI as a component of the NSDI for housing and urban development. The Federal government should make available resources commensurate with this task”. None of this has been done.

National Land Parcel Data: A Vision for the future (2007) conducted by the National Research Council reviewed the 1980 report as well as the current status parcel data in the United States, concluding that a national property database is necessary, feasible, and affordable, and recommending several steps for implementation.

Land Parcel Data for the Mortgage Crisis: Results of the Stakeholders Meeting (2009) concluded 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 Home Mortgage Disclosure Act (HMDA) data, (2) Develop a parcel early warning system, (3) Complete the standardization and availability of parcel data nationwide.

There is increasing discussion in international political, financial and professional forums that the failure of the United States to utilize a national parcel system resulted in the lack of an early warning system that could have prevented the worldwide financial crisis. For example, the Hon. Gary Nairn, Australian MP and a professional surveyor, said, “The financial crisis is impacting worldwide ... it could have been avoided or at least better contained if the United States had a better land administration system that was truly spatially enabled.” (*Coordinates Magazine* July 2009).

We have all seen the infamous John Snow maps plotting the incidence and location of cholera in London in 1854, just as we have recently seen in the newspapers or on television maps showing the spread of the H1N1 “swine” flu. A national parcel system can be a visualization and analytical tool so we can also see the geographic location, distribution and spatial relationships of foreclosed properties. As my chairman and colleague on the NRC panel, Dr. David Cowen has said, “The Centers for Disease Control (CDC) may not be able to prevent a hepatitis or salmonella outbreak, but the incident reports are essential to limiting the spread and controlling the progress. Similarly parcel data and its associated attributes if monitored could serve a similar function for monitoring the health of the economy. Detecting ‘outbreaks’ of foreclosures or under water mortgages could allow for early intervention.”

MAPPS Recommendations:

On the topic of developing a parcel ‘early warning system’, I want to highlight a bill before the Financial Services Committee. On February 10, 2009, Representative Tim Ryan (D-OH), introduced H.R. 932 to authorize the HUD Secretary to make grants and offer technical assistance to local governments and others to design and implement innovative policies, programs, and projects that address widespread property vacancy and abandonment. Section 3 of the “Community Regeneration, Sustainability, and Innovation Act of 2009” allows grants for the development of data and information systems such as comprehensive real property systems, early warning systems, and vacant property inventory and tracking systems. MAPPS commends Mr. Ryan’s foresight, but urges clarification on the use of geospatial technologies to enhance the goal of the legislation.

On the topic of the Troubled Assets Relief Program (TARP), I want to highlight another bill before the Financial Services Committee. On March 2, 2009, Representative Carolyn Maloney (D-NY) introduced H.R. 1242 to amend the Emergency Economic Stabilization Act of 2008 to provide for additional monitoring and

accountability of the Troubled Assets Relief Program. Section 1 of H.R. 1242 requires the Treasury Secretary to keep an updated database for oversight and inspection purposes so as to increase accountability and additional monitoring. The Secretary is then instructed to compare data from this database with data from other sources. The database is to serve as a repository for regulatory filings, among others. MAPPS respectfully urges that a geospatial component or geospatial reference be included to the database to help graphically detail where TARP expenditures have occurred or will occur. This alteration to the bill will greatly enhance the Secretary's ability to increase the monitoring and accountability of TARP funds.

On the topic of a National Land Parcel Database highlighted in the 2007 National Academy report, I want to highlight a bill, recommended by that report, pending before the Natural Resources Committee. On March 16, 2009 Representatives Ron Kind (D-WI) and Rob Bishop (R-UT) introduced H.R. 1520, the Federal Land Asset Inventory Reform (FLAIR) Act of 2009. This legislation called for the Federal government to act on the recommendations by the Government Accountability Office and the National Research Council to create an inventory of all Federally owned properties. The current status of existing inventories of Federal properties is known to be unacceptable. They are incomplete, outdated, and inaccurate thus resulting in excess and underutilized property, deteriorating buildings, and the continuation of costly accounting and leasing errors. MAPPS respectfully urges Congress to enact H.R. 1520 and encourages members to join as bipartisan cosponsors to the bill.

Conclusion:

Mr. Chairman, nearly 30 years of reports and research have called for the parcel layer, yet it remains unfunded and incomplete. The problem is not technical, it is political and institutional. While FedEx can track the location of millions of packages per day moving around the world, the Federal government does not track the location of land, and it is stationary. While the Federal government has identified numerous needs for parcel data such as efficient emergency preparedness and response, disease tracking, agricultural management and land use, community development and zoning, energy and resource development, asset monitoring and tracking, there still is only sporadic use due to the lack of availability and accessibility of usable parcel related data as a result of failed coordination between local, state, Federal, and tribal agencies.

When one looks at the agenda for this Congress, including the Financial Services Committee, one sees an almost endless list of programs and national priorities that require geospatial data, including parcel data, that should be provided by the NSDI, but which cannot be implemented today because of the Federal government's failure. These include:

- Mortgage Crisis, Financial Reform
- Health Care Reform
- Climate Change and Cap & Trade
- Smart-Grid Energy
- Green Jobs
- Highways & Transportation
- Sustainable Development/High Performing Communities
- Emergency response & FEMA Flood Insurance and Flood Mapping Reform
- Homeland & National Security & DHS Reauthorization

Mr. Chairman, we commend you for your interest and leadership and we stand ready to work with Congress and the Executive Branch to better serve the geospatial needs of the American people in financial services oversight and a variety of other national needs and applications. The technology exists, a robust, qualified and competent private sector is in place, and the solutions are waiting to be implemented. What is lacking is demand-driven leadership from the Federal government.

Biography of Susan Marlow

Susan Marlow is Founder and Chief Executive Officer of Smart Data Strategies, Franklin, TN.



Ms. Marlow has successfully and personally managed hundreds of cadastral conversion projects in her career and has in-depth knowledge of the conversion and the software implementation process. She has been a leading advocate of the importance of the property layer as one of the NSDI foundation layers of information and involves herself in many movements to promote a unified local, state, and national property database sharing initiative. As an organization, Smart Data Strategies has touched more than fifteen percent of the nation's properties with either its conversion services or the implementation of the SDS DREAMaps™ software suite.

Ms. Marlow's professional activities include:

- Chairman, Transportation Research Board (TRB), Panel for Integrating Geospatial Technologies into the ROW Process
- Member, National Academy of Sciences Committee Land Parcel Databases: A National Vision
- Chairman, MAPPs Cadastre Task Force
- Member, MAPPs Legislative Affairs Committee
- Member of the Federal Geographic Data Committee (FGDC), Cadastral Sub-committee
- Chairman of the Board, Institute for GIS Studies (IGISS)
- Certified IAAO Instructor for "GIS for Assessors"
- URISA Instructor for "Introduction to GIS"
- Contributing Author to "IAAO/URISA GIS for Assessors"
- Chairman of the 1st Annual Integrating GIS and CAMA Conference

Member, International Association of Assessing Officials

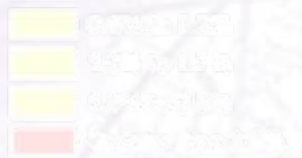
A National Parcel Database

*Monitoring, Predicting, and Protecting
the American Dream*

Smart Data Strategies

Presentation for

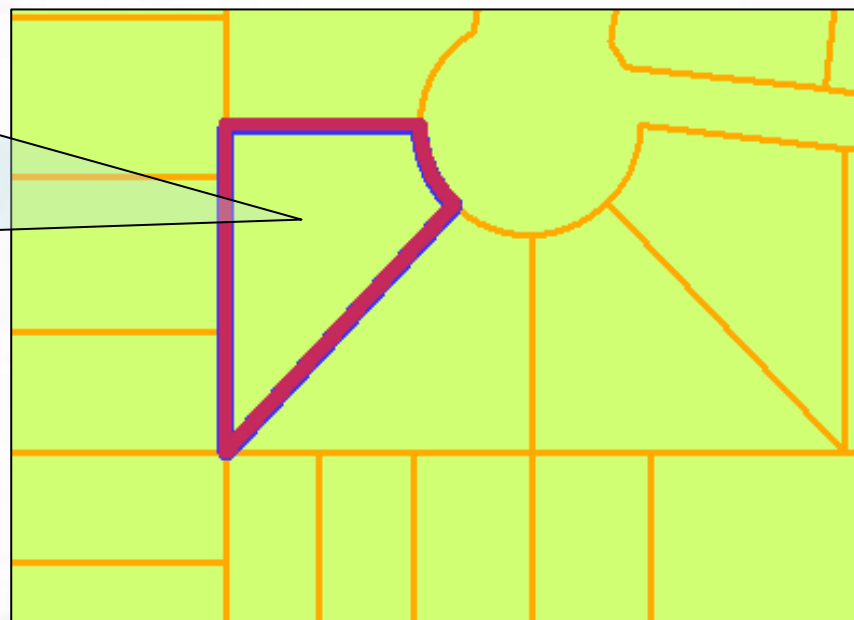
The Federal Government



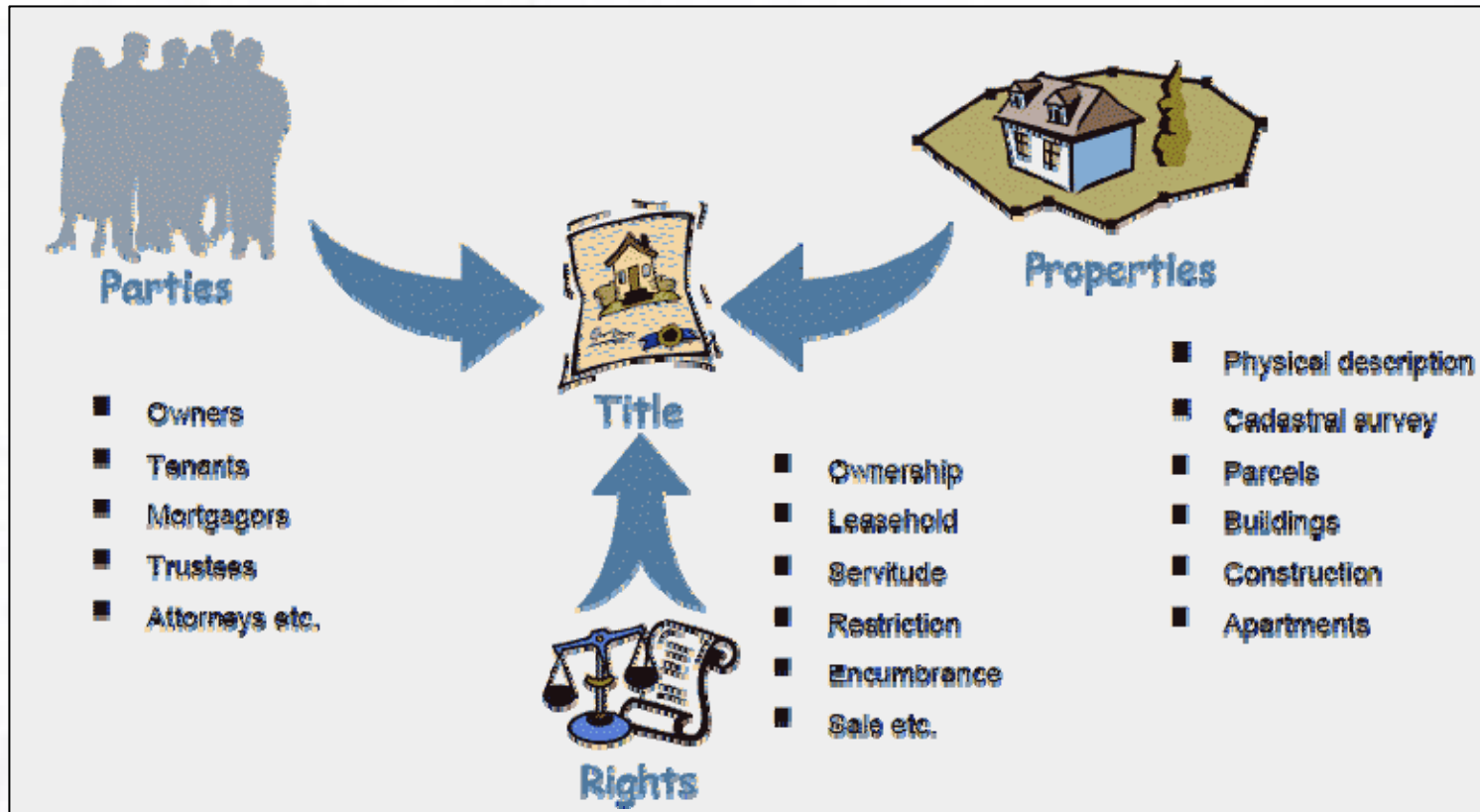
What is Parcel (Property) Data?

Parcel Data contains all of the information needed to describe the rights, interest, and value of real property. A Land Parcel Database (or Cadastre) is an inventory of parcels in a jurisdiction.

- Street address
- Owner information
- Sales price
- Appraised value
- Land value
- Improvements value
- Lot size
- Land Use
- Deeded acreage
- Property type
- Mortgage information
- Etc.



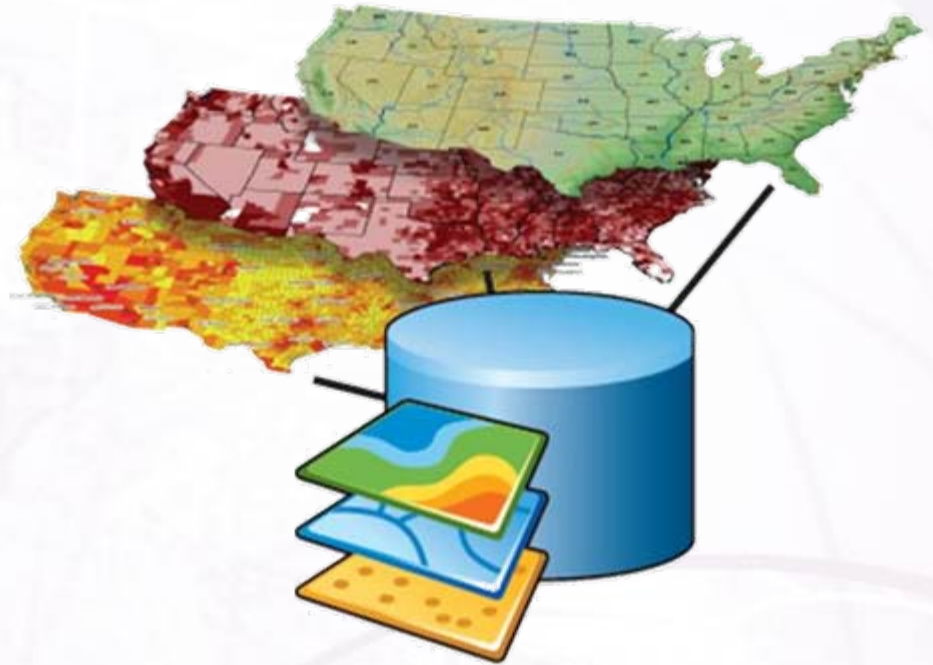
Land ownership is the foundation of the financial, legal, and real estate systems of our society



The current mortgage crisis makes this painfully obvious

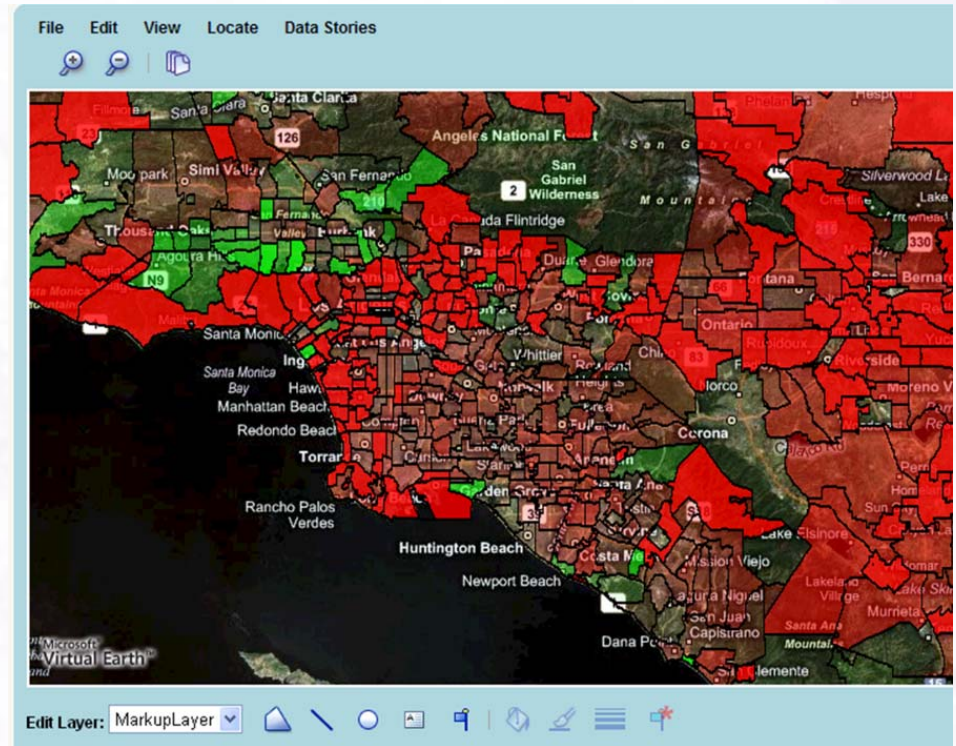
The Power of The National Parcel Database

- **Manage**
- **Monitor**
- **Predict**
- **Prevent**



Predict

- **Analysis** – *Set up national models and trend lines (home values compared with median income)*
- **Identify** – *Easily identify what areas are likely to be affected next (hot zones)*
- **Act** – *Predictions lead to early action which leads to prevention*
- **Visualization** – *Like the weather, if you monitor it, you can learn to predict it*



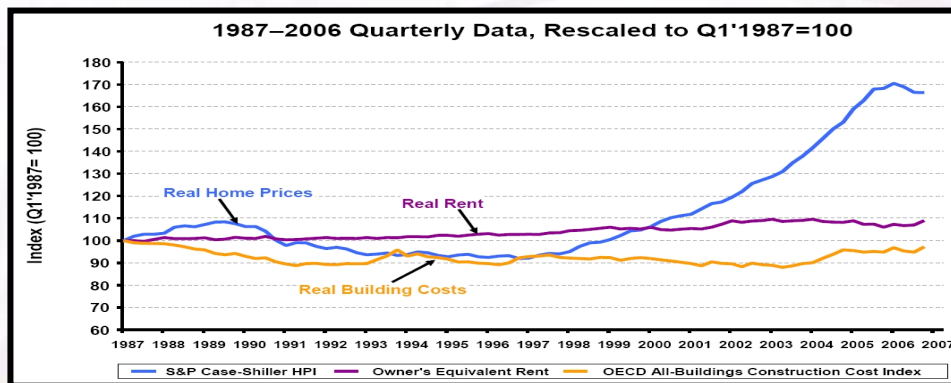
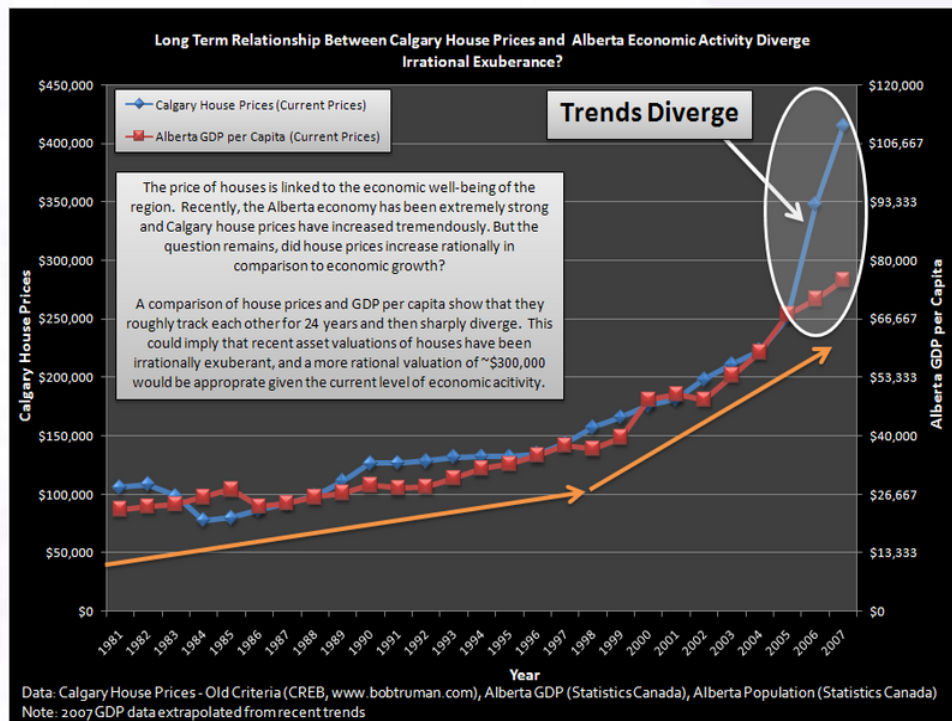
Actual changes in home values
November 2006 – August 2008 based on parcel data

Prevent

If you are tracking and monitoring specific items and events you will have an “**early warning system**” to respond to clusters before they become national epidemics

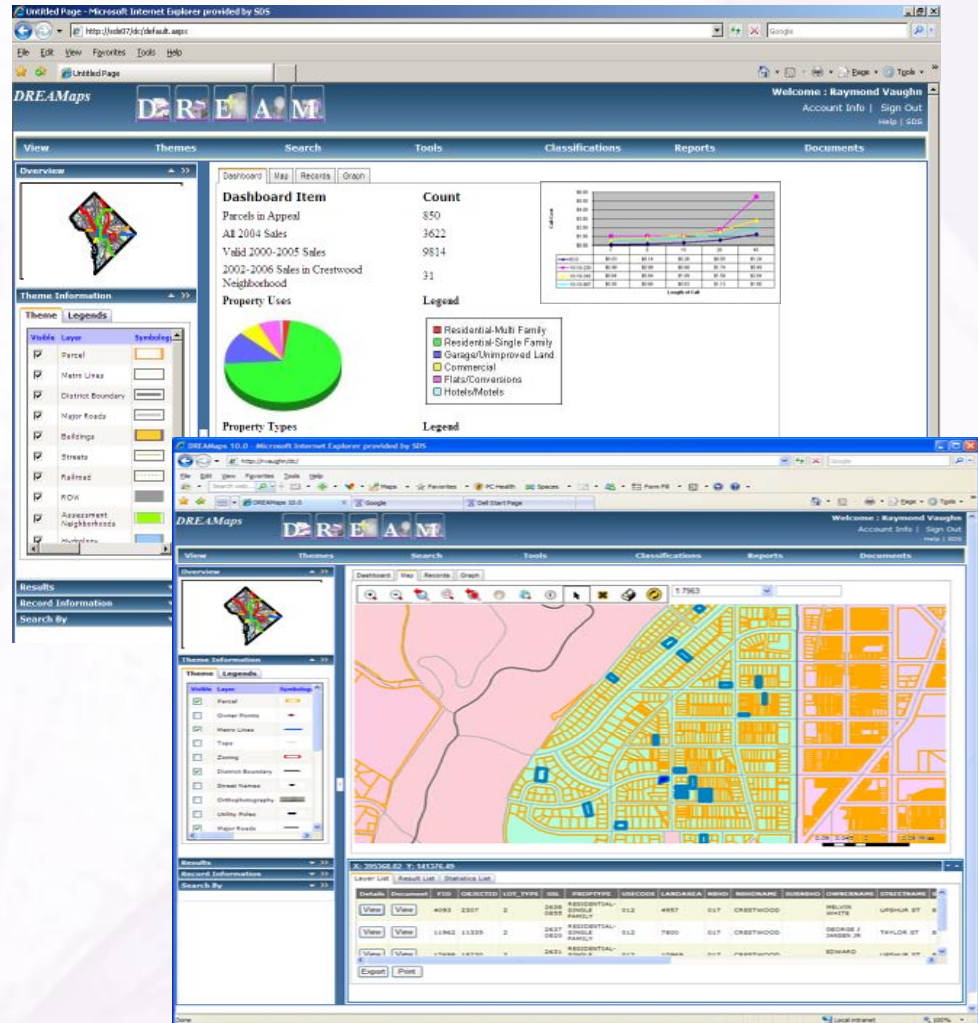
Possible Red Flags:

- Changes in National Trend Lines
- Home Values vs. GNP
- Overlays with additional datasets
- Mortgage resets, defaults, etc.



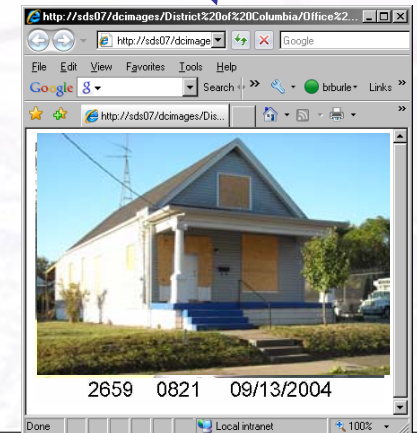
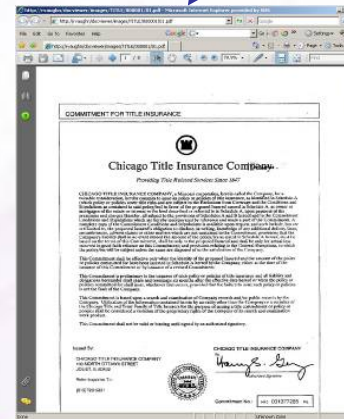
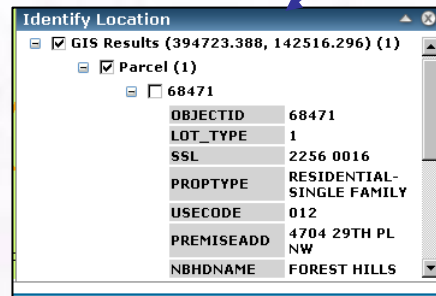
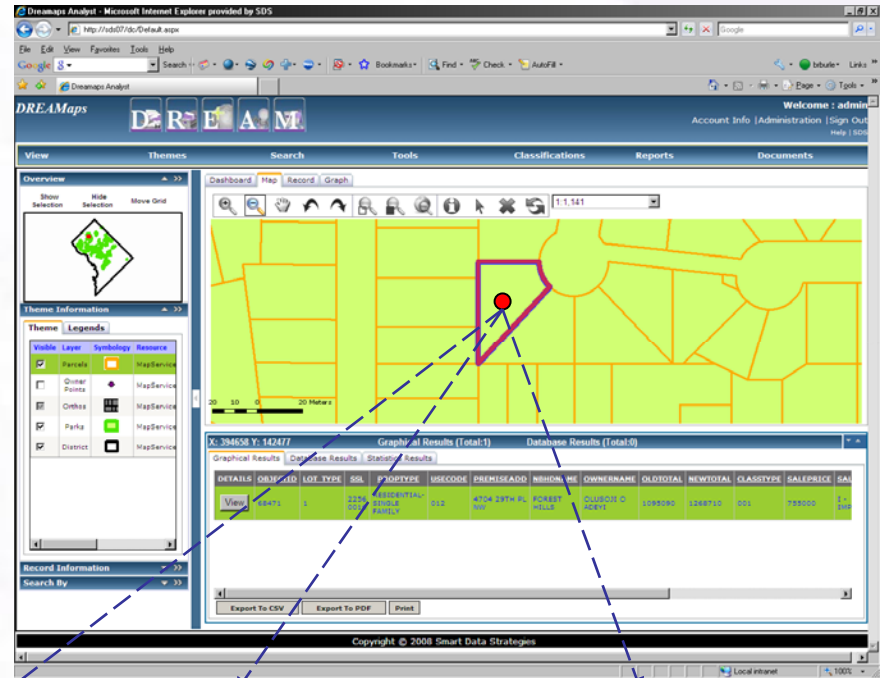
Monitor

- **Visualize** – See property data on a map in near real time
- **Analyze** – Perform statistical analysis including analyzing comps, sales ratios, and property values at a national level
- **Identify** – Utilize an “Executive Dashboard” to monitor events and identify national trend lines
- **Report** – Run user defined manual reports or set up automatic reports that are delivered to email addresses



Manage

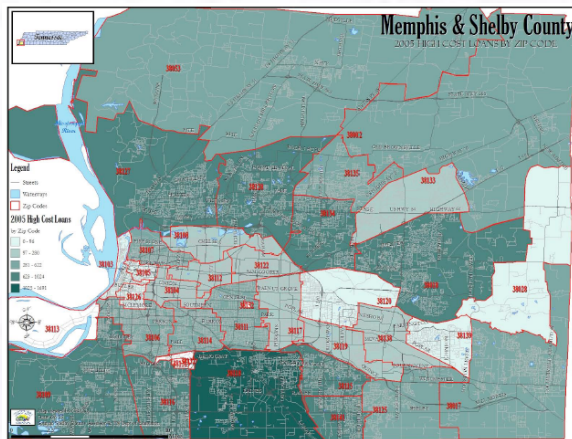
- **Inventory** – *Identify where assets are, what they are worth, and who holds the mortgage*
- **Acquire** – *Proper management of the acquisition process*
- **Dispose** – *Proper management of the disposal process*
- **Visualize** – *See where assets are on a map as well as where they are in the process - “A picture is worth a thousand words”*



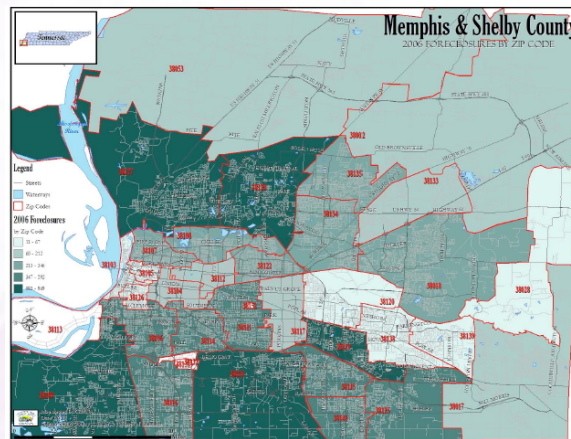
What Could Have Been Done With Parcels

- Identified “Hot Zones” or clusters at the parcel level to react before a national disaster occurs
- Provided targeted prevention outreach to areas with high probability of foreclosures to help stop the cycle of poverty
- Maintain an accurate inventory of assets and their value to facilitate transparency of MBS and CDOs so losses couldn’t be buried or hidden
- Assessed Real Estate trends to identify patterns of appraisal abuse, inflated home values, reverse red-lining, etc...

2005 High Cost Loans



2006 Foreclosures



Parcel Data Vs. Census Data

- Census data is inaccurate at the parcel level
- Census level data is updated every ten years
- Parcels change every day
- Foreclosures happen per parcel
- Parcels provide the true gauge of anything happening at a property level

Decisions and policies should be made using the proper granularity of data



Provided by Dr. David Cowen, Former Chair of the Department of Geography, University of South Carolina, Chair of the 2007 NRC Parcel Committee

Location, Location, Location

This is happening at a parcel level NOT a census block level

- Each foreclosure **reduces the value** of properties within 1/8 mile **by 0.9% to 1.1%** (Immergluck and Smith, 2006a)
- An increase of one standard deviation in foreclosures can **increase violent crime** in the vicinity by **6-7%** (Immergluck and Smith, 2006b)
- Each foreclosure leading to **vacancy** will trigger local government costs of **\$5,000 to \$34,000** (Apgar and Duda, 2005)
- **50%** of foreclosed properties have suffered **significant property damage** before becoming REO property (Geosegment Systems, 2008)



Providence Rhode Island (source-Provplan.org)

- Buffers are 50 and 100ft
- Red is violent
- Orange is property damage
- Green is other
- Blue are calls

Figures from presentation given at 2008 Federal Reserve Symposium

Authoritative Source for Parcel Data

Local Taxing Jurisdictions

Local governments process real estate information on a **daily basis** from recorded documents, assessment data, and parcel maps

- Most current information
- Most accurate information
- Baseline of value
- Best indication of economic activity
- Common denominator of land
- It is the public record



Local, State, and Federal Government

Local Governments – Appraise or value property for taxation purposes - property tax is the largest component of local governments income / revenue

State Governments – Oversight activities as a means to properly distribute funds and tax revenues

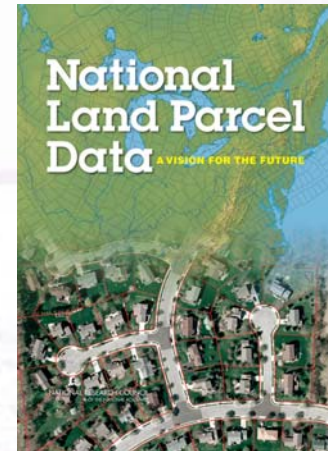
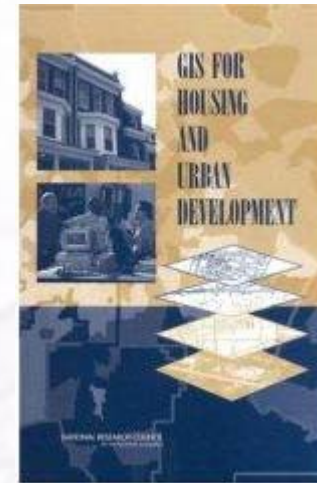
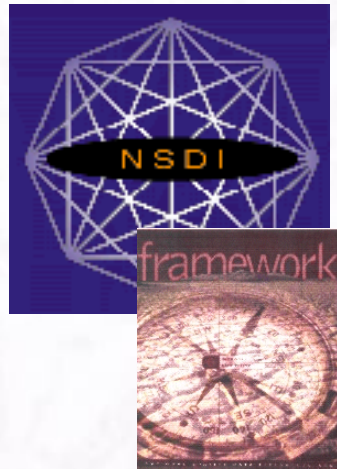
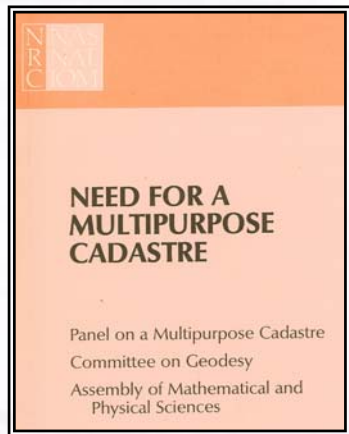
Federal Government – Sporadic use of parcel data with **no coordinated efforts from state to federal government**



Nearly 30 Years of Reports Have Called For It

The federal government has released report after report after report calling for action

Billions of American tax dollars have gone to foreign countries to do the same thing leaving the US behind most industrialized nations



1980 NRC Report

1994 NSDI Formed

2000 HUD Report

2003 HUD Report

2007 NRC Report

The 2000 HUD Report

In April 2000, The National Task Force on Predatory Lending (HUD-Treasury Task Force)

Chaired by Secretary Cuomo and Secretary Summers

Curbing Predatory Home Mortgage Lending

“Despite these gains, too many low- and moderate-income families have seen the dream of home ownership become a **nightmare because of predatory or abusive lending practices.** These practices are concentrated in the subprime mortgage market, where record numbers of Americans are refinancing their homes for consumer credit purposes. Subprime lending serves an important role, by providing loans to borrowers who do not meet the credit standards for the prime mortgage market. Some borrowers in the subprime market, however, may be particularly vulnerable to **abusive lending practices.**”

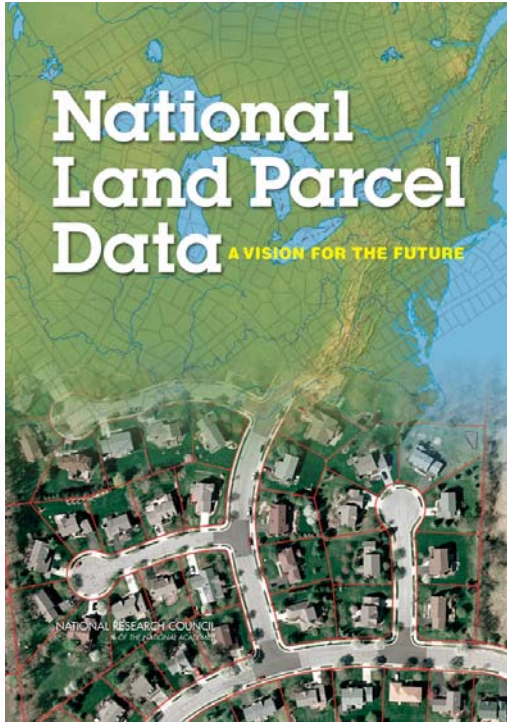
- <http://www.huduser.org/publications/hsgfin/curbing.html>

The 2000 HUD Report

5. **Early Warning Indicators.** (p.117)

FHA will customize data from its Neighborhood Watch system to develop early warning indicators of emerging foreclosure "**Hot Zones.**" This data will enable local officials and HUD approved counseling organizations to better target outreach to families at risk of foreclosure. FHA will also make available summaries of the appraised values of FHA properties to **help local officials better assess real estate trends and spot possible patterns of appraisal abuse.** This public information will include performance data on individual appraisers generated by the Credit Watch for Appraisers system and posted on the HUD website.

What a Difference .04% Would Make



- National Property Database - \$260 Million*
- Or \$.86 per person
- Or \$260,000,000 / \$700,000,000,000
- Or **.04% of the bailout budget**

* 2007 National Research Council Report: National Land Parcel Data

Create It Once – Use It Many Times

Department of Defense	<i>Property Management of Bases</i>
Department of Homeland Security	<i>Preparedness / Response/ Recovery</i>
Environmental Protection Agency	<i>Superfund Programs</i>
Housing and Urban Development	<i>Supports policy and decision making</i>
Small Business Administration	<i>Reduces errors in loan applications</i>
USGS	<i>Management of Federal lands</i>
FEMA	<i>Preparedness / Response/ Recovery</i>
US Forest Service	<i>Wildfire Management</i>
Farm Service Agency	<i>Common Land Units Program</i>
Census	<i>Improve TIGER files</i>
Department of Agriculture	<i>Tracking disease (i.e. Citrus blight in Florida)</i>

Transparency and Accountability of Toxic Assets

Questions that need to be answered:

- Where are they located?
- Who owns them?
- What are they worth today? (land and buildings)
- What were they worth before the crisis? (land and buildings)
- What properties are in the “risk zone”?
- Where are they in the acquisition and / or disposal process?



**“The *Location* of
Anything *is* Becoming
Everything”**

Information Instills Confidence

MONDAY, FEBRUARY 23, 2009

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Home > Accountability and Transparency

ACCOUNTABILITY AND TRANSPARENCY

"We cannot overstate the importance of this effort. We are asking the American people to trust their government with an unprecedented level of funding to address the economic emergency. In return, we must prove to them that their dollars are being invested in initiatives and strategies that make a difference in their communities and across the country. Following through on our commitments for accountability and openness will create a foundation upon which we can build as we continue to tackle the economic crisis and the many other challenges facing our nation."

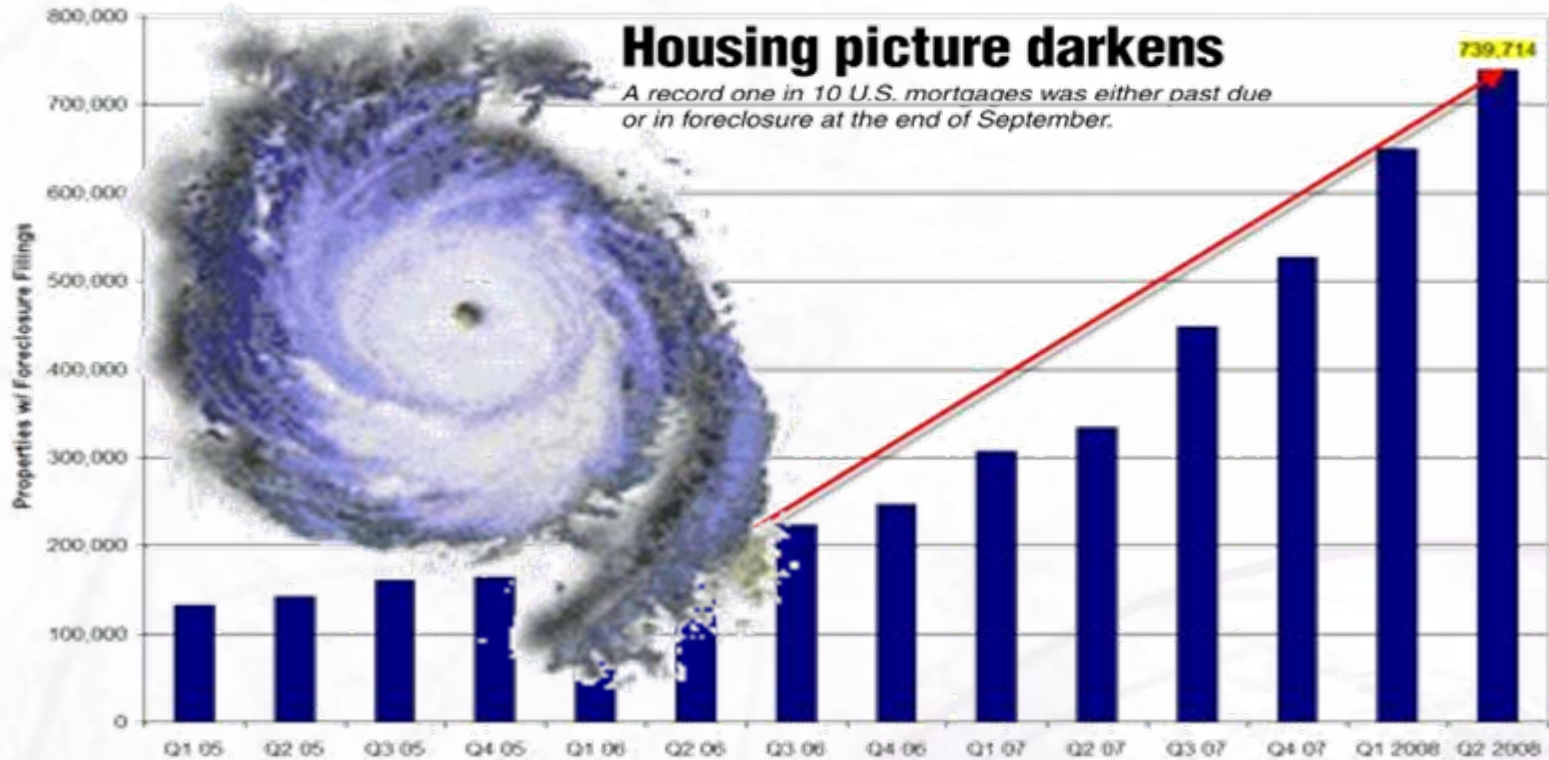
Memorandum to Head of Departments and Agencies, February 9, 2009

- **Accountability** – *Be good public stewards and demonstrate responsible management of assets*
- **Transparency** – *Good records and good procedures ensure the government is citizen-focused and service oriented*
- **Proof of success** – *Show the positive trends that are strengthening our economy as a result of preventing unnecessary foreclosures*

The Mortgage Crisis: Storm of the Century

Could it Happen Again?

U.S. Foreclosure Activity

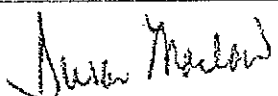


The Cost of Doing Nothing \$ ___ Trillion

United States House of Representatives
Committee on Financial Services

"TRUTH IN TESTIMONY" DISCLOSURE FORM

Clause 2(g) of rule XI of the Rules of the House of Representatives and the Rules of the Committee on Financial Services require the disclosure of the following information. A copy of this form should be attached to your written testimony.

1. Name: Susan Marlow	2. Organization or organizations you are representing: MAPPS Management Association for Private Photogrammetric Surveyors
3. Business Address and telephone number: MAPPS 1856 Old Reston Avenue, Suite 205 Reston, VA 20190 703-787-6996	Smart Data Strategies 357 Riverside Drive Franklin, TN 37064 615-794-5280
4. Have you received any Federal grants or contracts (including any subgrants and subcontracts) since October 1, 2006, related to the subject on which you have been invited to testify? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Have any of the organizations you are representing received any Federal grants or contracts (including any subgrants and subcontracts) since October 1, 2006, related to the subject on which you have been invited to testify? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6. If you answered "yes" to either item 4 or 5, please list the source and amount of each grant or contract, and indicate whether the recipient of such grant was you or the organization(s) you are representing. You may list additional grants or contracts on additional sheets. → 2005-2008 U.S. Department of Labor Employment and Training Administration Grant No. AF-14518-05-60, the Geospatial Business Hub Project. Smart Data Strategies received \$511,710 as a sub-consultant to the Institute for GIS Studies (IGISS). → 2006-2008 U.S. Department of Defense, Base Realignment and Closure (BRAC) program. Smart Data Strategies received \$290,366 as a sub-consultant.	
7. Signature: 	

Please attach a copy of this form to your written testimony.