Brown County, Wisconsin
LAND INFORMATION PLAN
2016-2018

Brown County Planning & Land Services Department
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EXECUTIVE SUMMARY

About this Document. This plan was prepared by the Brown County Land Information Council. By statute, a plan for land records modernization is required for participation in the Wisconsin Land Information Program (WLIP). The purpose of this document is twofold: 1) to meet WLIP funding eligibility requirements necessary for receiving grants and retaining fees for land information, and 2) to plan for county land records modernization in order to improve the efficiency of government and provide improved government services to businesses and county residents. The format and content of this document are based upon the Wisconsin Department of Administration (WiDOA) *2015 Uniform Instructions for Preparing County Land Information Plans.*

Program Background. The Land Information Program is administered by the Wisconsin Department of Administration and funded by document recording fees collected at the county level. In 2015, Brown County brought in about $317,000 in program revenues. Beginning in 2016, WLIP grants are expected to increase revenues by $50,000 per year. This plan lays out how funds from grants and retained fees will be prioritized. However, as the county budget is determined with County Executive and County Board approval, this plan provides estimated figures that are subject to change and are designed to serve planning purposes only.

Need for Land Information. Many of Brown County's essential services rely on accurate and up-to-date land information. Emergency response, resource conservation, infrastructure planning, economic development, facility maintenance, regulatory inspection and many other county functions involve the storage of, access to, and analysis of various land records. Efficient access to information about addresses, buildings, property boundaries, roads, utilities, elevations, floodplains, districts, wards, zoning, land use, and other combinations of land information is important for various functions of government and very beneficial to private businesses and citizens as well. Every day, hundreds of people connect to Brown County's land records and GIS systems to gather data to help make decisions.

Mission of the LIO. The overall mission of the Brown County Land Information Office (LIO) is to provide support for all county functions that rely on storing, sharing, analyzing, and depicting information and records related to land. Brown County also strives to meet the needs of residents and businesses by providing exceptional public access to these records via the Internet.

Areas of Focus. To realize this mission, in the next three years, the LIO will focus on these six sets of land information system components:

- **Land Records System (AS/400) replacement** and data improvements
- **PLSS Remonumentation & Parcel Map Framework** enhancements
- **Addressing & Street** data completion and improvements
- **Aerial Orthophotography & other Foundational Element** updates
- **Internet Access, Programming/ Automation and GIS Server** enhancements
- **Administrative, Staffing & Budget Policy** improvements

Projects are grouped within these areas of focus. A project summary is on the next page, and more detailed project information can be found in Section 4 of this plan. The projects in this plan are based on a user needs assessment conducted by the GIS Coordinator/Land Information Officer in 2015.

The remainder of this document provides more details on Brown County and the WLIP, summarizes land information projects, and reviews the county's status in completion and maintenance of the WLIP map data layers known as Foundational Elements.

Once approved, this plan supersedes all previous Brown County Land Information Plans and sets the direction for land information program efforts for a time frame of 2016 – 2018.

This plan was approved by the Brown County Land Information Council during its meeting on 1/13/2016
Approved by the Brown County Board by Resolution on 4/19/2016
Approved by the Wisconsin Department of Administration & peer review Spring 2016

PROJECT SUMMARY

The key projects planned for the next 3 years are described below. Each paragraph contains a summary of the project description, reason for the project, and funding source. More detailed project information can be found in Section 4 of this document.

Project 1: **Replace the legacy Land Records System.** The existing Land Records System is outdated and incapable of serving the future needs of Brown County. It was developed in the 1980s by Brown County staff and originally based on the AS/400 platform.   It does not integrate well with modern systems and no longer meets the needs of today's users.   Many of the in-house programmers who built it have retired or may be within a few years of retirement, and few young people have the skillsets to maintain or update the programming on this outmoded system. This Land Records System drives the assessment cycle tax billing processes while holding many important parcel records including parcel identification, land owner names, acreage, legal description, taxes due, taxes paid, district information, and more. Project costs involve labor, software and hardware purchases. Funding will be primarily levy dollars. See Section 4 of this document for details.

Project 2: **Create export tools needed to publish GIS parcel data as required by the Wisconsin Department of Administration (WiDOA) "Benchmark 2" standards.**   Counties are required to submit GIS parcel data to the WiDOA in a standardized GIS format on a quarterly basis.   To minimize the County staff time required to regularly produce this data, this project will automate the export and formatting process.   Project costs are labor and will be funded by a Wisconsin Land Information Program grant.

Project 3: **Create export tools needed to publish parcel and tax data tables as required by the Wisconsin Department of Revenue (WiDOR) standards.** Counties are required to submit parcel and tax data tables to the WiDOR in a standardized XML format on a quarterly basis. To minimize County staff time needed to produce this data, this project will automate the export and formatting process. A new Land Records System (Project 1) should include this function. Project costs are labor and will be paid for using Land Information Program revenues.

Project 4: **Complete the remonumentation of Public Land Survey System (PLSS) corners.** To ensure accuracy of all property boundaries and GIS mapping, completing survey corner remonumentation and obtaining GPS coordinates on them is needed. The PLSS is the foundation for all boundary determinations and property ownership, and this project will help reduce confusion about them. Also, this investment will help reduce costs for private surveys and lower costs overall when doing construction and other land-related projects in Brown County. Many corners west of the Fox River have not been located or monumented since the original surveys in the 1800s. This project is being partially funded by a Wisconsin Land Information Program grant.

Project 5: **Complete GIS mapping of address points needed to support the Next Generation 911 / Computer Aided Dispatch system.**   The county's next 911 Computer Aided Dispatch System will require GIS mapping of all addresses in Brown County using GIS and tagging each with relevant attribute data (address number and street name, business name if applicable, lat/lon, jurisdictional data and other information) is needed for the county's new Computer Aided Dispatch System.   Currently, only about 90% of the addresses have been fully mapped and attributed in GIS. Brown County plans to implement the new Computer Aided Dispatch system in 2016-2017.   GIS-related project costs involve mostly staff time, paid for primarily using Land Information Program revenues.

Project 6: **Enhance and maintain street centerline data in GIS format.** Updating street centerline data is important because it is a foundational GIS base map used for indexing, geocoding, and integrating with other systems. Street centerlines contain attribute data codes to support transportation planning, routing, and the 911 system. Project costs involve mostly staff time, paid for primarily using Land Information Program revenues.

Project 7: **Contract for aerial orthophotography in 2017.**   Obtaining new aerial orthophotography every 3 years is a goal to help maintain all base map layers and track land use changes across the county. The last flight was in 2014. Project funds will likely come from partners including local municipalities, utilities, federal grants and other sources including the Brown County Land Information Program revenues.

Project 8: **Enhance and maintain other "Foundational Element" map layers.**   Regular upkeep is needed on all land information "Foundational Elements" described in Section 2 of this plan. Project costs involve mostly staff time, paid for using Land Information Program revenues and other funding sources.

Project 9: **Upgrade the online GIS map (GeoPrime)**.   Replacing Brown County's "GeoPrime" site with modern web technology will reduce security vulnerabilities and make it work with all modern devices including smart phones and tablets. Currently, the GeoPrime site is based on outdated Adobe Flash Player technology which is being phased out by Adobe. It is one of the most frequently-used county web sites. Project costs are being shared with municipal partners (Green Bay, DePere and Ashwaubenon).

Project 10: **Update the "BrownDog" ArcMap add-on.** Re-programming this tool will result in greater efficiency for internal ArcMap users by speeding up searches for land information while doing common tasks (assisting citizens with information, making edits to the parcel map, etc).   Project costs involve staff time using Land Information Program revenues.

Project 11: **Update GIS server hardware.**   Upgrading GIS servers will ensure all users of the system (internal and online) have consistent and fast access to land information. Project costs are to be determined with assistance from the Technology Services Department.

Project 12: **Organize the GIS server**. Keeping data well-organized is important as the GIS database has grown to over 8 million records contained within 200 data layers and related tables, many of which need to be edited by multiple people. Some data and applications are also in "the cloud" using ArcGIS Online, adding new challenges to data management.   This project will result in a plan for "best practices" in data storage and management, and ensure all data is organized effectively.   Project costs involve staff time paid using Land Information Program revenues.

Project 13: **Implement the Land Info Budget Policy.** Following the recommendations of the 2015 policy paper (Attachment IV) will keep the Land Information Account healthy and more stable.

Project 14: **Educate and train staff.** Training is very important to ensure people can effectively use the technology. The Land Information Program provides $1000 in training & education grants each year; This is supplemented by other Land Information Program revenues as needed.

Project 15: **Re-fill the vacant GIS Specialist position**.   Hiring the GIS Specialist (formerly GIS Technician) is critical to ensure the success of this plan and Brown County's GIS. This position has not been funded since 2014 due to a shortfall in Land Information Program revenues and transfers of program dollars to support other staff.   This position can be funded entirely with Land Information Program revenues if the budget policy recommendations (Project 13, attachment IV) are implemented.

See Section 4 of this document for more details on these planned activities.

1   INTRODUCTION

The purpose of the land information plan is to meet WLIP requirements and aid in county planning for land records modernization.

The WLIP and the Land Information Plan Requirement

In order to participate in the WLIP, counties must meet certain requirements:

- Update the county's land information plan at least every three years
- Meet with the county land information council to review expenditures, policies, and priorities of the land information office at least once per year
- Report on expenditure activities each year
- Submit detailed applications for WLIP grants
- Complete the annual WLIP survey
- Subscribe to DOA's land information listserv
- Meet a June 30, 2017 deadline to post certain types of parcel information online

Any grants received and fees retained for land information through the WLIP must be spent consistent with the county land information plan.

Act 20 and the Statewide Parcel Map Initiative

A major development for the WLIP occurred in 2013 through the state budget bill, known as Act 20. It directed the Department of Administration (DOA) to create a statewide digital parcel map in coordination with counties.

Act 20 also provided more revenue for WLIP grants, specifically for the improvement of local parcel datasets. The WLIP is helping meet the goals of Act 20 and has planned funding for counties in the form of Strategic Initiative grants to be prioritized for the purposes of parcel dataset improvement. For Strategic Initiative Grant eligibility, counties are required to apply WLIP funding toward achieving certain statewide objectives, specified in the form of "benchmarks." Benchmarks for parcel data—standards or achievement levels on data quality or completeness—are determined through a participatory planning process and are detailed in WLIP grant applications.

County land information plans were initially updated every five years. However, because of Act 20, counties must update and submit their plans to DOA for approval every three years.

The first post-Act 20 required update deadline for draft county land information plans is December 29, 2015. Final plans are due March 31, 2016.

Land Information Plan Timeline

June – December 2015	Counties create draft land info plans
December 29, 2015	Draft county plans complete
January – March 2016	Plan review and approval process
March 31, 2016	Final county land information plans due

LAND INFORMATION

Any physical, legal, economic or environmental information or characteristics concerning land, water, groundwater, subsurface resources or air in this state.

'Land information' includes information relating to topography, soil, soil erosion, geology, minerals, vegetation, land cover, wildlife, associated natural resources, land ownership, land use, land use controls and restrictions, jurisdictional boundaries, tax assessment, land value, land survey records and references, geodetic control networks, aerial photographs, maps, planimetric data, remote sensing data, historic and prehistoric sites and economic projections.

– Wis. Stats. section 16.967(1)(b)

1.1 Key acronyms, terms and concepts

WLIP: Wisconsin Land Information Program. Statewide program defined in state statutes 16.967 and 59.72. It is administered by the Wisconsin Department of Administration. These statutes are included in this document as Attachment 4. "WLIP funds" (also known as "Retained Fees") are collected in the Land Records Modernization Account in the Brown County Budget.

LIO: Land Information Office. Under the WLIP, each county establishes a Land Information Office. By statute, county must establish an LIO in order to collect the retained fees. The Brown County LIO is located within the Planning and Land Services Department.

LIC: Land Information Council. County Boards must also establish a Land Information Council to review the priorities, needs, policies, and expenditures of its LIO. In Brown County, this council is established under Brown County Code 3.081.

Retained Fees: Real estate document recording fees collected in the Register of Deeds office.

- The recording fee is $30 per document. Of this, the State receives $7 per document, the Register of Deeds $15, and the LIO receives $8 per document. **The $8 portion of the document recording fee that goes to the Land Records Modernization account to fund the LIO is the focus of this paper.**

- The LIO account carries its fund balance forward from year to year.

Land Records Modernization: The name of the account in the Brown County budget where the retained fees are collected and managed by the LIC and LIO. This term was also historically used in strategic plan titles.

GIS: Geographic Information Systems: A system designed to capture, store, edit, analyze and present all types of spatial (geographic) data. A GIS uses map coordinates to store data, and maps are often the output. GIS has many tools that allow for in-depth analysis of geographic data.

GPS: Global Positioning System: A satellite-based system used for navigation as well as for locating and mapping features on the ground. Surveyors use precise GPS equipment and methods that can provide map coordinate and measurement values of less than 1 centimeter, which is important for construction planning and boundary determinations.

LiDAR: Light Detection And Ranging: Technology that uses lasers to measure distances and map three-dimensional information. LiDAR is often collected from airplanes. LiDAR measurements are combined with accurate GPS coordinates to make detailed elevation maps and profiles within GIS. LiDAR-based elevation data are used to produce accurate flood maps, cut-and-fill estimates for construction planning, and many other purposes.

1.2 Brown County Land Information System History and Context

Brown County's land records system dates back to the 1800s. At that time, Brown County's surveying and real estate recordkeeping systems were among the best in the world given the technology of the time. However, over the next 150+ years, the paper-based land records system grew unwieldy, outdated, and inefficient to use.   By the 1970s, there were several initiatives to "modernize" land records at all levels of government through the use of computer technology. In 1978, the Wisconsin Department of Administration, in cooperation with the University of Wisconsin, inventoried and analyzed the impediments that limited the access and use of various public records. The inefficiencies of the paper-based system were shown to lead to higher costs to taxpayers. Pressure to modernize came from within government but also from the private sector, particularly real estate professionals, engineers, surveyors, and other businesses that rely on county land records. In 1985, Governor Earl created the Wisconsin Land Records Committee (WLRC) through Executive Order #79. The WLRC developed a conceptual model for a land records modernization program and reported this to the governor in 1987.

In 1989, the Wisconsin Land Information Program was officially created through legislation. Under this program, all 72 counties were to establish a local Land Information Office (LIO) as defined in statutes 59.72 and 59.43. The funding mechanism is based on real estate document recording fees collected in the county Register of Deeds office. The Brown County Board established an LIO in 1990 through resolution.

Since 1990, Brown County has succeeded in many land records modernization efforts including electronic real estate document management, digital parcel mapping, GIS implementation, and providing internet access to records. All of these efforts were guided by strategic planning efforts through the Brown County Land Information Office Committee (now called the Land Information Council) while being supported by County Executives and Boards.

The success of the Land Information Program is significant and measurable.   Today, accurate digital land records are more easily accessible than ever before and support a wide range of functions across the community as depicted on the graphic below.
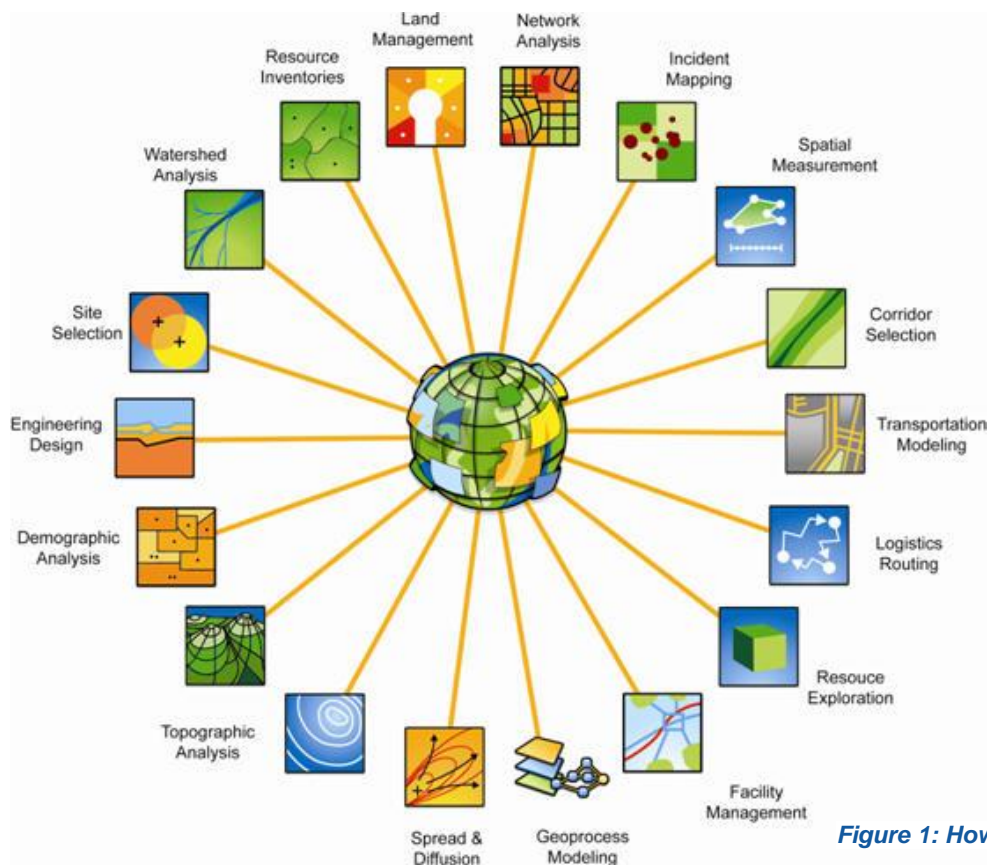
By leveraging modern technology, the Land Information Program has vastly improved upon Wisconsin's rich tradition in openness in government by giving businesses and citizens the means to view open records from the comfort of their home or office using internet technology.

Users can run database queries on a centralized up-to-date computer database, thus shortening the time spent searching.

Today, many systems are highly dependent on land information and GIS is deeply integrated into these systems.

Figure 1: How GIS is used (credit: Esri)

1.3 Land Information Council & Plan Participants

Another requirement for participation in the WLIP is the county land information council, established by legislation in s. 59.72(3m). The council is tasked with reviewing the priorities, needs, policies, and expenditures of a land information office and advising the county on matters affecting that office.

This plan was prepared by the county Land Information Officer and the Land Information Council, with input from others as listed below.

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Online User Survey

In the summer & fall of 2015, input from our online users was gathered using a Google Form Survey that was posted on the GIS web site.

Over 180 users responded to this survey and the generalized results are shown below. Most of the online users submitted comments describing what they would like to see added to the online GIS, and what is in need of improvement. These comments were analyzed and many will be used to help shape the future of our online GIS offerings.

Online user survey

Summary

You use Brown County's Land Information as a:
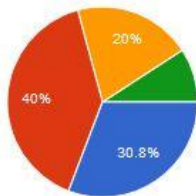
Personal User	57	30.8%
Private Business Employee	74	40%
Government Employee	37	20%
Other	17	9.2%

How often do you use our website?
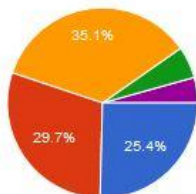
Very Frequently	47	25.4%
Frequently	55	29.7%
Occasionally	65	35.1%
Rarely	10	5.4%
First Time	8	4.3%

How easy is it to find maps & land records on Brown County's site?
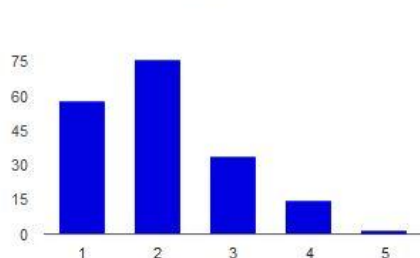
Extremely Easy:	1	58	31.4%
	2	76	41.1%
	3	34	18.4%
	4	15	8.1%
Very Difficult:	5	2	1.1%

Which of these apps do you most often use on the Brown County web site?
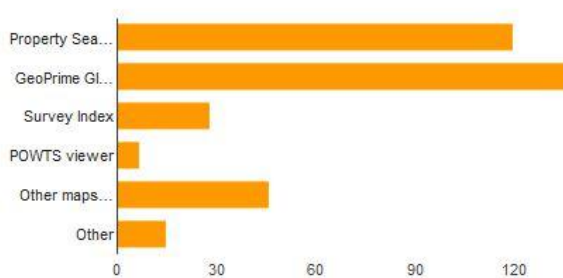
Property Search	120	65.2%
GeoPrime GIS map (multi-purpose GIS map)	136	73.9%
Survey Index	28	15.2%
POWTS viewer	7	3.8%
Other maps & apps available at maps.gis.co.brown.wi.us	46	25%
Other	15	8.2%

Overall, how well does our website meet your needs?
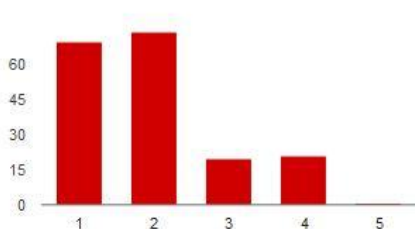
Extremely well:	1	70	37.8%
	2	74	40%
	3	20	10.8%
	4	21	11.4%
Not very well:	5	0	0%

Figure 2: Online GIS user feedback summary

10

2 FOUNDATIONAL ELEMENTS

Per statute, Brown County must have a land information plan that addresses development of specific datasets or map layer groupings historically referred to as the WLIP "Foundational Elements." Foundational Elements incorporate nationally-recognized "Framework Data" elements, the major map data themes that serve as the backbone required by users to conduct most mapping and geospatial analysis.

FOUNDATIONAL ELEMENTS

PLSS
Parcel Mapping
LiDAR and Other Elevation Data
Orthoimagery
Address Points and Street Centerlines
Land Use
Zoning
Administrative Boundaries
Other Layers

In the past, Foundational Elements were selected by the former Wisconsin Land Information Board under the guiding idea that program success is dependent upon a focus for program activities. Thus, the *Uniform Instructions* place priority on certain elements, which must be addressed in order for a county land information plan to be approved. Beyond the county's use for planning purposes, Foundational Element information is of value to state agencies and the WLIP to understand progress in completion and maintenance of these key map data layers.
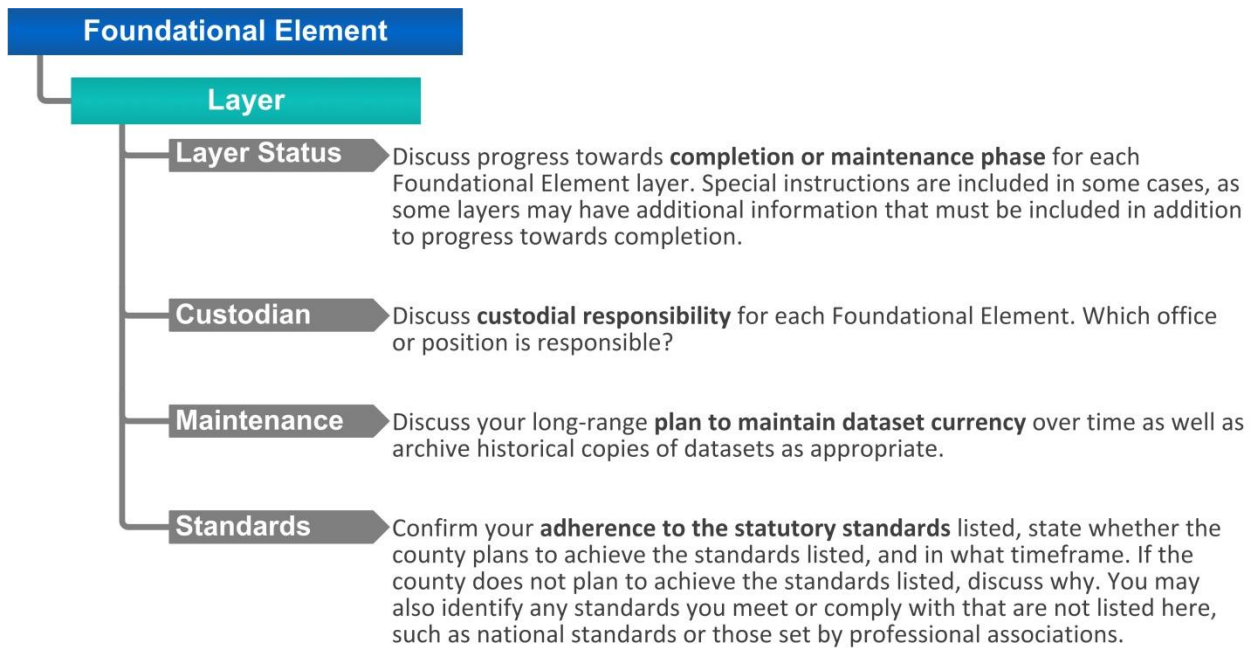
The list of WLIP's Foundational Elements has evolved with each update of the county land information plan instructions. They are a guideline of what counties need to address in their plans *at a minimum*. As the list of layers in this document is not exhaustive, counties are welcome to insert additional layers for geospatial data categories stewarded by the county or municipalities that are of importance to local business needs.

Foundational Element Subheadings

For each Foundational Element, the plan addresses: 1) Layer Status, 2) Custodian, 3) Maintenance, and 4) Standards.

Foundational Element

Layer

Layer Status — Discuss progress towards **completion or maintenance phase** for each Foundational Element layer. Special instructions are included in some cases, as some layers may have additional information that must be included in addition to progress towards completion.

Custodian — Discuss **custodial responsibility** for each Foundational Element. Which office or position is responsible?

Maintenance — Discuss your long-range **plan to maintain dataset currency** over time as well as archive historical copies of datasets as appropriate.

Standards — Confirm your **adherence to the statutory standards** listed, state whether the county plans to achieve the standards listed, and in what timeframe. If the county does not plan to achieve the standards listed, discuss why. You may also identify any standards you meet or comply with that are not listed here, such as national standards or those set by professional associations.

2.1 PLSS
2.1.1 Public Land Survey System Monuments

Layer Status

- The table below documents Layer Status for the PLSS:

PLSS Layer Status	
Name	Status/Comments
Total number of PLSS corners (section, ¼, meander) set in original government survey	**3155** original corners total
Number and percent of PLSS corners that have been remonumented	**2409** remonumented corners (76%)
Number and percent of remonumented PLSS corners with survey grade coordinates (see below for definition)	**75%**
Number and percentage of survey grade PLSS corners integrated into county digital parcel layer	**100%** of the survey grade corners are integrated into the digital parcel map layer
Number and percentage of non-survey grade PLSS corners integrated into county digital parcel layer	100%
Percentage of PLSS corners that have digital tie sheets (whether or not they have corresponding coordinate values)	**2056 (65%)**
Digital tie sheets available online? Yes or No	**Yes :** Survey Index & Tie Sheet Viewer GIS app
Approximate number of PLSS corners believed to physically exist based on filed tie-sheets or surveys, but do not have coordinate values	none
Approximate number of PLSS corners believed to be lost or obliterated	**714**
Total number of PLSS corners along each bordering county	**249**
Number and percent of PLSS corners remonumented along each county boundary	**230**
Number and percent of remonumented PLSS corners along each county boundary with survey grade coordinates	**90%**
Does your county collaborate with or plan to collaborate with neighboring counties for PLSS updates on shared county borders?	**Yes**

Custodian

- Brown County Land Planning & Land Services Department / Surveyor's Office

Maintenance

- PLSS records are updated as needed using a versioned SDE GeoDatabase. Updates are published to ArcGIS Online daily.

Standards

- Statutory Standards for PLSS Corner Remonumentation
  s. 59.74, Wis. Stats. Perpetuation of section corners, landmarks.
  s. 60.84, Wis. Stats. Monuments.
  ch. A-E 7.08, Wis. Admin. Code, U.S. public land survey monument record.
  ch. A-E 7.06, Wis. Admin. Code, Measurements.
  s. 236.15, Wis. Stats. Surveying requirements.
- Wisconsin County Surveyor's Association **survey grade** standard:

Coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by s. 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision.

2.1.2 Other Geodetic Control and Control Networks

Layer Status
- With assistance from surveyors from the WiDOT, municipalities, and private companies, Brown County has developed and densified a HARN (High Accuracy Reference Network) using Federal Geodetic Control Subcommittee guidelines.

Custodian
- Brown County Planning & Land Services Department / Surveyor's Office

Maintenance
- Updated as needed.

Standards
- Four Primary Stations (1 ppm), 36 Secondary (2 ppm) and over 50 Tertiary (10ppm) stations have been established in Brown County. A Vertical Geodetic Control Network is also in place, and it is based on the National Spatial Reference System. All 1st, 2nd, and 3rd order NGS monuments have been recovered; GPS coordinates and elevations have been captured on more than 170 of these. The Brown County Coordinate System is used.

2.2 Parcel Mapping

2.2.1 Parcel Geometries

Layer Status
- Brown County's digital parcel map is 100% complete. As of December 2015 there are 101,358 tax parcels in the county. Parcels boundary lines are drafted using coordinate geometry in AutoCAD as referenced to its source document, professionally analyzed, and precisely mapped into a geodetic controlled PLSS base. The GeoDatabase is maintained using both AutoCAD and ArcGIS tools.
- All parcels are available in AutoCAD format and also in GIS format (Esri GeoDatabase and Shapefile). The AutoCAD version contains boundary lines and text including parcel ID, acreage, dimensions, and source document. The GeoDatabase contains all boundary lines and annotation plus tax parcel polygons which link to ownership and assessment information via Parcel ID.
- Parcels are in a Transverse Mercator projection using the Brown County Coordinate System (NAD83).
- Brown County's polygon model directly integrates tax/assessment data as parcel attributes using Parcel ID.
- Brown County plans to evaluate the Esri Parcel Fabric Data Model and Esri's Local Government Information Model within the next three years to determine if either of these data models would improve Brown County's parcel mapping process.
- **Online viewing**: Many web applications include the parcel layer including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (AutoCAD DWG format, shapefiles, and GeoDatabases)
- **Archived data** is viewable as an online layer for certain years, and downloadable as files.

Custodian
- The Property Listing Division of the Brown County Planning & Land Services Department maps property boundaries for all of Brown County.

Maintenance
- Parcels are updated daily in AutoCAD and within a versioned SDE GeoDatabase. Brown County Property Listing developed a custom routine to easily move lines drafted in CAD into ArcGIS to help avoid duplication of effort and streamline the drafting process. Ownership changes and splits are published to our online GIS server each night.
- This dataset is archived to a file geodatabase monthly, and these archives are available for download on the Brown County Land Information web site.

- Additionally, archived parcel boundaries with owner names & other attributes can be added as layers to our public GIS mapping web site.

Standards and Documentation

- Parcel mapping meets National Map Accuracy Standards for 1" = 50' scale.
- Brown County will meet the standards set forth by the statewide parcel mapping project; Specifically we will strive to provide the state-specified "searchable format" parcel data in 2016.
- Detailed metadata is embedded in the GeoDatabase feature datasets. Additionally, a data dictionary is available in PDF format online. A data dictionary is available in human-readable form, with thorough definitions for each element/attribute name, and explanations of any county-specific notations for parcel attributes listed by s. 59.72(2)(a).

2.2.2 Assessment/Tax Roll Data

Layer Status

- Brown County's tax roll is prepared annually using a custom AS/400 Land Records System. Brown County plans to replace the AS/400 with a modern land records system within the next 3 years.
- **Online viewing**: Many web applications include assessment/tax roll data including Property Search
- **Downloading data** is possible from the LIO web site (Microsoft Access format as well as GIS format)
- **Archived data** is viewable as an online layer for certain years, and downloadable as files.

Custodians

- Brown County Planning & Land Services / Property Listing Division is the custodian of the tax roll. Additionally, Municipal Assessor data is imported on an annual basis, with the assistance of the Treasurer's Office and Technology Services Department.

Maintenance

- Maintenance occurs on splits and landowner changes daily; There is an annual cycle for assessment data updates as depicted on the Workflow Diagram in section 3 of this plan.
- This dataset is archived to a file geodatabase monthly, and these archives are available for download on the Brown County Land Information web site.

Standards

- s. 73.03(2a), Wis. Stats. Department of Revenue (DOR) – Powers and duties defined. Department of Revenue Property Assessment Manual – Chapter 5 and DOR format standard requested by DOR for assessment/tax roll data
- s. 59.72(2)(a), Wis. Stats. Presence of all nine "Act 20" attributes
- s. 59.72(2)(a), Wis. Stats. Crosswalk of attributes

Act 20 Attributes Required by s. 59.72(2)(a)	Field Name(s) in County Land Info System	Notes on Data or Exceptions to DOR Standard
Assessed value of land	Yes	
Assessed value of improvements	Yes	
Total assessed value	Yes	
Class of property, as specified in s. 70.32 (2)(a)	Yes	
Estimated fair market value	Yes	Ratio
Total property tax	Yes	
Any zoning information maintained by the county	Yes-Link	Zoning information is not required in DOR schema
Any property address information maintained by the county	Yes	
Any acreage information maintained by the county	Yes	

2.2.3 Non-Assessment/Tax Information Tied to Parcels

Layer Status
- Brown County ties the following datasets to parcels via GIS and/or Parcel ID:
  - Shoreland Permits
  - POWTS (Private Onsite Waste Treatment Systems)
  - Agricultural field units
  - Non-metallic mining sites
  - Surveys (link to survey index)
  - Real estate documents (via Tapestry)
  - Municipal information (zoning, web sites, administrators)
  - Street View & Bird's Eye imagery

Custodians
- Brown County Planning & Land Services / Zoning Division
- Brown County Land & Water Conservation Department

Maintenance
- Daily / As needed

Standards
- Mapping tied to parcels generally follows the same accuracy standards as the parcel dataset (NMAS 1" = 50').

2.2.4 ROD Real Estate Document Indexing and Imaging

Status
- **Grantor/Grantee Index**. Digitized grantor/grantee index November 21, 1980. In progress: 1962 to November 20, 1980. Prior to 1962, paper index stored off-site and available upon request.
- **Tract Index**. Official Tract Index is Private Claim and PLSS based – digitized January 1, 1989. Prior to January 1, 1989 paper based Tract Index available in the Register of Deeds Office. 75 years after Official Tract Index started another tract index system was created in Brown County called Abstract Listing. Like the official Tract Index, it is Private Claim and PLSS based. Tracts were merged on June 1, 1995 and Abstract Listing books closed. All paper Abstract books were digitized and imported into Register of Deeds Tract Index system for searching on November 21, 2006.
- **Imaging**. TIFF images for documents from May 1, 1996 forward are linked to index and available online through subscription service. TIFF images from 1962 to April 30, 1996 in production to be linked to index and document number. Prior to 1962 images are on microfiche and available in the Register of Deeds office only.
- **Online viewing** is available through the Laredo system or Tapestry

Custodian
- Brown County Register of Deeds

Maintenance
- Daily updates. Off-site data replication (Index and Images) from 1962 forward. Remote searchers access replicated data base.

Standards
- s. 59.43, Wis. Stats. Register of deeds; duties, fees, deputies.
- ch. 706, Wis. Stats. Conveyances of real property; Recording; Titles.

2.3 LiDAR and Other Elevation Data

2.3.1 LiDAR

Layer Status
- LiDAR data collection for the entire county was completed in April of 2010 using funds from a federal (USGS) grant.

- This data included a "bare earth" dataset as well as an LAS point cloud with all returns to capture heights of buildings, trees, and other features above ground. The LAS point cloud was only partially classified. Breaklines were also created.
- **Online viewing**: Many web applications include the elevation data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (LAS, DWG, shapefile, and GeoDatabase formats)
- **Archived data** is viewable as an online layer for certain years, and downloadable as files.

Custodian
- Brown County Planning & Land Services Department / Land Information Office.

Maintenance
- LiDAR data is available to internal users as layers, and to public users through the online GIS mapping application. The LAS and other LiDAR data can be downloaded from the LIO web site.
- Brown County plans to conduct another LiDAR project in 2017 or 2020, pending sufficient funding.

Standards
- The Brown County Surveyor checked the accuracy of our delivered product by making GNSS observations on over 93 photo-identifiable points. These observations showed the product had an RMSE of 0.207(z) for an NSSDA accuracy of 0.405 feet (z) which is sufficient for the generation of 1-foot contours. The LiDAR point cloud has a horizontal point spacing averaging about 3.9 feet. A more detailed metadata file is available online, and/or upon request.

2.3.2 LiDAR Derivatives

Layer Status

The 2010 LiDAR dataset has been used to create:
- Hydro-flattened DEM (per FEMA standards for flood mapping)
- Terrain model
- Two-foot contours in GeoDatabase, shapefile, and AutoCAD DWG formats
- Brown County's LiDAR dataset was <u>NOT</u> in place when FEMA last published countywide flood mapping in 2008-09.
- **Online viewing**: Many web applications include these data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (various formats)
- **Archived data** is viewable as an online layer for certain years, and downloadable as files.

Custodian
- Brown County Planning & Land Services Department / Land Information Office.

Maintenance
- These data are maintained on the internal GIS server and made available through the LIO Data Downloads page.
- As needed, additional derivatives are created.

Standards
- Quality Assurance procedures conducted by the Brown County Surveyor showed the LiDAR data exceeded the spatial accuracy set forth in project specifications: Tests showed an $RMSE_z$ of 0.21 feet and an NSSDA Accuracy of 0.41 feet.

2.3.3 Other Types of Elevation Data

Layer Status
- In addition to the 2010 LiDAR data & its derivatives, Brown County has two-foot contour data from April 2000. This was based on aerial photography and photogrammetry (not LiDAR). The 2000 dataset does not cover the entire county. It is mostly confined to the Green Bay metropolitan area and other urbanized villages.

Custodian
- Brown County Planning & Land Services Department / Land Information Office

Maintenance
- All previous elevation datasets are maintained on the GIS server and published online.

Standards
- This dataset was found to have inaccuracies, and although the contractor re-mapped parts of it, this dataset has not been deemed to meet the two-foot accuracy standards in all areas.

2.4 Orthoimagery

2.4.1 Orthoimagery

Layer Status
- Brown County has completed orthoimagery for the entire county; the most recent flights were in April 2000, April 2005, April 2010 and May 2014.
- The ground resolution of all four of the most recent flights was 6 inches (countywide). Horizontal accuracy for all of these flights has been tested to meet ASPRS Class 1 standards for 1" = 100' mapping (horizontal accuracy is +/- 1 foot RMSE at a 95% confidence level). The 2010 and 2014 flights were done in color. The 2014 flight's TIF images are 4-band natural color (includes infrared).
- Brown County provides images to anyone including the WROC (Wisconsin Regional Orthophoto Consortium) free-of-charge. The May 2014 flight was done in conjunction with Oconto, Calumet, Outagamie, Manitowoc, and Sheboygan Counties as well as various municipal partners and the Oneida Tribe of Indians. This partnership helped lower the unit cost by providing the contractor with "economy of scale".
- Brown County plans to produce orthoimagery on a 3-year cycle (with the next flight in 2017), pending funding and approval.
- **Online viewing**: Many web applications include the elevation data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (TIF and SID formats)
- **Archived data** is viewable as an online layer for certain years, and downloadable as files.

Custodian
- Brown County Land Planning & Land Services Department / Land Information Office

Maintenance
- All imagery is maintained on the GIS server and made available to internal and public users.
- This dataset is available for download as TIF and SID format on the Brown County Land Information web site.
- Brown County plans to produce high-resolution photos every 3 years pending sufficient budget.

Standards
- Orthoimagery from 2000, 2005, 2010, and 2014 were completed with a 6" ground resolution and tested to ensure they meet National Map Accuracy Standards (NMAS) for 1" = 100' mapping (NSSDA Accuracy is 1.73' or better).

2.4.2 Historic Orthoimagery

Layer Status
- Brown County has contracted to produce historic orthoimagery for several different years including 1938, 1960, 1978 and 1992 (in addition to the imagery from 2000, 2005, 2010, and 2014).
- O**nline viewing**: Many web applications include historic orthoimagery including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (TIF or SID formats)

Custodian
- Brown County Planning & Land Services Department/ Land Information Office

Maintenance
- All historic imagery is maintained on the GIS server where it can easily be called up to serve as a historic base map to view land use changes over time. Historic images can be viewed and compared as overlays using the Brown County Land Information web site.

- Archives are available for download on the Brown County Land Information web site.

Standards
- The older aerial orthophotos (particularly from 1938) have inconsistent mapping accuracy across the image, but generally the historic images meet National Map Accuracy Standards for 1" = 200' mapping.

2.4.3 Other Types of Imagery

Layer Status
- The April 2014 TIF images are 4-band (includes near infrared).

Custodian
- Brown County Planning & Land Services Department: Land Information Office (LIO)

Maintenance
- Future flights will include the 4th (near infrared) band.

Standards
- Accuracy and other standards vary for each dataset but generally meet NMAS for 1" = 100' mapping.

2.5 Address Points and Street Centerlines

2.5.1 Address Point Data

Layer Status
- Approximately 90% complete. A primary address is located on every parcel using GIS, and we place the address points directly on the building location using aerial photography. "Secondary" addresses (parcels with multiple buildings) are not yet complete. Duplicate address points exist in some places after two separate address datasets were combined into one a couple years ago. These duplicates are being eliminated as time permits. Also, certain attribute fields need more work, including the tags used for our E-911 system. It is anticipated that our new Computer Aided Dispatch system will become more reliant on address point data (as opposed to street centerline address ranges). The address point updates needed for our next 911 system will likely be a primary focus in the next year or two.
- **Online viewing**: Many web applications include the elevation data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (shapefile and GeoDatabase formats)
- **Archived data** is downloadable as files from the LIO web site

Custodians

Given the scope of this dataset, there are multiple custodians including people who assign address numbers at the municipal level, people who enter the data and map at the county level, and others who tag additional attributes to each address to support 911 dispatch and other functions.
- Brown County Municipalities (assign address numbers)
- Brown County Planning & Land Services Department / Planning Division
- Brown County Planning & Land Services Department / Property Listing Division
- Brown County Planning & Land Services Department / Land Information Office
- Brown County Public Safety Communications Department (assign 911 attributes)

Maintenance
- Address points are updated daily or as needed by PALS staff and by Public Safety Communications staff using a versioned SDE GeoDatabase and ArcMap.
- This dataset is archived to a file geodatabase monthly, and these archives are available for download on the Brown County Land Information web site.

Standards
- National Map Accuracy Standards (NMAS) for 1" = 100' mapping

2.5.2 Building Footprints

Layer Status
- The Green Bay Metro area is complete (Ashwaubenon, Allouez, DePere, Bellevue, Green Bay, Howard, Ledgeview, Scott and Suamico). In area, this is about 35% of the county. Some of these municipalities have not fully updated their building footprints in recent years. Footprints are tagged with attributes that indicate the source imagery date and other details.
- **Online viewing**: Many web applications include the elevation data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (shapefile and GeoDatabase formats)
- **Archived data** is downloadable as files from the LIO web site

Custodian
- Municipalities have been maintaining the building footprint data and will periodically provide Brown County with updated datasets. The Brown County Land Information Office will append all of the most current building footprints into a county layer.

Maintenance
- Any building footprints Brown County can obtain from municipalities is maintained within the County's GIS database.
- Brown County may obtain countywide building footprints as part of a future aerial or LiDAR flight, pending sufficient funding.

Standards
- Meets National Map Accuracy Standards (NMAS) for 1" = 100' mapping

2.5.3 Other Types of Address Information

Layer Status
- Address ranges on street centerlines are 100% complete

Custodian
- Brown County Planning & Land Services Department / Land Information Office

Maintenance
- Address ranges on street centerlines are updated by Planning & Land Services staff as needed.

Standards
- Street Centerlines should meet National Map Accuracy Standards (NMAS) for 1" = 100' mapping

2.5.4 Street Centerlines

Layer Status
- Complete; in maintenance phase, updated as needed.
- **Online viewing**: Many web applications include the elevation data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (shapefile and GeoDatabase formats)
- **Archived data** is downloadable as files from the LIO web site

Custodian
- Brown County Planning & Land Services Department / Planning Division
- Brown County Planning & Land Services Department / Land Information Office

Maintenance
- Street Centerlines are updated by Planning & Land Services staff as needed using a versioned SDE GeoDatabase and ArcMap.

Standards
- Street Centerlines should meet National Map Accuracy Standards (NMAS) for 1" = 100' mapping

2.5.5 Rights of Way

Layer Status

- Complete; in maintenance phase, updated as needed. This data is maintained as lines within our CAD parcel dataset as well as our GIS parcel line feature class. Lines have layer codes that allow users to filter the right of way lines from the rest of the parcel line work.
- **Online viewing**: Many web applications include the elevation data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (DWG, shapefile and GeoDatabase formats)
- **Archived data** is downloadable as files from the LIO web site

Custodian

- Brown County Planning & Land Services Department / Property Listing Division maintains this data in AutoCAD and also using a versioned SDE GeoDatabase and ArcMap.

Maintenance

- Brown County Planning & Land Services Department / Property Listing Division

Standards

- Meets National Map Accuracy Standards (NMAS) for 1" = 50' mapping

2.5.6 Trails & Sidewalks

Layer Status

- 100% complete.   Brown County Planning & Land Services Department / Planning Division has mapped all known trails and sidewalks in the county.
- **Online viewing**: Many web applications include the elevation data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (shapefile and GeoDatabase formats)
- **Archived data** is downloadable as files from the LIO web site

Custodian

- Brown County Planning & Land Services Department / Planning Division

Maintenance

- Updated approximately annually or as new aerial photography is available, using a versioned SDE GeoDatabase and ArcMap.

Standards

- Trail and Sidewalk mapping meets National Map Accuracy Standards (NMAS) for 1" = 100' mapping

2.6 Land Use

2.6.1 Current Land Use

Layer Status

- 100% complete. Brown County's last full land use inventory was completed in 2014. Aerial orthophotography was used to update land use.

Custodian

- Brown County Planning & Land Services Department / Planning Division

Maintenance

- Updated as needed, usually in conjunction with new aerial photography. Edits are often done in a shapefile or personal geodatabase by a planner, and then merged into the SDE GeoDatabase by the GIS/LIO Coordinator.

Standards

- Land Use is coded based on the Bay-Lake Regional Planning Commission classification system

2.6.2 Future Land Use

Layer Status

- This layer was last completed countywide in 2007. It has not been updated since, though we plan to update this layer as part of our county comprehensive plan update in 2016.

Custodian

- Brown County Planning & Land Services Department / Planning Division

Maintenance

- Updated as needed.

Standards

- s. 66.1001, Wis. Stats. Comprehensive planning.
  Future land use maps are created through the comprehensive planning process. Future land use mapping for a county is a patchwork of maps from comprehensive plans adopted by municipalities and the county.

2.7 Zoning, Environmentally Sensitive Areas & Farmland Preservation

2.7.1 General Zoning

Not applicable to Brown County

Layer Status

- Not Applicable. Brown County does not maintain general zoning; However, as more municipal-level zoning maps are becoming available online, Brown County is making efforts to build hyperlinks to the municipal web site wherever possible to give users of the GIS easy access to zoning information.
- The LIO indexed all municipal zoning web pages and maps within ArcGIS Online:
  http://browncounty.maps.arcgis.com/home/search.html?q=zoning&t=content&content=all

Custodian

- Municipalities within Brown County.

Maintenance

- As needed by each municipality.

Standards

- Various standards are used by each municipality, but most use Brown County's accurate parcels as a base map.

2.7.2 Airport Zoning

Layer Status

- Complete; in maintenance phase, updated as needed.
- Printed maps are available in the Airport Director's office, Planning & Land Services, and at the municipal offices affected by the ordinance
- The multi-purpose GIS map online includes a layer showing zoning setbacks for the following zones:
  - o Zone A (noise contour/crash hazard/height)
  - o Zone B (overflight/noise/height)
  - o Zone C (height/noise)

Custodians

- Austin Straubel International Airport
- Brown County Planning & Land Services staff assists

Maintenance

- This dataset is updated as needed.

Standards

- Chapter 24 of the Brown County Code specifies the provisions and mapping setbacks.

2.7.3 Shoreland & Floodplain Zoning

Brown County administers Shoreland and Floodplain Management Program for unincorporated areas in Brown County.

Layer Status
- Complete; in maintenance phase, updated as needed.
- **Online viewing**: Many web applications include the elevation data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (shapefile and GeoDatabase formats)
- **Archived data** is downloadable as files from the LIO web site

Custodians
- Brown County Planning & Land Services Department / Zoning Division
- Brown County Planning & Land Services Department / Land Information Office

Maintenance
- This data layer is updated as needed. Changes can occur with new navigability determinations, FEMA flood map revisions, and DNR wetland changes. Data managed using a versioned SDE GeoDatabase and ArcMap.

Standards
- Wisconsin NR115 and NR116 and Chapters 22 and 23 of the Brown County Code

2.7.4 Environmentally Sensitive Areas (ESAs)

Brown County's Environmentally Sensitive Areas are defined in Chapters 21 & 22 of the Brown County Code. Mapping generally is as follows:
- *A 35-foot buffer around lakes & ponds including*
- *A 35-foot buffer around Floodways and Zone A floodplain;*
- *A 75-foot buffer around navigable waterways*
- *A 35-foot buffer around non-navigable waterways*
- *A 35-foot buffer around wetlands greater than 2 acres*
- *Steep Slopes (greater than 20%)*

Layer Status
- Complete; in maintenance phase, updated as needed. All waterways, floodplains, and wetlands have buffers mapped in accordance with the county code
- **Online viewing**: Many web applications include the elevation data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (shapefile and GeoDatabase formats)
- **Archived data** is downloadable as files from the LIO web site

Custodian
- Brown County Planning & Land Services Department / Planning Division
- Brown County Planning & Land Services Department / Land Information Office

Maintenance
- Updated as needed using a versioned SDE GeoDatabase and ArcMap.

Standards
- Chapters 21 and 22 of the Brown County Code

2.7.5 Farmland Preservation Areas and other Agricultural Boundaries

Layer Status
- Farmland Preservation area layer is complete; Brown County has produced Farmland Preservation Area maps for all farmland preservation areas within the county.
- Agricultural Parcels & Field Unit boundaries are complete.

- Many other agricultural boundaries are mapped in GIS (installed buffers, common land units, CAFOs, nutrient management areas).

Custodian
- Brown County Planning & Land Services Department
- Brown County Land & Water Conservation Department

Maintenance
- Map layers are updated as needed.

Standards
- Wisconsin Working Lands Initiative (Wis. Statutes chapter 91).

2.7.6 Municipal Zoning Information Maintained by the County

Layer Status
- Brown County has assisted many of the smaller towns with zoning map production in GIS format. We have also received copies of municipal zoning from other municipalities for use within certain projects; However, as we are not often privy to changes, the county's zoning map cannot be relied on as current.
- The LIO indexed all municipal zoning web pages and maps within ArcGIS Online:
  http://browncounty.maps.arcgis.com/home/search.html?q=zoning&t=content&content=all

Custodian
- Brown County Municipalities

Maintenance
- Brown County will store municipal zoning data if provided by the municipality or if the county has agreed to assist the municipality with zoning map updates.

Standards
- Mapping accuracy standards: Zoning is usually based on parcel mapping, 1" = 50' NMAS.

2.8 Administrative Boundaries

2.8.1 Civil Division Boundaries

Layer Status
- Complete; in maintenance phase, updated as annexations and other changes occur.
- **Online viewing**: Many web applications include the elevation data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (shapefile and GeoDatabase formats)
- **Archived data** is downloadable as files from the LIO web site

Custodian
- Brown County Planning & Land Services Department / Property Listing Division
- Brown County Planning & Land Services Department / Land Information Office

Maintenance
- Updated as needed using a versioned SDE GeoDatabase and ArcMap.

Standards
- The goal for accuracy is the National Map Accuracy Standards (NMAS) for 1" = 100' mapping.

2.8.2 School Districts

Layer Status
- District boundary layer is complete
- Parcels are coded with a school district number code and this data is stored with each parcel in our Land Records System. Additionally, a map layer exists in GIS to show the district boundaries.
- **Online viewing**: The Multi-Purpose GIS app and also a custom ArcGIS Online app show schools & districts
- **Downloading data** is possible from the LIO web site (shapefile and GeoDatabase formats)

Custodian
- Brown County Planning & Land Services Department / Land Information Office

Maintenance
- Updated as needed using a versioned SDE GeoDatabase and ArcMap

Standards
- National Map Accuracy Standards (NMAS) for 1" = 100' mapping

2.8.3 Election Maps (District & Ward boundaries; Polling Places).

Layer Status
- Ward boundaries are mapped as a GIS layer (along with voting places)
- County Supervisor Districts are also mapped as a GIS layer
- **Online viewing**: The Multi-Purpose GIS app and also a custom ArcGIS Online app
- **Downloading data** is possible from the LIO web site (shapefile, GeoDatabase and PDF formats)

Custodians
- Brown County Clerk
- Planning & Land Services Department / Planning Division

Maintenance
- Updates are made to boundaries during the Redistricting process.
- Annexations can trigger other changes to wards and districts; the district changes are gathered from resolutions filed in the County Clerk's office and updated on the GIS map using a versioned SDE GeoDatabase and ArcMap

Standards
- National Map Accuracy Standards (NMAS) for 1" = 100' mapping although some areas need improvements in spatial accuracy.

2.8.4 Utility Districts

Layer Status
- Sanitary Districts and Sewer Service Area boundaries are 100% complete.
- **Online viewing**: The Multi-Purpose GIS app includes these layers as overlays.
- **Downloading data** is possible from the LIO web site (shapefile, GeoDatabase formats)

Custodian
- Brown County Planning & Land Services

Maintenance
- Updated as needed.

Standards
- National Map Accuracy Standards (NMAS) for 1" = 100' mapping although some areas need improvements in spatial accuracy

2.8.5 Public Safety

Layer Status
- Fire Districts: GIS layer is 100% complete
- Fire Stations: GIS layer is 100% complete
- Police Districts: GIS layer is 100% complete
- Police Stations: GIS layer is 100% complete
- Currently, Brown County's EMS (Emergency Medical Service) district boundaries are part of the Fire District layer. However, these map layers will be separated as required by our new 911 Computer Aided Dispatch system.

Custodians
- Brown County Planning & Land Services Department / Land Information Office
- Brown County Public Safety Communications Department

Maintenance
- Updated as needed. As noted above, the Fire and EMS service area boundaries will need to be separated within the next year to accommodate our new 911 computer aided dispatch system.

- National Map Accuracy Standards (NMAS) for 1" = 100' mapping (or better).

2.8.6 Lake Districts

Layer Status

- Brown County does not have any Lake Districts.

Custodian

- n/a

Maintenance

- n/a

Standards

- n/a

2.8.7 Native American Lands

Layer Status

- 100% complete. Brown County maintains a GIS layer for the Oneida Reservation and we also track land put into Trust. Oneida "Fee Land" (parcels owned by the Oneidas but still taxed) are also tracked.

Custodian

- Brown County Property Listing Division (Planning & Land Services Department)

Maintenance

- Parcels in trust are updated at least annually.

Standards

- National Map Accuracy Standards (NMAS) for 1" = 100' mapping

2.8.8 Other Administrative Districts

e.g., county forest land, parks, etc.

Layer Status

- **Business & Industrial Parks:** A GIS layer is complete, and this layer contains attributes and drives an online interactive app that allow a prospective business to discover community contact phone numbers and emails, transportation facilities, and demographic profile detailing important statistics for the areas nearby.
- **Urbanized Area boundaries and MPU Plan Boundaries:** The Metropolitan Planning Organization (MPO) "Urbanized Area" boundaries are tracked through each decade and mapped as a GIS layer.
- **Park boundaries:** A GIS layer depicting parks is 100% complete, and this contains many attributes describing amenities within each park.
- **ZIP code boundaries:** A GIS layer is complete although the Post Office does change these boundaries from time to time and the county's version may not be completely up-to-date.
- **Census boundaries:** Brown County incorporates census tract and block boundaries into our local GIS system. Population data and other data are often drawn from these layers and analyzed with GIS for various projects.

Custodian

- Brown County Planning & Land Services

Maintenance

- Updated as needed.

Standards

- National Map Accuracy Standards (NMAS) for 1" = 100' mapping

2.9 Other Foundational Layers

2.9.1 Hydrography Maintained by County or Value-Added

Layer Status
- Brown County maintains a hydrography layer adjusted to current aerial orthophotography and with custom attribute fields to track navigability field determinations, shoreland zoning buffer distance, and other information.
- Some hydrography is also depicted in the AutoCAD DWG parcel maps (particularly hydro boundaries that pertain to property boundaries).
- **Online viewing**: Many web applications include the hydro data layers including the Multi-Purpose GIS app
- **Downloading data** is possible from the LIO web site (shapefile and GeoDatabase formats)
- **Archived data** is downloadable as files from the LIO web site

Custodians
- Brown County Planning & Land Services Department
- Brown County Land & Water Conservation Department

Maintenance
- Updated as needed.

Standards
- National Map Accuracy Standards (NMAS) for 1" = 100' mapping

2.9.2 Cell Phone Towers

Layer Status
- Approximately 50% complete. Several years ago, Brown County Public Safety Communications shared Excel spreadsheets containing cell tower locations. These spreadsheets had approximate lat/lon and some were mapped into a GIS layer.

Custodian
- Brown County Public Safety Communications Department

Maintenance
- This mapping layer has not been maintained, but as identified as a new "foundational element", Brown County plans to make an effort to complete this layer as time permits.

Standards
- To be determined.

2.9.3 Bridges and Culverts

Layer Status
- Bridges have been inventoried as a GIS layer by Brown County Public Works but this layer has not been maintained. At least four municipalities within the county have used GIS and GPS to inventory culverts. Some of these have been collected by Brown County Land & Water Conservation Department.

Custodian
- Brown County Public Works Department
- Municipalities within Brown County
- Brown County Planning & Land Services

Maintenance
- Updated as needed

Standards
- National Map Accuracy Standards (NMAS) for 1" = 100' mapping

2.9.4 Wildlife Conservation

Layer Status
- Pike traps, fish passage culverts, fry traps, and other data assisting with wildlife conservation are mapped in GIS. However, these layers may be in need of update.

Custodian
- Brown County Land & Water Conservation Department

Maintenance
- An update strategy for these layers is yet to be determined.

Standards
- National Map Accuracy Standards (NMAS) for 1" = 100' mapping
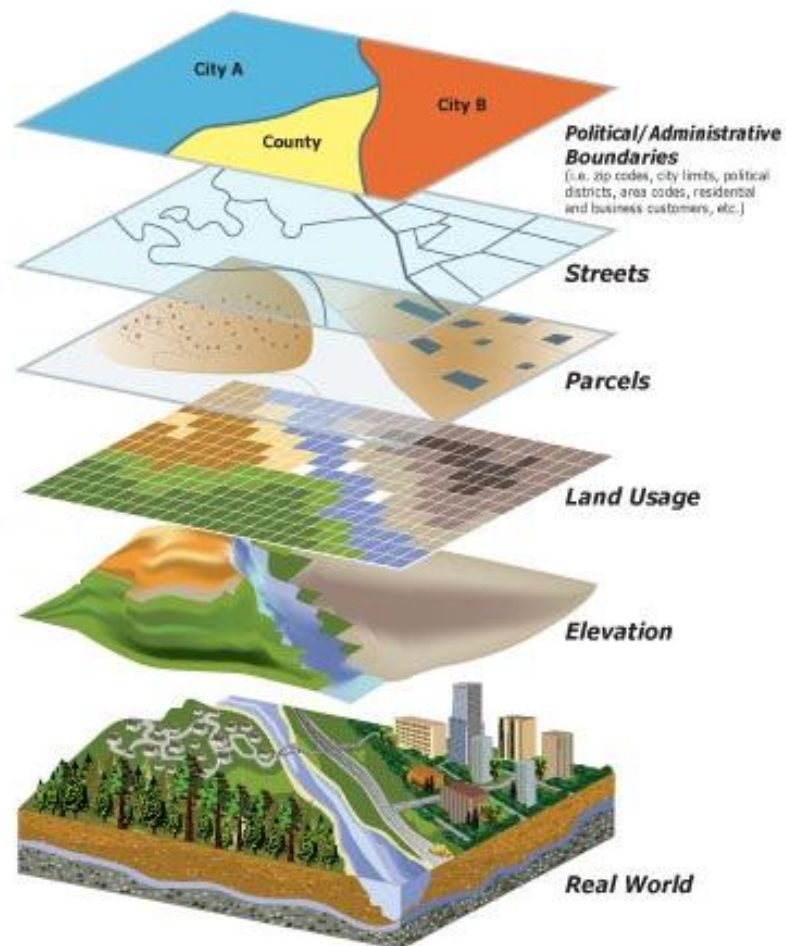

Figure 3: GIS layer concept diagram

3   LAND INFORMATION SYSTEM

The WLIP seeks to enable land information systems that are both modernized and integrated. Integration entails the coordination of land records to ensure that land information can be shared, distributed, and used within and between government at all levels, the private sector, and citizens.

One integration requirement is listed under s. 16.967(7)(a)(1), Wis. Stats., which states that counties may apply for grants for:

> "The design, development, and implementation of a land information system that contains and integrates, at a minimum, property and ownership records with boundary information, including a parcel identifier referenced to the U.S. public land survey; tax and assessment information; soil surveys, if available; wetlands identified by the department of natural resources; a modern geodetic reference system; current zoning restrictions; and restrictive covenants."

LAND INFORMATION SYSTEM

An orderly method of organizing and managing land information and land records

– Wis. Stats. section 16.967(1)(c)

3.1 Land Records System Diagram

Brown County's land information system encompasses various inter-office & inter-organizational datasets and workflows. Brown County organized a LEAN event to facilitate discussion and documentation of the county's tax roll process, data flow, and mapping procedures. The diagram, which resulted from this LEAN event, is shown below:

Figure 1: Parcel Data Workflow Diagram (see also Attachment I)

Figure 4: Land Records System Work Flow
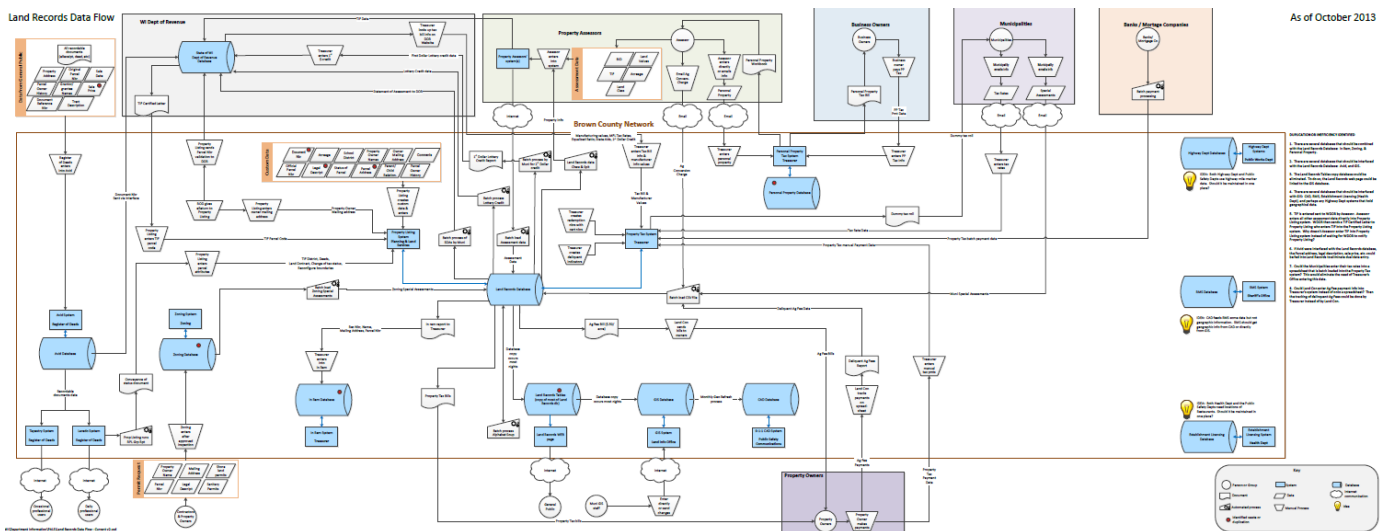
A larger version of this workflow diagram can be viewed in Attachment 1 or with the following link:
http://www.gis.co.brown.wi.us/web_documents/LIO/LandInformationPlan/LandRecordsDataFlow.pdf

The full presentation / slide show of our LEAN event can be viewed with the following link:
http://www.gis.co.brown.wi.us/web_documents/LandRecordsSystemDataFlow_LEANevent_Photos.pdf

Some of the services provided by the Land Information Office are illustrated below. This information was compiled in 2009 and subject to change.

3.1.1 Land Information Services provided to internal departments

Land Information Office / GIS

Department	Service
Public Safety & Communications	Provide E-911 Computer Aided Dispatch Support: The LIO maintains addresses, streets, response agency GIS data layers and sends these to 911 monthly ("Geo" refreshes). Also support Advanced Tactical Mapping and incident "pin" mapping.
Sheriff	Provide street, address, beat, map coordinates and other data for the Records Management System. GIS data is fed through Public Safety & Communications to help with the "lay of the land" during emergency calls and tactical situations.
Emergency Management	Provide GIS tools, support, and data layers for emergency operations and analysis hazardous storage sites, critical infrastructure, emergency shelters, evacuation routes, Emergency Operation Center support, vulnerability zones , Grid map books.
Highway	Provide support for road projects. GIS layers like elevation mapping and aerial photography helps with planning, preliminary road engineering, cut & fill analysis, stormwater management, permit location, and many other aspects of highway maintenance
Planning	Provide GIS tools to reduce staff time in research, communicate effectively, perform "what ifs". Planning staff utilizes GIS frequently throughout the day to look up information on properties such as land ownership, land use, environmental data, transportation information
Property Listing	The Property Listing office provides the foundational base for the GIS and the LIO works very closely with them. The LIO provides GIS training, tools and database administration for parcel mapping and integrates assessment, land ownership, and tax data with the mapping.
Zoning	Provide GIS data layers to support statutory program administration Sanitary, Nonmetallic Mining, Floodplain Ordinance Administration necessitates constant use of GIS to gather information on any particular property. GIS helps save a lot of staff
Register of Deeds	Provide GIS training and tools including several GIS terminals in the Register of Deeds office to help staff with tract indexing, property lookup, customer assistance and other ROD functions.
District Attorney	Provide maps for court displays. The LIO routinely produces large custom maps for the district attorney and other lawyers to help analyze crime scenes and assist juries with visualizing them.
Land Conservation	Provide GIS tools and maintain data layers. The LIO assists with Agricultural field "Best Management Practices" permits,, manure storage and spreading maps, water flow modeling, invasive species mapping, and geologic mapping
Clerk	Provided Polling Place - Address lookup site, and also maintains maps for Supervisory Districts and Voting Wards. Provide Reapportionment services and ad hoc requests.
Treasurer	Provide GIS terminals and tools for Treasurer staff. Facilitate the Property Search web site. Produce the County Plat Book. Link tax records to parcel mapping. Assist with district mapping
Health Dept	Provide GIS web site to enable efficient lookup of addresses & businesses in conjunction with inspection zones.
Facilities & Parks	Create and maintain park maps, trail maps. Assist with park plans and facility inventory.
Airport	Create & maintain airport zoning GIS layer. Assist with locating and reporting map coordinates and elevations for the FAA.
Port	Create and maintain port facility maps. Assist with bathymetric (water depth) maps, dredge estimation for the Fox River and Bay of Green Bay shipping channel.
Administration	The LIO provides ad hoc maps and analysis to support various tasks and projects as requested by the county's Executive, Administration, Information Services, and other administrators.

3.1.2 Land Information services provided to external customers

Land Information Office / GIS		
	Citizens	The LIO serves many requests for land information maps and analysis. Most people (about 500 per day) help themselves to land information using the County's internet sites but many special requests for maps and services also come in via phone calls, emails and walk-ins
	Engineers	The LIO regularly provides engineers with GIS datasets for use in their own CAD and GIS systems to perform preliminary engineering, stormwater management planning, infrastructure planning & design. Elevation data, air photos, and flood hazard areas, wetlands, soils and other datasets are sold frequently
	Surveyors	The LIO frequently provides Surveyors with data including parcel map datasets, elevation / topography data, floodplain information, ESAs and Transportation.
	Realtors	Realtors regularly use the LIO web site to search property information online, print parcel maps showing lot dimensions and linked to tax assessment, ownership, school district, aerial photos and more.
	Home Builders	The LIO provides online access to property information, which home builders utilize for site design and to market properties
	Architects	The LIO provides data which architects use to plan and model buildings. Aerial photo maps and property information is frequently used for site considerations and design.
	Banks	Banks rely on the County's Land Information for assessment data, tax information, ownership information, lot dimensions and more. Banks frequently access land information online, while many also purchase our land records databases for advanced analysis
	Appraisers	Appraisers use the GIS data produced by the LIO to help with property research. They often cross reference real estate information housed in the Register of Deeds with GIS mapping for their analysis
	GIS providers	Google, Microsoft, TeleAtlas, American Core Logic, WireData and many others link to and/or purchase the County's GIS datasets as a commodity and/or to supplement or verify their own mapping & navigation products.
	Energy Companies	Wind energy and transmission line companies utilize the GIS data, maps and analytical tools for prospecting to find the most suitable sites to locate their infrastructure and transmit power.
	Utilities	In addition to electric and gas utilities, water and sewer utilities utilize the Land Information Office to gather land use and elevation data to help with flow modeling, preliminary engineering, and inventories.
	Municipalities	Cities, Towns and Villages are frequent customers. The LIO shares datasets and in some cases provides live connections into the County's GIS database, which gives municipalities access to our data so they can gain the same efficiencies outlined in earlier pages of this document. Assessors, economic development coordinators, zoning administrators, and others frequently utilize services provided by the LIO.
	State	Wisconsin DOT, DNR, DATCP, and other state agencies are in close contact with the LIO. GIS datasets and land-related services are frequently shared. State universities are also regular customers and collaborators with the LIO.
	Federal	The LIO provides and collaborates with the U.S. Census bureau, EPA, USGS, Homeland Security, FEMA, USDA, Post Office and other federal agencies on a variety of projects including boundaries and districts, addressing, land ownership and more.

How do external customers access and acquire Land Information?

- Over 500 people per day visit the Property Search and Internet Mapping Web Sites to search and view various types of land records and maps
- The LIO also offers an internet download subscription service, where the more technical customers can download GIS datasets for use in their own GIS/CAD systems for advanced design and analysis
- Some external customers such as the larger municipalities directly access the County's GIS database via computer networking facilitated by the Information Services department.
- Visitors to our office can use GIS terminals and many do purchase printed copies or CDs

3.2 Technology Architecture and Database Design

This section refers to the hardware, software, and systems that the county uses to develop and operate computer systems and communication networks for the transmission of land information data.

Brown County's land information software consists of:

- **Custom AS/400:**
  - Brown County developed a custom AS/400 Land Records System in the 1980s.
  - This system is still our "workhorse" for storing and accessing parcel owner, assessment and tax information and it drives the production of tax bills and other functions.
- **ArcGIS Server**:
  - ArcSDE is the engine used to provide access to our key datasets within an Enterprise GeoDatabase (SQL Server).
  - The enterprise GeoDatabase is versioned to give multiple editors the tools they need to edit data across the county seamlessly.
  - ArcGIS Server is used to publish web mapping services as REST endpoints on Brown County server. Most of the County-hosted services are base maps such as aerial orthophotos, parcels, streets, addresses, district boundaries, and elevation datasets.
  - The REST endpoints published by Brown County are located at http://maps.gis.co.brown.wi.us/ArcGIS/rest/services/
- **ArcGIS Online**
  - Brown County has been leveraging the ArcGIS Online "cloud" in recent years to publish "focused maps & apps". Most of these consume county's REST services for the base map (aerials, parcels, streets, etc).
  - All maps & apps that use the cloud infrastructure are indexed here: http://browncounty.maps.arcgis.com
- **AutoDesk / AutoCAD Map** licenses:
  - Our surveyors, property listing and GIS staff also utilize AutoCAD Map licenses
- **Esri ArcMap Desktop** licenses are comprised of the following "levels" and are shared among county staff via a license manager.
  - 5 "Desktop Advanced" licenses
  - 18 "Desktop Standard" licenses
  - 7 "Desktop Basic" licenses

3.2.1 Metadata and Data Dictionary Practices

Brown County uses ArcCatalog to develop and create geospatial metadata. Most of this metadata is available online through web services, and it is "embedded" in the enterprise GeoDatabase. Most of this metadata is consistent with the FGDC Content Standard for Digital Geospatial Metadata.

3.2.2 Municipal Data Integration Process

Municipal data are integrated into the county land information system in the following ways:

- Municipal assessors upload and download county data on an annual basis. Brown County Technology Services has programmed tools to import and export assessment data from the AS/400 to the various assessment software packages (MarketDrive, etc).
- Municipalities assign addresses and provide address data to Property Listing staff to ensure that the data is entered in both our AS/400 and the GIS map.
- Many of the larger municipalities (Green Bay, DePere, Ashwaubenon, and Howard) have direct network access to the County's GIS server and enterprise geodatabase via a fiber connection.

3.2.3 Public Access and Website Information

Brown County has two primary "Public Access" sites: 1) A basic "Land Records Search" form that can be used to look up ownership and tax information, and 2) a "Multi-Purpose GIS Map" that contains many map

layers linked to ownership and other data.   In recent years, many new GIS maps & apps have been launched through ArcGIS Online. These are cataloged below:

3.2.4 Public Access and Website Information

Type of Website	Software or App	3rd Party or Contractor	URL	Update Frequency/ Cycle
GIS "Multi-Purpose" web mapping site	*GeoPrime (soon to be MapLaunch)*	*GeoDecisions*	http://maps.gis.co.brown.wi.us/geoprime/	Daily
ROD land records search tools	*Laredo & Tapestry*	*Fidlar*	http://www.fidlar.com/laredo.aspx	Daily
Land Records Search (land owner, assessment, tax, etc)	*Property Search*	*n/a (developed in-house)*	http://www.public.applications.co.brown.wi.us/treas/landrecordssearch/entryform.asp	Daily
POWTS (Private Onsite Waste Treatment System) info	*ArcGIS Online*	n/a	http://maps.gis.co.brown.wi.us/	Weekly
Survey Index & Tie Sheet Viewer	*ArcGIS Online*	n/a	http://maps.gis.co.brown.wi.us/	Daily
Other GIS "single purpose" apps	*ArcGIS Online*	n/a	http://maps.gis.co.brown.wi.us/	As needed

Municipal sites serving land information are indexed and searchable in the "Community Gallery" section of the Brown County Land Information web site.

3.2.5 Data Availability to Public

Brown County makes every effort to comply with Wisconsin's Open Records Law.   Almost all land information is available to the public via several channels including:
- The Land Records Search form
- GIS mapping
- Data Downloads (requires registration to comply with internal privacy policy)
- Register of Deeds Laredo / Tapestry systems (fees apply)

3.2.6 Data Sharing Restrictions

Restrictions on data distribution, search, download, or data privacy policies, as well as how or where members of the public are able to learn about any data restrictions:
- Brown County's free Land Records Search and GIS mapping sites are free and without restriction, except that searches do not include "Search by Owner Name". Owner name searches were restricted on free sites after a discussion by the Land Information Office Committee in response to correctional officers who expressed concern about this when our mapping site first went online in the early 2000s.
- Data Downloads include parcel information (with owner names) inside Microsoft Access and Excel files as well as GIS files. These files can be downloaded free, but as noted above, people must register with a valid email address prior to download.
- Data sharing policy is described on the Land Information Office and Register of Deeds web sites.

3.2.7 Government-to-Government Data Sharing & Support

Brown County routinely shares data with local, state, federal, and tribal governments as well as utilities. As noted above, several Brown County municipalities have direct access to the GIS database server, and all others can access the county's data through the REST endpoints and/or download data.

3.2.8 Training and Education

Brown County utilizes Land Information Program Training & Education Grants, along with other funds when budgeting allows, to send staff to conferences and other training opportunities. Internal User Group meetings have also been regularly held. Often, 1-on-1 training is most effective.

Figure 5: Brown County LIO website home page

4   CURRENT & FUTURE PROJECTS

This chapter lists the current and future land information projects Brown County is currently undertaking or intends to pursue over the 3-year planning horizon of this document.

For each project, the following are identified:

- Project Description/Goal
- Business Drivers
- Objectives/Measure of Success
- Project Timeframes
- Responsible Parties
- Estimated Budget Information

Brown County has major technology and GIS projects planned, and these are listed in this chapter as a project with additional sub-projects. All of these projects touch upon several Foundational Elements.   The WLIP allows this plan to be amended in the future should other significant projects arise.

Project groups:

The LIO will focus on these six sets of the land information system components:

- **Land Records System (AS/400) replacement** and data improvements
- **PLSS Remonumentation & Parcel Map Framework** enhancements
- **Addressing & Street** data completion and improvements
- **Aerial Orthophotography & other Foundational Element** updates
- **Internet Access, Programming/ Automation and GIS Server** enhancements
- **Administrative, Staffing & Budget Policy** improvements

These project areas and the sub-projects identified in this section are based on user needs assessments and other drivers such as state program initiatives. The Land Information Council has determined these projects to be the priority for the life of this plan.

Alternative Projects

Other potential projects identified during staff interviews and user needs surveys will be considered future or alternative projects.   All requests cannot be addressed at this time given the 3-year timeline of this plan, the large scope of the prioritized projects, and current resource constraints.

4.1 Land Records System & Data Improvements

This project group is a high priority and many other planned projects are at least somewhat dependent upon the completion of this important project.

4.1.1 Project #1: Replacement of the Land Records System

Project Description/Goal

The existing Land Records System is based on an AS/400 that was developed by Brown County in the 1980s. It is an old platform that needs replacement for many reasons. The needs and goals have been thoroughly investigated and documented by the Land Records System User Group and through a LEAN Kaizen event conducted in 2013 with 15 key stakeholders participating. In addition to the basic functions that any Land Records System needs to support, an expanded "Needs List" produced by this group is shown on Attachment 1. More information on this LEAN event can be viewed using this web link:

http://www.gis.co.brown.wi.us/web_documents/LandRecordsSystemDataFlow_LEANevent_Photos.pdf

Business Drivers

The AS/400 holds key datasets and functions that drive the assessment and taxation cycle, including tax billing. It is the master database holding important land records including parcel taxes due, taxes paid, tax credit information, parcel identification numbers, land owner names, addresses, acreage, legal descriptions, district information, district information, and more. This is among the most critical systems in the county and affects all departments and citizens directly or indirectly. Most directly, the departments in charge of running this system include: County Treasurer, Planning & Land Services/Property Listing Division, Technology Services Department, and the Register of Deeds. In addition, there are key stakeholders outside of County Government who regularly need to import and export data from this system: Municipal assessors, banks, and state agencies such as the Department of Revenue.

The AS/400 does not integrate with modern systems. Retirement of in-house programmers is on the horizon, and it is becoming more difficult to find young people with AS/400 programming skills. For these reasons, this project is the #1 priority in this plan.

Objectives/Measure of Success

The primary objective is to move our Land Records System from an antiquated AS/400 system to a more modern platform that can be integrated with other systems. The measure of success will be that all items identified on the "Land Records System Needs List" (Attachment 1) are complete.

Project Timeframes

The project period depends on many factors including budget, but the following milestones are anticipated as of the writing of this plan (December 2015).

The milestones listed here are general in scope, and a much more detailed project plan will be put together as this project proceeds.

Milestone	Duration	Date
RFP development & approval	3 months	September 1, 2016-Dec 30, 2016
RFP released, proposals received	1 month	January 2–February 1 2017
Vendor selection process	4 months	February 2–Aug 31, 2017
System implementation	12 months	Sept 1, 2017 –Aug 31, 2018
Training & testing	6 months	March 1, 2018– September 1, 2018
New system launch	–	September 15, 2018

Responsible Parties

The primary drivers for this project will be staff from Planning & Land Services, Technology Services, Treasurer, Register of Deeds, and Land & Water Conservation departments. Other drivers include the private assessors and financial institutions within Brown County.

Estimated Budget Information

The total cost of this project is expected to exceed $750,000. The funding for this project will likely be from general county tax revenues. This project will likely be supported by Land Information Program revenues in the form of staff labor and other indirect charges. An more detailed estimated budget for this project is shown within Attachment 3. This is a *projected*, *estimated* budget to aid planning efforts, and as such is subject to change.

4.1.2 Project #2: Formatting / data conversion as needed to meet the statewide parcel "Benchmark 2" searchable format.

Project Description/Goal

Brown County intends to meet the Wisconsin Department of Administration's "Benchmark 2" extended parcel attribute set submission standards for the "searchable format" as identified in the 2016 Wisconsin Land Information Program Strategic Initiative Grant application. Additional information is available in the State Cartographer's Office Version 1 Statewide Parcel Map Database Project Report and its appendices. Meeting this goal will require some parcel attribute data formatting and database schema changes. These will be done using conversion tools in 2016.

Business Drivers

The business drivers include state agencies such as the Wisconsin Department of Administration, DNR, and other parties who utilize county parcel datasets with a statewide scope and standard format. The Brown County staff involved in this transition will be from Technology Services, Property Listing and the LIO.

Objectives/Measure of Success

The objective is to have an efficient tool or process to convert Brown County's parcel data to the WI Department of Administration "Searchable Format" standard.   This will likely be achieved through the use of scripting or programming to "cross walk" data fields from one format to another and make this process easily repeatable as needed.

Project Timeframes

Milestone	Duration	Date
Project start	–	April 1, 2016
Programming / Model tools created	1 month	April 1–May 1 2016
Data provided to Wisconsin SCO	-	Annually

Responsible Parties

The staff responsible for the various aspects of the project includes:
- GIS/LIO Coordinator
- Property Listing staff
- Technology Services staff

Estimated Budget Information

It is anticipated this project will require 35 labor hours at a rate of $55.52 for a cost of $1943 paid for using WLIP Strategic Initiative Grant funds.

4.1.3 **Project #3: Creation of export tools needed to meet the requirements of the Wisconsin Department of Revenue standards**

Project Description/Goal

The goal of this project is to be able to export "on demand" the parcel data in the format needed by the Wisconsin Department of Revenue (WiDOR). This project will involve programming and export tool development in order to process the data from Brown County's format to the WiDOR format. Since the WiDOR will need this data exported several times per year, Brown County plans to automate this process. This export function should be built in to our next Land Records System (Project #1).

Business Drivers

The business driver for the project is the Wisconsin Department of Revenue (WiDOR) requirements.

Objectives/Measure of Success

This project will be complete when Brown County can publish parcel data to the WiDOR standard XML format efficiently with a computer program or tool to translate data formats.

Project Timeframes

It is anticipated this project will be completed by the end of 2016.

Responsible Parties

Brown County Planning & Land Services will take on this project, with support from Brown County Technology Services and Land Information Program community.

Estimated Budget Information

A $3000 budget is being estimated for this project. The costs will involve staff hours in the first year, and additional funding is anticipated to ensure our new Land Records System (Project #1) includes the appropriate module/export tool.

4.2 PLSS Remonumentation & Parcel Map Framework Enhancements

This project group is also a high priority and a portion of the funding will come from a $50,000 grant from the Wisconsin Land Information Program.

This section of the plan addresses the Wisconsin Land Information Program "Benchmark 3" and "Benchmark 4" requirements.

4.2.1 **Project #4: Remonumentation of PLSS survey corners**

Project Description/Goal

The project goal is to establish PLSS (Public Land Survey System) corners where no physical monument is known to exist, and to establish accurate coordinates on these corners. Most of the remaining corners are located in the Private Claims, the Fort Howard Military Reserve, and Oneida Indian Reservation areas. Tie sheets will be created and posted online. All foundational elements will benefit from a more accurate and complete PLSS framework.

Business Drivers

This framework data has always been a basic function of local government as it is the basis for property ownership and other boundary determinations. The WLIP strategic initiative "Benchmark 4" is also a business driver, and grant funds will be allocated to help complete PLSS corners that have yet to be remonumented.

Objectives/Measure of Success

The objectives of this project are as follows:
- To reach satisfactory completion of the PLSS network
- To have "survey grade" (2 cm or better) coordinates on all corners
- To post all corner information and tie sheets to Brown County's Survey Index & Tie Sheet Viewer GIS app for use by private surveyors and land owners
- To increase the accuracy of boundary surveys done by public and private surveyors across the county

The measure of success is whether this information can be used to reduce confusion about boundary determinations and property ownership, and to support various projects across Brown County such as planning, construction, and conservation.

Project Timeframes

This is an ongoing project. The WLIP grant funding will be used up by mid 2016.

Responsible Parties

The staff responsible for the various aspects of the project includes:
- County Surveyor (Planning & Land Services Department)
- Survey Crew Chief (Planning & Land Services Department)
.

Estimated Budget Information

Brown County invests in PLSS remonumentation efforts on an annual basis, but for the purpose of this plan, it is anticipated the 2016 WLIP grant-funded portion will be $48,055 in surveyor staff hours. Each year, the county budgets more than $106,000 for the County Surveyor and Survey Crew Chief positions (salary + fringe).

There are six different Public Land Survey Systems in use within Brown County:

1) French Private Claims
2) Fort Howard Military Reserve
3) Williams Grant
4) Claims within the Oneida Reservation
5) Oneida Reservation
6) Section, Town and Range rectangular system.

These systems stem from the area's long and unique history as one of the oldest settlements in Wisconsin.
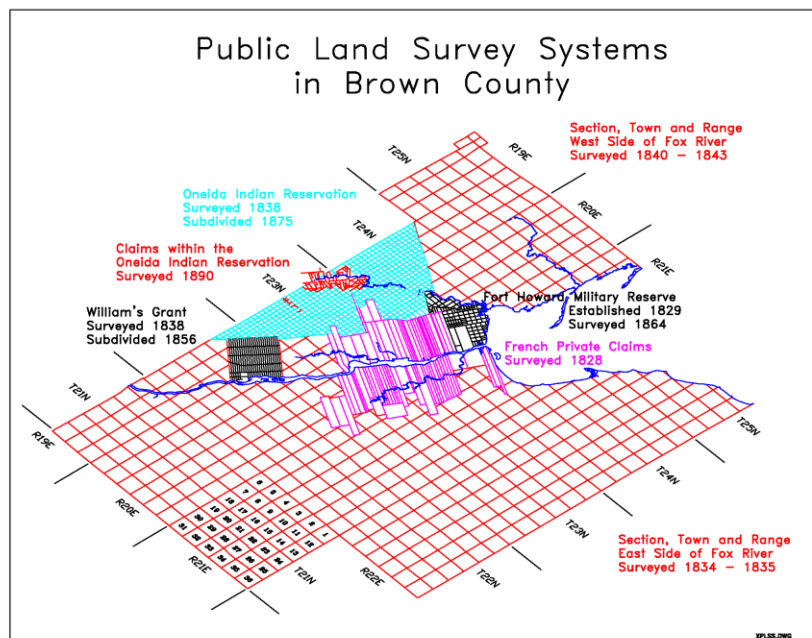

Figure 6: Land Survey Systems used in Brown County

4.3 Addressing & Street Data improvements

Along with parcels, addressing and street data is used by almost all users of the system as a primary base for indexing and linkages to other systems including E911.   It is crucial that we focus on making this layer 100% complete and up to date. This data needs to integrate with our new Land Records System, 911 dispatch, and other addressing databases such as the Sheriff's Records Management System.

4.3.1 Project #5: GIS mapping of address points to support the new 911 Computer Aided Dispatch system

Project Description/Goal

The address point layer must be completed to ensure that all addresses can be searched and located within GIS and within the new Computer Aided Dispatch system.   Business information and other "common place" names that are tied to address points should be completed for 911 dispatch purposes. Address points are to be located precisely using building footprints and aerial orthophotography so that Lat/Lon values are accurate. The address data in GIS should integrate to the addressing data stored in the new Land Records System. Brown County's goal is to have one "master" address database that can serve the needs of all systems across the county to reduce duplication of effort and to ensure new and changed addresses are visible in a timely manner. Filling the vacant GIS Technician/Specialist (Project #14) will be needed to achieve this goal.

Business Drivers

All users are affected, particularly Public Safety Communications. The new Computer Aided Dispatch system used for 911 being implemented in 2016-2017 will be more reliant on an "address point" data (the previous system was more reliant less-precise street centerline address ranges).   Most other GIS applications use address points for queries and overlays.

Objectives/Measure of Success

Some of the objectives for this project are as follows:
- Address points will be completely mapped and located precisely within the building footprint using aerial photography and other means
- Each address point will be coded with address number & street, common name, and other relevant information.
- Address data will be integrated across all Brown County systems (the new Land Records System, GIS, 911, etc).
- Addressing data will flow between municipalities and the county without delay
- Updates to addressing data will be visible across all systems without delay

To ensure success in this project, Brown County should fill the GIS Technician (Specialist) position.
The measure of success is whether this information can be used to support various functions across Brown County including 911 dispatch.

Project Timeframes

Address point data editing has been an ongoing project for the last few years. However, with the new 911 system coming online by the first quarter of 2017, there will be some urgency to complete this project and ensure that updates meet the start and end dates for the project, as well as any significant milestone dates.

Responsible Parties

Staff responsible for the various aspects of the project includes:
- GIS/LIO Coordinator (Planning & Land Services)
- Property Listing staff (Planning & Land Services)
- Planning staff (Planning & Land Services)

- Municipal staff (address numbers are assigned by municipalities in many parts of the county)
- Public Safety Communication Staff
- GIS Technician/Specialist (Planning & Land Services)

Estimated Budget Information

$15,209 is being estimated for the purpose of this plan, because we anticipate that this project may require up to 25% of the GIS/LIO Coordinator's time in 2016 and 2017 to prepare the data for inclusion into the new 911 system.

4.3.2 Project #6: GIS maintenance of street centerlines

Project Description/Goal

Like addressing, the street data within Brown County is used by almost all users of the system as a primary base for indexing, geocoding, and integrating with other systems including E911. It is important that we continue to focus on making this GIS map layer up to date. Hiring the GIS Technician/Specialist (Project #14) will be needed to achieve this goal.

Business Drivers

The Planning Department's MPO Division attaches many attribute data codes to each centerline to track transportation issues and make plans. Currently, Public Safety Communications uses street centerline address ranges to find addresses within the 911 system. As one of our primary base map layers, the street centerlines are touched by all other GIS users.

Objectives/Measure of Success

The objective is to maintain street centerline data as new subdivisions and other developments take place. Each street segment will be coded with name, address range, type, functional class, E911 codes, and other needed information. The measure of success is whether this information can be used to support various functions across Brown County such as planning and 911 dispatch. To ensure success in this project, Brown County should re-fill the GIS Technician (Specialist) position.

Project Timeframes

This is an ongoing project. Changes to this dataset may be required with the implementation of the new 911 Computer Aided Dispatch system, scheduled to go online in the first quarter of 2017.

Responsible Parties

Staff responsible for the various aspects of the project includes:
- Transportation Planner I (Planning & Land Services Department)
- GIS/LIO Coordinator (Planning & Land Services Department)
- GIS Technician/Specialist (Planning & Land Services Department)

Estimated Budget Information

$3000 is being budgeted for the purpose of this plan. It is anticipated that the GIS/LIO Coordinator or the GIS Specialist will spend more than 50 hours on this project each year.

4.4 Aerial Orthophotography & Other Foundational Element Updates

4.4.1 Project #7: Production of new aerial orthophotography

Project Description/Goal

It is a goal to fly Brown County every 3 years to update aerial orthophotography for use as a current base map and to help track land use changes across the county. The last flight took place in 2014 and, pending sufficient budget, our next flight will be in 2017. Brown County teams up with other organizations whenever possible (local municipalities, neighboring counties, utilities, and state and federal agencies) to share costs.

Business Drivers

All users are affected. Aerial orthophotography is one of the most frequently used GIS map layers.

Objectives/Measure of Success

The objective is to contract for a new aerial orthophoto to be flown in Spring 2017. This aerial orthophoto will have a 6-inch ground resolution countywide, and will capture data in 4-bands (3 natural color + near infrared).   Spatial accuracy will meet or exceed ASPRS Class 1 standards for 1" = 100' scale mapping.

The measure of success is whether this information can be used to support various projects across Brown County such as planning, construction, economic development, and conservation.

Project Timeframes

Project planning will have to commence before June 2016. At this time, the Brown County LIO Coordinator budget estimates will be done to determine if there is sufficient funding.

Responsible Parties

Staff responsible for the various aspects of the project include:
- GIS/LIO Coordinator (Planning & Land Services Department)
- GIS Technician/Specialist (Planning & Land Services Department)
- County Surveyor (Planning & Land Services Department)
- Survey Crew Chief (Planning & Land Services)
- Potentially other partnering departments and/or organizations

Estimated Budget Information

Brown County is planning to budget $20,000 Land Information Program revenues. The total cost will most likely be closer to $50,000, but it is anticipated that much of the total cost will be made up of funds from partner agencies (municipalities, utilities, and federal or state agencies).

4.4.2 Project #8: Maintenance of other Foundational Elements

Project Description/Goal

The "Foundational Element" GIS map layers described in Section 2 of this plan are in need of regular upkeep. The goal of this project is to ensure these map layers are maintained. There are hundreds of thousands of records in our GIS system: mapped features that change over time. To succeed in this project, Brown County will have to re-fill the vacant GIS Specialist position (Project #14).

Business Drivers

The business drivers are identified in Section 3 of this plan.

Objectives/Measure of Success

The objective is to maintain all foundational element map layer data and to keep current information accessible through internal and online applications.   To succeed in this project, Brown County will have to re-fill the GIS Technician (Specialist) position to help maintain these datasets .

The measure of success is whether this information can be used to support various projects across Brown County such as planning, construction, economic development, 911 dispatch, and conservation.

Project Timeframes
This is an ongoing project, and work is completed on all foundational element map layers as time and resources allow.

Responsible Parties
Staff responsible for the various aspects of the project include:
- GIS/LIO Coordinator (Planning & Land Services Department)
- GIS Technician/Specialist (Planning & Land Services Department)
- Other staff from the Planning and Land Services Department
- Staff from Land & Water Conservation Department
- Staff from Public Safety Communications

Estimated Budget Information
An estimated budget for this project is shown within a table at the end of this chapter.

4.5 Internet Access, Programming/Automation, & GIS Server Enhancements

Another major project area is centered in the Information Technology backbone of the GIS system: Computer servers, networking and programming. The projects identified in this project area will help "grease the wheels" to make access to land information easier and faster for users of the system (internal and external through the Internet).

4.5.1 Project #9: Replacement of the "GeoPrime" online GIS map

Project Description/Goal
Brown County's "Multi-Purpose" GIS mapping site (GeoPrime) is many years old and dependent on Adobe Flash. Brown County plans to migrate its "Multi-Purpose" GIS mapping application to a JavaScript-based system in 2016. This GIS map is the most frequently used in Brown County, averaging about 15,000 visitors per month. Brown County has teamed up with several municipalities to share costs on this project: Green Bay, DePere, and Ashwaubenon all base their online GIS on this technology platform.

Business Drivers
Adobe Flash has been slowly phased out over the past decade because it will not work on smart phones; Moreover, Flash technology has many security vulnerabilities and some organizations will not even allow the software to be installed. Recently, even Adobe (the creators of the Flash product) recommended that people move away from it and instead adopt new web standards such as Javascript and HTML5.

Objectives/Measure of Success
The objectives are as follows:
- To transition our primary "multi-purpose" GIS web mapping site from an Adobe Flash technology platform to a JavaScript platform which will in turn:
- Enable access on "mobile" devices such as smart phones and tablets
- Reduce computer security vulnerabilities, and
- Improve performance and stability

The measure of success is whether this application can effectively deliver maps and land information to support various projects across Brown County such as planning, construction, economic development, and conservation, particularly within the private sector via this online application. The external customers who need to be supported by this online map are listed in Section 3 of this plan.

Project Timeframes
This project will kick off in December 2015 and the new product should launch by mid-2016. It is anticipated that additional functions will be added in 2017 & 2018 as budgets and staffing allow.

Responsible Parties
The project manager will be the LIO/GIS Coordinator, with support from the GIS Coordinators of the municipal partners (Green Bay, DePere and Ashwaubenon).

Estimated Budget Information
Brown County is budgeting $12,000 over three years. As noted on the table at the end of this chapter, the total cost will likely be about $25,000 with the remainder being paid by municipal partners.

4.5.2 Project #10: Update of the "BrownDog" ArcMap add-on

Project Description/Goal
Internal ArcMap users have, in the past, benefited from a custom ArcMap extension called "BrownDog" which greatly sped up the frequently used functions within ArcMap such as queries, data management, and map production. BrownDog was developed by in-house programmers years ago using Visual Basic code, but computer & software updates have rendered the existing Visual Basic code obsolete. ArcMap's "built in" search tools are not efficient. This project goal involves re-programming the BrownDog functions using modern and reliable program code such as Python. ArcMap's "built in" search tools require set up to the database on each session and are not as efficient for the user as the custom BrownDog search tools. Re-hiring the vacant GIS Technician/Specialist (Project #14) will be needed to achieve this goal.

Business Drivers
ArcMap users who need to move quickly from parcel to parcel. Given the number of times that Property Listing staff and other users need to move from parcel to parcel across the county for editing purposes and for customer assistance, the inefficiency of the built-in ArcMap tool adds up to a lot of wasted time. The "BrownDog" tool streamlines the process and, over time, saves many hours of staff time.

Objectives/Measure of Success
The objective is to complete the update of an ArcMap add-on, which will tie directly to Brown County's data to speed up basic searches (parcel number, address, etc). The measure of success will be whether Property Listing and other staff have a new "BrownDog" tool installed within ArcMap to help them save time.

Project Timeframes
This project was underway when Brown County's GIS Technician position was in place, but this project is not complete. If possible, this project should be completed by 2016-17 after a new GIS Technician is hired.

Responsible Parties
Staff responsible for the various aspects of the project include:
- GIS/LIO Coordinator (Planning & Land Services)
- GIS Technician/Specialist (Planning & Land Services)

Estimated Budget Information
The total cost for this project is uncertain, but may cost up to $15,000, primarily used for staff salary and fringe costs for the GIS Specialist.

4.5.3 Project #11: Upgrade of GIS servers

Project Description/Goal

The GIS servers are in need of additional resources. They are virtualized, but more disk space and processing speed is needed to handle the load. Additionally, server redundancy is needed so that services are not put out-of-order for hours while updates are completed and tech glitches are fixed.   All Foundational Elements are impacted by this project (consistent, reliable access to data by all users).

Business Drivers

All users are affected.   The system needs upgrades to improve speed and worker efficiency. Additionally, computer hardware will eventually fail completely if not continually maintained.

Objectives/Measure of Success

This project will be successful when server resources are sufficient to maintain and grow the system. Servers include the GIS database (SQL), application server, and web server. Resources include more disk space, faster processing speed, and backup of the primary servers.

Project Timeframes

Brown County Technology Services is planning to roll out new servers in 2016-2018, although this is an ongoing project.

Responsible Parties

Staff responsible for the various aspects of the project include:
- GIS/LIO Coordinator (Planning & Land Services)
- Enterprise Network & Infrastructure Manager (Technology Services)
- Enterprise Server Engineer (Technology Services)
- Enterprise System Analyst II (Technology Services)
- GIS Technician/Specialist (Planning & Land Services)

Estimated Budget Information

Land Information Program revenues are anticipated to be $15,000 to $20,000. These costs could be incurred over two years (2017 and 2018).

4.5.4 Project #12: GIS server data organization

Project Description/Goal

It is a goal to use best practices in data management for all GIS files. This important goal cannot be overlooked. The GIS database has over 200 data layers totaling over 8 million records. Many databases are "joined" together using relational database techniques that require thoughtful database design. The digital parcel map layer alone consists of over 3 million records, because each of Brown County's 100,000 total parcels is made up of multiple elements including lot boundaries, dimension text, and parcel IDs that link to tax assessment data. All of these elements come together to comprise a "parcel" on the GIS map. In addition to the "ArcSDE GeoDatabase" data, there are over 200,000 files in the GIS directories storing project data files, Excel datasheets, PDF map exports and shapefiles. In recent years, more and more GIS data have also been published online using "cloud" computing (ArcGIS Online). This has increased the All of this data must be properly organized, stored, maintained, and made accessible in order for the GIS system to be effective.

Business Drivers

All users are affected.

Objectives/Measure of Success

This project will be successful when files are organized such that they can be easily searched, efficiently edited, and published for use by a variety of people.

Project Timeframes

Brown County Technology Services is planning to roll out new servers in 2016-2018 (Project #13) and this usually provides a good time to re-organize files and make changes to the GeoDatabase schema.

Responsible Parties

Staff responsible for the various aspects of the project include:
- GIS/LIO Coordinator (Planning & Land Services)
- GIS Technician/Specialist (Planning & Land Services)

Estimated Budget Information

Staff time will be required for this effort, which largely coincides with Project #11 (GIS Server upgrades). Therefore, the budget table at the end of this chapter combines costs (totaling $15,000 to $20,000 over two years).

4.6 Administrative, Staffing & Budget Policy improvements

4.6.1 Project #13: Implementation of the recommendations in the 2015 Land Information Budget Policy (Attachment 4)

Project Description/Goal

In 2015, a white paper was produced to analyze and document the 2014 Land Information account deficit and to provide Brown County's decision-makers with budgetary goals and recommendations for this program in the future. This paper was presented to the County Executive, Administration and Land Information Council in 2015. Implementing all of the recommendations from this paper should be a goal. The full white paper is included as Attachment 4 of this plan.

Business Drivers

All users are affected, particularly the Land Information staff in Planning & Land Services.

Objectives/Measure of Success

This project is a success if all goals of the white paper are met and future account deficits are avoided.

Project Timeframes

The white paper was written and discussed with the County Executive, Administration and Land Information Council in 2015. The 2016 budget has reflected one recommendation, as Property Listing staff salaries have been shifted from WLIP revenues and back on to tax levy revenues. It is hoped the full set of recommendations can be implemented in 2017.

Responsible Parties

Staff responsible for the various aspects of the project includes:
- GIS/LIO Coordinator (Planning & Land Services)
- Planning Director (Planning & Land Services)
- Administration Director (Brown County Department of Administration)
- County Executive
- Brown County Board

Estimated Budget Information

Fiscal impacts of implementing this project are documented in the "Land Information Budget Policy Paper: Goals & Recommendations" (Attachment 4).

4.6.2 Project #14: Training and education

Project Description/Goal

Brown County will emphasize staff training & education over the next three years. Most of this will come through one-on-one, informal training sessions although we will look for opportunities for more formal training classes as well.   We will also meet as user groups and attend conferences.   Also, users of the online system will be kept informed through the Brown County GIS/LIO blog.

Business Drivers

The Property Listing Division is undergoing major transition with staff retirements. Soon, over 90 years of combined "institutional knowledge" will be leaving and Brown County will need to emphasize training for new staff members. Another business driver is the nature of this ever-changing technology.

Objectives/Measure of Success

- New staff members will be trained with tax roll preparation and have the AutoCAD and ArcGIS skills to maintain parcels and other map layers.
- All users will be provided training and sent to conferences as budgets allow.
- The Brown County GIS/LIO blog will be maintained with new posts.

Project Timeframes

Training & education is an ongoing effort.

Responsible Parties

Staff responsible for hiring, training and other aspects include:
- Property Lister (Planning & Land Services)
- Property Analysts (3) (Planning & Land Services)
- Planning Director
- GIS/LIO Coordinator
- County Surveyor
- Survey Crew Chief

Estimated Budget Information

At least $5000 should be budgeted annually for GIS training, since this technology is rather complex and ever-changing. This cost is offset with an annual $1000 WLIP Training & Education Grant.

4.6.3 Project #15: Filling of the vacant GIS Specialist position

Project Description/Goal

The GIS Technician (to be re-named GIS Specialist) position has been vacant since 2014 due to land information program revenue shortfalls and an account deficit described in Attachment 4 of this plan. A position description is available upon request.

Business Drivers

The use of land information / GIS is becoming more and more pervasive through many county operations, and Brown County currently employs only one full-time GIS professional (the GIS/LIO Coordinator). Other

staff also use GIS for editing and mapping, but GIS is not their primary profession or practice and nobody else is trained on the system architecture. Brown County needs a GIS Specialist to help maintain the GIS database, web sites, provide training, and develop new applications.

Objectives/Measure of Success
The GIS Specialist position will be refilled. The measure of success will be whether all of the items in this plan can be completed, as this position is key to implementing them.

Project Timeframes
This position should be refilled by 2016 or 2017 as budget allows.

Responsible Parties
Staff responsible for approving this hire includes:
- County Executive
- County Administration
- Brown County Board
- Planning Director
- GIS/LIO Coordinator (Planning & Land Services)

Estimated Budget Information
Filling this position will cost at least $69,000 annually (salary & fringe).

Essential Duties of the GIS Technician (GIS Specialist) include:
Development
- Develop and maintain GIS enterprise database for multiple departments and systems
- Develop and improve GIS processes and efficiencies using scripting/programming languages such as Python
- Develop, program, and maintain GIS mapping web site
- Implement new applications and technologies
- Collaborate and form partnerships with other departments, agencies, and municipalities to develop GIS capabilities and integrated land information systems
- Develop new processes/standards and improve existing processes/standards to increase departmental efficiencies
- Develop and maintain project documentation and metadata

Analysis
- Complete GIS and data analyses with custom mapping and reports
- Analyze various data formats and perform statistical calculations
- Prepare written and oral reports/presentations to communicate analytical results
- Create maps for plans and presentations
- Solve practical problems using GIS tools and methods and by accurately interpreting data using scientific thinking
- Use mathematical calculations and statistical analysis for factor analysis and probability determination

Data Management
- Interface enterprise GIS with other databases and systems
- Create new and modify existing GIS data using GIS editing processes
- Collect and maintain GIS databases, land records, and maps
- Perform quality control procedures to ensure GIS database integrity
- Convert data between different formats and systems

Training
- Train and support staff across a number of County departments
- Implement and train staff on new applications and technologies

4.7 Estimated Budget Information

The estimated budget for the projects outlined in this plan are shown in the table below. A complete Land Information Office Budget worksheet, which covers other expenses such as supplies and all staff costs, is included in Attachment 3. As noted in the Executive Summary, this is a budget plan only and subject to change through the County's annual budget process which includes approval from the County Executive and County Board.

Project	Item Summary	Costs paid by Land Information Program Grants and Retained Fees	Total Project Cost (including levy, partner contributions and other funding sources)	Budget Year(s) / Time period for expenditures
1. Replacement of the AS/400 Land Records System	*Project Summary (p.31)* *See also Attachment 2.*	$15,209 (1)	$750,000 (2)	Total expense between 2017-2018
2. Programming needed to meet WI Dept of Administration "Benchmark 2" searchable format requirements	*Project Summary (p.32)*	$1943	$1943	One-time expense in 2016
3. Creation of parcel data export tools to meet requirements of the WI Dept of Revenue	*Project Summary (p.33)*	$3000	$3000	One-time cost in 2016
4. Remonumentation of PLSS corners ("Benchmark 4")	Brown County Surveyor and Survey Field Crew Chief labor & fringe costs	$48,055 (3)	$106,832 (4)	Total expense is annual
5. GIS mapping of address points to support NG 911 & the Computer Aided Dispatch system	*Project Summary (p.35)*	$15,209 (5)	$15,209	2016-2017 expenses
6. GIS maintenance of street centerlines	*Project Summary (p.36)*	$3000 (6)	$3000	Annual expense
7. Production of new aerial orthophotography	*Project Summary (p.36-37)*	$20,000	$45,000 (7)	2017 expense
8. Maintenance of other Foundational Elements	*Project Summary (p.37)*	$200,000	$350,000 (8)	Annual expense, multiple people
9. Replacement of the "GeoPrime" online GIS map	*Project Summary (p.38)*	$12,000	$25,000 (9)	2016-2018 expenses
10. Update the "BrownDog" ArcMap add-on	*Project Summary (p.38-39)*	$15,000	$15,000 (10)	2017 expense
11 & 12: Upgrade / Reorg of GIS servers	*Project Summary (p.39-40)*	$15,000	$20,000 (11)	2017-2018 expense
13. Implementation of the recommendations in the 2015 Land Information Budget Policy paper	*See Attachment 4*	See Attachment 4	n/a	2016-2018
14. Training & Education	*Project Summary (p.40-41)*	$5,000	$5,000 (12)	Annual expense
15. Filling of the vacant GIS Technician *(to be renamed GIS Specialist)* position	*Project Summary (p.40-41)*	$69,000	$69,000 (13)	Annual expense re-starting in 2017
Totals:		**$422,416** (14)	**$1,408,984**	

Excel worksheet link (internal use – click here)

Budget Information Footnotes:
1. Once underway, it is anticipated the AS/400 project may consume up to 25% of the LIO/GIS Coordinator's time and this cost is based on this position's salary & fringe
2. Total capital cost for the AS/400 project is shown in Attachment 2
3. Portion to be paid with 2016 WLIP Strategic Initiative Grant money
4. Total cost is based on both survey position salary & fringe. Does not include materials, fuel, etc.
5. Annual cost estimate based on 25% of the LIO/GIS Coorditor's salary and fringe
6. Based on 5% of the GIS/LIO Coordinator's salary & fringe.
7. Based on 2014 aerial orthophotography contract cost
8. Estimate based on WLIP revenues + general levy dollars for positions involved in these tasks
9. This project kicks off in 2016 with a total project cost of $21,010. Brown County and municipal contributions will fund this effort, and additional development is planned for 2017 and 2018.
10. Estimate based on GIS Technician (Specialist) salarly & fringe to develop this tool.
11. Estimate. Will revise when costs are determined by Brown County Technical Services.
12. Based on historical annual budgets

(13) Estimate of total salary & fringe costs for the GIS Technician / Specialist position. May change with salary study.

(14) Other Land Information Program expenses will be incurred, and these are detailed within Brown County's annual budget. A complete and detailed budget for 2016 and projection through 2018 is included as Attachment 3.

5   Attachments

I.   Documentation from the LEAN Kaizen (Oct 22-23, 2013)

The attached 11x17" Land Records System diagram illustrates:
- The current AS/400 Land Records System process / data flow
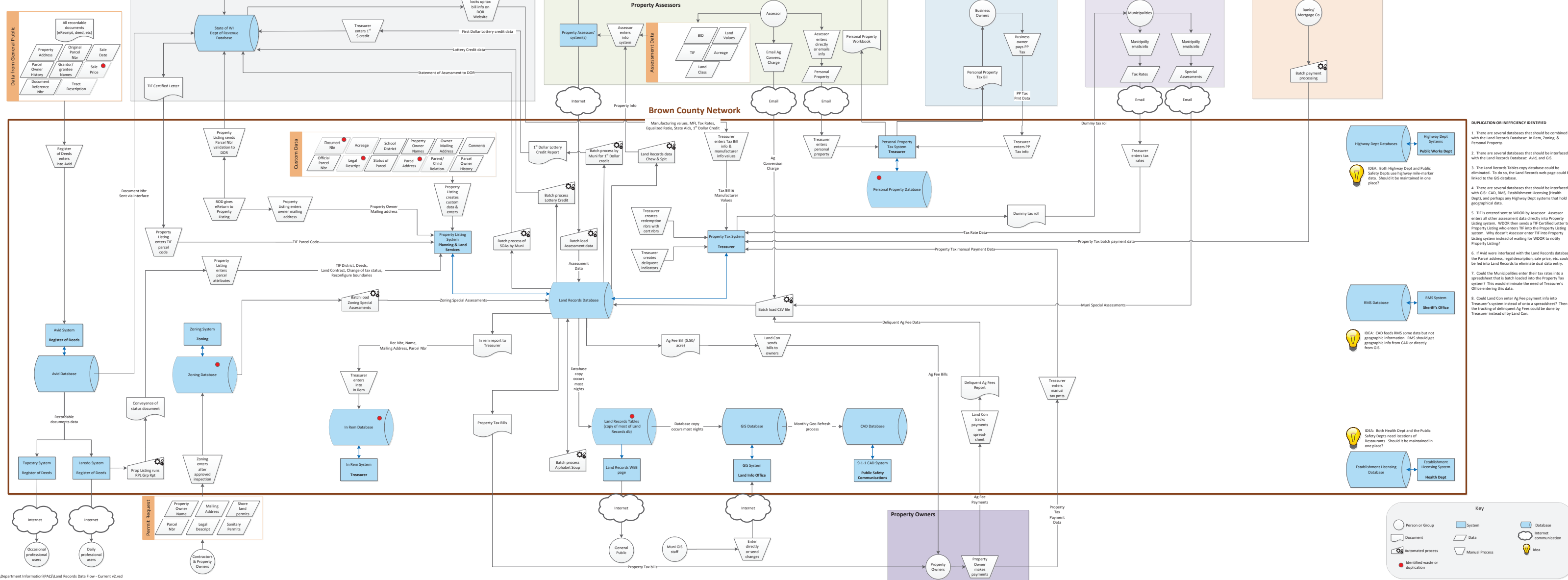- Duplication or waste within existing process/system

A larger version of this workflow diagram can be viewed with the following link:
http://www.gis.co.brown.wi.us/web_documents/LIO/LandInformationPlan/LandRecordsDataFlow.pdf

The full presentation / slide show of our LEAN event can be viewed with the following link:
http://www.gis.co.brown.wi.us/web_documents/LandRecordsSystemDataFlow_LEANevent_Photos.pdf

Land Records Data Flow

As of October 2013

WI Dept of Revenue

- State of WI Dept of Revenue Database
- Treasurer looks up tax bill info on DOR Website
- Treasurer enters 1st $ credit
- TIF Data
- First Dollar Lottery credit data
- Lottery Credit data
- Statement of Assessment to DOR
- TIF Certified Letter
- Property Listing sends Parcel Nbr validation to DOR

All recordable documents (eReceipt, deed, etc)

Property Address	Parcel Nbr	Sale Date
Parcel Owner History	Original Parcel Nbr	
Document Reference Nbr	Grantor/grantee Names	Sale Price
	Tract Description	

Register of Deeds enters into Avid

Property Assessors

- Assessor
- Property Assessors' system(s)
- Assessor enters into system
- Assessor enters directly or emails info
- Personal Property Workbook

Assessment Data:
- BID
- Land Values
- TIF
- Acreage
- Land Class

- Email Ag Convers. Charge
- Personal Property

Business Owners

- Business Owners
- Business owner pays PP Tax
- Personal Property Tax Bill
- PP Tax Pmt Data

Municipalities

- Municipalities
- Municipality emails info
- Municipality emails info
- Tax Rates
- Special Assessments

Banks / Mortage Companies

- Banks/ Mortage Co
- Batch payment processing

Brown County Network

Custom Data

Document Nbr	Acreage	School District	Property Owner Names	Owner Mailing Address	Comments
Official Parcel Nbr	Legal Descript	Status of Parcel	Parcel Address	Parent/ Child Relation.	
				Parcel Owner History	

- Property Listing System — Planning & Land Services
- ROD gives eReturn to Property Listing
- Property Listing enters owner mailing address
- Property Listing creates custom data & enters
- Property Owner Mailing address
- Property Listing enters TIF parcel code
- TIF Parcel Code
- Property Listing enters parcel attributes
- TIF District, Deeds, Land Contract, Change of tax status, Reconfigure boundaries

- 1st Dollar Lottery Credit Report
- Batch process by Muni for 1st Dollar credit
- Land Records data Chew & Spit
- Batch process of SOAs by Muni
- Batch load Assessment data
- Batch process Lottery Credit

- Manufacturing values, MFL Tax Rates, Equalized Ratio, State Aids, 1st Dollar Credit
- Treasurer enters Tax Bill info & manufacturer info values
- Tax Bill & manufacturer info values

- Personal Property Tax System — Treasurer
- Treasurer enters personal property
- Personal Property Database

- Tax Bill & Manufacturer Values
- Treasurer creates redemption nbrs with cert nbrs
- Treasurer creates deliquent indicators
- Property Tax System — Treasurer
- Treasurer enters tax rates
- Treasurer enters PP Tax info

- Dummy tax roll
- Ag Conversion Charge
- Tax Rate Data
- Property Tax manual Payment Data

Avid / Register of Deeds

- Avid System — Register of Deeds
- Avid Database
- Recordable documents data
- Conveyance of status document
- Tapestry System — Register of Deeds
- Laredo System — Register of Deeds
- Prop Listing runs RPL Grp Rpt

Zoning

- Zoning System — Zoning
- Zoning Database
- Zoning enters after approved inspection

- Batch-load Zoning Special Assessments
- Zoning Special Assessments

Land Records Database

- Re: Nbr, Name, Mailing Address, Parcel Nbr
- In rem report to Treasurer
- Treasurer enters Into In Rem
- In Rem Database
- In Rem System — Treasurer

- Ag Fee Bill ($.50/ acre)
- Land Con sends bills to owners
- Database copy occurs most nights
- Property Tax Bills

- Land Records Tables (copy of most of Land Records db)
- Database copy occurs most nights
- GIS Database
- Monthly Geo Refresh process
- CAD Database
- Batch process Alphabet Soup
- Land Records WEB page
- GIS System — Land Info Office
- 9-1-1 CAD System — Public Safety Communications

- Batch load CSV file
- Deliquent Ag Fee Data
- Ag Fee Bills
- Deliquent Ag Fees Report
- Land Con tracks payments on spread-sheet
- Treasurer enters manual tax pmts
- Ag Fee Payments
- Property Tax Payment Data

Permit Request

| Property Owner Name | Mailing Address | Share permits |
| Parcel Nbr | Legal Descript | Sanitary Permits |

Contractors & Property Owners

Property Owners

- Property Owners
- Property Owner makes payments
- Property Tax bill's

- General Public
- Muni GIS staff
- Enter directly or send changes

- Internet / Occasional professional users
- Internet / Daily professional users
- Internet (multiple)

DUPLICATION OR INEFFICIENCY IDENTIFIED

1. There are several databases that should be combined with the Land Records Database: In Rem, Zoning, & Personal Property.

2. There are several databases that should be interfaced with the Land Records Database: Avid, and GIS.

3. The Land Records Tables copy database could be eliminated. To do so, the Land Records web page could be linked to the GIS database.

4. There are several databases that should be interfaced with GIS: CAD, RMS, Establishment Licensing (Health Dept), and perhaps any Highway Dept systems that hold geographical data.

5. TIF is entered into WDOR by Assessor. Assessor enters all other assessment data directly into Property Listing system. WDOR then sends a TIF Certified Letter to Property Listing who enters TIF into the Property Listing system. Why doesn't Assessor enter TIF into Property Listing system instead of waiting for WDOR to notify Property Listing?

6. If Avid were interfaced with the Land Records database, the Parcel address, legal description, sale price, etc. could be fed into Land Records to eliminate dual data entry.

7. Could the Municipalities enter their tax rates into a spreadsheet that is batch loaded into the Property Tax system? This would eliminate the need of Treasurer's Office entering this data.

8. Could Land Con enter Ag Fee payment into Treasurer's system instead of onto a spreadsheet? Then the tracking of delinquent Ag Fees could be done by Treasurer instead of by Land Con.

- Highway Dept Systems — Highway Dept / Public Works Dept
- Highway Dept Databases
- IDEA: Both Highway Dept and Public Safety Depts use highway mile-marker data. Should it be maintained in one place?

- RMS System — Sheriff's Office
- RMS Database
- IDEA: CAD feeds RMS some data but not geographic information. RMS should get geographic info from CAD or directly from GIS.

- Establishment Licensing System — Health Dept
- Establishment Licensing Database
- IDEA: Both Health Dept and the Public Safety Depts keep locations of Restaurants. Should it be maintained in one place?

Key

- Person or Group
- Document
- Automated process
- System
- Data
- Manual Process
- Database
- Internet communication
- Idea
- Identified waste or duplication

W:\Department Information\PALS\Land Records Data Flow – Current v2.vsd

Additional Future Land Records System Requirements Identified during LEAN Kaisen October 22 – 23, 2013

1. All data on Land Records System tracked historically
2. Ability to track multiple owners names (more flexibility with owner names)
3. Sale Date and Sale Price on Land Records System
4. Property/building characteristics on Land Records System (year built, number of bedrooms, area of building, etc.)
5. Track detailed addresses – right down to suites, apartment numbers, etc.
6. Direct interface between Land Records System and GIS
7. Populate acreage from GIS to Land Records
8. Populate Doc ID from GIS Map to Land Records
9. X-Y Coordinates text should be numbers
10. Address collection tool (for new addresses)
11. Standardize the street suffix (Ln, St, Av, etc.) on all systems to match Land Records System
12. Provide Self entry and inquiry to septic pumpers
13. Animal waste ordinance permits on Land Records System
14. Mobile capabilities for onsite data entry by staff including GIS locates
15. Annual snap shot of CAD maps for assessors
16. Automated Manufacturing value import/transfer from State
17. Deed reference doc linked to image
18. Bar code tax bills
19. Personal property should have the Municipality identified
20. Assessors system interface to Personal Property system
21. New 9-1-1 CAD system should be compatible with our GIS system
22. Sheriff's sales should be on the Land Records System
23. Combine several databases into the Land Records database to eliminate dual maintenance of the data kept in both. Examples include In Rem, Zoning, and Personal Property
24. Eliminate the copy of the Land Records database that is used for web access. Instead, interface GIS db directly with Land Records db and allow web access to the GIS db.
25. Tie-in the Highway system(s) geographical data to Land Records or GIS
26. Tie-in the Sheriff's Records system geographical data to Land Records or GIS
27. Tie-in the Health Department's Establishment Licensing system geographical data to Land Records or GIS

II.   Land Records System – AS/400 Replacement Project Budget

LAND RECORDS SYSTEM PROJECT BUDGET
Estimated in 2013

ITEM	TOTAL BUDGET	SOURCE / COMMENTS
TOTAL BUDGET	747,830	
LESS: Funding Expenses		
Bonding Expenses	-	
LESS: Project Management		
Project Manager (existing staff or LTE)	(65,146)	1 FTE for 1 year @ $31.32
LESS: Software		
Core database applications	(205,000)	RFI response
Public web application	(52,500)	RFI response
Land Use Permits module	(18,000)	RFI response
Sanitary Permits module	(20,000)	RFI response
Image System integration (optional)	(18,000)	RFI response
Reporting software licenses (10)	(3,700)	Based on Crystal Rpts license cost of $370/each X 10 users
LESS: Professional Services		
Configure bar code scanner in Treasurer's Office	(500)	Project Mgr estimate
Training	-	Included in base application price
Vendor travel costs	-	Included in base application price
	-	
LESS: Data Conversion		
Tax payment and Assessment history & Inactived/deleted parcels	(18,000)	RFI response
	-	
	-	
LESS: Interfaces		
Interfaces into Land Records:		
Register of Deeds Integration/Workflow w/Avid	(20,000)	RFI Response
State of WI eRETR integration	(12,000)	RFI Response
WI DOR tax data (1st $ credit, equalized ratio, state aids, etc.)	(12,000)	Project Mgr estimate
Personal Property Tax value interface (from Assessors)	(15,000)	Project Mgr estimate
J Maul & Assoc interface (tax payment from local banks)	-	Included in base application
Tax payment from real estate lending institutions interface	(15,000)	Project Mgr estimate
Market Drive (assessors) interface (assessment value data)	-	Included in base application
MirrorImage interface (digital check imaging data)	(15,000)	Project Mgr estimate
Interfaces from Land Records into another system:		
Esri GIS interface	-	Included in base application
Tax collection info to JP Morgan Chase bank	(15,000)	Project Mgr estimate
Real estate taxes due to real estate lending institutions	(15,000)	Project Mgr estimate
Market Drive interface (Land record data interface to assessors)	-	Included in base application
WI DOR tax data (Lottery credit, Stmt of Assessment, etc.)	(15,000)	Project Mgr estimate
New World Logos interface (financial data)	(15,000)	Project Mgr estimate
Address data interface (to GB Water Utility)	(15,000)	Project Mgr estimate
Credit Card payments interface	(15,000)	Project Mgr estimate
LESS: Hardware		
4 blade servers plus storage, operating system, & SQL license	(88,000)	Estimate from Tech Services
QR Bar Code Scanner for Property Listing (1)	(600)	Estimate from Tech Services
Cannon barcode Printing Kit-A1 for PALS	(550)	Cannon website (OEM Part #9941A001AA for Cannon Imagerunner C3480i)
HP Barcode Printing solution Kit for Treasurer	(450)	HP Website (MFG #HG271US for HP P4015DN printer)
Barcode Scanners for Treasurer service desk (6)	(3,600)	Estimate from Tech Services
LESS: Contingency Reserve (10%)	(74,783)	
LESS: Unallocated funds	-	
TOTALS	(747,829)	

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III.   Detailed LIO Budget Worksheet 2016-2018

Description	2016 Approved Budget	2017 Projected Budget	2018 Projected Budget
EXPENSES			
Supplies / Office Supplies	800	200	600
Copy Expense (Department Copiers)	395	400	400
Intra-county expense Document Center/Mail	286	300	300
Printing by Copy Center incl Plat books	500	1500	500
Dues & Memberships	150	300	300
Software Maintenance	113997	114000	115000
Postage	50	50	50
Books, Periodicals, Subscriptions	100	100	100
Information Services Chargebacks	9707	9800	9800
Equipment Rental / Leasing	2940	2940	2940
TOTAL OPERATION & MAINTENANCE	128,925	129,590	129,990
Travel, Conference, & Training	1000	5000	5000
TOTAL TRAVEL & CONFERENCE	1,000	5,000	5,000
Professional (Contracted) Services	0	20000	0
TOTAL CONTRACTED SERVICES	0	20,000	0
Transfer Out-Land Info Wages	84901	169000	170000
Transfer Out-Property Listing Wages	104629	50000	0
Other Transfer out (see cell comment for details)	9668	5000	0
TOTAL TRANSFERS	199,198	224,000	170,000
Hardware/Software purchases over $5000 (outlay)			
TOTAL HARDWARE/SOFTWARE	0	0	0
GRAND TOTAL EXPENDITURES	329,123	378,590	304,990
REVENUES			
WI LAND INFO PROGRAM GRANT	51000	51000	51000
Federal Grant Revenue			
TOTAL INTERGOVERNMENTAL REV.	51,000	51,000	51,000
Total Per Document Rate	$8 rate	$8 rate	$8 rate
Plat Book Sale revenues	1000	2500	2500
Land Records Fees (in 2010 incr to $6 per doc (from $4))	360000	400000	410000
Map/data sales (external customers)	800	800	800
Inter-County charge (D.A., Parks)	200	600	600
TOTAL PUBLIC CHARGES	362,000	403,900	413,900
Revenue From Municipalities			
TOTAL INTERGOVTL CHARGES	0	0	0
Interest on Investments	-800	30	1600
Other Miscellaneous			
TOTAL MISCELLANEOUS REVENUE	-800	30	1,600
GRAND TOTAL REVENUES	412,200	454,930	466,500

IV. Land Information budget policy paper

Land Information Budget Policy Analysis
Examination of the 2014 deficit | Goals & Recommendations

Jeff DuMez, GIS Coordinator / Land Information Officer
Brown County Planning & Land Services Department / Land Information Office

4/14/2015

Contents

I.   Introduction

In 2014, the Brown County Land Information Office (LIO) account ran a budget deficit when the primary revenue source (real estate document recording fees) fell $164,000 short of projections as real estate recordings decreased 27% from the previous year and 36% from the annual average. This was the lowest number of document recordings in nearly 25 years.
In 2005-06, upon a directive of County Executive Kelso, Brown County began shifting funding for portions of the Property Listing staff salaries from the tax levy to the Land Information account which placed a high proportion of fixed costs onto this account. At this time the Planning and Land Services Department staff and the Land Information Council (LIC) expressed concerns that this action would not be financially sustainable.

Since 2006, Planning & Land Services staff and others on the Land Information Council have taken many steps to avoid running a deficit.

By 2012-13, the measures the LIO had taken to increase revenues appeared to have positioned the account for long-term sustainability and the account balance began to grow again. As the 2014 budget was being prepared (in July 2013) revenues were on pace with projections, the account balance was about $140,000 and growing, and revenues were predicted to continue to stay on pace into the following year. The 2014 Land Information Budget was put together accordingly.

However, as the end of 2013 and the first quarter of 2014 played out, revenues proved to be only 50% of cash inflow projections. Revenues picked up a bit by summer, but not enough to recover.   To help contain costs, the GIS Technician position was vacated in June 2014 and remains unfilled, the survey indexing contract was ended, and other expenses were cut. At year-end close out, department budget surplus was used to backfill the account but the balance remains at a $17,000 deficit as of March 2015.

This paper examines the series of events that led to the 2014 shortfall.   It also analyzes how other counties utilize their land information fund, and shows that Brown County's land information program account is one of the most heavily-leveraged county programs in Wisconsin in terms of fulltime employee staff costs.

Finally, this paper makes policy and budget recommendations for 2015 and beyond to help ensure the Land Information Account remains sustainable in the future.

II.   Key acronyms, terms and concepts

A. WLIP: Wisconsin Land Information Program.   Statewide program defined in state statutes 16.967 and 59.72. It is administered by the Wisconsin Department of Administration. These statutes are included in this document as Attachment 3. "WLIP funds" (also known as "Retained Fees") are collected in the Land Records Modernization Account in the Brown County Budget.

B. LIO: Land Information Office.   Under the WLIP, each county establishes a Land Information Office. By statute, a county must establish an LIO in order to collect the retained fees.   The Brown County LIO is located within the Planning and Land Services Department.

C. LIC: Land Information Council.   County Boards must also establish a Land Information Council to review the priorities, needs, policies, and expenditures of its LIO.   In Brown County, this council is established under Brown County Code 3.081.

D. Retained Fees: Real estate document recording fees collected in the Register of Deeds office.

    1. The recording fee is $30 per document. Of this, the State receives $7 per document, the Register of Deeds $15, and the LIO receives $8 per document. **The $8 portion of the document recording fee that goes to the Land Records Modernization account to fund the LIO is the focus of this paper.**

    2. The LIO account carries its fund balance forward from year to year.

E. Land Records Modernization: The name of the account in the Brown County budget where the retained fees are collected and managed by the LIC and LIO. This term was also historically used in strategic plan titles.

F. GIS: Geographic Information Systems: A group of related technologies that is funded by the WLIP.

G. FTE: Full Time Employee

H. LTE: Limited Term Employee

III. Overview of the Land Information Program and LIO

The Land Information Office (LIO) provides a number of services that have proven to be valuable to many departments within Brown County as well as local municipalities and the citizens of Brown County. One major program area is the administration of the county's Geographic Information System (GIS). Through GIS, the LIO helps provide information and tools that greatly increase efficiency and service to the public. The LIO provides a groundswell of information to many internal Brown County government users including Planning, Zoning, Public Safety & Communications, Land & Water Conservation, District Attorney, Highway, Airport, Clerk, Treasurer, Parks, and other units of government, many private businesses, and the public. On a daily basis, over 600 people connect to the County's GIS database to gather information needed to support many types of public and private activities across the county.

The Wisconsin Land Information Program was created in 1989 to transform land information from a 150-year-old, non-integrated, paper-based institution into a digital system reflective of the "Information Age". The GIS systems created under this program enables complex land data analysis and have become an important function of all levels of government. Under state statute, every county in Wisconsin has established a Land Information Office to carry out the goals of the program.

The mission of the LIO is to implement the Brown County Land Records Modernization Strategic Plan (Attachment 4). The current plan is dated 2010-2015 and consistent with statutes will be updated in order to retain the WLIP program fee revenues. The strategic plan addresses the technological and organizational issues associated with storing, sharing, and depicting information and records related to land. The integration of mapping, geographic information systems (GIS), document imaging, databases, and computer networking are among the topics addressed in the plan. The overall goal of this plan is to ensure key program functions of the County are supported. The plan also provides County and municipal officials, private businesses, and other interested parties with basic knowledge of the County's efforts in land information and GIS.

A. Funding Sources

The Brown County LIO program is not funded with tax levy dollars and is instead funded through the following mechanisms:
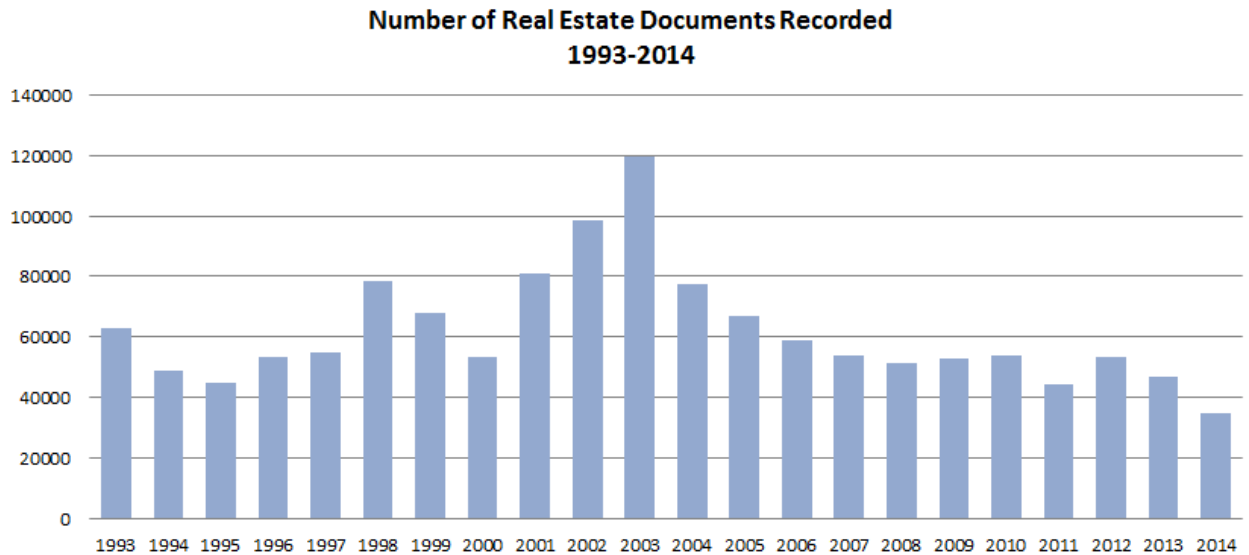
1. Real Estate Document Recording Fees

The funding for the Land Information Program is based primarily on a portion of the real estate document recording fees as set by Wisconsin State Statute 59.72. From 2001-2010 the LIO rate was $6 per document and in 2011 legislation increased the LIO portion to $8 per document.

LIO revenues fluctuate year-to-year based on economic factors and real estate activity. Specifically interest rate fluctuations significantly affect recording document revenues due to the impact on real estate activity and mortgage refinancing. From 1993 to 2014, Brown County has averaged about 62,000 document recordings per year. The lowest number of documents recorded was 34,460 in 2014 and the highest was 119,497 documents in 2003. If the real estate bubble years of 2001-2004 are not included this average is closer to 54,000 per year. At the current $8 rate and using the more conservative average of 54,000 recorded documents it equates to an annual average revenue of $432,000. Based on
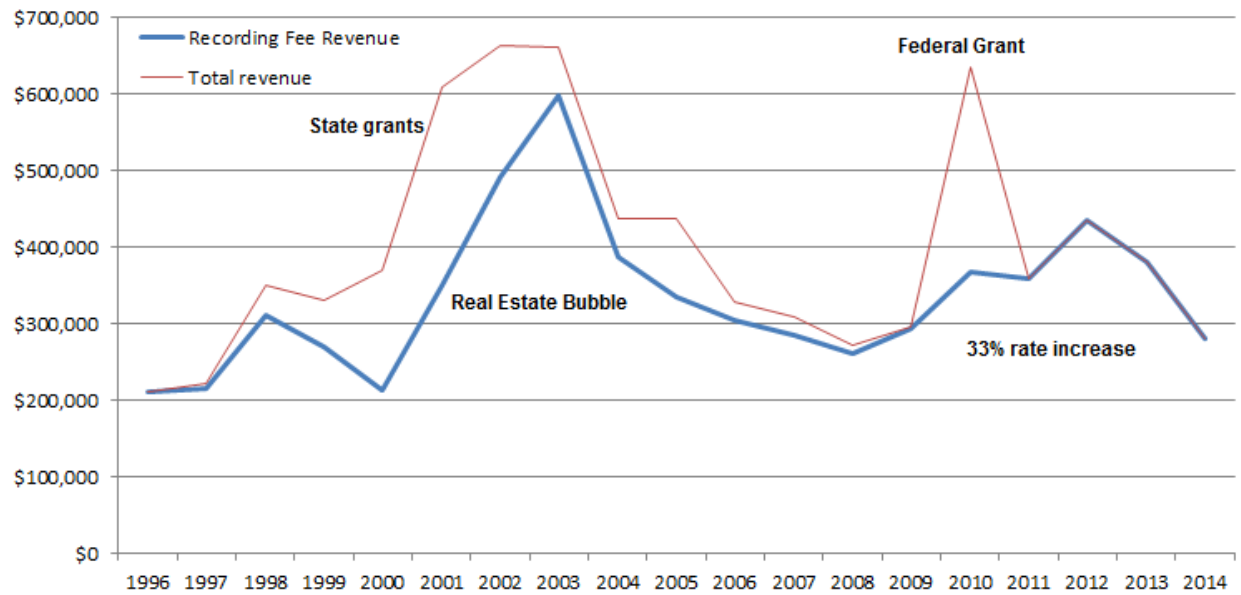
historical numbers, we have seen that revenue in a given year has varied by up to $353,120 (low of $275,680 and a high of $628,800).

Figure 1: Real Estate Document recording activity 1993-2014

Number of Real Estate Documents Recorded 1993-2014


Figure 2: LIO Revenue 1996-2014

2. Grants, partner contributions, and product sales

In addition to document recording fees, the LIO actively seeks other revenue sources.   Over the last 15 years the Brown County LIO has secured more than $575,000 in grants and contributions from various state and federal agencies as well as local partners.   In addition, many of the products sold by the LIO (such as the plat book) have netted over $85,000 in revenue over the same period.

B. Expenses

Expenditures in each yearly budget are based on the priorities established in the adopted Brown County Land Records Modernization Strategic Plan. Each year the LIO Coordinator proposes a budget to the Land Information Council based on this plan. The initial budget is incorporated into the Planning & Land Services Department budget, proposed to the County Executive, and then sent to the Planning, Development & Transportation Committee of the County Board and the full County Board for final approval.

The average annual expenses by category are illustrated in Figure 3. Since 2006, the annual fixed costs (operations/maintenance and transfers for salaries/benefits) have averaged about $380,716 amounting to 87% of average annual expenses.
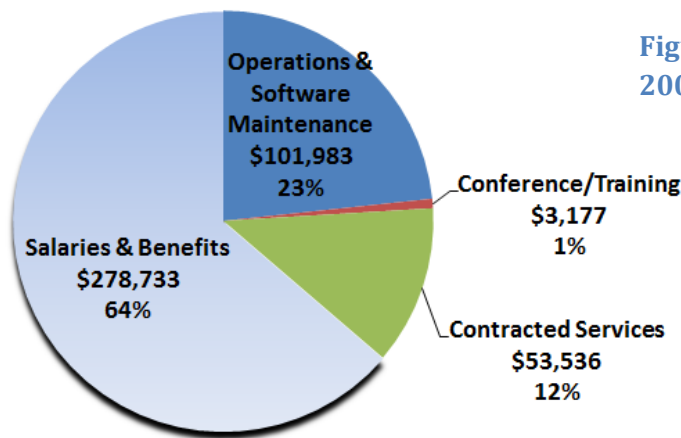

Figure 3: Expenses by category, 2006-2014 annual average

C. Account balances

The LIO account by statute is a special revenue fund and the fund balance carries over into the following years. From 1996-2013 the account's year-end fund balance averaged about $237,000 although the fund balance was in decline from 2004 until 2011. The recording fee rate increase improved the health of the fund, but it then declined again as real estate refinancing activity decreased.

Figure 4: LIO fund balance chart
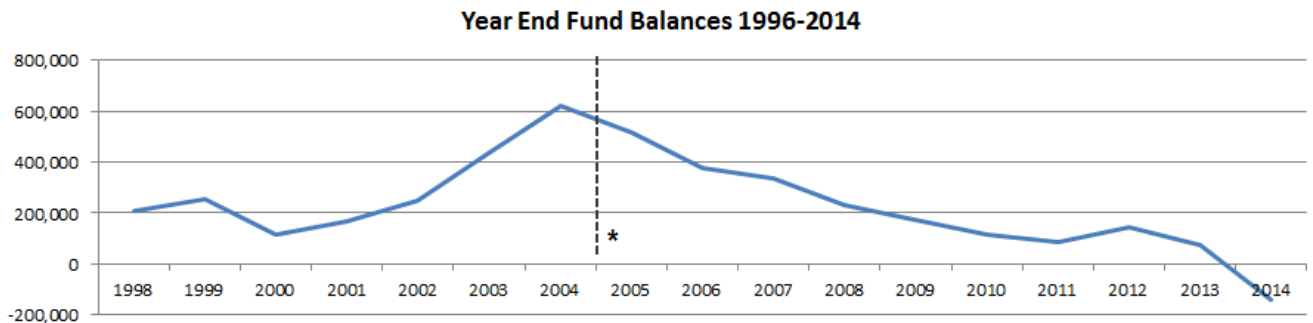
In 2005, Property Listing staff costs were added to the LIO fund expenses per direction of County Executive

IV. Problem Definition

A. Decisions made by previous administrations

During the real estate bubble of the mid-2000's, real estate recording activities hit an all-time high and left the account with a large balance. In 2005-06, County Executive Kelso and the Department of Administration were looking for ways to reduce the tax levy and saw an opportunity to shift approximately $170,000 annually from the tax levy to the Land Records Modernization account to help pay salaries of Property Listing staff and other existing positions.

This decision set a new precedent where the primary expense of the Land Records Modernization fund became fulltime employee (FTE) wages. Prior to this decision, only the GIS/LIO Coordinator position was drawing from the fund. Program expenditures were mostly variable cost and project-based (LTEs, contracted services, software, and equipment). Under the former budget policy, the LIO could more easily adjust project expenses to match any dips in revenue and maintain a positive account balance.

B. Corrective actions taken after 2006

1. Weaning Plan

Recognizing that the previous administration's decision to use LIO fund for Property Listing staff was unsustainable, Planning and Land Services staff developed a "weaning plan" and presented it to succeeding leadership. The goal was to gradually move Property Listing staff off of the Land Information account revenues and back onto the levy. The recommendations in the weaning plan were never implemented.

2. Expense reductions

Actions have been taken to cut expenses where possible, but it has been difficult to cut an already stretched budget especially given that demand for the land information products has been steadily increasing. The LIO has become an essential county function and is relied upon by many departments and the public.

3. Revenue increases

In 2008, the Land Information Council formed a subcommittee called the "Budget Task Force" whose goal was to develop a sustainable budget for the LIO. This task force consisted of a County Board member, the Administration Director, Register of Deeds, Planning Director, LIO Coordinator, Real Property Lister and Zoning Administrator. Meetings were held in the spring of 2008. One of the recommendations of the Budget Task Force was to pass a resolution to support a change in the recording fee, which the Land Information Council moved forward to the County Board in June of 2008. This resolution was subsequently supported by the full County Board, where it was forwarded to many other county boards across the state. Ultimately, these actions led to legislation passed by the state in 2010 to increase the recording fee. LIO revenues went from $6 per document to $8 per document, a 33% rate increase. Soon after the new rate was applied, the account did stabilize and for the first time in 7 years the fund balance increased. By 2012-13, it appeared the revenue increases might sustain the program even without implementing the "weaning plan".

Despite these measures, the account balance bottomed out with a negative balance in 2014 due to exceptionally low real estate recording activity in the latter half of 2013 and through 2014.

C. Fulltime Employee Positions funded by WLIP revenues

Since every county operates their LIO under the same state-determined fee rate and witnessed a similar decline in real estate activity, it seemed useful to get a sense of how other counties manage their land information program fund.   In July 2014, an email survey was conducted by the Wisconsin Land Information Officers Network (LION) to determine the number of FTE positions funded by WLIP revenues. Almost half of the counties responded to the questionnaire. The results are shown in Figure 5 below, along with an analysis showing the percentage of retained fees used for full time employee (FTE) salaries.

Figure 5: Use of Retained Fees for labor expenses

County Name	Number of FTE Staff Positions funded by WLIP revenue in 2014	Total WLIP Revenue in 2014	Total WLIP FTE expenses	Percentage used to fund FTE staff positions
Ashland	20% of one FTE	$62,097	$11,232	18%
Bayfield	0	$63,582	$0	0
Brown	**3.85 FTEs**	**$275,680**	**$275,088**	**100%**
Burnette	0	$65,442	$0	0
Chippewa	0.4 FTE	$77,952	$28,000	36%
Columbia	0	$74,352	$0	0
Dane	3 FTEs	$585,400	$399,052	68%
Florence	0	$56,711	$0	0
Fond du Lac	1 FTE	$110,112	$75,126	68%
Iowa	0	$62,438	$0	0
Iron	0	$58,930	$0	0
Jackson	$10,000 to supplement FTE	$65,281	$10,000	15%
Jefferson	0	$89,400	$0	0
La Crosse	1.5 FTEs	$125,320	$117,159	93%
Lincoln	0	$68,027	$0	0
Manitowoc	1 FTE	$91,408	$100,600	110%
Marathon	1 FTE	$160,024	$97,416	61%
Marinette	0	$81,471	$0	0
Monroe	0	$69,242	$0	0
Oconto	0.5 FTE	$71,229	$37,137	52%
Oneida	0	$80,872	$0	0
Outagamie	0	$213,176	$0	0
Portage	1 FTE	$78,176	$65,025	83%
Racine	1.25 FTEs	$200,616	$129,217	64%
Richland	0	$63,984	$0	0
Rusk	Part of 1 FTE	$65,165	$50,000	77%
Sawyer	$40,000 toward 2 FTEs	$67,319	$40,000	59%
Sheboygan	0 (interns only)	$124,312	$0	0
St. Croix	0.5 FTE	$113,352	$52,952	47%
Vilas	0	$73,053	$0	0
Waupaca	68% of one FTE	$74,384	$47,600	64%
Winnebago	0	$182,552	$0	0
Wood	1 FTE	$80,808	$70,000	87%

Figure 5 shows that Brown County is among the most reliant on the WLIP revenues for staff salaries. The table shows that Brown County allocated 100% of its 2014 retained fee revenue towards FTE staff salaries. There are two important things to note about this:

1. When the 2014 budget was put together in July 2013, the outlook for 2014 indicated an average revenue year so about $440,000 in retained fee revenues were anticipated. In other words, 71% of revenue was expected to fund the 3.85 positions.   2014 ended up $164,320 short of revenue projections, so the higher percentage is shown here.

2. When shortfall appeared imminent (spring of 2014) one FTE position was vacated and it was not refilled, thus bringing the number of funded FTEs down to 2.85 for the remainder of 2014.

Most of responding counties spend less than 50% of their WLIP dollars on staff; many do not use WLIP dollars for salaries at all.   Not all counties have enough real estate activity to generate sufficient revenues for staff salaries, but it is useful to note that some larger counties such as Outagamie, Sheboygan and Winnebago spend no WLIP dollars on FTE staff salaries.

D. Budget process timeline & the challenges of economic outlooks
During each budgeting cycle, it is a challenge to forecast real estate activity for the following year since the budget process begins in June and July of the preceding year. Each summer, the LIO Coordinator consults with the Register of Deeds and the Land Information Council to estimate real estate revenues 6 to 18 months into the future for the following budget year. Predicting real estate market activity is complex; Revenue projections are made based on economic indicators, 30-year averages, recent economic trends and other factors.   Budgeted revenue estimates are made conservatively, and revenues usually exceed projections. This was notably not the case in 2014.

V.   Goals and Recommendations

The following goals and recommendations are being presented to the County Executive and Administration staff by Planning & Land Services staff. Support is being sought for future budget policy decisions that ensure long-term sustainability of the Land Information Modernization account.
If acceptable to the County Executive, it is suggested that these goals and recommendations should also be adopted by the Land Information Council as policy for the Land Information Office for the development of future budget proposals.

A. Budgetary Goals
The Land Information Budget should be put together with the following goals:

1. **Keep annual expenditures for fixed costs less than 60% of the average annual Land Records Modernization fee revenues**
   Fixed costs include Operations & Maintenance plus Transfers for staff wages and benefits. Sixty percent of the average annual Land Records Modernization revenues is approximately $260,000 per year.

2. **Rebuild the account reserves by cutting expenses where possible and seeking new revenue sources**
   Develop a plan toward maintaining an account balance of at least $200,000 during each budget planning cycle as a cushion in case revenues fall short of projections. It may be necessary to phase this account balance over several years in order to fund existing operations.

3. **Meet the WLIP statutory guidelines for expenditures**
   Retained fee dollars must be spent on projects identified in program statutes and the County's Land Information Strategic Plan. If expenses are deemed unauthorized by the Wisconsin Department of Administration, the county faces suspension in aid (Attachment 3, Statute 59.72).

4. **Build the budgetary goals outlined in this paper into the overall Land Information Strategic Plan**
   The Land Information Strategic Plan is due for an update in 2015 and it will guide the LIO's projects and expenditures from 2016 to 2018. The goals and recommendations made in this policy document should be adopted by the Land Information Council and included in future strategic plans.

B. Recommendations

The following recommendations can serve as objectives to help meet the budgetary goals outlined above. These recommendations are based on the analysis provided in this paper, including the historic trends and the lessons learned from the 2014 shortfall. These recommendations are based on a projected $432,000 in average annual document recording revenues at the current $8 rate.

1. **Reduce transfers for FTE salary costs** by shifting the 1.85 Property Listing positions currently funded by LIO at an annual cost between $163,000 and $170,000 to a different account. Counties typically use levy dollars to pay for Property Listing staff, although Real Estate Transfer fee revenues could help offset these costs. The following options were identified in the Planning and Land Services Department "Weaning Plan" report in 2007:

   Option 1
   Place all Property Listing expenses on the levy to save approximately $160,000 in yearly expenses on the Land Records Modernization fund. Property Listing function is a fundamental, core cost of county government and as such most counties expense it as a levy funded operation.

   Option 2
   Since Property Listing staff develops the tax assessment roll, it is a necessary service that benefits all Brown County departments. By enabling the collection of property taxes, the related Property

Listing costs could be identified as an indirect cost and budgeted to all departments as charge backs on the Indirect Costs line item.

Option 3

At $160,000 per year in salaries, we could simply reduce the transfer out by $40,000 a year over four budgets. That will take us through the County Executives current term and minimize the immediate financial impact by spreading it over a longer period of time.

Option 4

Use the Real Estate Transfer Fee revenues collected by the Register of Deeds office for the related real estate functions of Property Listing staff. Currently, the Transfer Fee revenues are treated as a "pass through" of approximately $500,000 per year from the Register of Deeds office to the general fund.

Implementing this recommendation would decrease LIO expenses by approximately $160,000 per year.

2. **Fund only two FTE staff salaries using WLIP revenues**. The GIS Coordinator and the vacant GIS Technician position in the Planning & Land Services Department best match the WLIP model and are known to be authorized expenses by the Wisconsin Department of Administration. Funding only two FTE positions with WLIP revenues will help reach the above goal of keeping fixed costs under 60% of the average annual revenue, especially if done in conjunction with recommendation #3 below.

This recommendation is in line with recommendation #1 and would save the LIO approximately $160,000 per year.

3. **Reduce LIO Software and Maintenance expenses by offsetting these costs or making technology more self-sufficient.** The largest software maintenance costs are for Esri GIS software and the Register of Deeds Fidlar software, each amounting to about $49,000 in annual maintenance charges. Cutting these costs altogether is not an option since these technologies help form the foundation of our land information program. However, at least two alternatives exist to help reduce operations & maintenance costs to the LIO account:

    a. The Real Estate Transfer Fee provides Brown County with approximately $500,000 in revenue per year. Since the Fidlar and GIS technologies are utilized during the real estate transfer process, these revenues could directly fund the maintenance of the technology.

    b. The Fidlar software users subscribe to that system generating annual revenue to the Register of Deeds (2015 ROD budget for Charges and Fees Public Access $107,100). Since the ROD annually passes through revenue to the General Fund it makes sense to use these subscription fees to help offset the software maintenance costs to pay for itself.

Implementing this recommendation could save the LIO account $50,000 to $100,000 per year.

4. **Invest in capital projects instead of incurring new fixed costs when real estate activity rebounds.** It's unlikely that real estate activity will reach the peak seen in 2001-2004, but even a modest increase in activity could quickly build surpluses and grow the account balance. When this happens, it will be tempting for any administration to shift staff salaries onto this account, but as witnessed in 2014 this is not sustainable long term. Any future surpluses should be invested into technology and projects that increase efficiency, as outlined by the WLIP.

    Implementing this recommendation would help protect the account from future revenue deficits.

5. **Identify contingency projects in the 3-year Strategic Plan.** The strategic plan should include annual "base level" work plan as well as other projects contingent upon sufficient funding. These contingency projects could include contracted service work, LTEs, and technology upgrades that will benefit the users of the system and create additional efficiencies.

6. **Seek new revenue sources.** Selling advertisement space on the Land Information web site is a potential source of new revenue. Planning & Land Services staff has been advised by Corporation Counsel that sales of ads on the county web site is in accordance with laws and regulations. Ad sales have not been pursued due to staff time constraints. However, with more than 600 web site visitors per day, advertisers may be willing to contribute significant revenues to the program.

VI.   Conclusion

The services provided through the Brown County Land Information Office program have become critically integrated into the functions of Brown County, our municipalities, the state and federal governments as well as the private sector. These programs help to support and help define LEAN management principals by improved efficiencies and levels of services as well as reduced staffing needs and costs.
The present financial course of funding the Property Listing staff with limited Land Records Modernization funds has proven to be unsustainable and has resulted in not funding the vacant GIS Technician position which had helped to accelerate Brown County Land Information Office services.

This paper has identified several recommendations to return the Land Records Modernization fund to a healthy financial condition. While there may be no on single "silver bullet" solution it is possible that a combination or portions of each of the recommendations may result in a "shot gun" style solution.

The staff of the Planning and Land Services Department appreciates the County Executive's review and consideration of this document. In conjunction with the Land Information Council we look forward to continued dialog in order that acceptable and effective recommendations can be implemented through the 2016 budget process.

Attachment 1: Brown County Planning & Land Services Department Five-Year Strategic Plan

Land Information Division

2015

- Continue the quality control efforts on all key geographic information systems (GIS) data layers (addresses, streets, parcels, etc.).
- Complete the remaining goals and objectives outlined in the state mandated Land Records Modernization / Land Information 5-year Strategic Plan (2010-2015) which include:
  - o Preparations for the AS/400 system upgrades including drafting the request for proposal.
  - o Address data management improvements and building footprint mapping.
  - o Staff GIS training.
  - o Produce online GIS application that helps manage, map, and advertise all Treasurer tax deed property sales and Sheriff's foreclosure sale properties.
  - o Continue to implement focused GIS applications using ArcGIS Online and other mobile and web technology.
  - o Continue to supply and enhance land information as needed for emergency response, resource conservation, infrastructure planning, facility maintenance, economic development, regulatory inspection, and other county functions.
  - o Continue to assist towns with zoning map updates and other needs.
  - o Continue to update and enhance flood map change tracking by maintaining a letter of map amendment/revision (LOMA/R) map layer.
  - o Continue to assist with the survey index project.
  - o Assist PALS and Public Works Department staff with MS4 stormwater management tracking and mandates using GIS technology.

2016

- Prepare a new Land Records Modernization Strategic Plan (2016-2018) as required by State Statute 59.72 and the Wisconsin Department of Administration. This will involve:
  - o Conducting a GIS needs assessment among all Brown County Land Information stakeholders (various county departments, municipalities, and other organizations).
  - o Meeting with the Land Information Council to review and prioritize the documented needs.
  - o Translating the prioritized needs into new initiatives, goals, and objectives.
  - o Developing a Work Plan and scheduling projects over three to five years.
  - o Reporting on progress of ongoing activities, problems, assistance requested, cost-benefit analyses, data custodial responsibilities, and standards.
  - o Documenting and compiling the above into the format required by the Wisconsin Department of Administration.

- o Obtaining approval of the documented plan from the Land Information Council, County Board, and Wisconsin Department of Administration.
- Begin work on projects identified in the Strategic Plan adopted by the Land Information Council, County Board, and State of Wisconsin.
- Coordinate GIS activities associated with the planned AS/400 upgrade project.
- Implement new online GIS mapping software in conjunction with our local consortium of municipalities and the Oneida Tribe.
- Upgrade all GIS computers and servers, adding additional storage space and speed.
- Hire and train a new GIS Technician/Analyst to assist with GIS implementation and maintenance.
- Continue to assist internal and external customers with requests for land information data, maps, and reports as needed.

2017

- Complete all of the scheduled work activities in the 2016-2018 Land Records Modernization Strategic Plan.
- Coordinate the acquisition of new aerial orthophotos and LiDAR of Brown County, possibly in conjunction with neighboring county and/or statewide partners.
- Continue to assist with the replacement of the AS/400 system.
- Continue to assist internal and external customers with requests for land information data, maps, and reports as needed.

2018

- Complete all of the scheduled work activities in the 2016-2018 Land Records Modernization Strategic Plan.
- Continue to assist with the replacement of the AS/400 system.
- Continue to assist internal and external customers with requests for land information data, maps, and reports as needed.

2019

- Prepare a new state mandated Strategic Plan for 2019-2021.
- Continue to focus on improving GIS information quality and map layer updates.
- Upgrade all GIS servers.
- Continue to assist internal and external customers with requests for land information data, maps, and reports as needed.

Attachment 2: Property Listing salary cost breakdown & historical reference

Land Information Office Report
2014 Budget

The Property Listing Department is charged with the responsibility of marking, mapping, and maintaining the county's base map product. In order to determine the amount to be charged back to the LIO, a methodology was developed in 2006. The formula takes into account the amount of staff time and related overhead costs required to maintain the digital parcel map and to perform ongoing GIS activities. Below are the formulas and calculated costs.

- ♦ The base formula for labor costs is the percent of time the staff person works on the map multiplied by the person's salary and fringe rate.

- ♦ The overhead cost was determined by taking the percent of employee time worked on the map relative to total employee time multiplied by the department operations cost. Overhead cost is 31% (185% of 600% of employee time spent working on map) x operations cost.

Position	Percentage of Time	Salary with Fringe	Cost
Property Analyst	70.00%	$71,016	$49,711
Property Analyst	55.00%	$70,937	$39,015
Real Property Lister	25.00%	$80,541	$20,135
Survey Coordinator	25.00%	$82,065	$20,516
Central Services Specialist	5.00%	$55,174	$2,759
Survey Crew Chief	5.00%	$63,612	$3,181
Total Salaries with Fringe Cost to LIO			$135,317

Related Overhead Costs		31.00% of total costs	
Operations cost	$91,157		

Total Overhead Cost to LIO	$28,259
GRAND TOTAL	$163,576

Net increase of $1,213 from 2013

Historical Reference:
2013 - $162,363
2012 - $160,999
2011 - $162,357
2010 - $170,043
2009 - $170,328
2008 - $165,999
2007 - $158,425
2006 - $170,311

NOTE: For 2013 the salary with fringe were taken from the Position Budget Report that was provided in the budget packet. Travel & conference was not considered as overhead.

Attachment 3: Statutes pertaining to the Land Information Program

16.967   Land information program.

(1)   DEFINITIONS. In this section:

(a) "Agency" has the meaning given in s. 16.70 (1e).

(b) "Land information" means any physical, legal, economic, or environmental information or characteristics concerning land, water, groundwater, subsurface resources, or air in this state. "Land information" includes information relating to topography, soil, soil erosion, geology, minerals, vegetation, land cover, wildlife, associated natural resources, land ownership, land use, land use controls and restrictions, jurisdictional boundaries, tax assessment, land value, land survey records and references, geodetic control networks, aerial photographs, maps, planimetric data, remote sensing data, historic and prehistoric sites, and economic projections.

(c) "Land information system" means an orderly method of organizing and managing land information and land records.

(d) "Land records" means maps, documents, computer files, and any other information storage medium in which land information is recorded.

(e) "Systems integration" means land information that is housed in one jurisdiction or jurisdictional subunit and is available to other jurisdictions, jurisdictional subunits, public utilities, and other private sector interests.

(3)   DUTIES OF DEPARTMENT. The department shall direct and supervise the land information program and serve as the state clearinghouse for access to land information. In addition, the department shall:

(a) Provide technical assistance and advice to state agencies and local governmental units with land information responsibilities.

(b) Maintain and distribute an inventory of land information available for this state, land records available for this state, and land information systems.

(c) Prepare guidelines to coordinate the modernization of land records and land information systems.

(cm) Provide standards for the preparation of countywide plans for land records modernization under s. 59.72 (3) (b), including a list of minimum elements to be addressed in the plan.

(d) Review project applications received under sub. (7) and determine which projects are approved.

(e) Review for approval a countywide plan for land records modernization prepared under s. 59.72 (3) (b).

(f) Review reports received under s. 59.72 (2) (b) and determine whether county expenditures of funds received under sub. (7) and s. 59.72 (5) (b) have been made for authorized purposes.

(g) Post reports received under s. 59.72 (2) (b) on the Internet.

(h) Establish an implementation plan for a statewide digital parcel map.

(4) FUNDING REPORT. The department shall identify and study possible program revenue sources or other revenue sources for the purpose of funding the operations of the land information program, including grants to counties under sub. (7).

(6) REPORTS.

(a) By March 31 of each year, the department of administration, the department of agriculture, trade and consumer protection, the department of safety and professional services, the department of health services, the department of natural resources, the department of tourism, the department of revenue, the department of transportation, the board of regents of the University of Wisconsin System, the public service commission, and the board of curators of the historical society shall each submit to the department a plan to integrate land information to enable such information to be readily translatable, retrievable, and geographically referenced for use by any state, local governmental unit, or public utility. Upon receipt of this information, the department shall integrate the information to enable the information to be used to meet land information data needs. The integrated information shall be readily translatable, retrievable, and geographically referenced to enable members of the public to use the information.

(b) No later than January 1, 2017, the department shall submit to the members of the joint committee on finance a report on the progress in developing a statewide digital parcel map.

(7) AID TO COUNTIES.

(a) A county board that has established a county land information office under s. 59.72 (3) may apply to the department on behalf of any local governmental unit, as defined in s. 59.72 (1) (c), located wholly or partially within the county for a grant for any of the following projects, except that a county shall complete the project under subd. 1. and make public records in the land information system accessible on the Internet before the county may expend any grant moneys under this paragraph for any other purpose:

1. The design, development, and implementation of a land information system that contains and integrates, at a minimum, property and ownership records with boundary information, including a parcel identifier referenced to the U.S. public land survey; tax and assessment information; soil surveys, if available; wetlands identified by the department of natural resources; a modern geodetic reference system; current zoning restrictions; and restrictive covenants.

2. The preparation of parcel property maps that refer boundaries to the public land survey system and are suitable for use by local governmental units for accurate land title boundary line or land survey line information.

2m. In coordination with the department, the creation, maintenance, or updating of a digital parcel map.

3. The preparation of maps that include a statement documenting accuracy if the maps do not refer boundaries to the public land survey system and that are suitable for use by local governmental units for planning purposes.

4. Systems integration projects.

5. To support technological developments and improvements for the purpose of providing Internet-accessible housing assessment and sales data.

(am)

1. Subject to subds. 2. and 3., the department shall award land information system base budget grants for eligible projects under par. (a) to enable a county land information office to develop, maintain, and operate a basic land information system.

2. The minimum amount of a grant under this paragraph is determined by subtracting the amount of fees that the county retained under s. 59.72 (5) (b) in the preceding fiscal year from $100,000. The department is not required to award a grant to a county that retained at least $100,000 in fees under s. 59.72 (5) (b) in the preceding fiscal year.

3. If the moneys available for grants under this paragraph in a fiscal year are insufficient to pay all amounts determined under subd. 2., the department shall establish a system to prorate the grants.

(b) In addition to any other grant received under this subsection, the department may award a grant to any county in an amount not less than $1,000 per year to be used for the training and education of county employees for the design, development, and implementation of a land information system.

(7m) SUSPENSION OF AID.

(a) If the department determines that grants under sub. (7) or retained fees under s. 59.72 (5) (b) have been used for unauthorized purposes, the department shall notify the county or local governmental unit of the determination. The notice shall include a listing of unauthorized expenditures. The county or local governmental unit shall have not less than 30 days to contest the determination or resolve the unauthorized expenditures. If the unauthorized expenditures are not resolved in a manner acceptable to the department, the department may suspend the eligibility of the county or local governmental unit that made unauthorized expenditures to receive further grants or to retain further fee revenues.

(b) If the department determines that a county has violated s. 59.72, the department shall suspend the eligibility of the county to receive grants under sub. (7) and, after June 30, 2017, the county shall be eligible to retain only $6 of the portion of each fee submitted to the department under s. 59.72 (5) (a). After not less than one year, if the department determines that the county has resolved the violation, the department may reinstate the eligibility of the county for grants under sub. (7) and for retaining $8 of the portion of each fee submitted to the department under s. 59.72 (5) (a).

(8) ADVICE; COOPERATION. In carrying out its duties under this section, the department may seek advice and assistance from the board of regents of the University of Wisconsin System and other agencies, local governmental units, and other experts involved in collecting and managing land information. Agencies shall cooperate with the department in the coordination of land information collection.

(9) TECHNICAL ASSISTANCE; EDUCATION. The department may provide technical assistance to counties and conduct educational seminars, courses, or conferences relating to land information. The department shall charge and collect fees sufficient to recover the costs of activities authorized under this subsection

59.72   Land information.

(1) Definitions. In this section:

(a) "Land information" means any physical, legal, economic or environmental information or characteristics concerning land, water, groundwater, subsurface resources or air in this state. "Land information" includes

information relating to topography, soil, soil erosion, geology, minerals, vegetation, land cover, wildlife, associated natural resources, land ownership, land use, land use controls and restriction, jurisdictional boundaries, tax assessment, land value, land survey records and references, geodetic control networks, aerial photographs, maps, planimetric data, remote sensing data, historic and prehistoric sites and economic projections.

(b) "Land records" means maps, documents, computer files and any other storage medium in which land information is recorded.

(c) "Local governmental unit" means a municipality, regional planning commission, special purpose district or local governmental association, authority, board, commission, department, independent agency, institution or office.

(2) Duties.

(a) No later than June 30, 2017, the board shall post on the Internet, in a searchable format determined by the department of administration, the following information related to individual land parcels:

1. Property tax assessment data as provided to the county by municipalities, including the assessed value of land, the assessed value of improvements, the total assessed value, the class of property, as specified in s. 70.32 (2) (a), the estimated fair market value, and the total property tax.

2. Any zoning information maintained by the county.

3. Any property address information maintained by the county.

4. Any acreage information maintained by the county.

(b) No later than June 30 following the end of any year in which a county that accepts a grant under s. 16.967 (7) or retains any fees under sub. (5) (b), the county land information office shall submit to the department of administration a report describing the expenditures made with the moneys derived from those grants or retained fees.

(3) Land information office. The board may establish a county land information office or may direct that the functions and duties of the office be performed by an existing department, board, commission, agency, institution, authority, or office. If the board establishes a county land information office, the office shall:

(a) Coordinate land information projects within the county, between the county and local governmental units, between the state and local governmental units and among local governmental units, the federal government and the private sector.

(b) Within 2 years after the land information office is established, develop and receive approval for a countywide plan for land records modernization. For any county in which land records are not accessible on the Internet, the plan shall include a goal of providing access to public land records on the Internet. The plan shall be submitted for approval to the department of administration under s. 16.967 (3) (e). No later than January 1, 2014, and by January 1 every 3 years thereafter, the land information office shall update the plan and receive approval from the department of administration of the updated plan. A plan under this paragraph shall comply with the standards developed by the department of administration under s. 16.967 (3) (cm).

(c) Review and recommend projects from local governmental units for grants from the department of administration under s. 16.967 (7).

(3m) Land information council.

(a) If the board has established a land information office under sub. (3), the board shall have a land information council consisting of not less than 8 members. The council shall consist of the register of deeds, the treasurer, and, if one has been appointed, the real property lister or their designees and the following members appointed by the board for terms prescribed by the board:

1. A member of the board.

2. A representative of the land information office.

3. A realtor or a member of the Realtors Association employed within the county.

4. A public safety or emergency communications representative employed within the county.

4m. The county surveyor or a professional land surveyor employed within the county.

5. Any other members of the board or public that the board designates.

(am) Notwithstanding par. (a), if no person is willing to serve under par. (a) 3., 4., or 4m., the board may create or maintain the council without the member designated under par. (a) 3., 4., or 4m.

(b) The land information council shall review the priorities, needs, policies, and expenditures of a land information office established by the board under sub. (3) and advise the county on matters affecting the land information office.

(4) Aid to counties.

(a) A board that has established a land information office under sub. (3) and a land information council under sub. (3m) may apply to the department of administration for a grant for a land information project under s. 16.967 (7).

(b) A board shall use any grant received by the county under s. 16.967 (7) (a) and any fees retained under sub. (5) (b) to design, develop, and implement a land information system under s. 16.967 (7) (a) 1. and to make public records in the system accessible on the Internet before using these funds for any other purpose.

(5) Land record modernization funding.

(a) Before the 16th day of each month a register of deeds shall submit to the department of administration $15 from the fee for recording or filing each instrument that is recorded or filed under s. 59.43 (2) (ag) 1. or (e), less any amount retained by the county under par. (b).

(b) Except as provided in s. 16.967 (7m), a county may retain $8 of the portion of each fee submitted to the department of administration under par. (a) from the fee for recording or filing each instrument that is recorded or filed under s. 59.43 (2) (ag) 1. or (e) if all of the following conditions are met:

1. The county has established a land information office under sub. (3).

1m. The county has created a land information council under sub. (3m).

2. A land information office has been established for less than 2 years or has received approval for a countywide plan for land records modernization under sub. (3) (b).

3. The county uses the fee retained under this paragraph to satisfy the requirements of sub. (2) (a), or, if the county has satisfied the requirements of sub. (2) (a), to develop, implement, and maintain the countywide plan for land records modernization on the Internet.

59.72(6) **(6)** Land records modernization. With regard to land records modernization as described in sub. (3) (b), if a register of deeds transfers an instrument that was filed or recorded with the register of deeds before April 1, 2006, to an electronic format, as described in s. 59.43 (4), the register of deeds shall make a reasonable effort to make social security numbers from the transferred instrument's electronic format not viewable or accessible on the Internet.