Land Information Plan

2014 Update

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I. EXECUTIVE SUMMARY

A. Identification and Contact Information

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B. Participants in the Planning Process

Washington County Land Information Council

Brian Bausch	Citizen Member
*Brian Braithwaite, Vice-Chair	Real Property Lister
*Eric Damkot	GIS Manager/LIO
Justin Drew	Citizen Member
*Katrina Hanson	Realtor
*Sharon Martin	Register of Deeds
*Jane Merten	Treasurer
*Scott Schmidt	County Surveyor/Engineer
*Martin Schulteis	Sheriff Designee
*Gerald Schulz, Chairperson	County Board Supervisor
Paul Sebo	County Conservationist
Debora Sielski	Deputy Administrator, Planning and Parks Dept.
Tom Wondra	Highway Commissioner

** Council member required by §59.72(3M)*

Washington County Planning Conservation and Parks Committee

Melvin Ewert	County Board Supervisor
Robert Hartwig	County Board Supervisor
Raymond Heidtke, Vice-Chair	County Board Supervisor
Michael Miller, Chairperson	County Board Supervisor
Michael Parsons	County Board Supervisor
Gerald Schulz	County Board Supervisor
Peter Sorce	County Board Supervisor

Others Contributing to the Plan

Phil Gaudet	Land Resources Manager
Brenda Jaszewski	County Clerk

Rob Schmid	Emergency Management Coordinator
Linda Walter	Health Department Director and Health Officer

Reviewed and Approved by the Following

May 23, 2014	Washington County Land Information Advisory Commission
June 11, 2014	Planning, Conservation and Parks Committee

C. Summary of the Plan

This plan is the fifth update to the original Washington County Land Information Modernization Plan completed in 1992. The original plan and its 1998, 2003, 2005, and 2010 updates documented GIS/LIS goals and objectives and established a framework for initial and future program development. The current plan was prepared in accordance to the "Uniform Instructions for Preparing County Land Information Plans" dated December 2009.

Wisconsin State Statute 16.967(1)(b) defines land information the following way:

> *"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.*

The "Uniform Instructions for preparing County Land Information Plans" expands on this definition by including:

> *The use of the term "any" is expansive and is not limited by the words that follow. The word "characteristics" is emphasized to highlight the notion that land information is any information that can be geographically referenced to areas, lines and points on the earth. Non-traditional examples of "geo-referenced" data include social, economic, public safety, health or other statistical information organized by or referenced to location, such as parcels, census blocks, zip codes, addresses, minor civil divisions, the Public Land Survey System, counties, service regions, natural zones, or regions*

As the definition implies, nearly every aspect of county government involves land information in one way or another. The activities and projects identified in this plan are a reflection of this expansive definition. The current plan includes sections where projects completed and those that are in progress or on-going are documented. The plan includes sections to describe Washington County's adherence to state and local standards. The main focus of the plan, however, is to document how Washington County will further land information modernization. This is achieved by defining the major goals driving program decisions as well as listing new initiatives that will be considered to achieve

these goals. Driving all decisions is the continued expansion of land records modernization to new areas of the county in order to promote efficiency, collaboration, and more informed decision making. At the same time, this plan works to maintain Washington County's existing investment in land information related data and applications.

The 2014 Update of the Washington County Land Information Plan was created as a bridge between the 2010 Plan Update and the anticipated update §59.72(3)(b) will require by Jan 1, 2017. Future updates will occur every three years in accordance with §59.72(3)(b) or more often if needed to respond to changes in funding, data/application priorities, and technology

D. County Land Information Websites

http://maps.co.washington.wi.us/ - General purpose GIS mapping website.

http://records.co.washington.wi.us/ - Text only option for accessing tax roll data including tax bill images.

https://landshark.co.washington.wi.us/LandShark/ - Register of Deeds application to search and view recorded real estate documents.

http://www.co.washington.wi.us/surveys - Text only option for accessing plats of survey filed with the county surveyor.

http://maps2.co.washington.wi.us/Apps/plats - Geographic option for accessing plats of survey filed with the county surveyor.

http://maps.getmovingwashingtoncounty.org/ – Active living mapping application.

http://maps2.co.washington.wi.us/AddressFinder/ - Mapping application to lookup and verify address data.

http://maps2.co.washington.wi.us/Apps/districtfinder/ - Look up addresses and compare to election districts (primarily used by local clerks to maintain Statewide Voter Registration System data).

http://maps2.co.washington.wi.us/Apps/nmr/ - Nutrient Application Restriction mapping application

http://www.co.washington.wi.us/744 - Index of Benchmarks

http://www.co.washington.wi.us/743 - Donated surveyor field book indexes

http://www.co.washington.wi.us/728 - Highway Registry Books

http://www.co.washington.wi.us/highwayprojects – Text only application to search and view the highway plans.

http://www.co.washington.wi.us/669 - Downloadable parcel maps.

http://www.co.washington.wi.us/140 – List of GIS data layers with ordering instructions.

http://maps.sewrpc.org/regionallandinfo/survey.shtm *- Map and text only index of PLSS corner dossiers and control survey summary diagrams with links to scanned images. This website is hosted and sponsored by the Southeastern Wisconsin Regional Planning Commission.*

E. Municipal Land Information Websites

http://rmgis.ruekert-mielke.com/Germantown/	Village of Germantown
http://maps.ci.hartford.wi.us/	City of Hartford

http://kewaskum.ims.ruekert-mielke.com/	Village of Kewaskum
http://wbarcserver.ci.west-bend.wi.us/Disclaimer/	City of West Bend

II. LAND INFORMATION PLAN

A. Goals and Objectives

The original Land Information System Plan for Washington County, completed in March 1992, identified two basic goals. Those goals are still relevant today and are included below as goals 1 and 2. These principles led to the completion of many of the framework layers for Washington County.

As framework layers were completed, additional goals were developed (goals 3-6 below). The new goals were identified in plan updates completed in 1999, 2003 and most recently 2005 and focus less on data creation and more on the vertical and horizontal integration of land information among users of land information.

Washington County has a maturing land information system and in 2010 goals 7 and 8 were added as a reflection of this progression. Goal 7 recognizes the significant progress made in the area of data development and the necessity of keeping that data current and accurate. Goal 8, planning and decision making support, is in recognition of how the data collected and systems developed are now usable for analysis and more informed decision making.

Goal 9 was added in the 2010 plan update in response to 2009 Wisconsin Act 314 and to reaffirm Washington County's emphasis on providing access to land information through the Internet. Goal 9 is expanded in this plan revision to include the additional mandates related to on-line data distributed created by 2013 Wisconsin Act 20.

1. Statement of Goals and Objectives

The Washington County Land Information Council meets regularly to discuss current opportunities and needs relating to each goal. The opportunities and needs are compared to available funding and staff resources to determine the specific projects that will be completed in each year. The progress already made in meeting these goals is substantial and outlined in future sections of this plan.

Goal 1: To Implement in Washington County, over time, a multipurpose, multi-user, parcel-based, automated mapping and land information system consisting of the following five basic elements:

a) Geodetic reference framework.
b) Large-scale planimetric and topographic base maps.
c) Overlays, including cadastral boundaries and boundaries of various cultural and natural resources.
d) Identifiers, including parcel numbers and codes associated with various cultural and natural areas.
e) Non-spatial land information files, including cadastral parcel records and various cultural and natural resource data.

Goal 2: To reach agreement among Washington County, the local units of government in Washington County, and the various public and private utilities operating in Washington County on the design of a common automated mapping and land information systems so as to ensure economy of efficiency in the development and use of that system and so as to ensure the ready entry, retrieval, and exchange of data by and between the various users of the system.

Goal 3: Expand and develop land information datasets as needed to integrate GIS and Land Records Modernization into the daily activities of all departments that use spatial data.

By promoting land information modernization and integration, the Washington County Land Information Council intends to facilitate

- Improved data accuracy
- Lowering costs and increasing the efficiency of county government
- A reduction in duplication of effort between departments and all levels of government
- Improved access to information for users

Goal 4: Implement new advances in hardware and software and where required, develop custom applications to support land records modernization and integration.

Goal 5: Encourage internal and external GIS program coordination and cooperation and provide access to data as guided by the requirements and restrictions of statutes and county policy.

Goal 6: Provide for short term and longer term planning, training, technical support, and funding for the GIS Program. Seek various funding sources for Land Records Modernization and Integration Projects.

Goal 7: Protect Washington County's investment in Land Information modernization by dedicating the necessary resources to the maintenance of existing data and systems.

Goal 8: Support Washington County planning initiatives including, but not limited to, the Washington Comprehensive plan. Provide elected and appointed officials the analysis and resources to make informed decisions.

Goal 9: Provide Internet access to public land information in a way that meets or exceeds all state mandates.

Measurement criteria for achieving the above goals.

a. Data acquired from state or local sources

The data most often used in the day to day operations of county government were created and are maintained by the County. A few notable exceptions exist:

- Washington County relies on the Southeastern Wisconsin Regional Planning Commission for land-use, environmental corridor, and other datasets frequently used in planning applications.
- City of West Bend has an established GIS program and maintains highly accurate cadastral, road centerline, situs address points, and topographic data. Washington County does not duplicate this information and is able to merge city and county data to create countywide coverage when needed.
- Data used for e911 dispatch and other emergency government applications frequently needs to extend beyond the county line. Washington County has been able to acquire and integrate data from surrounding counties for these applications.
- Floodplain Data from the Federal Emergency Management Agency (FEMA) and wetland data from the Wisconsin DNR are acquired and used in shoreland/floodplain/wetland zoning enforcement.

Other datasets from Federal, State, and Local sources are acquired and used less frequently.

Whenever practical, Washington County tries to acquire and incorporate existing data before developing new datasets. The goal is to have no duplication of data or effort. In some cases similar data does exist, but was not captured at a sufficient scale or level of detail to accommodate county needs.

b. Problems acquiring data from state or local sources

Problems acquiring data from federal, state, or local sources have been infrequent. Problems where acquiring data has been difficult or where obstacles exist include:

- Title 13 prevents counties from acquiring the US Census Bureau's Address list.. Consequently, Washington County and the census each maintain countywide address lists.
- Washington County has been unable to acquire detailed, parcel-level assessment data for some communities. In some cases the data has not been modernized, in other cases the data is available, but is not provided (without expense) in a format that makes spatial analysis practical.
- General zoning is maintained by each local government. Currency, accuracy, differences in zoning district definitions, and format are varied making the creation of a countywide general zoning map challenging.
- Data distribution policies vary greatly across the state. Data licenses, acceptable use statements, and fees are different for each

agency/county/municipality. Requiring signed license or data sharing agreements or charging fees to other units of government can slow the exchange of data. To date this has not caused significant problems, but it could in an emergency situation if a temporary waiver was not granted.

- Each municipality is at a different level of modernization. As a result, some data that would be useful are not accessible because it has not been created or modernized.

c. Information Transfer

The county has selected Environmental System Research Institute, Inc. (Esri) as its GIS software vendor. Esri products, including ArcGIS, are the predominant GIS software used in Wisconsin. Therefore, providing data in one of the native Esri formats is enough to satisfy most information requests. Washington County regularly converts data to MicroStation .dgn format for those requesting the data in a computer aided drafting (CAD) format. Between the Esri and .dgn formats, most can use the data they obtain with little or no conversion. Washington County has the ability to convert to other commonly used CAD or GIS formats, most frequently AutoCAD, if requested. Washington County creates data models and metadata to facilitate use of the information transferred.

Data is also made available in web viewers making the data available to those without GIS or CAD software. The map services used in these applications are publically accessible.

d. Geographical Referencing

Nearly all Washington County maintained data is in the State Plane Coordinate System (North American Datum of 1927) – Wisconsin South Zone and the National Geodetic Vertical Datum of 1929 (NGVD29). These systems can be transformed by commonly used GIS software packages, including those used by Washington County.

The Southeastern Wisconsin Regional Planning Commission (SEWRPC) has developed a bidirectional conversion algorithm to translate coordinates between the NAD27 and NAD83 horizontal datums and the NGVD29 and NAVD88 vertical datums to improve the accuracy of the translation. A method to convert entire datasets at the same level of accuracy as the SEWRPC bidirectional transformation is lacking.

e. Maintenance of digital land information.

This plan includes a goal (#7 listed above) to "protect Washington County's investment in Land Information modernization by dedicating the necessary resources to the maintenance of existing data and systems." Washington County's history of providing budget support for the staff, hardware, software, and training required to maintain digital land information is proof of this

commitment. Additionally, long term maintenance is considered prior to the initiation of any new data creation or land information modernization project.

2. Technology Environment and Database Design

Washington County has selected Environmental System Research Institute, Inc. (Esri) as its GIS software vendor. Data is viewed, edited, and analyzed using ArcGIS for Desktop. Analytical capabilities are expanded through the use of ArcGIS for Desktop extensions. Washington County has selected Bentley as its primary CAD/Civil software vendor and uses Microstation and InRoads for engineering related applications. Internal policies and procedures are in place to easily share data between Esri and Bentley software. Washington County has a long established Microsoft Windows Network with Windows 7 being the standard desktop operating system.

The core GIS datasets are maintained in a Microsoft SQL Server database with Esri's Spatial Data Engine (SDE) technology. SDE provides a robust, multi-user environment to store, update and serve data to all county users. AS400/DB2 is also used extensively with libraries for tax information and zoning.

ArcGIS for Server is used to publish data for Internet distribution. County produced applications are Adobe Flash based, however, the general GIS mapping website is hosted and employs various Esri and non-Esri technology. Providing access to land information in a web application is critical to expanding the benefit of land information modernization to the public and nontechnical county staff.

In some cases the Esri or Bentley software does not meet all the requirments of a specific business need. In these cases a department may purchase add-on or stand alone software to meet the need. An example would be the asset management software used by the Washington County Highway Department to inventory and manage signs. Care is taken when selecting these applications to ensure they are compatible with the enterprise GIS.

The database design of the GIS features includes the necessary primary keys to ensure integration with related tabular data. National and State standards and vendor supplied best practices are considered whenever databases are designed. Washington County has a policy of creating data model diagrams, data dictionaries, and FGDC compliant metadata for all core data.

The technology Washington County has chosen, sound database design, and a commitment to documentation allow the GIS Division, and more generally the GIS program, to meet its mission. That mission is to *Create and maintain a countywide framework of shared geographic information that conforms to standards enabling data sharing and collaborative decision making.*

B. Progress Report on Ongoing Activities

Progress made in the county under the previous versions of this plan in achieving the goals and objectives previous listed. The status of each activity is identified.

Goal 1**:** To Implement in Washington County, over time, a multipurpose, multi-user, parcel-based, automated mapping and land information system…

- Washington County is 100% remonumented with horizontal and vertical control established on each monument. A maintenance program is in place whereby all monuments in one United States Public Land Survey Township are inspected each year and found deficiencies brought to current standards. [COMPLETE – ONGOING MAINTENANCE – UPGRADES LIKELY]
- Perpetuated the centerline of railroad tracks prior to the tracks being removed. This railroad centerline and other landmarks are important in the description of parcels near those landmarks. [COMPLETE – ADDITIONAL PROJECTS MAY BE NECESSARY]
- Large-scale topographic mapping, with varied currency, for all areas in Washington County is complete. [COMPLETE – FUTURE UPDATE REQUIRED]
- DTM, 10' DEM, 25' DEM, 50' DEM and classified .las files are available countywide. [COMPLETE – FUTURE UPDATE REQUIRED]
- Digital parcel mapping for all areas in Washington County is complete. The City of West Bend maintains their parcels. Washington County is responsible for the remainder of the County. [COMPLETE - ONGOING MAINTENANCE]
- Each parcel in the digital parcel fabric has a parcel number enabling the integration of related tabular data in the GIS. [COMPLETE]
- Migrate parcel data to the Esri Parcel Data Fabric [ONGOING]

Goal 2: To reach agreement among Washington County, the local units of government in Washington County, and the various public and private utilities operating in Washington County on the design of a common automated mapping and land information systems…

- Washington County and the City of West Bend worked cooperatively to create common data models for cadastral and road centerlines. The County and the City also have an informal agreement to identify areas of mapping of responsibility. [COMPLETE]

Goal 3: Expand and develop land information datasets as needed to integrate GIS and Land Records Modernization into the daily activities of all departments that use spatial data.

- Digital orthophotography is complete for 1995, 2000, 2005, and 2010. Preparing for anticipated update in 2015 [COMPLETE – ONGOING – FUTURE UPDATES EXPECTED]
- Scanned, mosaicked, and georeferenced aerial photography is available countywide for 1941, 1950, 1963, 1970, 1980, 1985, and 1990. [COMPLETE – FUTURE ADDITIONS POSSIBLE]

- Acquired Oblique Aerial Imagery in 2013. The deliverable included 4-way oblique imagery and orthogonal imagery. An optional 2nd flight in 2017 is possible. [COMPLETE – FUTURE ADDITIONS POSSIBLE]
- Surface water and shoreland/floodplain/wetland zoning features including wetlands and floodplains. Most current FEMA floodplain and DNR wetland data are incorporated into county zoning layers. [COMPLETE – ONGOING MAINTENANCE]
- Detailed floodplain studies are underway for Ashippun River, Bark River, Butler Creek, Cedar Lake, Cedar Creek, Little Oconomowoc River, Lower Cedar Creek, Lower Rubicon River, Mason Creek, Oconomowoc River, and Rubicon River Subwatersheds. [IN PROGRESS]
- Systematically improve the accuracy of floodplain mapping for the remaining subwatersheds through engineering analysis. [IN PROGRESS]
- Countywide road centerlines and situs address points. Maintained jointly with the City of West Bend. [COMPLETE – ONGOING MAINTENANCE]
- Database containing the location, condition, and characteristics of Highway signs [COMPLETE – ONGOING MAINTENANCE – UPGRADE NEEDED]
- Inventory of land conversation practices and best management practices installed in the County [COMPLETE – ONGOING MAINTENANCE]
- Inventory of storm water management practices to better manage maintenance and inspections. [COMPLETE – ONGOING MAINTENANCE]
- Inventory of critical infrastructure. [COMPLETE – ONGOING MAINTENANCE]
- Inventory of all outdoor public recreation facilities [COMPLETE – ONGOING MAINTENANCE]
- Mapped landmarks and other places of historic or cultural significance [COMPLETE – ONGOING MAINTENANCE]
- Inventory of private on-site wastewater treatment systems installed in Washington County after 1980. [COMPLETE – ONGOING MAINTENANCE]
- Identify, inventory and integrate private on-site wastewater treatment systems installed in Washington County before 1980 [IN PROGRESS]
- Private on-site wastewater treatment systems data integrated with tax roll data. [COMPLETE – ONGOING MAINTENANCE]
- Washington County has an enterprise document imaging system and continues to scan and/or add digital land records.
    - All indexes dated 1945 forward and related deeds, mortgages and satisfactions are scanned and available through LandShark. All deeds from 1830 to 1945 are scanned, in LandShark, and accessible by recording information only. [COMPLETE – ONGOING MAINTENANCE]
    - All paper tract indexes are scanned and available in LandShark. [COMPLETE]
    - Tax bill images are created each year. [COMPLETE – ONGOING MAINTENANCE]
    - Highway plans from the Highway Department, County Clerk, and Real Property Lister are scanned and available in a single repository [COMPLETE – ONGOING MAINTENANCE]

- A project to scan sanitary permit files is in-progress [IN PROGRESS – ONGOING MAINTENNANCE]
- All surveys filed with the county surveyor are scanned. [COMPLETE – ONGOING MAINTENANCE]
- Highway books are scanned [COMPLETE]
- Compiled and scanned index of benchmarks [COMPLETE – ONGOING MAINTENANCE]
- Acquired retired surveyor field notes some, but not all, are scanned [ONGOING – ADDITIONS POSSIBLE]

Goal 4: Implement new advances in hardware and software and where required, develop custom applications to support land records modernization and integration.

- Maintain support on all GIS and related software for continued access to fixes, service packs, new releases, and technical support. [ONGOING]
- Acquire additional hardware and software to better create, maintain, and administer programs containing land information. [ONGOING]
- Upgrade or replace desktops and servers needed to create, maintain, analyze and distribute land information on an established schedule. [ONGOING]
- The Register of Deeds has acquired the necessary hardware and software to accept electronic documents. [COMPLETE]
- File based storage of core datasets migrated to a relational database. [COMPLETE]
- Software and hardware needed to support wireless and landline 911 mapping [COMPLETE]
- Implemented software in the Sheriff and Highway Departments to track the land information maintained in those departments [COMPLETE]
- Upgrade land use application (POWTS) allowing tighter integration with parcel maps and tax roll data. Application will also enabled better spatial analysis, electronic submittal of maintenance reports, and improved access to records [COMPLETE]
- Purchase and maintain hardware required to provide hard-copy versions of land information. [ONGOING]
- Have acquired a hand-help GPS received to field collect a variety of Land Information. [COMPLETE – FUTURE UPGRADE POSSIBLE]
- Have acquired a survey grade GPS to maintain and create a variety of data layers [COMPLETE]
-

Goal 5: Encourage internal and external GIS program coordination and cooperation and provide access to data as guided by the requirements and restrictions of statutes and county policy.

- Washington County data are stored and maintained on network servers promoting the sharing of data throughout the County [COMPLETE]
- Washington County has imaged many paper files making them more accessible to internal and external users [COMPLETE – IN PROGRESS – ONGOING MAINTENANCE]

- Membership of the Washington County Land Information Council includes the major stakeholders in the land information program. Membership also includes representatives from outside of county government [COMPLETE]
- Washington County has a policy in place for digital land information distribution. The policy charges cost of reproduction and will waive that fee for requests from other units of government. [COMPLETE]
- Washington County provides data to many State agencies and local units of government. In some cases the data is reformatted on export to enhance usability. [ONGOING]
- Internal data standards and documentation have been developed and implemented. This includes FGDC compliant metadata for all GIS data sets developed and maintained by the County. [ONGOING MAINTENANCE]
- Provided technical support to the county and many municipalities during the 2011 redistricting process. Continue to provide election data and maps as requested. [COMPLETE – ONGOING MAINTENANCE]
- GIS data is available to all county employees through an Intranet mapping application. [ONGOING MAINTENANCE]
- In addition to the general purpose Internet mapping application, the county has developed numerous simpler applications that are designed to make specific workflows more efficient [COMPLETE – IN PROGRESS – ADDITIONAL SITES UNDER DEVELOPMENT - ONGOING MAINTENANCE]
- When possible links between on-line applications are created to simplify the user experience [ONGOING]
- Create web applications that allow data manipulation over the web. An application allowing local governments to submit address information is complete. Additional sites (public and/or private) are likely. [COMPLETE – ONGOING MAINTENANCE – ADDITIONS LIKELY]
- Established a Consolidated Boundary and Annexation Survey Agreement to accurately and efficiently communicate boundary changes to the US Census Bureau. 19 of 21 municipalities are currently part of the agreement [COMPLETE – ADDITIONS POSSIBLE]
- Extended enhanced access and functionality related to the oblique aerial imagery to local units of government. [COMPLETE – ONGOING MAINTENANCE]

Goal 6: Provide for short term and longer term planning, training, technical support, and funding for the GIS Program. Seek various funding sources for Land Records Modernization and Integration Projects.

- Develop, and amend as needed, the Washington County Land Information plan to identify the major goals driving program decisions as well as new initiatives that will be considered to achieve these goals [ONGOING]
- Maintain an active Land Information Council to provide direction and policy to the land information program as well as coordinate land information projects within the County [ONGOING]
- Continue to send lead technical staff to conferences and training to stay current with continually advancing technology. [ONGOING]

- Washington County has an established 'GIS Users' group where the lead technical staff can provide training and support to others in Washington County using land information technology [ONGOING]
- Partnered with the Wisconsin DNR on various floodplain mapping projects to extend floodplain mapping to areas outside of the DNR scope [ONGOING]
- Pursue grants and partnerships in addition to retained fees and levy support to fund land information initiatives. [ONGOING]

Goal 7: Protect Washington County's investment in Land Information modernization by dedicating the necessary resources to the maintenance of existing data and systems.

- Maintenance of existing data is part of the daily workflows at Washington County. Keep hardware, software, and training current to complete these tasks. [ONGOING]
- Retain the appropriate staff to maintain the data [ONGOING]
- Continue the established public land survey system monument maintenance program. [ONGOING]
- Enter or scan new records into previously modernized systems. [ONGOING]
- Consider the long-term maintenance implications before initiating any data acquisition or modernization project. [ONGOING]

Goal 8: Support Washington County planning initiatives including, but not limited to, the Washington Comprehensive plan. Provide elected and appointed officials the analysis and resources to make informed decisions.

- Washington County Comprehensive Plan –adopted April 15, 2008 [COMPLETE – AMENDMENTS AS NEEDED]
- Park and Open Space Plan Update [IN PROGRESS]
- Farmland Preservation Plan Update – adopted December 10, 2013 [COMPLETE – UPDATE REQUIRED EVERY 10 YEARS]
- Land and Water Resources Management Plan, 2nd Revision – adopted October 26, 2010 [COMPLETE – UPDATE REQUIRED EVERY 10 YEARS]
- Aquatic Invasive Species Strategic Plan – Adopted February 12, 2013 [COMPLETE – UPDATES AS NEEDED]

Goal 9: Provide Internet access to public land information in a way that meets or exceeds all state mandates.

- Balancing open records and a right to privacy, Washington County has made on-line access to land information a priority. [ONGOING MAINTENANCE – FUTURE APPLICATIONS EXPECTED]
- Creation of a general purpose land information interactive mapping website [COMPLETE – ONGOING MAINTENANCE]
- Creation of a multiple task specific websites [COMPLETE – ONGOING MAINTENANCE – FUTURE ADDITIONS]
- Text-only tax reports with links to tax bill images and a delinquent tax calculator. [COMPLETE – ONGOING MAINTENANCE – UPDATE NEEDED]

- Application to search and view real estate documents (1830-present) by the Register of Deeds. [COMPLETE – ONGOING MAINTENANCE]
- Access to all surveys filed with the County Surveyor [COMPLETE – ONGOING MAINTENANCE].
- Access to scanned county highway plans [COMPLETE – ONGOING MAINTENANCE]
- Access to highway registry books, index of benchmarks, and surveyor field notes [IN PROGRESS – ONGOING MAINTENANCE]
- Access to private on-site wastewater treatment systems including scanned permits. Ability to submit maintenance reports electronically. [APPLICATION COMPLETE – SCANNING IN PROGRESS – ONGOING MAINTENANCE]
- Maintain the appropriate hardware, software, training and staff needed to continue current on-line resources and develop/promote new applications. [ONGOING]

C. New Initiatives

1. **Proposed Projects –** In addition to the items listed as "ongoing" or "in progress" in the 'Progress Report on Ongoing Activities' section of this plan, the Washington County Land Information Council intends to research and/or complete the following new initiatives. These initiatives are consistent with the stated goals and will further develop the land information program in Washington County. The prioritization and scheduling of these projects will be recommended by the Land Information Council and determined by the Planning, Conservation and Parks Committee. The ability and timeline to complete these projects is further dependant on the availability of grants, retained fees, budget allocations, additional funding opportunities, and staff workload.

   In addition to the specific initiatives identified below, other new initiatives may be completed under this plan. Those initiatives would be consistent with the goals of this plan and/or the framework data elements, system implementation and statewide standards.

   Administration and Facilities
   - Provide mapping and analysis support in the Washington County Emergency Operations Center. Work with emergency response professionals to ensure the capabilities of GIS are known and realized in the event of an emergency.
   - Develop a complete inventory of all county land holdings including easements.
   - Scan and improve access to historic tax roll books.
   - Support the development of an All Hazards Mitigation Plan.

   Public Safety
   - Further enhance spatial reporting and analysis of e911 calls and incidents (accidents, crime, etc…).

- Promote the efficient deployment of resources and decrease response times of public safety personnel by implementing GIS and related technology.

Transportation

- Develop a traffic code layer in the GIS to better support routing applications and pavement marking.
- Develop spatial culvert database to better support Highway and floodplain mapping initiatives.
- Develop and update county right of way width mapping.
- Expand the existing construction plan database to include the construction plans of local governments.

Health and Human Services

- Work to map and report communicable disease and other environmental or social economic factors affecting public health.
- Map and report data related to health inspections.

Conservation and Planning

- Acquire the necessary software to geographically track and administer shoreland, wetland and floodplain zoning permits. Scan and improve access to zoning files.
- Improve the quality of floodplain mapping by studying additional subwatersheds.
- Establish guidelines and promote digital delivery of preliminary land division surveys.
- Acquire updated digital orthophotography. This includes updated orthophotography to be flown in the Spring of 2015 and future projects as needed.
- Update and support oblique aerial imagery as needed.
- Complete projects to scan and import any remaining land information documents located in the Register of Deeds.
- Quality control name indexes, clarity of image, and confirm redaction of social security number from 1935 to 1998. *Funded using remaining social security redaction fund.*
- Integrate the GIS and document Imaging system. This project will provide a direct link from the graphics (parcels, road segments, flood plain boundaries, etc…) in the GIS to images (deeds, highway plans, etc.) in the document imaging system.
- Develop a comprehensive geographic planning, tracking and reporting application for all land and water conservation practices which integrate existing tabular data and various program requirements into a single user-friendly application.
- Scan storm water management plans to better perform inspection and maintenance tasks.

- Develop a risk assessment for nonpoint runoff utilizing various land information layers and pollution loading models.
- Acquire necessary data, hardware, software or services necessary to assist with the implementation of the Wisconsin Department of Natural Resources, Total Maximum Daily Load to meet water quality standards and pollution reduction goals. Including, but not limited to pollution analysis tools, along with tracking and reporting database structure and programs.
- Provide mapping and analysis in support of the Park and Open Space Plan, County Comprehensive Plan, Aquatic Invasive Strategic Plan and Farmland Preservation Plan updates.
- Create and implement a schedule to update LiDAR data.
- Complete an inventory of park and trail amenities in the County and natural resources in the county parks system. Use this inventory in maps, on the web, in the creation of a Natural Resources Management Plan, and other venues to support parks and active recreation opportunities in Washington County.
- Inventory current and future bike and pedestrian routes to support the development of a detailed bike and pedestrian plan.
- Create and maintain base farm tracts needed for farmland preservation planning and other planning and conservation activities.
- Provide mapping support for the Brownfield Assessment/Site Revitalization Program Initiative.
- Continue to expand the availability of maps and other land information on the Internet.
- Scan and display on-line historic monument dossiers in addition to the most recent dossier that is currently available.
- Evaluate the pros and cons of Washington County's continued use of older datums (NAD27 and NGVD29) vs. the pros and cons of moving to a newer datum. Study processes and costs associated with moving to a newer datum.
- Improve the absolute accuracy of PLSS monument coordinate values.
- Investigate and implement newer technology to simplify delivery of digital land information to the public.
- Facilitate the distribution of local datasets through existing on-line county land information applications.
- Acquire necessary data, hardware, software or services necessary to comply with the distribution requirements outlined in §59.72(2). Specifically, "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:
    - 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 §70.32(2)(a), the estimated fair market value, and the total property tax.
- Any zoning information maintained by the county.
- Any property Address information maintained by the county.
- Any acreage information maintained by the county."

2. Assistance requested

Without the Wisconsin Land Information Program, and specifically the county's ability to retain fees for land information modernization, many of the accomplishments identified in the plan would not have been possible. Similarly, the ability to continue the on-going activities and complete the new initiatives is very much dependant on the continuation of this program and revenue stream.

a. **Technical Assistance**

Washington County staff are members of the land information technical assistance e-mail listserv (doa-landinfo@lists.wi.gov). Technical assistance is also received through training, conferences and other on-line resources. Washington County has maintenance contracts on all land information software; this includes vendor provided technical support. Membership in professional organizations and users' groups is encouraged. The county will identify and seek additional technical support as needed.

b. **Financing**

Washington County plans to use retained fees, Wisconsin Land Information Program grants, and county tax levy to fund the activities identified in this plan. The County will continue to pursue other grant opportunities and funding partnerships when available. Continued maintenance is a priority of the County as illustrated the inclusion of goal 7 of this plan.

c. **Ensuring Access**

Washington County tries to make land information available to a wide range of users. The available data (with documentation) and on-going projects are identified on the County website. Washington County charges minimal cost of reproduction fees for the data. The fee is waived for other units of government to promote use. Various on-line applications exist to provide direct access to publicly available land information.

d. **Statewide GIS Repository**

Washington County intends to contribute data to the statewide GIS repository when available.

e. **Procurement Practices**

Procurement practices are consistent with county ordinances and policy.

3. Problems Encountered

The problems encountered when implementing previous versions of this plan, for the most part, have been minor and solved as they come up. In some cases a solution has been developed, but not fully implemented.

A previous version of this plan identified a project to aggregate local assessment data and provide access to that data on the Internet. The small number of municipalities willing and/or able to participate in the County initiative did not make this project cost effective.

The floodplain data FEMA delivered at the conclusion of the map modernization program referenced the NAVD 88. Existing county monument and contour data is referenced to NGVD 29. Inconsistency in datum has the potential to create confusion. This is the most recent example of a growing list of issues Washington County has experienced by maintaining the older datum as its standard.

D. Custodial Responsibilities

1. and 2. Current custodial responsibility and source of custodial authority

Washington County has the same custodial responsibilities for data as most other counties in Wisconsin. Following are some of the land records custodial responsibilities listed by Department. If a specific statute, ordinance or formal policy confers custody, an indication will appear in parentheses.

Administration – Emergency Government

- Maintain critical infrastructure features.

County Clerk

- Maintain voting ward and county supervisory district data.
- Maintain Highway Orders (§83.08(1)b)

Highway

- File county right-of-way plats and construction plans
- Official Traffic Map with a digital inventory of signs along all County Highways (County code 13.02)
- Pavement Surface Evaluation and Rating (PASER) Data for County Highways (§86.302(2))
- Maintain County Right of Way width mapping (County code 12.07 and §66.1031)

Planning and Parks Department – County Surveyor

- Maintain information on PLSS corners including tie sheets (§59.45)
- File and index surveys conducted in Washington County (completed by the Real Property Lister per internal policy) (§59.45)

Planning and Parks Department – Geographic Information Systems Division

- Maintain and implement the Washington County Land Information Plan (§59.72)
- Maintain countywide street network map and situs address points
- Acquire updated orthophotography as needed
- Acquire updated topographic mapping as needed

Planning and Parks Department – Land and Water Conservation Division
- Conservation Compliance
- Conservation Planning and Implementation
- Stormwater Management
- Non-metallic Mining
- Nutrient Management
- Water Quality and Quantity
- Aquatic Invasive Species Inventories

Planning and Parks Department – Land Use Division
- Maintain private sanitary system site plans (§59.70 (5), WAC 383.21 (9) & 383.55, Ch 25 County Ordinances)
- Maintain surface hydrography mapping (§59.692, Ch 23 County Ordinances)
- Maintain Shore land/Wetland/Flood Plane Zoning Maps and related permits (§59.692 & 87.30, NR 115 & NR 116, Ch 23 County Ordinances)
- Maintain records related to land divisions in the unincorporated areas of Washington County (§236.45, Ch 24 County Ordinances)
- Create and maintain an inventory of all Private Onsite Wastewater Treatment Systems (POWTS) (WAC383.255, Ch 25 County Ordinances)

Planning and Parks Department – Planning Division
- Maintain comprehensive plans
- Maintain data pertaining to Park and Open Space Planning
- Maintain data pertaining to Farmland Preservation Planning
- Maintain the Get Moving Washington County application and related data

Register of Deeds
- Record and Scan Deeds, Mortgages, Subdivisions, Certified Survey Maps, Condominium and other related documents (§59.43)
- Maintain Tract Index of real property (§59.43)

Register of Deeds – Real Property Lister Division
- Maintain description, ownership, and assessment information for all personal and real property (§70.09)
- Maintain parcel maps (§70.09)
- Condominium Review (§703.115)
- File and index surveys completed in Washington County, per internal policy (§59.45)
- Compile and maintain real estate sales information
- Maintain file and reports for the use of the Wisconsin Department of Revenue

- Review of the legal description of proposed annexations for the Wisconsin Department of Administration

Sheriff
- Maintain Emergency response maps
- Maintain incident maps for accidents, crime, etc…

Treasurer
- Maintain tax rates and special assessment information (§70.09)
- Maintain tax information for all personal and real property (§29.25)

3. Land Information for which Washington County would like to assume custodial responsibility
- None

4. Land Information for which Washington County would assume custodial responsibility if requested
- File municipal right-of-way plats and construction plans

E. Framework Data, System Implementation and Statewide Standards

See the Washington County GIS Division website (http://www.co.washington.wi.us/gis) and/or the GIS Inventory (http://gisinventory.net) sponsored by the National States' Geographic Information Council (NSGIC) for the more current information regarding framework data.

1. Geographic Positioning Reference Frameworks
- Washington County's data is maintained in the State Plane Coordinate System (North American Datum of 1927) – Wisconsin South Zone and the National Geodetic Vertical Datum of 1929 (NGVD29).
- Washington County adheres to the following standards:
  - Standards for Geodetic Reference Systems
    a) FGDC standards and specifications
    b) Wis. Stats. Chapter 236.18

  - Standards for Public Land Survey System Corners
    a) Corner Remonumentation (Sec. 59.63(1); Sec. 60.84 (3)(c) Wis. Stats).
    b) Remon. Records (Wis. Stats. (Sec. 59.635(2)(b) and Wis. Admin. Code AE 7.08(2).
    c) Coordinate Values (FGDC Third Order Class I).

  - Standards for Geographic Control Data
    a) FGDC Third Order Class II for Horizontal Coordinate Values and Third Order for Elevation Values.
- All of Washington County is remonumented. A control survey network assigning horizontal and vertical state plane coordinate values to USPLSS sections corners and quarter corners is complete.

- Washington County implemented a program to inspect and repair the monuments, reference benchmarks, and ties for all monuments in one public land survey system township per year. For Washington County this means every monument will be inspected at least once every 12 years.
- Dossiers and CSSDs are available on the Southeastern Wisconsin Regional Planning Commission's website.
- In addition to the existing maintenance program, the long range plan includes improving the accuracy of corner coordinates and shifting datums.

2. Orthoimagery and Georeferenced Image Base Data

- The County has black and white digital orthophotography from 1995 and 2000 and true color orthophotography from 2005 and 2010.
- True color orthophography from 2007 is available for T09N R18E, T09N R19E, and T09N R20E.
- The county has Oblique Aerial Imagery from 2013. The deliverable included 4-way oblique imagery and orthogonal imagery.
- Historic aerial photography has been scanned, mosaicked, and georeferenced for 1941, 1950, 1963, 1970, 1980, 1985, and 1990.
- Updated Orthophotography is planned for 2015.
- Updated oblique aerial imagery is planned for 2017.

3. Elevation Data Products and Topographic Base Data

- Digital Terrain Models (DTM) and Contour mapping is available for all areas of Washington County, although source and currency vary. The most current available data ranges from 2003 to 2006. To achieve complete county coverage, some data developed by the City of West Bend is required.
- Classified .las files exist countywide from a project flown in December 2006.
- 10 ft, 25 ft, and 50 ft Digital Elevation Models have been generated countywide. Additional resolutions DEMs are created on a per project basis.
- Other data formats (i.e. Triangulated Irregular Networks) can be derived from the DTM or .las data.
- New LiDAR data will be acquired as needed.

4. Parcel Mapping

- Washington County maintains digital parcel mapping for all areas of the county excluding the City of West Bend. The City of West Bend maintains city parcels. The City and County previously worked cooperatively to create a common data model that is mutually beneficial. This ensures that parcels for all areas of Washington County are maintained in a common data framework.
- The parcel data model used by Washington County includes all required and many optional components of the WLIB Digital Parcel Mapping Standard.
- The United States Public Land Survey system (USPLSS) reference framework was constructed with precision placement of all section, quarter section, and center of section monuments. USPLSS sections and quarter sections were

constructed from the monuments. Washington County parcel maps are constructed with coordinate geometry (COGO) and tied to the USPLSS.

- Washington County's parcel maps are suitable to support property tax and decision making by employing geodetic reference, topology and parcel identification. The maps are not survey quality.
- Every parcel identified on the map will have a unique local parcel identification number that ties the parcel to all tax databases. The WLIB Parcel Numbering System could be incorporated into the Washington County Land Information System through database manipulation and programming. This would create a lookup table tying the WLIB standard identification number to the local identification number.

5. Parcel Administration and Assessment Information

- By using the local parcel identification number, all parcels are able to be joined to the tax data maintained by Washington County. The tax data includes site address, owner name and address, short legal description, tax exempt status and assessment classes.
- Washington County has had document imaging since 1998. Completed projects have scanned all Subdivisions, all Condominiums, all Certified Survey Maps (CSM), all deeds, and all property surveys filed with the County Surveyor. The scanning of sanitary permit files is ongoing.
- The transfer return form requires a parcel number and this could be used to link the document imaging to the tax records.
- Every parcel will have a unique local parcel identification number. The WLIB Parcel Numbering System could be incorporated into the Washington County Land Information System through database manipulation and programming. This would create a lookup table tying the WLIB standard identification number to the local identification number.

6. Street/Road Centerlines, Address Ranges and Address Points

- Washington County and the City of West Bend previously worked together to develop a common data model for road centerlines and situs address points. Areas of custodial responsibility were defined and when used together, road centerlines and situs address points are available countywide.
- The road network is topologically correct and includes name, road type, emergency response data, and address ranges in order to support routing and geocoding applications in addition to base mapping needs.
- Situs address points are digitized on the center of the structure and include house number, emergency response data, and road name. Address points are used to improve the spatial accuracy of geocoding applications. The inclusion of place name/landmark information is a developing component of this dataset.
- All addresses in Washington County are assigned at the local level. Learning of and incorporating new addresses in a timely manner are an on-going challenge. An on-line tool to report new and corrected addresses was created to simplify the process for the local addressing authority.

- There is coordination between this dataset and the MSAG to ensure consistency. The data is used for wireless e911 and other emergency response applications.

7. Hydrography, Hydrology and Wetlands Mapping

- The county developed a hydrographic dataset that meets the needs of shoreland zoning and other county applications.
- Washington County has a watershed dataset derived by interpreting 1:24:000 USGS quadrangle maps. Other watershed data from regional, state and federal sources are available and used depending on the specific need.
- Washington County uses the Wisconsin Wetland Inventory developed by SEWRPC on the behalf of the DNR.

8. Soils Mapping, Land Cover and other Natural Resources Data

- Washington County has acquired and uses the latest digital soils data available from the US Department of Agriculture, Natural Resources Conservation Service.
- Critical species habitat, environmental corridors, groundwater mapping, etc… is available from the Southeastern Regional Planning Commission and usable in the Washington County GIS.
- Washington County maintains an inventory of non-metallic mining sites in the County.

9. Land Use Mapping

- The county has incorporated land use mapping that was developed and periodically updated by the Southeastern Wisconsin Regional Planning Commission (SEWRPC). The most recent version is from 2006.
- A Land Use 2035 dataset was developed as part of the Washington County Comprehensive Planning process.

10. Zoning Mapping

- Washington County maintains Shoreland, Wetland and Floodplain zoning data for the unincorporated areas of the County. Floodplain and wetland data used are the most current available from FEMA and the Wisconsin DNR respectively.
- Washington County is working to improve the accuracy of floodplains in the county by studying large areas where only approximate floodplain data currently exists.
- Washington County has an inventory of cemeteries and county landmarks. Work is on-going to map ancient burial sites and other places of cultural significance.
- Other data, including environmental corridors and sewer service areas, are maintained by SEWRPC.
- The availability of local zoning, maintained by the local governments, is varied.

11. Election and Administrative Boundary System

- Many administrative districts are maintained through parcel attribution. These districts include minor civil division boundaries, utility districts, lake management districts, school districts, technical college districts, TIF Districts, and other districts with taxing authority. In the case of school districts, lake districts and technical college districts parcels have been combined to create a district layer.
- Washington County participated in the MAF/TIGER Accuracy Improvement Project (MTAIP) and continues to send boundary updates and corrections through a Consolidated Boundary and Annexation Survey agreement. The result is the spatial accuracy of the census geometry for Washington County has been improved dramatically. For convenience, Washington County retains a local copy of blocks, block groups, tracts, MCD. Other census geographies are downloaded and used as needed.
- Legislative and other election districts, including county supervisor and wards , are derived from spatially enhanced census data and updated as annexations occur. In addition to wards and districts, a layer of polling places is maintained.
- County and civil division boundaries are maintained as part of the cadastral dataset.

12. Critical Infrastructure and Facilities Management

- Washington County maintains districts for Dive Team, Emergency Service Number (ESN), Fire, First Response, Haz Mat Team, mutual aid box alarm system (MABAS), patrol areas, and vital care ambulance.
- Road and railroad rights of way are included in the parcel dataset. The county also maintains an attributed road centerline database with links to pavement rating data for county highways.
- Traffic road signs maintained by the County are inventoried and tracked in the GIS.
- Bridges inspected by the County Engineer are mapped.
- Public open spaces are mapped and attributed with their recreational facilities Boat launches and major trails are included.
- A critical infrastructure database has been created that includes fire/police stations, hospitals, clinics, government facilities, etc…

13. Database Design and System Implementation

- See Item II.A.2 for additional information.
- Washington County has followed industry-accepted standards for database design and system engineering. The county has migrated to, and maintains all enterprise GIS data in, a relational geodatabase.
- Washington County continues to develop and implement GIS data models. When possible, Washington County has cooperated with local units of government and drawn on vendor and neighboring county resources to complete these tasks.

- Washington County evaluates state and vendor data models and best practices and implements in part or in full when it is determined to be in the County's best interest. Washington County is in the process of migrating to Esri's parcel fabric for most of its cadastral dataset.
- Washington County uses topology rules and internally developed Quality Assurance/Quality Control procedures to ensure the integrity of data maintained in the GIS.
- Washington County GIS adheres to the Federal Geographic Data Committee (FGDC) Metadata standards as well as additional locally developed data documentation standards.
- Washington County takes privacy of its citizens seriously and no information is distributed on-line or otherwise without considering the impact on privacy. Consequently, the County Internet privacy policy does not permit information to be retrieved by name (names will be returned in query results when searched by alternate criteria). Washington County servers and system security issues are addressed by the Washington County Information Systems.
- Industry standards and good documentation makes Washington County data usable within the organization (horizontal integration) and between organizations (vertical integration). Data are converted to other formats as needed.

F. Public Access

- Washington County continues to place an emphasis creating new web options for accessing public land information. The greatest use of modernized land information is through the applications listed in section I.D.
- The web mapping services used in the county websites are publically available for those needing to reference the county data within their own applications.
- Access to the raw data is most often distributed on DVD/CD. Washington County considers a number of commonly used GIS and CAD data formats standard. Those acquiring the data are charged a small per DVD/CD fee for the data. If conversion is possible, additional formats will be provided for an additional fee.
- Washington County does not license its data and no license agreements are required for access.
- Basic and detailed data descriptions, data models, metadata, data dictionaries, and price lists are posted on the Washington County website.
- To promote data sharing, Washington County will waive the small fee for other units of government requesting the data.
- The Washington County Internet Privacy policy will not permit records to be searched by name in Internet applications. The name, however, will be returned when the record is searched by other criteria.
- Many data are still available in hard-copy for the cost of reproduction. Custom maps are made as time permits and charged time and materials.

G. Integration and Cooperation

Washington County has many cooperative relationships where data is shared. The relationships tend to be informal. The informal nature of these relationships is likely caused by the very open

distribution policy adopted by the County. Since the County does not charge other units of government or require license agreements, the need for formal sharing documents is not needed. Following are key examples of integration and cooperation.

- Washington County's GIS program is, at the same time, centralized and distributed. The GIS Division of the Planning and Parks Department provides program coordination, maintains data for many other departments/divisions, and provides analytical and/or services to any County department requesting it. Some Departments/Divisions, most notably Land Conservation and Highway, have trained staff to handle many of their GIS needs. The GIS Division supports as needed these distributed users as well.
- Washington County and City of West Bend have a common data model for cadastral and road centerline datasets. Along with a common framework for data development, the City and County use common terminology and have areas of mapping responsibility clearly defined.
- Washington County and the City of West Bend government buildings are connected through a high-speed municipal area network (MAN). This provides real-time data sharing. Desktop GIS users in either organization have live read-only access to the other organization's data.
- Washington County created a Consolidated Boundary and Annexation Survey Agreement. 19 of 21 municipalities are part of the agreement.
- Full access to the oblique aerial imagery and related analytical tools has been extended to the subdivisions in Washington County at no cost to the local government.
- The Southeastern Wisconsin Regional Planning Commission (SEWRPC) has a history of creating a regional consortium for orthophotography acquisition. These consortia frequently include federal, state, and local partners. SEWRPC also develops many planning datasets that benefit everyone working in the region.
- Washington County has acquired road and other base data from seven nearby counties to enhance the data that is used for e911 dispatch. Dispatchers now have the necessary map data to help those 911 callers who are just outside of the County, but whose calls are routed to the Washington County Sheriff Department's public safety answering point (PSAP). Washington County has provided data in return when requested.
- Washington County frequently provides data, without cost, to the state, SEWRPC, local units of government and consultants hired by those units of government. The data is used in a variety of applications. The number of data requests Washington County is able to satisfy is in itself an example of cooperation.
- Washington County partnered with SEWRPC and 12 local units of government for comprehensive planning. Data and analysis were shared between all partners.
- In some cases Washington County will provide mapping or analytical support to local units of government in addition to simply providing the data. This includes address maps, mutual aid box alarm system (MABAS) maps, and election maps.
- Washington County created an on-line tool the local addressing authority can use to efficiently submit address information to the county.

Cities, Villages, and Towns have been increasingly modernizing their land information databases. This will present new opportunities for integration and cooperation. More regular updates of cadastral and road data to the local units of government is expected. Washington County is also able to provide orthophography and topographic base data. In return, Washington

County anticipates the opportunity to receive general zoning, addressing, utility and assessment information from the municipalities.

The creation of a 'Washington County Technical GIS Users' Group' is also a possibility when there is enough staff at the local level to support a group. This would provide a place for technical staff from the County and municipalities to share data, resources and expertise.

Oversight for the Washington County Land Information Program begins with the Land Information Council. This council consists of representatives from departments with a major stake in the program as well as a county board supervisor and two citizen members not necessarily affiliated with County government. The makeup of this council alone helps ensure that all departments and municipalities benefit from the program. Those without membership on the council can, and have, suggest projects. The Land Information Council prioritizes all suggested projects and forwards those recommendations to the Planning, Conservation, and Parks Committee through the normal county budgeting process. All meetings are publically posted and open to anyone with an interest in Land Information Modernization.

When possible, data acquisition projects cover the entire county. Completing countywide data will help ensure that all municipalities benefit from the derived product.

H. Communications, Education, Training and Facilitated Technical Assistance

Available data is listed and described on the Washington County website (http://www.co.washington.wi.us/). Much of the core data is centralized on the GIS Division page (http://www.co.washington.wi.us/gis). Washington County has a policy of creating data model diagrams, data dictionaries, and FGDC compliant metadata for all core data. This information can be found on the Washington County website and distributed with each data request. Internal and external needs are documented and prioritized during budget preparation when the slate of land information projects is identified.

Washington County participates in a variety of associations, local users' groups, and on-line groups. Coordinated training and peer support are an integral part of these groups.

Washington County has standard projection and display equipment for in-house training. In addition, the information systems training room provides a hands-on option.

Washington County staff are members of the land information technical assistance e-mail listserv (doa-landinfo@lists.wi.gov).

Washington County intends to contribute data to the statewide GIS repository when available.

The land information officer education training funds are used to attend workshops, association meetings, and conferences. These include, but are not limited to WLIA Conferences, WLIA Regional Meetings and workshops.

I. Administrative Standards Not Associated with Foundational Elements

1. Washington County agrees to observe and follow the statutes relating to the Wisconsin Land Information Program and other relevant statutes.

2. Washington County agrees to permit the Wisconsin Department of Administration access to books, records and projects for inspection and audit.

3. Washington County agrees to complete the GIS Inventory Survey.

4. Washington County agrees to update this plan every 3 years as required by §59.72(3)(b) with more frequent amendments if necessary.

5. Washington County acknowledges that development and implementation of an acceptable plan confers certain benefits on local government within a county, including continued eligibility for program funding. A peer review process will be used to assess plan acceptability by the land information community.