

MILWAUKEE COUNTY LAND INFORMATION COMMITTEE
One-Hundred and Second Steering Committee Meeting

AGENDA

Date: June 7th 2016
Time: 9:00 a.m.
Place: Milwaukee Metropolitan Sewerage District
MMSD, Room 401
260 W Seeboth St.
Milwaukee, WI. 53204

- I. Roll Call
- II. Welcome
- III. Meeting Minutes
Consideration of the minutes of the 101st Steering Committee meeting held March 8th, 2015
- IV. Land Information Council, (LIC), Organization
 - A. Report on the Guidelines for the LIC
- V. Reports
 - A. **Countywide Initiatives**
 - 1. Report by the Milwaukee County Surveyor on the status of 2015 Surveyor activities.
 - B. **Financial**
 - 1. Report by Milwaukee County DAS staff on MCAMLIS Fiscal status
- VI. **Old Business**
 - A. WLIP Program Update 2016-2020 Draft 2
- VII. **New Business**
 - A. Consideration for the 2015 Planimetric Update.
- VIII. **Date, time, and place of next meeting**
- IX. **Adjournment**

MINUTES OF THE 101st MEETING
MILWAUKEE COUNTY AUTOMATED MAPPING AND LAND INFORMATION SYSTEM
STEERING COMMITTEE

Date: March 8th 2016
Time: 9:00 a.m.
Place: Milwaukee Metropolitan Sewerage District
MMSD
260 W Seeboth St.
Milwaukee, WI. 53204

Members Present

Rob Merry	Milwaukee County Surveyor
Emily Champagne	GIS Supervisor, Milwaukee Metropolitan Sewerage District
Nancy Olson, Chair	Chief Information Officer, City of Milwaukee
Kathy Bach	GIS Analyst, representing John LaFave, Milwaukee County Register of Deeds
Greg High, Vice-Chair	Director, Architecture, Engineering and Environmental Services Division, representing Milwaukee County Department of Administrative Services Facilities Management
Dana Kahle	GIS Supervisor, representing Dawn Neuy, We Energies
Doug Seymour	Director of Community Development, City of Oak Creek representing the Intergovernmental Coordinating Council of Milwaukee County

Guest and Staff Present

Kevin Bruhn	MCAMLIS Project Manager, Milwaukee County DAS/ECD-MCAMLIS
Tammy Bronson	GIS Analyst, City of Milwaukee, ITMD
Hardy Meihsner	Consultant, Spatial Data Systems

I. ROLL CALL

Chairman Olson called the 101th meeting of the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee to order at 9:00 a.m. Roll Call was taken by circulating an attendance signature sheet and a quorum was declared present.

II. MEETING MINUTES

CONSIDERATION OF THE MINUTES OF THE 100TH STEERING COMMITTEE MEETING HELD SEPTEMBER 15TH, 2015

Chairman Olson had one correction of the meeting minutes.

Champagne: moved approval of the minutes

Seymour: second, motion carried unanimous

III. REPORTS

A. 2015 – 2016 WORK PLAN STATUS

1. INTERACTIVE MAP VIEWER

Bruhn: Directed the Committee to the report included with the meeting materials. Migration of current plug-in website environment is complete. The new URLs are included in the meeting materials. There is still some ongoing work that is outstanding including a platform upgrade that is scheduled for the end of March. The LIO will roll out the migrated sites and perform feedback and training sessions afterwards.

B. MAINTAIN CORE FOUNDATIONAL ELEMENT

1. 2015 REGIONAL ORTHOPHOTOGRAPHY PROJECT

Bruhn: Directed the Committee to the report included with the meeting materials. Bruhn: Stated that he is working with Pictometry to finalize on the area with snow and ice cover that will be flown in 2016. Bruhn: There will be 95 quarter sections that will be reflown. Bruhn: The method of tile incorporation into the final product will need to be verified.

2. 2015 REGIONAL ELEVATION DATA PROJECT

Bruhn: Directed the Committee to the report included with the meeting materials. Bruhn stated that SEWRPC has been instrumental in the quality control of the project which was not part of the contract. Merry: All data has been received and reviewed, vendor was presented with more inconsistency and accuracy concerns, these issues are in process of being fixed. Bruhn: When should we expect the delivery to be made? Merry: As soon as the corrections are accepted. Bruhn: Presented a draft analysis of a height change from the LiDAR datasets. Seymour: Does the LIO want updates from project based elevation change? Bruhn: It would be difficult to incorporate into the core dataset. High: What else does LiDAR add? Merry: It can be used for topology and surface modeling.

C. PROMOTE THE INTEGRATION OF PARCEL BASED LAND INFORMATION

1. REPORT BY MILWAUKEE COUNTY REGISTER OF DEEDS STAFF ON MCAMLIS STREET ADDRESS AND CADASTRAL MAP MAINTENANCE OPERATIONS

Bach: Directed the Committee to the report included with the meeting materials,

noting the continuing status of both the cadastral and address maintenance efforts conducted within the suburban communities. Addresses are updated with the exception from Fox Point. Champagne: The new village administrator should be a point of contact to clarify this issue. Olson: Does Fox Point participate in the MMGUG meetings? Bruhn\Champagne: They do not but the hired village consultant from Ruekert and Mielke does.

2. REPORT BY CITY OF MILWAUKEE STAFF ON MCAMLIS STREET ADDRESS AND CADASTRAL MAP MAINTENANCE OPERATIONS

Bronson: Directed the Committee to the report included with the meeting materials. Further reported that there has been 18 parcels updated through the year, and 300 pending. She continued, reporting that addresses were up to date within the City and in 2015 there were over 16,000 changes.

D. EDUCATIONAL OUTREACH

1. REPORT BY MCAMLIS STAFF ON THE STATUS OF WORK PERFORMANCE ON BEHALF OF MCAMLIS IN SUPPORT OF LOCAL COMMUNITY GIS EFFORTS

Bruhn: Directed the Committee to the report included with the meeting materials, noting that staff had attended the yearly WLIA conference. The LIO also presented and the UWM graduate level 793 applied project class. Bruhn stated the MCLIO is planning to coordinate a MMGUG soon. Olson: Is the LIO planning on presenting the new viewer at the next meeting? Bruhn: As soon as it is ready.

E. COUNTYWIDE INITIATIVES

1. REPORT BY MCAMLIS STAFF REGARDING COUNTYWIDE INITIATIVES AND PROGRAM ACTIVITY STATUS

Bruhn: Directed the Committee to the report included with the meeting materials regarding the consolidated City of Milwaukee and County Cadastral Data. The 4th quarter 2015 and 1st quarter of 2016 updates have been completed. A QC integrity check is currently underway. Plat of surveys have increased. Olson: Is there an increase in recordings? Bach: It seems steady from the past year.

F. REPORT BY MILWAUKEE COUNTY DAS STAFF ON MCAMLIS FISCAL STATUS

Bruhn: The LIO will be presenting the materials due to availability of the budget analyst. If there are any further questions, staff will follow up with those. Bruhn: The budget did meet 2015 revenue expectations. Bruhn: went over the year end and project budget details. Bruhn: a few project items need clarification. Olson: Have other cross charges or payments been included? Bruhn: Will include any other cross charges will be itemized with the next budget update.

IV. OLD BUSINESS

A. CONSIDERATION BY MCAMLIS COMMITTEE REGARDING THE 2016 DRAFT LAND MODERNIZATION PLAN

Bruhn: Directed the Committee to the report included with the meeting materials. Bruhn: Comments and changes that were received have been incorporated into the plan. Bruhn: Benchmark 4 has been reworded to be open ended for the possibility

for multiple options and cost and method variations to meet that benchmark. Merry: Comments were given to the LIO to be incorporated to offer the options. Olson: Could the date on the title page be updated to match the plan? Bruhn: The plan will be submitted after the change has been made.

High: moved to approve the Land Information Plan.

Seymour: second, motion carried unanimous

B. CONSIDERATION BY MCAMLIS COMMITTEE REGARDING THE 2016 STRATEGIC INITIATIVE GRANT

Bruhn: Directed the Committee to the report included with the meeting materials. The grant references the land modernization plan. The draft grant has been already been approved awarded to Milwaukee County. The grant is written to include the most expensive approach to benchmark 4 in the Land Plan. Bruhn: 6 out of 7 County in the SEWRPC area are planning on proceeding with the plan from SEWRPC addendum 206. Olson: Do we need a motion for the total amount of the project? Merry: Benchmark 4 explains the 2 methods of monument updates. High: Is there only \$50K for the project? Bruhn: There will be two grant awards for this project for a total of \$100K. Champagne: If there is any underage, will the grant award need to be given back? Bruhn: There are dependent projects that will come from the initial change of the datum including updates in the materials and datasheets as well as the migration of the cadastral and topo data that will need to be done. Kahle: Is this an estimate for the total cost when the grant proposal was written? Bruhn: Yes, it is an estimate.

Seymour: moved to approve the Strategic Initiative Grant.

Kahle: second, motion carried unanimous

C. REPORT BY MCAMLIS STAFF WITH THE CREATION OF THE LAND INFORMATION COUNCIL

Bruhn: The Milwaukee County Boards Economic Development Committee met on Monday March 7th to discuss this item. The committee voted to approve the resolution and the item has been moved to the full County Board to meet on April 4th. Olson: What was the vote? High: 4-0. Olson: Was there any discussion? Bruhn: A few off topic questions, and a question why the need for the change. It was stated that this was an issue of compliance and the concern of losing grant and recording fees. Olson: Any anticipation of meeting formality changes? Bruhn: It is the intention to continue business as-is with the addition of the new members.

V. NEW BUSINESS

A. WLIP PROGRAM UPDATE 2016-2020

Bruhn: Directed the Committee to the report included with the meeting materials. Bruhn: The State DOA has submitted their plan that is open for review and comments. Bruhn explains the changes that are occurring with the way the State is funding and supporting Wisconsin Counties.

B. RETIREMENT OF DR. KURT BAUER

VI. OLD BUSINESS

A. WISCONSIN DOA REQUEST FOR V2 STATEWIDE PARCEL DATA

Bruhn: Directed the Committee to the correspondence included with the meeting materials.

VII. DATE, TIME, AND PLACE OF NEXT MEETING

Olson: Set the next regular meeting for June 7th 2016 @ 9:00 am, MMSD

VIII. ADJOURNMENT

Champagne: moved approval

High: second, motion carried

By consensus of the Committee

Respectfully submitted,
Kevin Bruhn



DEPARTMENT OF ADMINISTRATIVE SERVICES

Milwaukee County

TEIG WHALEY-SMITH • Director, Administrative Services
James Tarantino • Director, Economic Development

To: Milwaukee County Land Information Council Members

From: James Tarantino, Director, Economic Development

Re: Guidelines for the Land Information Council

Date: May 11, 2016

Purpose of the Land Information Council (LIC)

In March 2016, the County Board of Supervisors approved the creation of a Milwaukee County Land Information Council and appointed eleven (11) members to two year terms. That action was guided by Wisconsin Statute Sec. 59.72 (3m) which required creation of the LIC. Statute also provides guidance as to the purpose of the LIC [Statute Sec. 59.72 (3m)(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.”

As such, the statutorily created authority of the LIC is to advise the Land Information Office (LIO) in manners related to planning and budgeting. Each of these primary functions is described in greater detail below.

Each “Member” is an entity explicitly stated in the County Resolution (16-104), and each Member has one “Appointee” serve on their behalf on the Board. These include –

MEMBER	APPOINTEE
Milwaukee County Board of Supervisors	Sup. Jason Haas
Land Information Office	Kevin Bruhn
County Treasurer	David Cullen
Office of Emergency Management	Christine Westrich
County Surveyor	Robert Merry*
Milwaukee County Register of Deeds	John LaFave*
City of Milwaukee Chief Information Officer	Nancy Olson*
Metropolitan Milwaukee Sewerage District GIS	Emily Champagne*
Intergovernmental Coordinating Council	Doug Seymour*
Department of Administrative Services	Greg High*
We Energies	Dawn Neuy*

*Appointee was an existing MCAMLIS Steering Committee member prior to the creation of the LIC.

Planning

Membership of the LIC is comprised of a diverse group with varied perspectives, knowledge, and experience. The services provided by the LIO have to meet the needs of a varied customer base that includes public and private sector institutions and citizen users of GIS. The advantage of the LIC is to be able to leverage the collective wisdom of members to effectively prioritize and plan for the annual operation of the LIO. The LIC shall decide the method for review of the “priorities, needs, policies” of the LIO and the frequency of review. As a suggestion, methods of planning and review could include –

- Regular (annual, biennial) strategic planning sessions to establish goals and prioritize projects;
- Performance management (currently employed by Milwaukee County);
- Review of best management practices from other land information offices;
- Engaging with national or industry-wide professional organizations such as ESRI.

The Statute is unclear as to the method of conveying this review, which implies that this is at the discretion of the LIC. This could include prepared reports, communication at in-person meetings, or more informal methods as decided by the LIC. It should be noted that while the LIC is encouraged to provide strategic guidance of the LIO, the Office remains a function of County government. As such, the daily operations of the LIO and all appurtenant administrative decisions related to staffing, work rules, procurement, and others will remain subject to County rules.

Budgeting

As a unit of Milwaukee County government, operations of the LIO are funded by an annual budget that is recommended by the County Executive and passed by the County Board of Supervisors. Typically beginning in the second quarter of the calendar year, the LIO works with County Budget Office staff to prepare a break-even budget that is presented to the Executive in the summer and to the County Board in October. The LIO budget is subject to a County-specific cost distribution methodology known as “cross-charging” which functions as a distributive method of cost sharing based upon the proration of use across all County departments. In the case of the LIO, this may include enterprise-wide purchases of GIS licenses. Depending upon the circumstance and reason for the charge, the LIO may cross-charge other departments or may be subject to cross-charge expenses from other departments. The LIC may review and provide comment to the County Budget Office on all elements of the annual budget, including cross-charged expenses, with the recognition that other County functions may rely on the income generated from this cross-charge for their own budget.

LIO staff will present an annual budget to the LIC for review as soon as reasonably feasible, no later than June of every year. The LIC shall review the budget and provide comment promptly. The 6-8 month budgeting process can be informed by the comments of the LIC and incorporate areas of prioritization in the case of competing projects. The LIO budget is unique among County units in that it is based substantially around a retained fee on the recording of documents

in the Register of Deeds office. Other sources of funding can be sought to add to this budget, and any additional funds would be contemplated in the County-approved annual budget.

Collaboration is Key

Milwaukee County is excited to appoint the LIC and to be able to improve the services provided by the LIO with the input from our partners and stakeholders. As a regional government, the County understands the need for collaborative efforts such as the LIC to be able to effectively provide services for all of our customers. We look forward to an active and engaged partnership with the LIC.

Next Steps for the LIC

Hopefully this document has provided some clarification as to the role of the LIC and the responsibilities of its members. The guiding Statute is silent on many aspects of the LIC including those mentioned above. Other items that are to be determined at the discretion of the LIC include –

- Frequency of meetings;
- Rules of order including rules related to voting (consensus vs. majority), attendance (in person or via phone, proxy);
- Organizational structure including whether or not to draft by-laws and elect Officers;
- Formality of meetings.

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(ITEM) From the Director of Economic Development, Department of Administrative Services, requesting the creation of a Land Information Council and appointment of its members, replacing the Milwaukee County Automated Mapping and Land Information System Task Force, by recommending adoption of the following:

A RESOLUTION

WHEREAS, Milwaukee County (the County) has created a land information office, organized within the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) section, Economic Development Division, Department of Administrative Services, that is advised by a taskforce created by File No. 88-379; and

WHEREAS, this taskforce is known as the MCAMLIS Task Force and is charged with overseeing the implementation of the County’s land records modernization plan; and

WHEREAS, the land information office is directed by Section 59.72(2), Wisconsin Statutes to “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;” and

WHEREAS, under Section 59.72(3m), Wisconsin Statutes, any county with a land information office must establish a Land Information Council that is comprised of at least eight members, including the Register of Deeds, the County Treasurer, the real property lister if one has been appointed, or their designees, and the following members appointed by the Milwaukee County Board of Supervisors (County Board) for terms determined by the County Board: a member of the County Board, a representative of the land information office, a realtor or a member of the Realtors Association, a public safety or emergency communications representative employed within the County, the county surveyor, and any other members that the County Board dictates; and

WHEREAS, the Land Information Council is to “review the priorities, needs, policies, and expenditures of a land information office established by the board and advise the county on matters affecting” the land information office per Section 59.72(3m), Wisconsin Statutes; and

WHEREAS, the current MCAMLIS steering committee has been operating since 1988 and includes representation from some of the statutorily required members and also the Milwaukee Metropolitan Sewerage District, the Intergovernmental Coordinating Council, the City of Milwaukee, We Energies, and the Department of Administrative Services (DAS); and

47 WHEREAS, in order to comply with Section 59.72(3m), Wisconsin Statutes,
 48 County Board action to create a Land Information Council and appointment of its
 49 members is needed, whose members are to include:
 50

MEMBER	APPOINTEE
Milwaukee County Board of Supervisors	Supervisor Jason Haas
Land Information Office	Kevin Bruhn
County Treasurer	David Cullen
Office of Emergency Management	Christine Westrich
County Surveyor	Robert Merry (existing MCAMLIS member)
Milwaukee County Register of Deeds	John LaFave (existing MCAMLIS member)
City of Milwaukee Chief Information Officer	Nancy Olson (existing MCAMLIS member)
Milwaukee Metropolitan Sewerage District Geographic Information Systems	Emily Champagne (existing MCAMLIS member)
Intergovernmental Coordinating Council	Doug Seymour (existing MCAMLIS member)
Department of Administrative Services	Greg High (existing MCAMLIS member)
We Energies	Dawn Neuy – Manager, EDAM Support, (existing MCAMLIS member)

51
 52 ;and

53
 54 WHEREAS, the above listed members are enabled to appoint their designees as
 55 members of the Land Information Council; and

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 57 WHEREAS, the term of appointment shall be for two years commencing on the
 58 date of this Resolution; and

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 60 WHEREAS, the creation of a Land Information Council effectively replaces the
 61 MCAMLIS Task Force and DAS is hereby directed to use the term “Land Information
 62 Council” with reference to this advisory committee wherever practical; and

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 64 WHEREAS, the Committee on Economic and Community Development, at its
 65 meeting of March 7, 2016, recommended adoption of the Director’s request (vote 4-0);
 66 now, therefore,

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 68 BE IT RESOLVED, Milwaukee County hereby creates a Land Information
 69 Council and appoints its inaugural members; and

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 71 BE IT FURTHER RESOLVED, the County Executive and the County Clerk
 72 and/or other appropriate County officials are hereby authorized to execute, after
 73 Corporation Counsel approval, any and all instruments, required to implement the intent
 74 of this resolution.

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srb
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SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: Kurt W. Bauer, PE, RLS, AICP
Milwaukee County Surveyor

DATE: December 31, 2015

SUBJECT: **MILWAUKEE COUNTY SURVEYOR ACTIVITIES—2015**

This memorandum is intended to provide the MCAMLIS Steering Committee with a report on the work of the Milwaukee County Surveyor in the calendar year extending from January 1, 2015, through December 31, 2015. The office, and the duties and functions, of the County Surveyor are prescribed by Section 59.45 of the *Wisconsin Statutes*. In Milwaukee County the necessary work, pursuant to the direction of the County Board, is funded by document recording fees retained by the County pursuant to Section 59.43(2) of the *Wisconsin Statutes*. Since the MCAMLIS Steering Committee is charged by contract between Milwaukee County and the public and private utilities operating within the County with administering these retained recording fees, a report to the Committee on the activities of the County Surveyor is in order.

Within Milwaukee County, the U.S. Public Land Survey System has been combined with the State Plane Coordinate System and the National Geodetic Vertical Control System to provide the high order horizontal and vertical control survey network required for the preparation and maintenance of the MCAMLIS large-scale topographic and cadastral maps. Therefore, the work of the Milwaukee County Surveyor entails not only the maintenance of the U.S. Public Land Survey System as such, but also the maintenance of the MCAMLIS horizontal and vertical control survey network. Consequently, the work requires expertise in geodetic, as well as plane, surveying and in the legal aspects of property boundary determination.

Attachment 1 to this memorandum consists of a map of Milwaukee County on which are shown the location of all of the corners of the U.S. Public Land Survey System for which various types of perpetuation activities were undertaken in calendar year 2015. These activities involved the replacement of monuments marking the location of section, quarter section, center of section, witness and meander corners which were reported as damaged, disturbed, or destroyed, by construction, or other activities or actions. The work involved the setting of new monuments; and, as necessary, the replacement of attendant witness marks and benchmarks, the verification or establishment of new State Plane Coordinate values for corner monuments, and elevations for benchmarks. A total of eight corners required the reestablishment of vertical control survey reference benchmarks which in turn created the need for the Commission staff to complete about 15.5 miles of high order differential level lines. New records of U.S. Public Land

Survey control station records – dossier sheets – were prepared for each remonumented corner shown on Attachment 1.

A copy of each completed new dossier sheet is provided in Attachment 2 to this memorandum. As indicated on Attachment 1, a total of 50 U.S. Public Land Survey corners were involved in the perpetuation activity from January 1, 2015, through December 31, 2015. In some cases, the perpetuation activity resulted in revised elevations for both the corner monuments concerned and the attendant benchmarks. In such cases, control survey summary diagrams were updated to reflect those changes. A copy of each of the revised diagrams concerned is herewith provided as Attachment 3.

Perpetuation of the corners included, where possible and necessary, the setting of preconstruction witness marks for the corners; remonumentation of the corners; the conduct of high order vertical control surveys to establish the elevations of the corner monuments and of accessories thereto, and the preparation of new dossier sheets for the corners. Where necessary high order traverse or global positioning system (GPS) surveys were conducted to reestablish, or verify, the state plane coordinate positions of corners.

Preconstruction field work was also completed for 30 U.S. Public Land Survey corners that were expected to require perpetuation due to street and highway or utility reconstruction proposed to be carried out in 2015. These corners are identified on Attachment 1 by open circles. This work included inspection of proposed construction limits at the corner locations; the setting and the measurement of distances to temporary witness marks located outside of the anticipated construction limits; and the transfer of reference benchmark elevations to stable benchmarks set outside of the anticipated construction limits.

It should be noted that, in accordance with Milwaukee County policies relative to the participation and use of disadvantaged business enterprises in the provision of County services, a contract was entered into with the firm of Dakota Intertek Corporation of Milwaukee, Wisconsin--a minority owned firm--to provide assistance to the County Surveyor pertaining to the maintenance of the U. S. Public Land Survey System. More specifically, the contract provided for assistance in the remonumentation of broken or substandard concrete monuments marking the location of corners pertaining to the system. The contract specified 9 such monument locations where the contractor was instructed by the County Surveyor as to what type of work was to be performed and the specifications that were to be followed. After completion of such work, the County Surveyor performed an inspection of the monument installations, all of which were found to be in compliance with the specifications governing the work. Payment was made to the contractor in the amount of \$16,122.00 on September 22, 2015. This amount constituted 19.4 percent of the total cost of the County Surveyor services, thus exceeding the goal established by Milwaukee County for the participation of a disadvantaged business enterprise in this regard.

Pursuant to State Statutes, Registered Land Surveyors must provide copies of all plats of surveys other than land subdivision plats and certified survey maps conducted within the County to the Office of the County Surveyor for filing. Through December 31, 2015, the County Surveyor received, indexed, and filed 1,223 copies of new land surveys completed in 2015 within the County, bringing the total number of records of land surveys completed within the County, which have been filed with the County Surveyor since the inception of this work in 1984, to 86,805. The filed records are indexed to permit retrieval by name of the surveyor concerned, the property owner concerned, the address of the property concerned, if shown on the plat, the date of the survey plat, the civil division, and the U.S. Public Land Survey Township and Range, and Section and one-quarter section within which the plat is located.

In 2012, the County Surveyor assisted MCAMLIS staff in the coordination of an annual program to update the Milwaukee County website in order to incorporate the copies of new land surveys received during the year and those to be received in subsequent years. In 2015 the MCAMLIS staff produced digital scans of 1,223 hardcopies, and merged the new files with the existing files to create a total of

86,805 plats of survey that have been filed with the County Surveyor as of December 31, 2015. The purpose and intent of this project was to create a single digital database from the separate databases maintained by the office of the County Surveyor and MCAMLIS, and to allow the digital images of the plats of survey to be accessed by the public through the MCAMLIS portion of the Milwaukee County website.

* * *

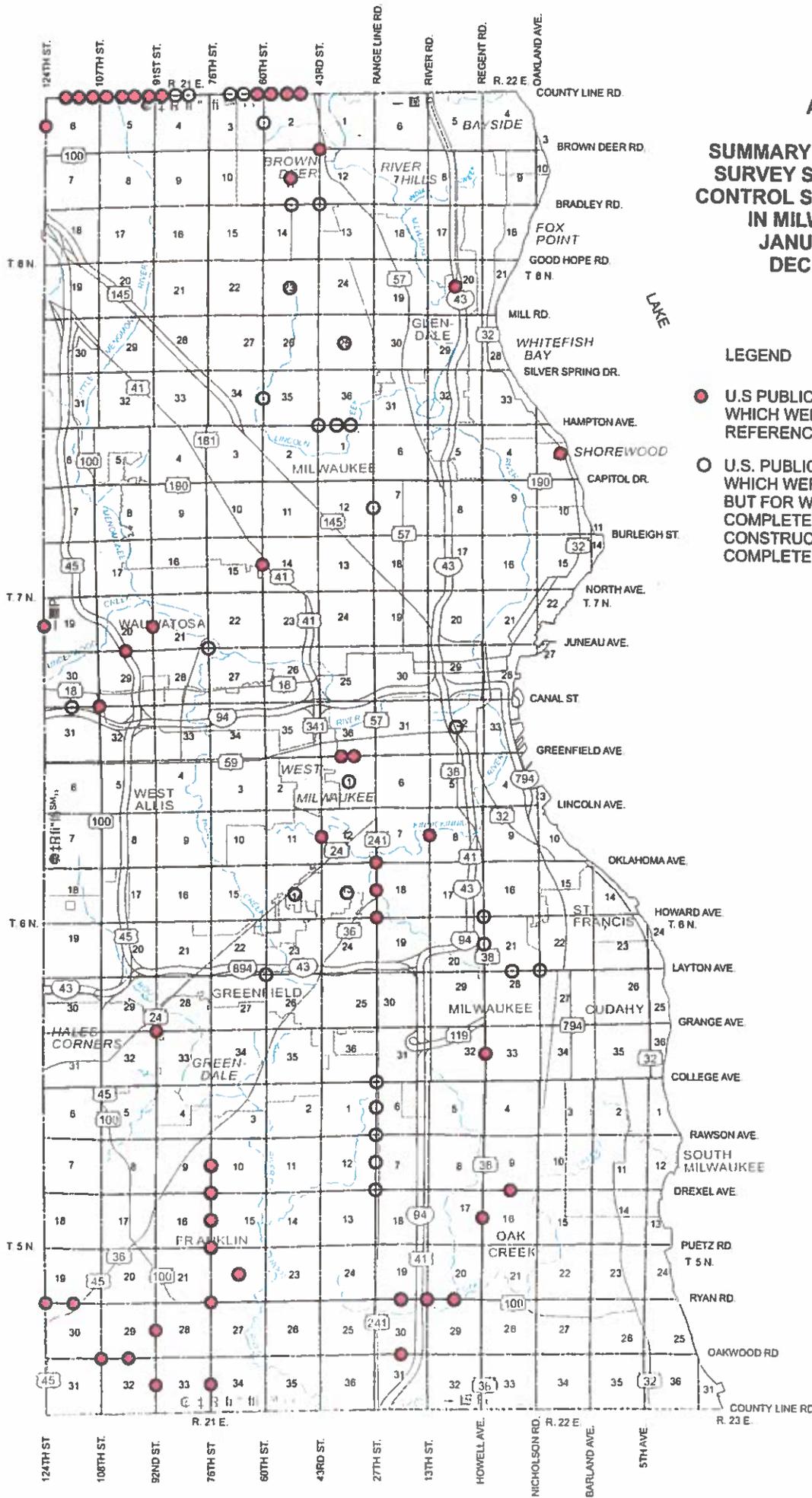
KWB/RWM/dd
MKE CO. SURVEYOR ACTIVITIES 2013 (00223859).DOC

Attachments

cc: Mr. Kevin W. Bruhn, GIS Supervisor and MCAMLIS Project Manger
Ms. Marcia G. Cornell, Manager Central Drafting and Records, City of Milwaukee
Mr. Gregory G. High, Director, Architectural, Engineering and Environmental Services,
Milwaukee County
Mr. Daniel R. Talarczyk, Survey Services Supervisor, Milwaukee Metropolitan Sewerage District
Ms. Mary Dziewiontkoski, Project Programming, City of Milwaukee
Mr. Robert W. Merry, Chief Surveyor, SEWRPC

Attachment 1

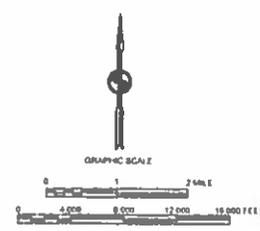
SUMMARY OF U.S. PUBLIC LAND SURVEY SYSTEM CORNER AND CONTROL SURVEY PERPETUATION IN MILWAUKEE COUNTY: JANUARY 1 THROUGH DECEMBER 31, 2015



LEGEND

- U.S. PUBLIC LAND SURVEY CORNERS WHICH WERE REMONUMENTED AND/OR REFERENCED IN 2015 (50)
- U.S. PUBLIC LAND SURVEY CORNERS WHICH WERE REMONUMENTED IN 2015 BUT FOR WHICH REFERENCING WILL BE COMPLETED IN 2016 DUE TO CONSTRUCTION PROJECTS NOT FULLY COMPLETED (30)

MICHIGAN



Source: SEWRPC.

2016 YTD Fiscal Report - MCAMLIS - As of May 27, 2016

2016 MCAMLIS YTD

		YTD	YE Projected
REVENUES - 2016 YTD			
2016 Actual Revenue		\$344,320	\$854,944.22
2015 Encumbrances Carried Over		\$164,228	\$164,228
	TOTAL	<u>\$508,548</u>	<u>\$1,019,172</u>
OPERATING EXPENSES - 2016 YTD			
2016 Actual Expenditures		\$248,731	\$617,596.44
2016 Encumbrances		\$274,178	\$274,178
	TOTAL	<u>\$522,909</u>	<u>\$891,774</u>
2016 Est. Net Income (Loss)		<u>(\$14,361)</u>	<u>\$127,398</u>

Fund Balance:		YTD	YE Projected
2015 Year-End Fund Balance*		\$1,316,199	\$1,316,199
2016 Operating Revenues (Shown Above)	+	\$508,548	\$1,019,172
2016 Exp + Enc for \$8 Fee Projects	-	\$522,909	\$891,774
2016 Est Fund Balance**		\$1,301,839	\$1,443,597
2015 Reserve Revenue @ 10%		\$0	\$0
2016 Est Fund Balance YTD - Unrestricted		\$1,279,051	\$1,420,809
2016 Est Fund Balance YTD - Restricted		\$22,788	\$22,788

*2015 YE Fund Balance represents the current amount in reserve as of 2015 YE close.

**2016 Est YTD Fund Balance represents the 2015 YE reserve netted against the actual 2016 expenditures and revenues. This figure will change throughout the year as additional 2016 expenditures and revenues are realized.

NOTE: 2016 expenditures, revenues, and resulting fund balance are year-to-date ONLY. The figures represented in this report are not intended to project a year-end balance for the MCAMLIS budget. The purpose of the report is to provide committee members a "financial snapshot" of MCAMLIS activities within a specific point in time.

2016 YTD Fiscal Report - MCAMLIS (\$8) - as of 05/27/2016

Vendor Name	Description	Amount Authorized	Amount Paid - Prior Years	Amount Encumbered	Amount Paid 2016 YTD	Total Amount Paid (Encumbrances + Actual)	Remaining Unpaid Balance
SOUTHEASTERN WI REGIONAL CITY OF MILWAUKEE	County Surveyor	82,916.00	-	41,458.00	41,458.00	82,916.00	-
	Cadastral Address Maintenance	91,780.00	-	68,835.00	22,945.00	91,780.00	-
	<u>2016 Authorized Projects</u>					-	-
LATITUDE GEOGRAPHICS GROUP	VWR: Improve MCLIO Mapping Service	50,000.00	11,600.75	6,407.25	13,412.00	31,420.00	18,580.00
SEWRPC	DAT: Regional Orthophotography	126,158.00	53,307.00	68,643.00	-	121,950.00	4,208.00
SEWRPC	DAT: Regional Elevation Data/Lidar	62,343.00	31,666.00	30,677.00	-	62,343.00	-
	TOTAL	\$ 413,197.00	\$ 96,573.75	\$ 216,020.25	\$ 77,815.00	\$ 390,409.00	\$ 22,788.00

Draft 2

WLIP Program Plan: 2016-2020

Updated April 26, 2016

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1 INTRODUCTION

1.1 Purpose

Since it was created in 1989, the Wisconsin Land Information Program (WLIP), now administered by the Division of Intergovernmental Relations within the Wisconsin Department of Administration (DOA), has provided public funding to Wisconsin counties for the modernization of local land records. The purpose of this document is to give strategic direction for the Wisconsin Land Information Program for 2016-2020, in a manner similar to the county land information plans mandated by state statute 59.72(3)(b).¹

Conservatively assuming that the last two-year revenue trend will continue, annual revenue for the Land Information Fund would equal \$6.3 million. This plan proposes continuing to fund county Base Budget, Training & Education, and Strategic Initiative grants, such that 90% of revenue from the Land Information Fund would be awarded to local governments. The remaining 10% is for Program administration, contracting for the Statewide Parcel Initiative, and facilitation of access to WLIP-funded data.

Note that the key proposals comprising this plan could be implemented within the bounds of the current statutory and administrative authority of the Program. In other words, this plan was designed such that the state legislature would not need to give additional authorization for DOA to implement this program plan.

1.2 Key Proposals

- Every county that retains less than \$100k in a year will continue to be eligible for an annual Base Budget grant to reach the \$100k threshold.
- Every county will continue to be eligible for an annual \$1,000 Training & Education grant.
- Strategic Initiative grant funding will continue to be allocated equally among all 72 counties for 2018-2020, to work toward Benchmark Sets I, II, and III.
- In 2018, counties would be eligible for Strategic Initiative grant funding to complete Benchmark Set I (Parcels).
- Beginning in 2018, each county would be eligible for Strategic Initiative grant funding to work on the new Benchmark Set II (Open Data, Parcels, and PLSS).
- Beginning in 2018, after achieving Benchmark Set I and Set II, counties would be eligible for Strategic Initiative grant funding to achieve Benchmark Set III for lidar and aerial imagery, and then could apply any remaining grant funds to a project of the county's choice.
- DOA will continue to carry out the duties of the department under s. 16.967(3), including administering county grants and statewide projects.
- DOA will continue to develop the statewide parcel map by contracting with an outside agency.
- DOA will work with counties toward greater access for parcels and other county GIS data.

1.3 Timeline

Date	Milestone
2/10/2016	Draft 1 plan reviewed and discussed by WLIC
3/24/2016	Draft 1 plan public comments reviewed and discussed by WLIC
4/12/2016	Draft 2 plan concepts discussed by WLIC
4/27/2016	Draft 2 plan distributed with public comments deadline of May 27
6/08/2016	Draft 2 WLIC discusses public comments
7/15/2016	Plan finalized and distributed

¹ See disclaimers located in Chapter 5.

1.4 Program Background

The WLIP dates back to the Wisconsin Land Records Committee, created in 1985 and charged with making policy recommendations to improve land information in the state. Based on the work of that committee, the WLIP was created through 1989 Wisconsin Acts 31 and 339. That legislation also created the Wisconsin Land Information Board and gave it the authority to implement the Program. In addition, the original legislation contained a provision that required each county to establish a land information office in order to participate in the Program.

A core activity of the WLIP is planning for land records modernization. In 1991, the first instructions for completing plans for county-wide land records modernization were released, highlighting the Program's focus:

The objective of the Program is to facilitate the development of land information systems in the State of Wisconsin that are integrated vertically and horizontally. This is not to suggest the creation of a single, centralized land information system. Rather, the intent is the development of a decentralized confederation of systems where those with existing land records responsibilities would continue to collect, maintain and keep custody of land information The primary objective of the program is the organization and sharing of Land Information.²

The 1991 document went on to explain other components of the Program, including the grant process and the retained recording fees funding mechanism that provides funding to both counties and the state.

Furthermore, the instructions listed the original eight Foundational Elements (geographic frameworks, parcels, wetlands mapping, soils mapping, zoning mapping, institutional arrangements, communications, education and training, and public access arrangements). The 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. Since the Foundational Elements were initially defined, they have evolved over the years, to their most recent expression in the 2015 *Uniform Instructions for County Land Information Plans*.

FOUNDATIONAL ELEMENTS

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

County land information plans are intended to give strategic direction for counties, as mandated by s. 59.72(3)(b). This is similar to the annual land information integration and modernization plans submitted annually by state agencies in accordance with section 16.967(6), Wis. Stats. The statute requires some agencies to submit to DOA a land information modernization and integration plan. Eleven agencies are named in the statute, but all state agencies using geospatial data or land information systems are encouraged to create and submit a land information report.

In 2000s, the state agency plans followed a narrative format addressing the architecture of applications, information, technology, organization, and security. In most recent years, they have taken the form of an inventory of geospatial data holdings, available on the WLIP webpage.

² Wisconsin Land Information Board, *Recommendations and Requirements for County-Wide Plans for Land Records Modernization*, January 1991.

1.4.1 Act 20 and the Statewide Parcel Map Initiative

In a 2012 report on statewide deer herd management, Deer Trustee Dr. James Kroll wrote, “It is our opinion, Wisconsin once was viewed as an innovator for geospatial information services, but has fallen behind” (p. 17). The Deer Report identified Wisconsin’s GIS deficiencies for deer herd management, and other purposes like economic development and forestry. This in turn led to recommendations to adequately fund the development of geographic information systems (GIS) in Wisconsin.

In order to implement the Deer Trustee’s recommendations, in the 2013-15 biennial budget the Governor included an initiative to create a statewide digital parcel map, increase revenue for the Wisconsin Land Information Program, and update the state’s land cover map through the Department of Natural Resources. As part of Omnibus Motion #249, the Joint Committee on Finance added the directive to target the new Land Information Fund revenue primarily towards county land information systems, a guiding factor in the design of this program plan.

As enacted on July 1, 2013, Act 20 had significant implications for the WLIP and counties:

- It created the Land Information Fund, a segregated appropriation for state program revenue with statutory direction not to lapse funds from the appropriation
- Added a statutory directive to fund WLIP Base Budget grant eligibility up to the \$100k threshold
- Increased WLIP Training & Education grant eligibility from \$300 to \$1,000 per county
- Directed DOA to create a statewide digital parcel map in coordination with counties
- Directed counties to meet a searchable format standard for parcel information

The Statewide Parcel Map Initiative was born from Act 20, a land information initiative important for improving the quality of real estate information, economic development, emergency planning and response, and other necessary citizen services, and central to current Program activities.

1.4.2 The WLIC

The Wisconsin Land Information Council (WLIC) was created by DOA through administrative action in June of 2015. The purpose of the council is to advise DOA on matters relating to the WLIP, such as the allocation of grant funds, efficacy of grant projects, guidelines to coordinate land records modernization, legislative changes, and new sources of funding to pursue. The 12-member council is made up of private sector, local government, and state government stakeholder group representatives appointed by the DOA Secretary for three-year terms.

WLIC Member	Organization/Trade Association
Don Dittmar – Chair	Land Information Officers Network
Adam Derringer – Vice Chair	Wisconsin Land Information Association
Al Brokmeier	Wisconsin Real Property Listers Association
Daniel Frick	Wisconsin County Surveyors Association
Maria Holl	Wisconsin Emergency Management Association
Cori Lamont	Wisconsin Realtors Association
Mark Paulat	Wisconsin Department of Revenue
Kris Pelot	Wisconsin Land Title Association
Tim Statz	Wisconsin Utility Association
Nathan Vaughn	Wisconsin Society of Land Surveyors
Howard Veregin	State Cartographer
Cindy Wisinski	Wisconsin Register of Deeds Association

2 PROGRAM FUNDING

WLIP funding for county land records modernization takes the form of register of deeds document recording fees retained at the county level and WLIP grants awarded. Counties may retain \$8 of the \$30 fee for land information and must submit \$7 of every \$30 fee to the Land Information Fund, which subsidizes WLIP grants. In order to be eligible to retain fees or receive grants, counties must meet program requirements, including utilizing funding consistent with a county land information plan approved by a county land information council and submitting annual reports on expenditures.

ROD Document Recording Fee

\$15	County Undesignated
\$8	County Retained for Land Information
\$7	State Land Information Fund
\$30	

2.1 Distribution of Funding to Counties

DOA has awarded a total of \$6.4 million in WLIP grants for 2016. Fees retained by counties for land information are projected to total \$7.2 million statewide, based on recent document recording levels.

Figure 1 shows the approximate amount of WLIP funding to counties statewide by funding category—retained fees, and three types of grants (Training & Education, Base Budget, and Strategic Initiative).

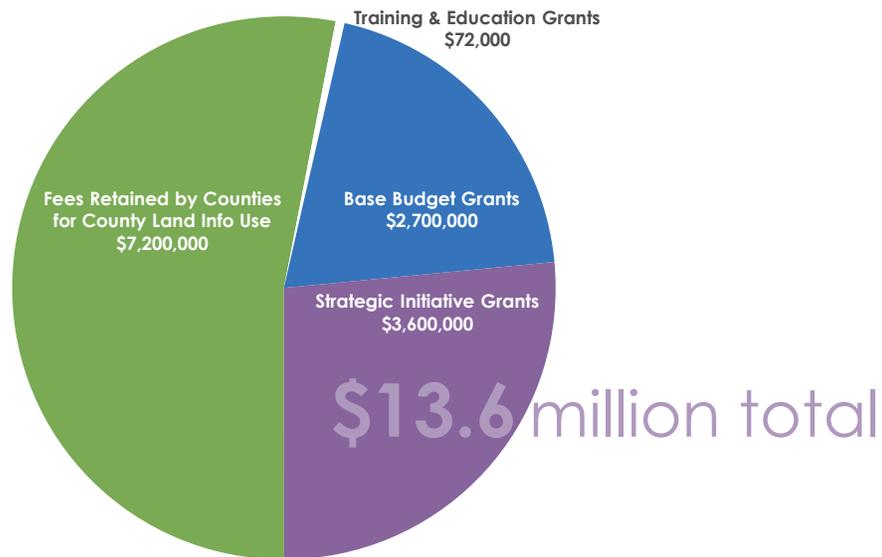


Figure 1. 2016 County land information funding – Retained fees and grants

Training & Education grants provide funding to enable county staff to stay current with innovations in land records and GIS technology. Strategic Initiative grants are employed to meet statewide objectives for land information, specifically, the four benchmarks laid out in the 2016 WLIP grant application. Base Budget mitigate large disparities in retained fee funding by ensuring that every county has at least \$151k in land information funding.

Figure 2 on the following page shows the current distribution of WLIP funding to counties.

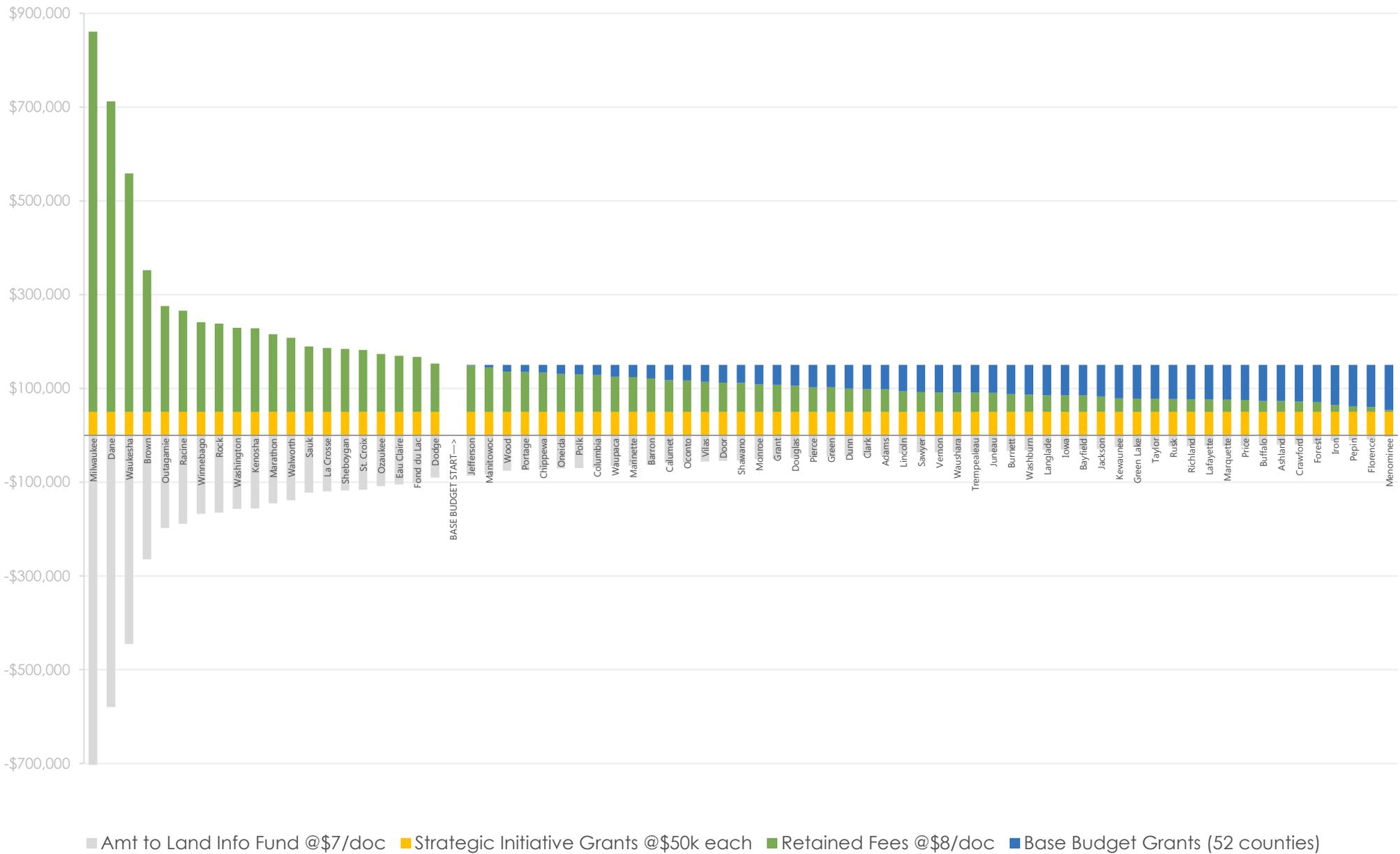


Figure 2. Distribution of all funding to counties for 2016

2.2 Expenditure of County Retained Fees and Grants

Counties submit annual expenditure reports on how WLIP retained fees and grants were utilized in the previous year and categorize their expenditures in a *Retained Fee/Grant Report*, in keeping with s. 59.72(2)(b). In 2014 (the most recent year for which there is reported expenditures), WLIP retained fees and grants—totaling \$8.0 million—were devoted to the areas depicted in Figure 3.

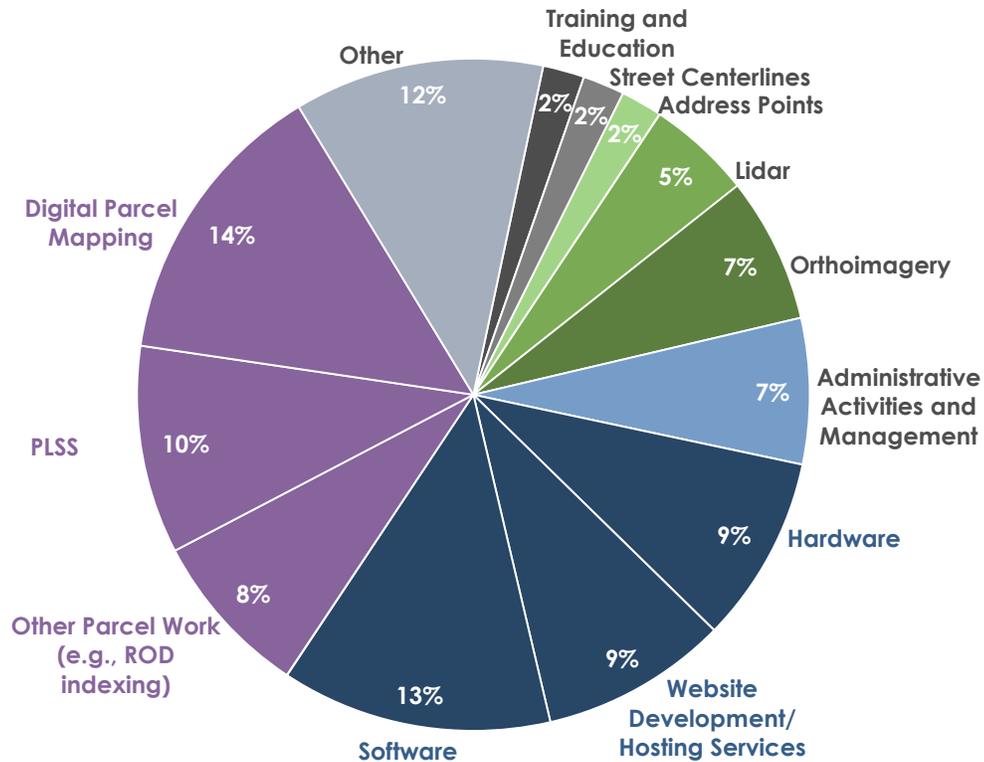


Figure 3. County 2014 expenditures reported of \$8 million total

As is consistent with previous years, Figure 3 illustrates that about one-third of WLIP funding was used for the development and maintenance of county parcel datasets, including Public Land Survey System remonumentation and other parcel work. (PLSS expenditures for 2016 are summarized in Figure 5.) About another third of funding was used for computer hardware, software, and website development and hosting. These expenditures help to provide convenient access to land records through searchable databases, online interactive maps, and various types of mapping applications. The remaining third of funding supported a diverse range of activities, including the acquisition of lidar and aerial imagery, as well as the development of address points and street centerlines.



Figure 4. Total PLSS Spending for 2016

2.3 Revenue Trend

The number of documents recorded and thus Land Information fund revenue varies from year to year. For each of the last two years, the annual total has equaled about 900,000 documents. However, the last two-year average is well below historic averages, as represented in Figure 5.

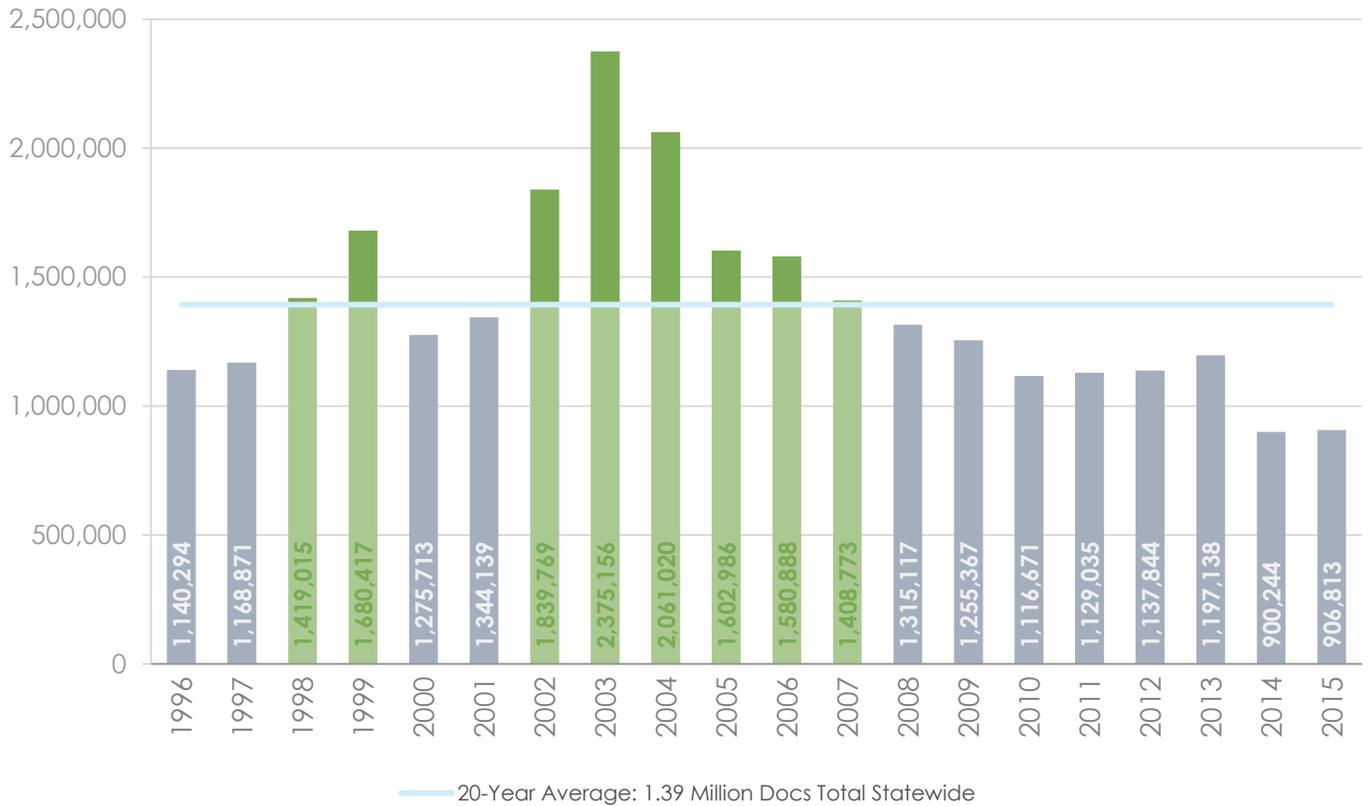


Figure 5. Number of register of deeds documents recorded statewide under s. 59,43(2)(ag)1 or e

The last five-year average is 1,054,215 documents recorded, which would correspond to \$7.4 million in Land Information Fund revenue (at \$7 submitted per document recorded). Again, this program plan is built around the \$6.3 million revenue projection, based on the last two-year average of 900,000 documents recorded statewide.

3 CURRENT PROJECTS

The Land Information Fund is divided so that the overwhelming majority of funds—more than 90%—goes to local governments for county land information projects. Currently, less than 10% goes to contracting for the Statewide Parcel Initiative and Program administration. This chapter describes the county projects funded by the WLIP, Statewide Parcel Map Initiative projects for 2016-2017, and administration of the Program.

3.1 County Grants

With regard to the WLIP, county land information projects can be funded by retained fees and the three types of grants—Base Budget, Training & Education, and Strategic Initiative.

Current county projects are detailed in individual county land information plans, available at www.doa.state.wi.us/WLIP. These plans were last updated in 2015, with county land information council approval and finalization by March 31, 2016. The three-year plans detail the status of county Foundational Element completion and maintenance, the process of integration of land records into a county land information system, and current and future county projects.

3.1.1 Retained Fees

The WLIP enables a portion of the register of deeds document recording fees to be retained by the county for land information use. Specifically, counties may retain \$8 of the \$30 recording fee under s. 59.43(2)(ag)1 or (e). Retained fees totaled \$7.2 million statewide for 2015. This funding must be spent to implement a county land information plan, according to s. 59.72(5).

3.1.2 Base Budget Grants

The WLIP will award Base Budget grants to a sum of \$2.7 million in 2016. Every county that retains less than \$100k in a year is eligible for a Base Budget grant to reach the \$100k threshold. Because counties with modest real estate market activity do not generate substantial land information office revenue, Base Budget grants are provided in order to enable eligible counties to develop, maintain, and operate a basic land information system, as well as develop and maintain Foundational Element data layers.

Counties that retain less than \$100k in retained fees for land information are eligible for a Base Budget grant according to the formula below.

WLIP Base Budget Grant Eligibility Formula

\$100k – ROD document recording fees @ \$8 per document recorded

Example: County records 5,000 documents
\$100k – (5,000 x \$8)
\$100k – (\$40k)
\$ 60k = Base Budget grant eligibility

In 2015 and 2016, the first two years in which Base Budget grants were fully funded to the \$100k threshold, they totaled about \$2.7 million statewide per year.

For program planning purposes, it is worth noting that if in the future the number of documents recorded returns to the historical average and county retained fee revenue increases, the total amount of Base Budget funding distributed to counties would decline, as fewer counties require a grant to reach the \$100k threshold.

3.1.3 Training & Education Grants

The WLIP funds \$1,000 Training & Education grants, totaling \$72k million per year. Training & Education grants may be used for the training and education of county employees for the design, development, and implementation of a land information system.

3.2 Strategic Initiative Grants 2016-2017

Every county is eligible for a \$50k Strategic Initiative grant in both 2016 and 2017, for the purposes of working toward benchmarks for parcel data formatting, completeness, and accuracy.

The WLIP funds Strategic Initiative grants amounting to \$3.6 million total statewide for 2016. Strategic Initiative grants awarded in 2016 and 2017 are designed to aid county achievement of the four benchmarks laid out in the 2016 WLIP grant application, focused on goals of parcel quality, completeness, and data standardization.

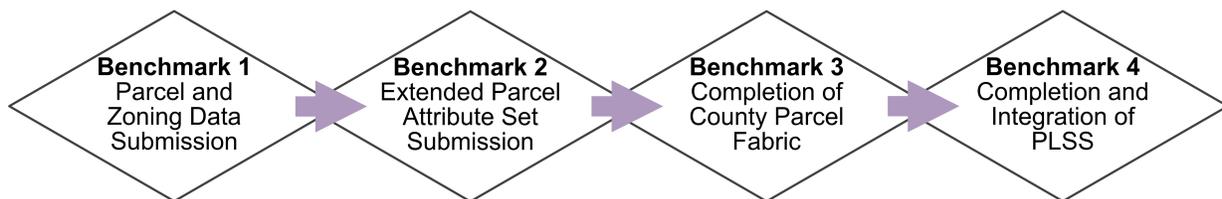


Figure 6. The four benchmarks for parcel dataset development from the 2016 WLIP grant application

Counties must prioritize their Strategic Initiative grant activities toward achieving the benchmarks in numerical order, beginning with Benchmark 1, proceeding to Benchmark 2, and so forth. Note that there is a waiver on Benchmark 4 to allow counties to use Strategic Initiative grant funding to acquire lidar data. This exception to the benchmark was instituted so that counties would not forgo federal funding opportunities requiring a county match, such as the United States Geological Survey (USGS) 3DEP Program.

If a county meets all of the benchmarks, it may use the remaining balance of the Strategic Initiative grant to fund county-level strategic initiatives. Also note that Strategic Initiative grants are funded at a significant level for 2016-2017 because Land Information Fund Revenue was increased beginning on January 1, 2015, and Strategic Initiative grants were not first awarded until 2016. Therefore, the accrual of revenue allowed Strategic Initiative grants to be larger than they might be in future years.

3.3 Statewide Projects

3.3.1 Program Administration

Services provided by the Program and administration costs total \$400k for 2016. With respect to staff budget, WLIP staff within the Division of Intergovernmental Relations in the Department of Administration presently include 3.35 total positions: program manager (0.35 position), geographic information officer, grant administrator, and project coordinator.

2016 WLIP Staff Budget	
Salaries	\$242,536
Benefits	\$ 92,746
Supplies and Overhead	\$ 55,000
Travel	\$ 10,000
Total	\$400,282

WLIP staff currently carry out the duties of the department under s. 16.967(3) for administration of the Program by engaging in activities including but not limited to the following:

- Awarding and administering WLIP grants to counties, with development of the annual grant application and attendant benchmarks and standards
- Logging monthly county retained fee revenues and number of documents recorded
- Recording annual county retained fee and grant expenditures, and reporting summary statewide statistics in an annual Program report
- Producing project reports and other documentation of Program activities
- Creating, administering, and reporting on the annual WLIP survey of counties
- Reviewing and approving three-year county land information plans and amendments

- Preparing guidelines to coordinate the modernization of land records, currently by instituting benchmarks for county parcel datasets and via the updated instructions for three-year county land information plans
- Maintaining and distributing an inventory of land information available for the state, through the provision of county and state land information plans online, which inventory land information resources and access points
- Making Program materials available to the public online
- Identifying additional sources of funding (e.g., coordinating county applications for lidar through the USGS 3DEP Program)
- Coordinating and staffing the Wisconsin Land Information Council
- Maintaining statewide land information officer list and regularly communicating with land information officers on matters relating to the Program
- Meeting, communicating, and coordinating with county land information officers, register of deeds, surveyors, real property listers, treasurers, public safety officials, realtors, state agency GIS personnel, Department of Revenue staff, vendors of land records software, and other stakeholders
- Engaging in program planning and budgeting, including the engagement of stakeholders in participatory planning process and other strategic planning and implementation tasks
- Through the geographic information officer, providing technical assistance and advice to state agencies with land information responsibilities
- Coordinating with the GIS units of Wisconsin’s state agencies, primarily through the State Agency Geospatial Information Council
- Coordinating with SCO to maximize efficiencies between the statutory duties of SCO and DOA
- Striving to meet the Governor’s “Lean Government” initiative to make state government operate more efficiently by engaging in coordination, not only among counties and state agencies, but also between state agencies and local governments
- Coordinating with Department of Revenue on collection of tax roll data
- Analysis of legislation and drafting of fiscal impact statements relating to land information
- Researching best practices, current technology, industry developments, and standards
- Managing the Statewide Parcel Map Initiative
 - Devising the V1 and V2 parcel, tax roll, and zoning submission documentation with SCO
 - Data request, data acquisition oversight, data sharing logistics
 - Tracking of benchmark achievement with SCO
 - Arranging for technology for statewide dataset distribution and access to the statewide database with SCO
 - Collection of user feedback for Program assessment purposes with SCO
 - Outreach and community engagement

3.3.2 Statewide Parcel Map Initiative

The Statewide Parcel Map Initiative is a central focus of Program efforts, where DOA acts as a coordinator and aggregator, bringing together locally-produced data into a seamless statewide product consumed by a vast variety of users. Municipalities and counties create and maintain parcel and tax roll data, but the utility of this data extends well beyond county boundaries, thus demonstrating the need for statewide aggregation.

Once Act 20 directed DOA to create a statewide digital parcel map in coordination with counties and to author a searchable format standard for parcel information, the WLIP had to make this ambitious statewide project a reality. Building off of the success of the LinkWISCONSIN Address Point and Parcel Mapping Project, DOA has partnered with the State Cartographer’ Office (SCO) as a contractor to carry out data standardization and aggregation efforts. The WLIP currently funds SCO on the Parcel Initiative for approximately \$115k per year, which includes the cost of software.

In order to define the DOA/SCO collaboration, an MOU has been signed for each phase of the project through the end of 2018. The MOUs define the scope of work and SCO responsibilities in creating each iteration of the statewide parcel layer and can be found on the WLIP webpage.

MOU	Duration	Years	Amount	Annual Cost
V1	July 1, 2014–September 30, 2015	1.25	\$121,765	\$ 97,412
V2	October 1, 2015–December 31, 2016	1.25	\$136,951	\$109,561

The primary project objectives successfully achieved by the Version 1 Statewide Parcel Map Database Project (V1 Project) were:

- Establishing a statewide parcel GIS map layer by integrating county-level parcels and property tax roll datasets
- Recommending a searchable format for parcel attributes for the V2 Project and beyond
- Making recommendations on WLIP Strategic Initiative grants for parcel mapping activities in the form of benchmarks for parcel dataset development

The SCO-DOA project team is currently working on the V2 Statewide Parcel Map Database Project. As with V1, SCO is going well beyond aggregating county parcel datasets. SCO activities include but are not limited to:

- Preparation and ingest of 72 county parcel and tax roll datasets
 - Data/metadata assessment
 - Parcel gap assessment
 - Staging data for processing
 - Attribute schema development
 - Field mapping documentation
- Local-level processing
 - Processing and joining auxiliary tables
 - Parsing, concatenating, and transposing
 - Other processing as needed
- Aggregation
 - Configuring and mapping fields
 - Aggregating datasets
- State-level processing
 - Aggregating state-level data
 - QA/QC
 - Standardization
- Creating geoprocessing and other tools to assist counties in standardizing and formatting data to meet parcel Benchmarks 1 and 2
- Developing and prototyping a process to update the statewide parcel layer to facilitate asynchronous updates on a county-by-county basis
- Developing a prototype solution to display county-maintained zoning data
- Evaluating county progress in meeting parcel benchmarks
- Preparing a report to the legislature by January 1, 2017 on progress in developing the statewide digital parcel map as required by s. 16.967(6)(b)

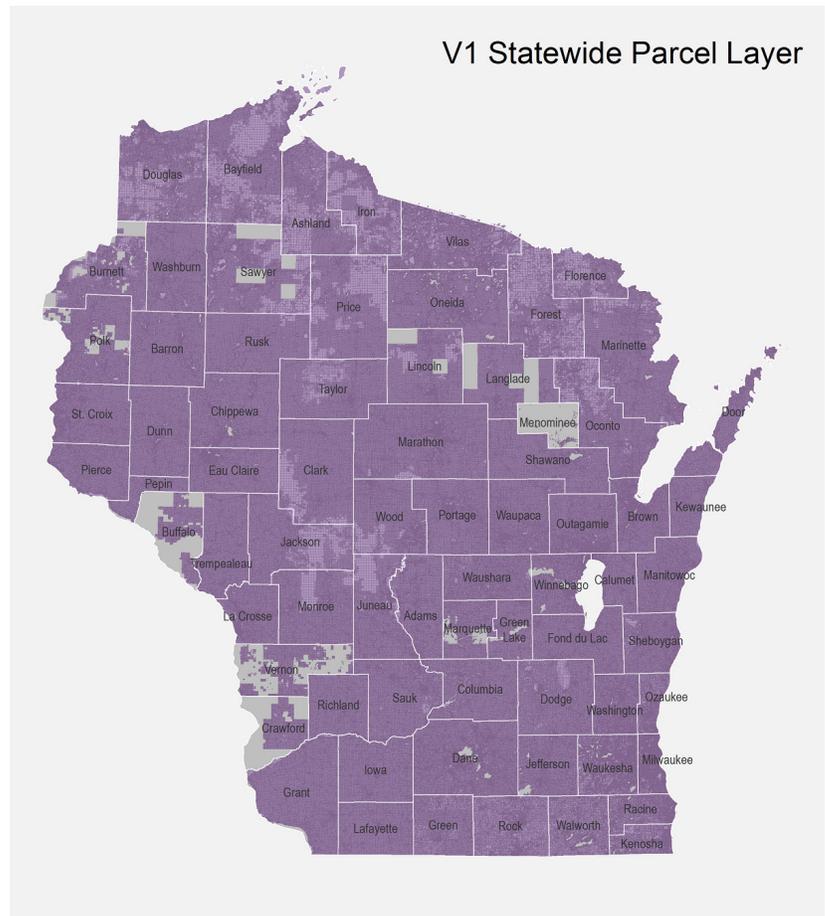


Figure 7. Version 1 statewide parcel layer completed in June 2015

4 FUTURE PROJECTS: 2016-2020

The Wisconsin Land Information Program is governed by s. 16.967 and s. 59.72, as well as Administrative Rule Adm 47. While these statutes direct and enable DOA to accomplish much in the realm of land information, they also limit DOA's authority and discretion. More exactly, DOA cannot spend Land Information Fund dollars on land information outside of what is enabled by s. 16.967. Titled "Aid to Counties," subsection 7 specifically limits grant awards to counties.³

Future WLIP projects will focus on two major emphases of the land information duties of the department as listed by s. 16.967:

1) **County Grants & Standards**

The main tool for carrying out DOA's duties are grants awarded to counties. Therefore, most of the program administration is in a broad sense administration of county grants, which extends well beyond clerical tasks to the creation and implementation of grant requirements and more. For example, county grant administration involves reviewing and approving individual county land information plans, which provide an inventory of land information and guide WLIP grant and retained fee spending. Since Act 20 of 2013, grant requirements have grown to include detailed standards for sharing parcel data in the form of benchmarks to be achieved with the support of Strategic Initiative grants. The development and implementation of benchmarks and standards will be a main focus of future Program activities.

2) **Statewide Parcel Map Initiative**

The creation of a single statewide digital parcel map with geometric and tax roll information from 72 disparate information sources is an immensely complex task. While the Version 1 Statewide Parcel Map has been successful in a number of ways, work related to the Parcel Initiative is nowhere near complete. Again, the implementation of standards through the grant program is necessary for further innovation and efficacy of future iterations of the statewide parcel map.

Concentrating program activities on these two areas is necessary to achieve real, concrete, significant progress with land records modernization at the county-level and in the Parcel Initiative. In other words, it is necessary to *focus* efforts in order to ensure success and meet the statutory mandates of the Parcel Initiative. Only by moving forward one step at a time to achieve measurable objectives in the near-term can DOA and the stakeholder community achieve grand goals in the long-term.

Step-by-step, the Program will focus on county grants and the Statewide Parcel Map Initiative to institute standards and work towards open and accessible data.

³ With the qualification that counties may pass through funding to another local governmental unit.

This plan proposes future projects assuming that the last two-year revenue trend will continue, which equals \$6.3 million in Land Information Fund revenue per year. Ninety percent of Land Information Funding would continue to be devoted to county grants.

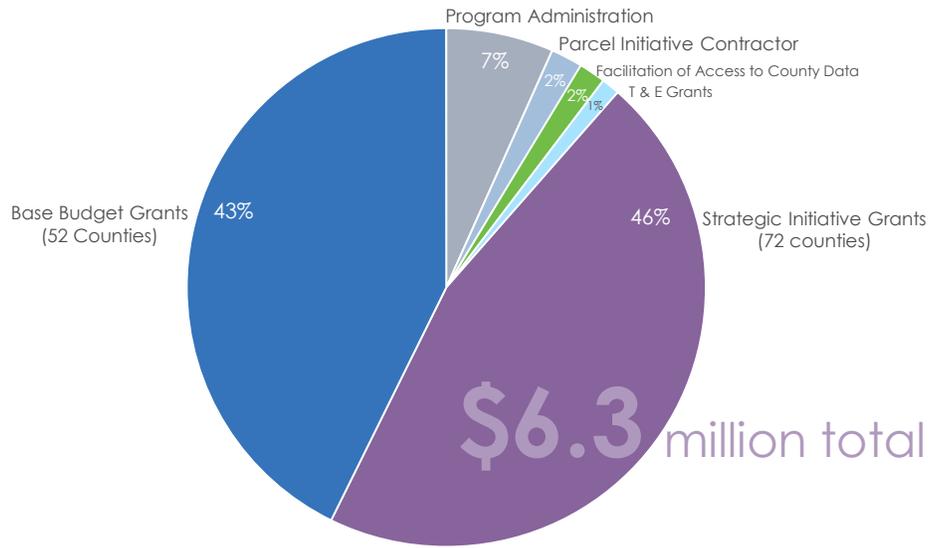
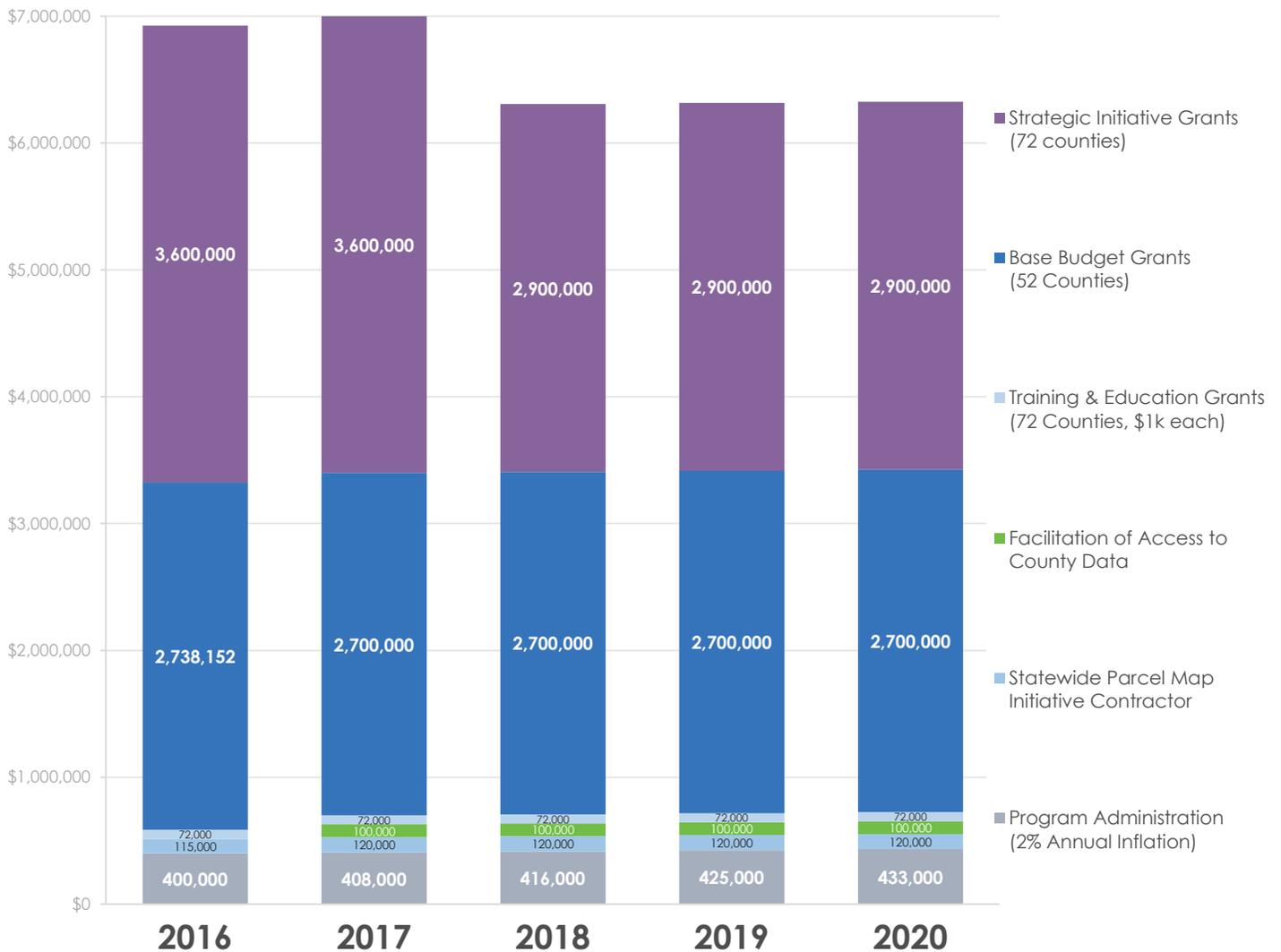


Figure 8. (Above) Projected average annual Program budget with proposed projects for 2018-2020 (Below) Projected Land Information Program budget with proposed projects for 2016-2020



4.1 County Grants

4.1.1 Future Retained Fees

Counties may continue to retain \$8 of the \$30 of the register of deeds document recording fee under s. 59.43(2)(ag)1.or (e). This funding must be used to implement a county land information plan, per s. 59.72(5).

4.1.2 Future Base Budget Grants

Every county that retains less than \$100k in a year will continue to be eligible for an annual Base Budget grant to reach the \$100k threshold.

4.1.3 Future Training & Education Grants

Every county will continue to be eligible for an annual \$1,000 Training & Education grant.

4.2 Strategic Initiative Grants 2018-2020

Strategic Initiative grant funding will continue to be allocated equally among all 72 counties for 2018-2020, to work toward Benchmark Sets I, II, and III.

On account of current revenue levels, Strategic Initiative grants would be \$40,000 per county beginning in 2018. If document recording levels return to the previous five-year average, grants could again total \$50k per county or more.

Strategic Initiative Grant Formula:

$$\frac{(\text{Land Info Fund revenue of } \$6.3 \text{ million} \times 90\%) - 2.7 \text{ million Base Budget grants} - 72,000 \text{ Training \& Education grants} = 2.9 \text{ million}}{\$2.9 \text{ million} / 72 = \sim \$40,000 \text{ per county}}$$

Beginning in 2018, Strategic Initiative grants could be used to achieve a new assortment of benchmarks. In WLIP parlance, a “benchmark” is a standard or achievement level on a specific measure of data quality or completeness, which is tied to Strategic Initiative grants through the WLIP grant application. In other words, Benchmarks are standards—determined by statewide objectives—that guide the development of WLIP-funded data.

Standards for the collection, maintenance, and representation of land data are essential because they enable the sharing and efficient transfer of data between producers and users. As the key to interoperability, standards allow organizations to more effectively use geospatial data and technology, and thus have been a part of the Version 1 Statewide Parcel Map Database Project and will continue to be a central part of Strategic Initiative grant priorities.

At the same time, it has always been the intention of the WLIP to offer counties the greatest flexibility possible in utilizing WLIP funding, while balancing the need to address statewide objectives. As an early document on WLIP policy objectives emphasized the Program’s distinct local government orientation, “this Program seeks to develop modern, integrated land information systems from the ‘bottom up.’ The design and intent of this legislation is to provide flexibility and discretion for local governments in developing their own land information programs.”⁴

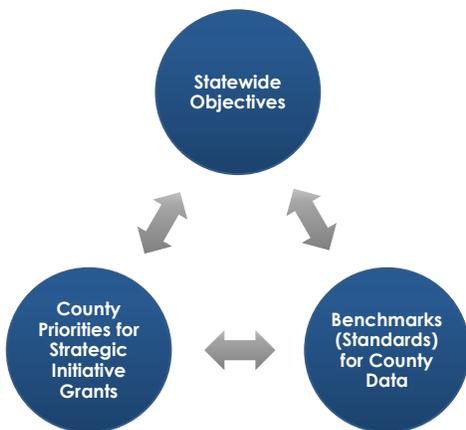


Figure 9 on the following page depicts the proposed benchmarks, broken down into sets. Set I and Set II are focused on parcels and open data access, while Set III requires counties to meet benchmarks for lidar and aerial imagery before applying the funding to other county projects.

⁴ Wisconsin Land Information Board, *Policy Objectives and Program Implementation in Light of the Enabling Legislation, 1989 Wisconsin Acts 31 and 339*, October 1991.

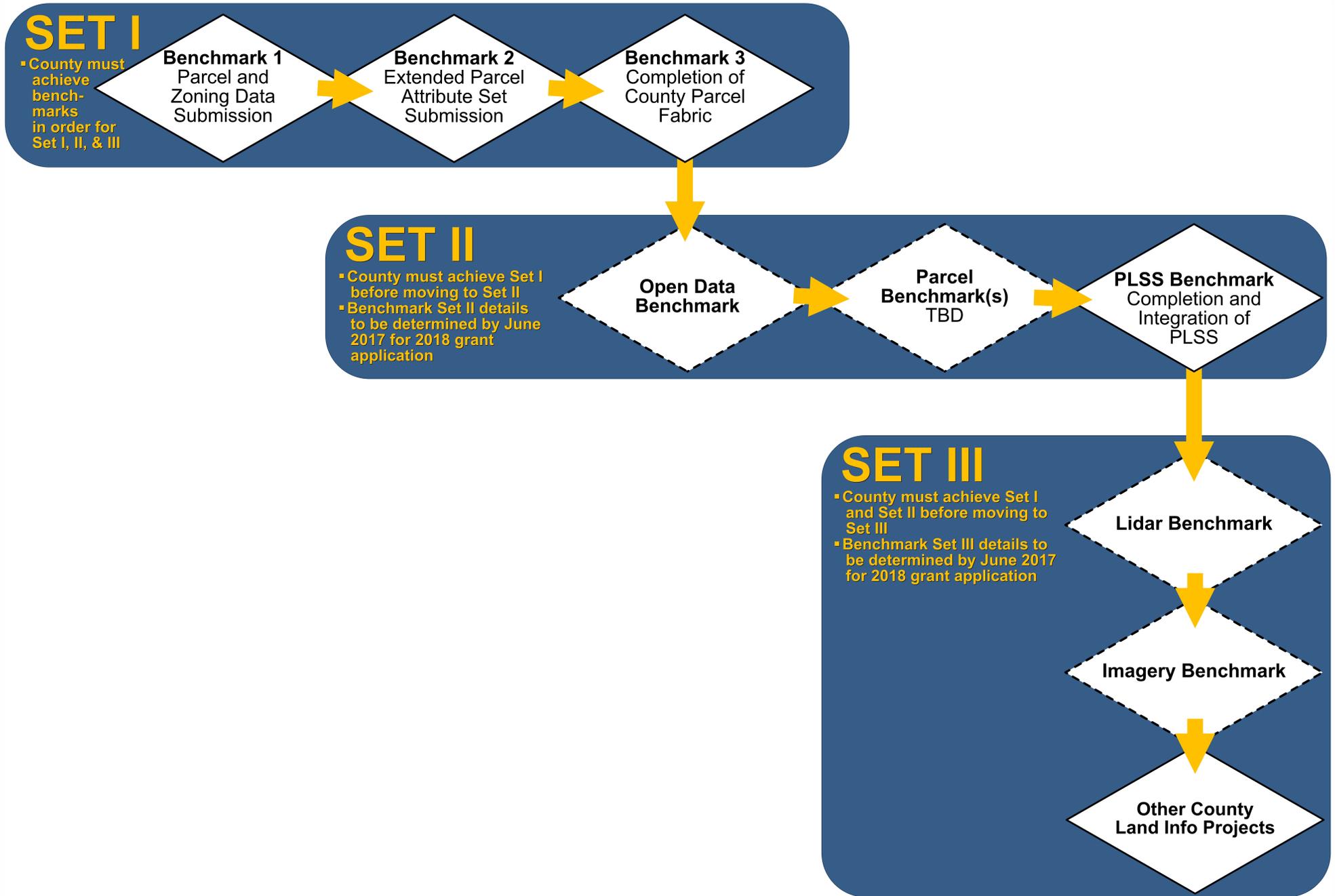


Figure 9. Proposed Strategic Initiative Benchmarks for 2018-2020

4.3 Benchmark Set I – Parcels

In 2018, counties would be eligible for Strategic Initiative grant funding to complete Benchmark Set I (Parcels).

In order to achieve the objectives of the Parcel Initiative for a complete statewide parcel map comprised of standardized and integrated local parcel datasets, it is necessary that counties first meet the parcel benchmarks originally laid out in the 2016 grant application and the V2 call for data submission documentation. Three of the four original benchmarks for parcel data will become Benchmark Set I for 2018-2020 grants:

- ◇ Set I Benchmark 1 – Parcel and Zoning Data Submission
- ◇ Set I Benchmark 2 – Extended Parcel Attribute Set Submission
- ◇ Set I Benchmark 3 – Completion of County Parcel Fabric

Utilizing 2016 and 2017 Strategic Initiative grants, all counties are scheduled to be complete with Benchmark Set I by March 31, 2018, with the exception of Vernon and Burnett counties, who will likely need more time to achieve the digital parcel fabric completion required by Benchmark 3. This means that Set I benchmark objectives will be largely complete by 2018. The majority of counties will continue progress on PLSS completion and integration in 2018. As such, counties will continue to have the option of applying Strategic Initiative grant funding towards PLSS in 2018, an option that falls under Benchmark Set II below.

4.4 Benchmark Set II – Open Data, Parcels, and PLSS

Beginning in 2018, each county would be eligible for Strategic Initiative grant funding to work on the new Benchmark Set II (Open Data, Parcels, and PLSS).

4.4.1 Set II Benchmark 1 – Open Data

Following the trend of government transparency and open government, the WLIP recommends that counties make public geospatial data freely and openly available, which is important to maximizing the return on public funds invested in county land information data through the WLIP and to achieving Program objectives. Including open data as an option for Strategic Initiative grant funding will enable counties to work toward a benchmark for data access.

The state statute (s. 16.967(7)) governing the Program’s distribution of grants actually prioritizes parcel mapping and making public records in the county’s land information system accessible on the Internet before other grant expenditure activities. Furthermore, s. 59.72 (3)(b) directs counties to include within their land information plans a goal to provide access to public land records on the Internet.

Counties are already required to share non-sensitive, WLIP-funded data—whether by retained fees or grants—upon request, consistent with the Public Records Law and the WLIP Strategic Initiative grant agreement. The open data benchmark is a vehicle for ensuring this while also making data access more efficient.

- ◇ Set II Benchmark 1 – Open Data
 - In order to satisfy benchmark, counties would need to:*
 - Make a specific selection of commonly requested Foundational Element layers with basic metadata available to the public online, as a service and/or with download capability, without charge or licensure. (The selection of layers and other details are to be determined by DOA in collaboration with WLIC and stakeholder community by June 30, 2017). Existing state and federal laws regarding non-public or sensitive data would apply.
 - Possible means of data access at the county level:
 - County provides dataset downloads by website/FTP/cloud
 - County provides a web feature service, such as static or live REST endpoints
 - County provides linked open data via other technical means
 - County provides data to DOA, who—in coordination with a third-party or state agency—makes data available in the public domain on behalf of county. Examples would be contributing to the

Legislative Technical Services Bureau (LTSB), UW-Madison Robinson Map Library (RML), SCO, and/or WisconsinView.⁵

- It is permissible for counties to include appropriate legal disclaimers on their website and in their metadata when providing open data (e.g., accuracy disclaimers, map is not a survey disclaimer).

Data collected by DOA to meet this benchmark and made available by a state entity would be available online with a disclaimer directing the user to the county for the most current and comprehensive datasets.

As of April 2016, only fourteen counties supply their GIS datasets online for download and likely meet the open data benchmark, while an assortment of others indirectly make data available online through WisconsinView and RML. The goal is to make all WLIP-funded data with basic metadata available to the public online, as a service and/or with download capability, without charge or licensure, so that all WLIP-funded data is open data by 2020. Presumably the open data benchmark will not be tremendously expensive for counties to meet and therefore will leave funds remaining to achieve other benchmarks.

4.4.2 Set II Benchmark 2 – Additional Parcel Benchmarks To Be Determined

As the Parcel Initiative evolves, there will continue to be a need for Strategic Initiative grant funding to address additional priorities for parcel completion and standardization, beyond Benchmark Set I. Additional benchmarks for parcel data development would be defined and finalized as part of the V2-V4 Parcel Projects. The following list includes possible Set II parcel examples, but they are tentative and listed in no particular order.

- ◇ Set II Benchmark 2 – Parcel Benchmarks To Be Determined
Examples:
 - Public lands classification for parcels
 - Right of ways tied to parcels
 - Department of Revenue’s tax roll standards and data submittal requirements
 - Land use mapping tied to parcels
 - Municipal zoning and other key land use regulations tied to parcels

4.4.3 Set II Benchmark 3 – PLSS Completion and Integration

The Benchmark for PLSS completion and integration and associated requirements are not expected to change from the 2016 WLIP grant application.

- ◇ Set II Benchmark 3 – PLSS Completion and Integration
In order to satisfy benchmark, counties would need to:
 - Achieve satisfactory completion and integration of the county PLSS framework, as defined by the county in its “Project Plan for Achieving Benchmark 4 PLSS Completion and Integration” within its land information plan

Progressing to a maintenance phase of a complete and integrated county PLSS framework is important to the geospatial integrity of parcel mapping. All legal descriptions of property ownership are tied to PLSS corners. This means that corner monuments of the PLSS anchor the legally recognized parcel ownership boundaries to specific locations. The accuracy of parcel boundary lines as publically displayed is dependent on the accuracy of a county’s PLSS.

Eligible grant activities include remonumenting, rediscovering, and establishing survey-grade coordinates for PLSS corners, and integrating corner GPS coordinates into the parcel fabric. Due to cost, accessibility, or land ownership, lower-quality coordinates may be substituted. However, lower grade coordinates should be the exception, rather than the rule.

This benchmark requires submittal of a digital copy of all county PLSS corner coordinates values for inclusion in the State Cartographer’s Office online PLSSFinder upon project completion. With this data submittal, accuracy class indication is required. Accuracy classes include survey-grade, sub-meter, and approximate.

⁵ See Chapter 4 for more information on DOA facilitation of data access through these organizations.

- Survey-grade: 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.
- Sub-meter: Accuracies of 1 meter or better
- Approximate: Accuracies of within 5 meters or to coordinates derived from public records and other relevant information.

As of 2015, only nine counties reported to be complete, integrated, and in maintenance phase of their PLSS.⁶ (This figure does not include SEWRPC counties that may be “complete,” but are upgrading from NAD 27 to a more current datum.) Forty-seven counties estimate that they will be complete and in maintenance phase of their PLSS by 2020.

It is estimated that it would take about \$30 million to complete the PLSS framework statewide,⁷ so that all 72 counties have reached the maintenance and monument perpetuation stage. At the 2016 rate of grant and retained fee spending on PLSS and non-WLIP sources of funding (2016 rate proposed to continue under this plan), it is estimated that PLSS will be completed and in maintenance phase statewide in about ten years. However, there would likely be some individual county exceptions, as currently ten counties estimate a completion timeline extending beyond 2025. Also note, the option to apply Strategic Initiative funds to PLSS is an important source of funding, however, other funding sources must continue to play a strong role to cover the significant costs of PLSS work.

4.5 Benchmark Set III – Lidar and Aerial Imagery

Beginning in 2018, after achieving Benchmark Set I and Set II, counties would be eligible for Strategic Initiative grant funding to achieve Benchmark Set III for lidar and aerial imagery, and then could apply any remaining grant funds to a project of the county’s choice.

Counties would need to prioritize Strategic Initiative grant funds in order, beginning with lidar and proceeding to aerial imagery. Whereas all counties have some vintage and type of aerial imagery, six counties still lack lidar altogether. Both lidar and imagery were prioritized by land information officers in the 2014 WLIP Survey, as reported in the 2014 WLIP Program Plan. Support was also expressed for aerial imagery and lidar in a survey conducted by Adam Derringer, WLIC Vice-Chair, in response to Draft 1 of this program plan.

It is not mandated that counties keep their lidar or aerial imagery within a certain age limit. Rather, they are eligible to use Strategic Initiative grant funding to acquire or update lidar and aerial imagery. The requirements that make up each benchmark listed below would be grant requirements *if* a county were to apply Strategic Initiative grant funding toward achieving them.

4.5.1 Set III Benchmark 1 – Acquisition of Lidar Base Product Set

- ◇ Set III Benchmark 1 – Acquisition of Lidar Base Product Set
In order to satisfy benchmark, counties would need to:
 - Acquire a lidar product set that includes Quality Level II point cloud, digital elevation model, breaklines, and contour mapping
 - Is current to within eight years old
 - Is made available online, as a service and/or with download capability
 - Meets basic metadata requirements

Under this benchmark counties would be eligible to use Strategic Initiative grant funds to acquire lidar (as six counties lack lidar data) or update an original lidar dataset. Although the vintages, specifications, and product packages differ, at the current rate of acquisition, every county should have a lidar dataset by 2020.

It is also important to update lidar datasets, complete product suites, and take advantages of advances in technology. By 2020, 24 county lidar datasets will be at least eight years old. These counties would be eligible to use Strategic Initiative grant funding to update their lidar datasets.

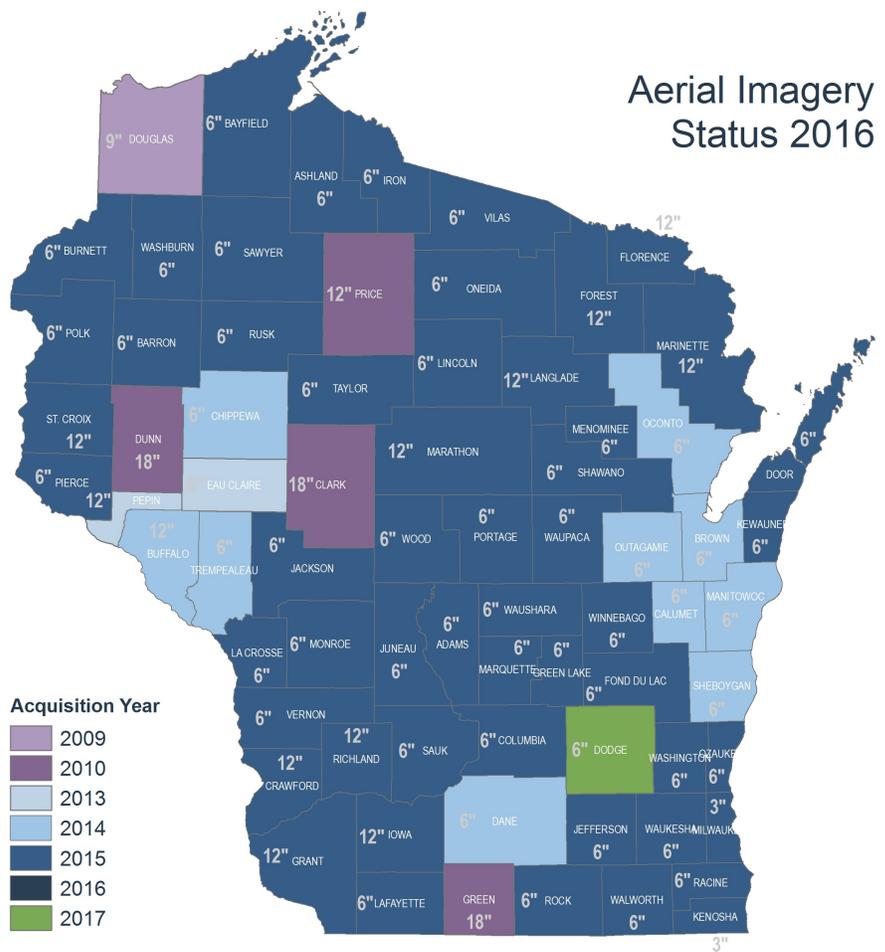
⁶Data source: 2016 WLIP grant applications

⁷Data source: 2016 county land information plans

In utilizing Strategic Initiative grant funds to acquire aerial imagery, counties would still have the ability to buy up to a higher level of resolution or to purchase additional products, such as oblique imagery, lidar, and planimetrics. Counties would also have the ability to purchase aerial imagery on a more frequent basis, such as every three years. The grants are intended to help counties afford at least the 12" base product at least every five years.

4.5.3 Other County-Specific Strategic Initiatives

Once a county has met all of the Set I, Set II, and Set III benchmarks, it may spend Strategic Initiative funds on a project listed in the "Current & Future Projects" section of the county land information plan. Given the list of benchmarks, with additional parcel benchmarks to be determined, it is unlikely that more than a small number of counties would achieve all of the benchmarks by 2020.



Map 2. County aerial imagery status for 2016

4.5.4 Determination of Benchmark Details and Grant Requirements

Strategic Initiative grant eligibility requirements need to be specified by June 30, 2017, in order to be included in the 2018 WLIP grant application (to be released by October 1, 2017). In determining the grant benchmark details, DOA will seek input from community stakeholders and the Wisconsin Land Information Council.

WLIP grants are awarded on an annual cycle based on the fiscal year, so decisions regarding funding prioritization, standards, and data access requirements must be approved on this cycle by DOA management. The annual grant application communicates the amount of grant funding each county will be eligible to receive, how it can use the funding, and what requirements accompany the grants. The completed county grant application becomes the scope of work that the county is required to complete during the grant period, as per the executed grant agreement.

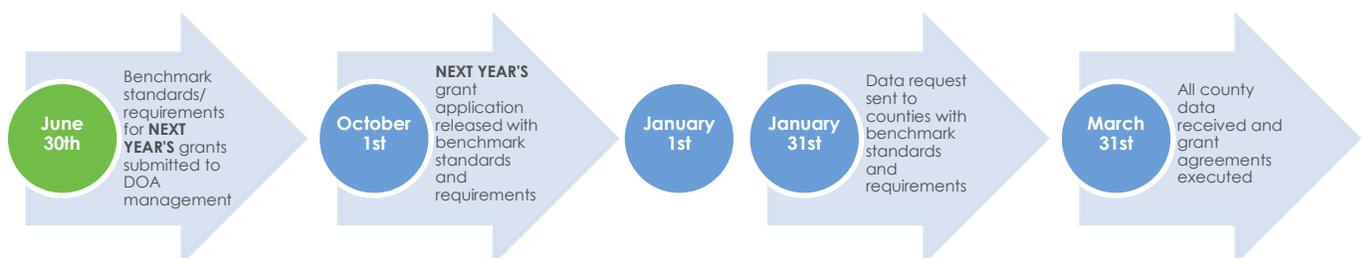


Figure 10. Determination of Benchmarks and Grant Requirements – Annual Cycle

DOA has established a schedule of releasing the grant application for the upcoming year by October 1st. In order to meet this deadline, all grant funding criteria must be ready for DOA management’s review by June 30th. Because the parcel benchmarks and standards have essentially been determined for 2017 grants (as the original four parcel benchmarks defined in the 2016 grant application), *the next major milestone will be for 2018 grants. Therefore, the new benchmark standards must be ready for DOA management review by June 30, 2017.*

4.6 Statewide Projects

DOA will continue to carry out the duties of the department under s. 16.967(3), including administering county grants and statewide projects.

WLIP staff will seek to accomplish the tasks listed in the previous chapter (on page 12), as well as further tasks related to program administration and the Statewide Parcel Map Initiative, including facilitation of access to WLIP-funded data.

4.6.1 Future Program Administration

Program administration encompasses tasks related to administering county grants and attendant standards, the Statewide Parcel Map Initiative, and facilitation of access to data. For 2018-2020, WLIP staff within the Division of Intergovernmental Relations in the Department of Administration are projected to include 3.35 total positions: program manager (0.35 position), geographic information officer, grant administrator, and project coordinator.

Future WLIP Staff Budget	
Salaries	\$242,536
Benefits	\$ 92,746
Supplies and Overhead	\$ 55,000
Travel	\$ 10,000
Total	\$400,282

In calculating future staff expenses, note that the numbers for these projections are in 2016 dollars. It is assumed that the nominal dollar amount will rise with inflation, at a rate consistent with the CPI Index, but the real dollar amount for DOA staff expenses is not expected to increase. However, costs are estimated and subject to change.

4.6.2 Future Statewide Parcel Map Initiative

DOA will continue to develop the statewide parcel map by contracting with an outside agency.

V3 and V4 will be created in 2017 and 2018. By 2018, the goal is to make statewide parcel aggregation more efficient by implementing the “Four As”—authoritative, automated, asynchronous aggregation—which would allow counties to continually update their parcels in the statewide layer. Part of DOA’s role in the V1/V2 project is to collect, translate, standardize, and aggregate data from local contributors—what is considered an “aggregator” role. The aggregator role is relatively expensive and time-consuming when compared to its alternative, the “steward” role. The Parcel Initiative was designed to phase out the aggregator role over successive cycles of development, with DOA moving to the role of a steward, which will be less costly and time consuming.

In order to achieve the goals of automated asynchronous aggregation of parcel data into a statewide parcel database, an additional MOU with SCO for the V3 and V4 parcel projects has been executed. This gives a framework for the development of the Parcel Initiative through 2018 (minus some foreseeable small additional costs for project software and hardware).

MOU	Duration	Years	Amount	Annual Cost
V3-V4	January 1, 2017–December 31, 2018	2	\$234,244	\$117,122

After V4 is completed in 2018, there exists the possibility of a request for proposals (RFP) or other means of selecting a contractor for the statewide parcel layer. SCO's role may or may not continue as is. It is expected that the costs for actual aggregation of common parcel attributes listed in the schema for parcel Benchmarks 1 and 2 will decline because the process of creating a statewide parcel map will be more automated. However, there will still be costs associated with maintenance and updates to the statewide parcel map, including the need for oversight, troubleshooting the parcel map aggregator, and providing technical assistance to counties.

While the V2-V4 projects will set a course for the Parcel Initiative to address other aspects of GIS parcel and tax roll dataset completion and standardization, it will take additional coordinating work to implement and achieve these additional Set II benchmarks statewide. Such work could enable statewide derivative layers to be created by DOA and its contractor from these parcel attributes or descriptors.

One example of a potential project to be conducted by a Parcel Initiative contractor is the creation of a statewide PLSS layer. An aggregated statewide PLSS layer could enhance and maximize the investment of the statewide parcel layer. It would benefit the statewide parcel map by displaying parcel fabric areas in need of improvement to positional line accuracy. This is of particular importance along county and state boundaries and for the development of a seamless statewide parcel map.

The creation of a statewide PLSS layer would especially benefit state agencies as a new and improved version of DNR's Landnet, which is a statewide PLSS layer developed in the mid-1990s and still in use today. DNR relies on statewide PLSS data to manage over 48,000 parcels scattered throughout Wisconsin. Since the 1990s, millions of WLIP dollars have gone into updating county PLSS. In order to track progress and judge the efficacy of this major category of WLIP expenditure activity, a statewide PLSS layer may be necessary.

4.6.3 Facilitation of Access to Data

DOA will work with counties toward greater access for parcels and other county GIS data.

DOA's main role in facilitating access to data is to remove institutional barriers to data. As stated at the outset of this chapter, because the WLIP funds the creation and maintenance of *county* datasets, WLIP-funded *county* data is the domain in which DOA can directly enhance access to GIS data. For both the LinkWISCONSIN Address Point and Parcel Mapping Project and the V1 Project, 100% of counties and cities participated by sharing their address point and parcel datasets. The Program seeks to encourage and facilitate this data sharing trend, and provide support for open data practices.

Facilitation of Access to County Parcel Data

For public access to parcels and tax roll data in V1, DOA is utilizing ArcGIS Online, with hosting by the Legislative Technology Services Bureau. Subsequent versions of the parcel map have the potential to remain the same or be migrated to another platform.

The implementation of parcel standards through Benchmarks Sets I and II is important to the facilitation of data sharing. The original Benchmark Set I from the 2016 grant application implemented detailed parcel data standards for a core set of 41 attributes. DOA and SCO will be working with counties through March 2018 to implement these parcel and tax roll data standards in all 72 counties, before moving on to implementation of additional parcel standards for 2018 grants. In addition to Strategic Initiative grants, continuing to provide support solutions, such as tools to aid counties in data standardization, will assist counties to meet the benchmark standards.

Facilitation of Access to Other County Data

The Program seeks to build on its success with parcels by first working to make other WLIP-funded county datasets available in the public domain. One way of accomplishing this is by making open data a Strategic Initiative grant benchmark, as Benchmark Set II does. Another way is to assist other state agencies and organizations to enhance their existing repositories of county data.

Unlike with the statewide parcel map, DOA does not have the statutory authority or staff resources to integrate other Foundational Element datasets into statewide layers. Leadership from other state agencies and organizations is needed to define business needs for other integrated statewide layers and marshal the staff or monetary resources to add value to county datasets in this way.

An expanded request for county data made by DOA is a means to facilitate access and create efficiencies. By requesting common Foundational Element county datasets on behalf of and in concert with other state agencies, DOA can assist to enhance existing portal and/or repositories of county data.

DOA plans to work with other organizations to make an expanded call for data in early 2017. These organizations include the Legislative Technical Services Bureau (LTSB), UW-Madison Robinson Map Library (RML), the State Cartographer’s Office (SCO), and the UW-Madison Space Science & Engineering Center (SSEC).

For vector datasets, DOA will request data and share it with RML for public distribution. The RML map librarian has identified a selection of datasets to be requested based on actual requests received and usage statistics. Data is organized, labeled, and made discoverable online. RML also archives historic copies of the county data it receives.

The LTSB technical team has created an upload application called WISE-Decade as a collection and access point for county data, already in use for collecting parcels for the Parcel Initiative and school district boundaries for the Department of Public Instruction, as well as administrative boundaries required for LTSB’s own statutory responsibilities.

Data Access and Expanded Call for Data			
Organization	Upload Mechanism	Access Mechanism	Data Requested
Legislative Technical Services Bureau	WISE-Decade application	Wisconsin State Legislature Open GIS Data (ArcGIS Open Data)	<ul style="list-style-type: none"> • County parcels • County zoning • Administrative boundaries • School districts
UW-Madison Robinson Map Library/SCO	WISE-Decade application	GeoData@UW-Madison (Open Geoportal)	Vector Data <ul style="list-style-type: none"> • Roads • Land use • Zoning • Building footprints • Hydrography • Parks, open space, recreational data • Address points (beginning in 2017)
UW-Madison Space Science & Engineering Center, LTSB, or other	SSEC upload or other	WisconsinView (RealEarth/ArcGIS Online) or other	Raster Data <ul style="list-style-type: none"> • Lidar • Aerial imagery (beginning in 2018)
SCO	SCO upload or other, e.g., WISE-Decade application (beginning in 2017)	PLSSFinder or other	<ul style="list-style-type: none"> • County PLSS – for Strategic Initiative funded corners (beginning in 2017) • County PLSS – all existing corners (beginning in 2018)

The provision of raster datasets, namely aerial imagery and lidar, is more complex and costly due to the sheer volume of data—about one terabyte of raster data per county for an original aerial imagery or lidar dataset. However, the Program seeks to facilitate access to all publically-funded county imagery and lidar datasets. At a minimum, WLIP-funded data should be made available upon request, as is consistent with the Public Records Law, which may mean sharing a copy on external hard drive at the expense of the requestor.

More ambitious but worthwhile would be the provision of this data online. DOA will continue to investigate the possibility of another state agency offering county aerial imagery and lidar datasets online, particularly SSEC’s WisconsinView. WisconsinView currently hosts some aerial imagery and lidar DEM datasets, and should be considered with WLIC and land information community stakeholder input.

One potential arrangement for data access is illustrated in Figure 11. It depicts a network coordinator in which counties retain stewardship of their land records and share data. DOA has the role of facilitating access to data, firstly by requesting data from counties on behalf of other agencies for their public portal/repositories. Such an arrangement would make the data easier to access, easier to use, and thus capable of serving many more purposes than in the past.

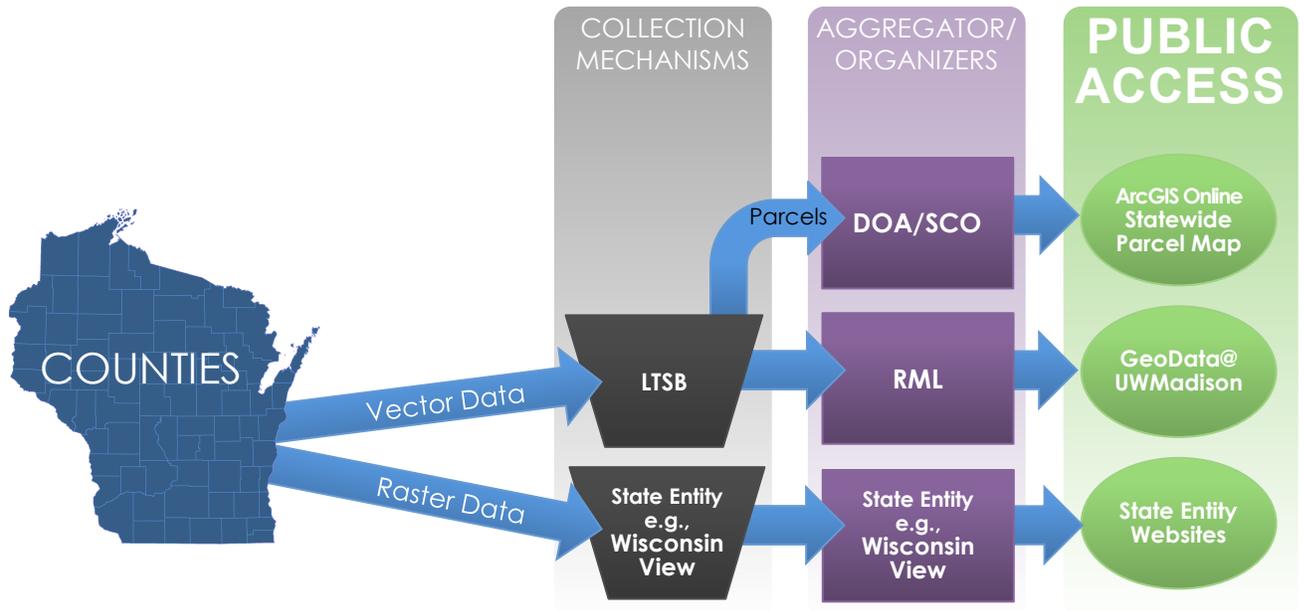


Figure 11. One potential DOA-facilitated option for county data access (in conjunction with county open data)

5 SCOPE

5.1 Disclaimers

It is intended that this plan guide the WLIP through 2020, while at the same time neither guaranteeing nor restricting any particular course of action. The figures in this plan do not indicate a pre-commitment to spending. This document includes a budget scenario that may change. The Program is mindful that utilization of Land Information Fund revenue must be consistent with statutory spending authority, as described by s. 16.967, and should be for well-defined activities with statewide benefits. As always, any funding decisions will need to be approved by DOA management.

There is a need to move the Program forward on the ground one step at a time. This plan intentionally excludes some tasks and is limited in scope, as the Program seeks to follow a realistic strategy for what is achievable by 2020. However, this plan does not seek to not limit what the WLIP can accomplish by 2020. If objectives in the plan can be achieved earlier than scheduled, the plan can be updated to include more objectives.

This plan is intended to give strategic direction for only the WLIP, with the implication that more detailed planning is to follow, and some uncertainty is inevitable. As such, much more detailed planning, research, and testing are required for most of the action items in this plan. Therefore, this plan should mainly serve as a framework and guidelines for more detailed planning. In this sense, program planning does not end with the adoption of this plan, rather it continues in more detail.

It should be noted that the approach of the Parcel Initiative from the LinkWISCONSIN Address Point and Parcel Mapping Project to V1 and V2—incremental progress and an iterative model—is an approach that allows for flexibility and well-informed decision making. The implementation of future projects is expected to follow this model.

Although this plan has a vision five years into the future, it is intended that this plan be updated at least every three years. The Wisconsin Land Information Council should also review progress in implementation of the plan on an annual basis.

5.2 Out of Scope

To keep a realistic and manageable scope of work that is within the bounds of DOA authority for the WLIP as described by s. 16.967, the current plan document does not address several points:

5.2.1 Geospatial Strategic Plan for Everything GIS in Wisconsin

The Wisconsin Land Information Program is a big player in Wisconsin's efforts to modernize land records and develop GIS, but there are many other public and private agencies hard at work on similar efforts. It is beyond the scope of this document to plan for anything beyond what can be funded with the Land Information Fund. This 2016-2020 plan is not meant to be a plan for everything GIS in Wisconsin.

5.2.2 Master Central Repository and/or Portal for GIS Data

A frequent topic of discussion has been the desire for a central geoportal or master repository of GIS data. The discussion typically includes data produced by all levels of government, from municipalities to federal agencies. Because there are limited WLIP staff resources and the Program is bound by existing statutory authority, this Program does not seek to engineer a new master geoportal/repository in the foreseeable future. However, by assisting counties to build or acquire Foundational Element GIS datasets and making sure that those datasets are publically available, the WLIP would address the two primary obstacles to obtaining GIS data. Thereby, DOA could assist in enhancing other existing agency geoportals/repositories.

5.2.3 Expanding Spending Authority

According to s. 20.505(1)(ub), DOA is enabled to spend Land Information Fund revenue on the WLIP as governed by s. 16.967 up to a limit of \$7,673,300. Legislative changes could expand or limit duties of the department for the WLIP described by s. 16.967. For example, a new statutory directive could hypothetically authorize the Program to expand purchasing power on a statewide level, on behalf of counties. Another

example would be expanding statutory authority to award grants to state agencies, which current statutory authority does not allow. This program plan intentionally avoids the need for legislative changes, in order to focus WLIC attention, staff efforts, and land information community engagement on goals and objectives that could be accomplished within the existing structure put in place by statute and administrative rule.

5.2.4 Use of Land Information Fund Revenue for Other Activities

According to s. 20.505(1)(ub) and (ud), Land Information Fund revenue could be used to fund comprehensive planning grants or DOA review of municipal incorporations and annexations. However, comprehensive planning grants have not been funded since 2010 and are not likely to occur in the future. Also, Land Information Revenue has not been used to fund municipal incorporations and annexations in recent years. Both comprehensive planning grants and review of municipal incorporations and annexations are considered outside the scope of this plan and WLIP budget.

5.2.5 Budgeting for Other Possible Funding Sources

While DOA seeks to leverage additional sources of funding to achieve land information goals, whether it be from federal agencies, other state agencies, local governments, or the private sector, this plan does not count on or budget for funding other than the recording fees collected through the Land Information Fund. Political strategizing to capture additional funding is not within the scope of this plan and is left to other entities, such as organizations representing sector interests. An example of another source of potential county land information funding is the cell phone fee for police and fire, which amounts to about \$20 million in annual revenue. This revenue was in part previously used for E911 address point and other sorts of mapping, but is beyond the scope of this plan to address.





**DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF ECONOMIC DEVELOPMENT**

MILWAUKEE COUNTY LAND INFORMATION OFFICE

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn
DATE: June 1, 2016
SUBJECT: REPLACEMENT PLANIMETRIC MAPPING

BACKGROUND

The Planimetric mapping project has been identified in the 5 year plan as DAT-02.1 and is considered as one of the core datasets of the Land Information Office. This is a continuation from the 2010 Planimetric update and conversion and 2013 major transportation update. This update will update approximately 8sq mi. of areas that has changed from 2010-2015. This project will follow the design that was established from the previous planimetric polygonalization project in 2013. It is expected that this process will continue to follow an update cycle that is consistent with the capture of orthophotography that has been scheduled for every 2-3 years.

PLANIMETRIC FEATURE UPDATES

Photo observable planimetric features are changing on a daily basis and are exposed when a comparison of current and previous photography is compared. When compared with a change analysis product produced from subtracting the ending year to the beginning year of LiDAR, existing mapped planimetric features can be used to identify building demolitions, new construction and transportation changes. Change detection accuracy is further improved by utilizing the 2015 LiDAR dataset to validate the positional accuracy of the observable planimetric features.

RECOMMENDATIONS

On the basis of the products and materials developed and discussed with the Steering Committee, and as included as part of the MCAMLIS Five Year Work Plan, regarding the need for continuing to maintain both the topographic and planimetric features, the Land Information Office has solicited a proposal from the vendor that has performed the previous updates. The proposal is broken out into three items.

- Updates Defined by parcel limits in Milwaukee County (8.1mi²) \$65,200
- Updates in Right of Way (outside of defined parcel limits) \$2,400
- Extra update areas that are discovered during the project (billed at an hourly rate) \$5,000

Total project cost not to exceed \$72,600

Attach: Planimetric Map Update Proposal: 2010 – 2015

* * * * *

PLANIMETRIC MAP UPDATE PROPOSAL

1.0 SCOPE OF WORK

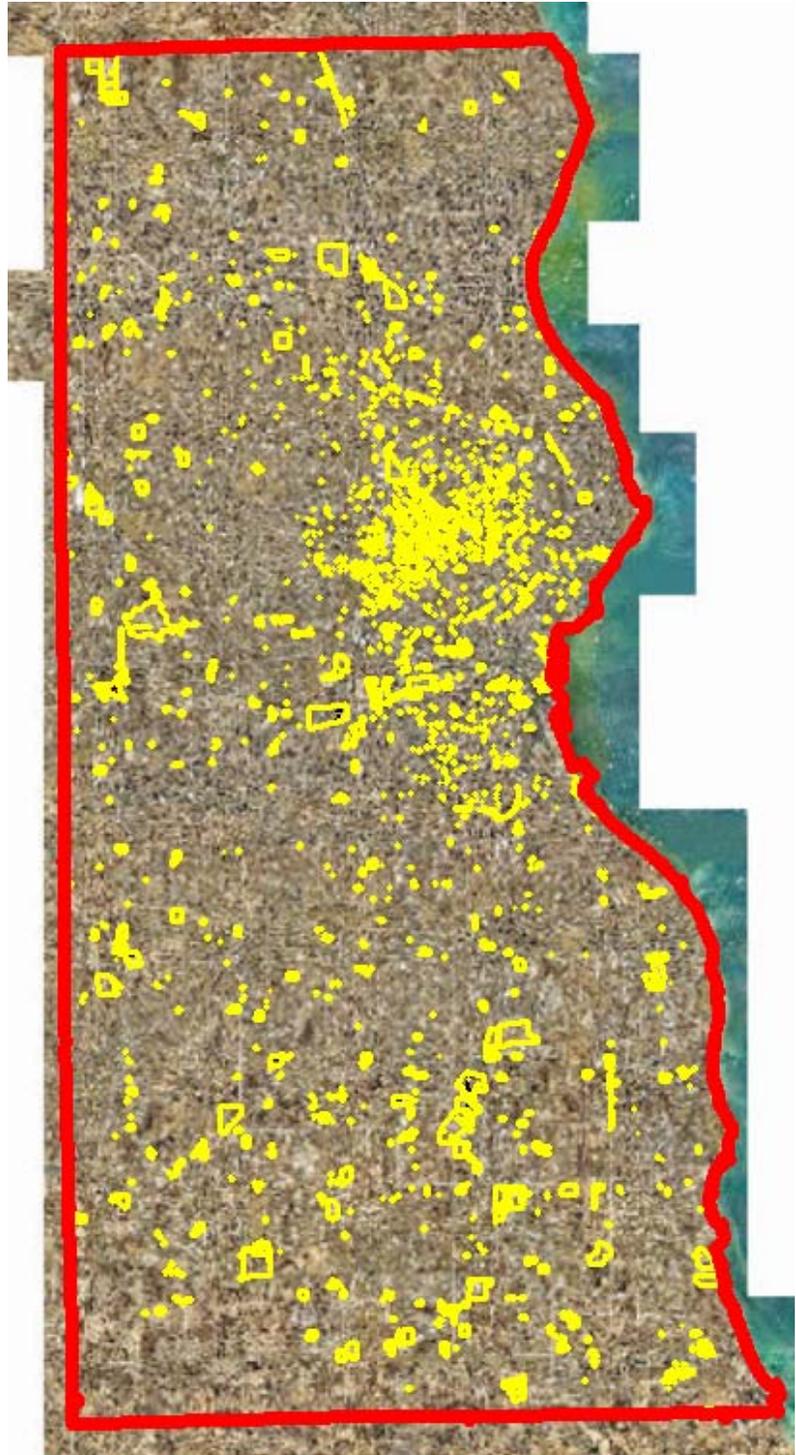
1.1 Introduction

GRW will perform planimetric updates covering approximately 8 square miles of land scattered throughout Milwaukee County from the County supplied 2015 digital orthophotography and LiDAR data. All mapping updates will be performed by GRW's staff in our Lexington, Kentucky office and all data will be delivered in ESRI Geodatabase format.

Planimetric Mapping features will be digitized in a heads-up 2D environment from the supplied source material. No updates or edits will be performed on contours, spot elevations, LIDAR or other 3D surface layers. The only updates or edits that will be performed outside of the polygons provided by the County are defined in Section 1.3 of this proposal. Figure 1.0 to the right shows the Milwaukee County project area with the County boundary shown in red and the mapping update areas shown in yellow.

There are 2,175 update polygons that have been defined by Milwaukee County totaling 8.1 Square Miles. GRW will visit each of these polygons and will perform the planimetric map update work as described in the remainder of this proposal.

Figure 1.0: Areas To Be Updated



PLANIMETRIC MAP UPDATE PROPOSAL

1.2 Planimetric Update Mapping

The planimetric update will be accomplished by displaying the 2015 digital orthophotography on the screen and digitizing the required features in a heads-up 2D environment. When visible and discernible on the supplied orthophotos, the following features will be included in the update:

- Road Edge of Pavement/Curb
- Paved Public Sidewalk Of Width $\geq 5'$
- Driveways
- Parking Areas
- Trails
- Railroad Centerlines
- Utility Poles and Towers
- Bridges
- Fences
- Walls
- Vegetation
- Hydrographic Features
- Annotation Lettering
- Buildings*

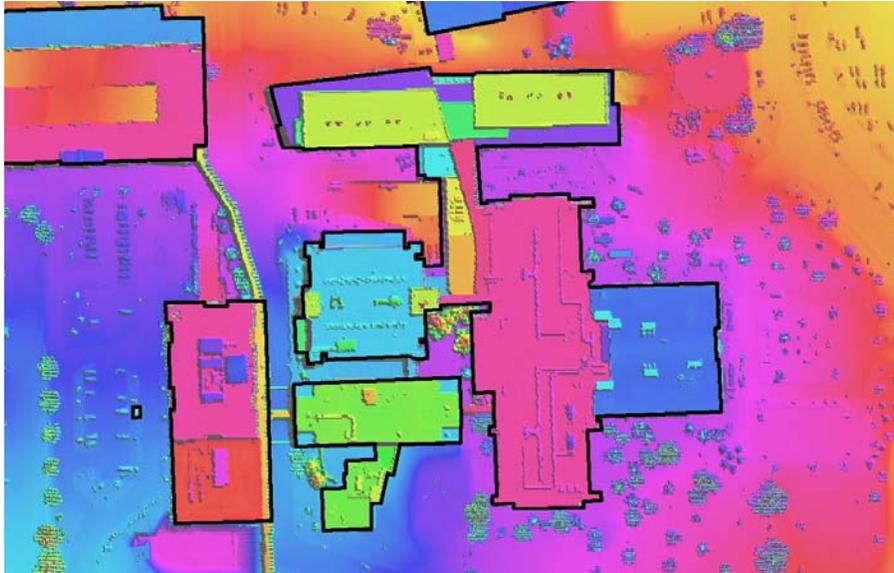
* Due to building lean, shadows, and overhangs, there are many cases where buildings cannot be accurately updated from digital orthophotography. The taller the building, the more extensively it will lean in the image (unless it was directly underneath the plane at the time the image was taken). To address this issue, we are proposing to perform the building update entirely from the 2015 LiDAR data. Figures 1.2A and 1.2B shown below and on the following page show an example of the building lean situation at the Milwaukee Regional Medical Center from the update project that GRW completed in 2013 (from 2010 source material). The black outline shown on both images is the exact same line in the updated GIS database. Notice how much better the building outlines fit the colorized LiDAR data than they do the digital orthophotograph (particularly along the northern edges of the buildings). This is because the building is leaning in the orthophotography but is not leaning in the LiDAR data.

Figure 1.2A: Updated Buildings Overlaid With 2010 Digital Orthophotography



PLANIMETRIC MAP UPDATE PROPOSAL

Figure 1.2B: Updated Buildings Overlaid With 2010 LiDAR Data



1.3 Updates Outside of Provided Polygons

GRW will perform some updates outside of the provided polygons. This will typically occur when an update to a parking area or driveway extends outside the parcel into the right-of-way. In these cases, we will perform the update out to the road instead of stopping at the parcel boundary. The graphic above shows an example of this situation.



In this case, we will update the driveways and sidewalks that fall just outside of the parcel in the right-of-way, even though they fall outside of the parcel update polygon (shown as yellow lines).

In addition to the right-of-way updates described above, there are also expected to be some areas discovered during the project that should have been included in the update but that were not contained in the provided update polygons. Since the number and size of these extra areas are not known at this time, we have allocated \$5,000 to cover that work. The extra updates will be performed on an hourly basis until the \$5,000 cap is reached using the pre-negotiated hourly rates in our contract with Milwaukee County.

PLANIMETRIC MAP UPDATE PROPOSAL

1.4 Data Format, Projection and Units

All mapping data will be processed and delivered in ESRI ArcGIS Version 10 (or later) File Geodatabase format in compliance with the existing Milwaukee County GIS data structure/schema. The Geodatabase will be delivered using Wisconsin State Plane, South Zone NAD27 coordinates with US Survey Feet as the units. Deliveries will be made via electronic transfer using GRW's Newforma Project Management software. This is the same method that was used to deliver the data on the past projects that GRW has completed for Milwaukee County. In order to save time and cost, our proposal does not include any on-site trips to Milwaukee. If you believe that an on-site meeting is necessary, we will be happy to submit a revised proposal covering the time/cost associated with the on-site meeting(s).

1.5 Line/Polygon Structure

In 2014, GRW completed a County-wide project to create GIS polygons from the existing Milwaukee County Line features. That project generated polygons for the following feature types:

- Roads
- Buildings
- Bridges
- Public Sidewalks
- Paved Parking
- Unpaved Parking
- Paved Driveways
- Unpaved Driveways
- Paved Shoulders
- Unpaved Shoulders
- Bleachers
- Golf Course
- Ruins/Foundations
- Cemeteries
- Pools
- Tanks/Silos
- Airfield Pavement
- Water Bodies
- Tree Lines
- Marshes
- Piers
- Conc. Pads/Slabs
- Open Storage Areas
- Athletic Fields

In the current Milwaukee County database, the above listed features are stored twice; once as line features and once as polygon features. We will retain those "double" feature classes in our delivery, but our approach will be to perform the update on the polygon features. At the conclusion of the update process, line features will be generated on a county-wide basis from the final polygon features. This approach will ensure consistency between the delivered line feature classes and the associated polygon feature classes. Feature types that are only stored as lines or points (walls, fences, utility poles, trees, etc.) will be updated as lines and points.

PLANIMETRIC MAP UPDATE PROPOSAL

1.6 Annotation Features

ESRI Annotation Features will be created and removed as necessary in the update areas for features such as Road Names, Park Names, and Area Descriptions using sources approved by Milwaukee County. The Annotation features will match the style (font, color, size, etc.) and placement of the existing annotation features in the Milwaukee County GIS database. There will be one annotation feature class for each of the major themes in the Milwaukee County GIS database as follows:

- Environmental (ENV)
- Hydrologic (HYD)
- Parks (PRK)
- Structures (FAC)
- Transportation (TRN)
- Utilities (UTL)

Subtypes contained within the existing Milwaukee annotation features will be retained.

1.7 Clipped Road Features

Paved and unpaved road edge lines will be clipped at driveway entrances. The clipped segment will be retained in the Geodatabase using the “Clipped Paved Road Line” subtype and the “Clipped Unpaved Road Line” subtype. This will allow the clipped segments to be turned off for map production or turned on for polygon generation/analysis.

1.8 Quality Assurance/Quality Control

Throughout the Milwaukee County mapping project, GRW will follow a rigid Quality Assurance/Quality Control process to ensure the integrity, consistency, and accuracy of the resulting GIS data. We strongly believe that QA/QC is not just a step that you add at the end of the project to make sure that the final deliverable is correct. Inspection of deliverables is only a small part of the QA/QC process. Instead of just adding checks at the end of our production process, we design and document our process from the beginning to make sure that our process produces the results required by the project. If our extensive QA/QC process uncovers a problem in the data, we not only correct the problem that was found, but we revisit our process to see if it can be improved to prevent the problem from occurring again in the future. **The result of our quality control process is a fully validated topologically structured GIS database that produces accurate maps that are cartographically and aesthetically correct.**

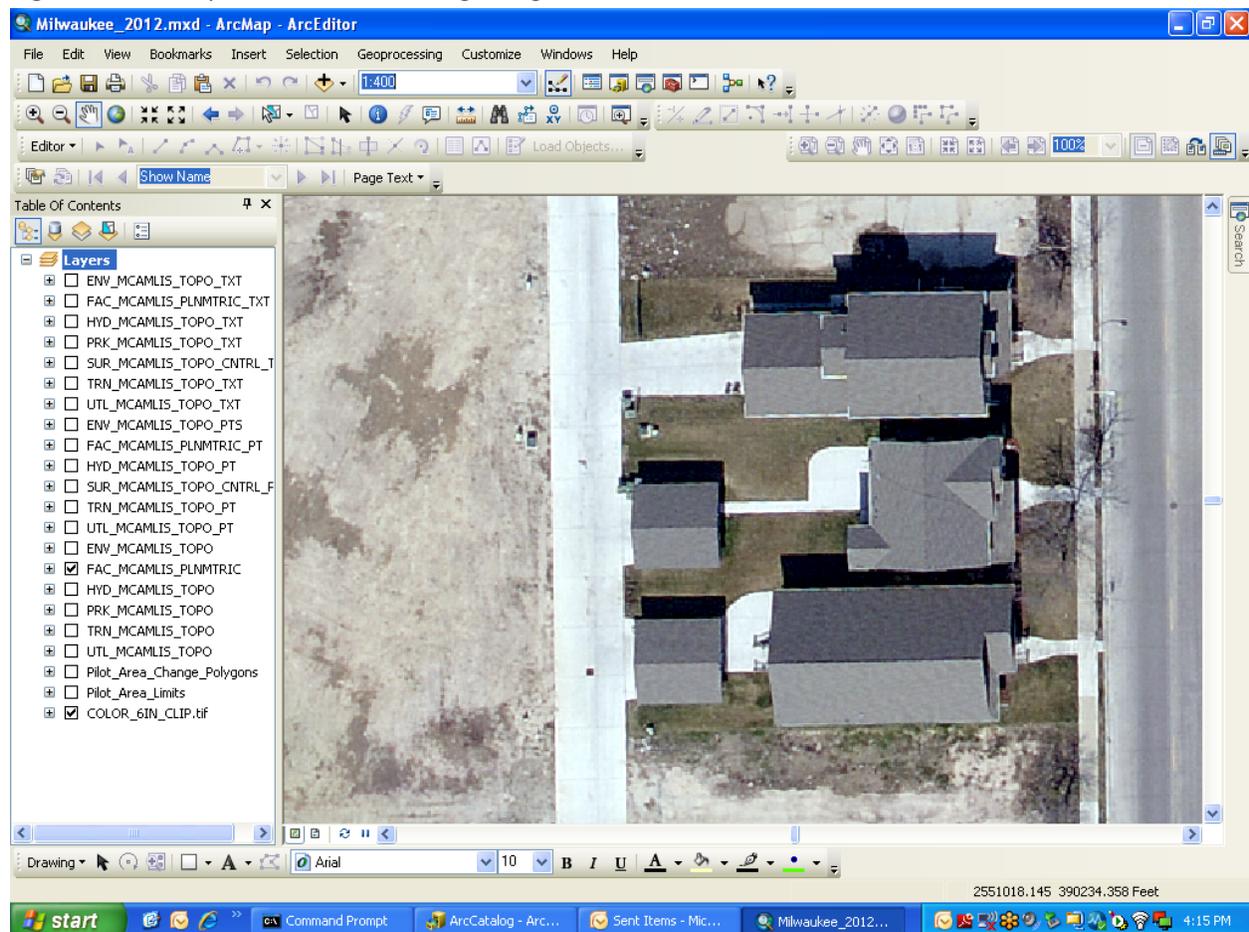


PLANIMETRIC MAP UPDATE PROPOSAL

1.9 Accuracy and Smoothness

Assuming that the County provided orthophotography and LiDAR meets the required NMAP accuracy requirements of the RFP, all mapping products produced by GRW will also meet those requirements. During the digitizing process, our technicians will typically be zoomed to 1" = 40' scale or closer to ensure that they can see, identify and accurately digitize the required features. This will also ensure that curved features contain enough vertices to appear smooth on the screen and on the 1" = 100' scale maps that will be generated from the delivered database. Figure 1.9 below shows the approximate zoom scale that will be used during the heads-up mapping process (Note: The scale of the graphic on this printed page does not reflect the scale that the operator will be seeing. The operator will see the data from Figure 1.8 enlarged to a full 19 inch monitor).

Figure 1.9: Example Zoom Scale for Digitizing

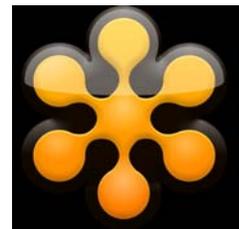


PLANIMETRIC MAP UPDATE PROPOSAL

1.10 Project Management and Communication

The Milwaukee County project will be managed by **Mr. Darrin Belcher, GISP**. Mr. Belcher was the Senior GIS Analyst for the work that GRW previously completed for Milwaukee County. He will be responsible for all aspects of the project including production, deliverables, client communications, invoicing, monthly status reports and problem resolution. He has been with GRW for over 25 years and has managed large, complex mapping and GIS projects across the Country for the past 15 years.

Mr. Belcher will conduct conference calls and use Web-based tools such as **GoToMeeting** and **Newforma** to assist in project management and communication. **GoToMeeting** will allow multiple participants in remote locations to tie into the same meeting and view the same information on their computer screens at the same time. This can be very powerful tool to quickly communicate and resolve potential issues, questions, or problems that may arise during the project.



In addition to GoToMeeting, Mr. Belcher will also use an on-line Project Management system called the **Newforma Project Center** to assist in management the project. GRW has been using Newforma to help manager our projects for over 6 years. Key members of the GRW Team and Milwaukee County Team will be provided an account on the Newforma web server. The web site will allow all team members to easily and quickly communicate via email and to upload/download large digital data sets and attachments via an automated FTP process. It will track and record the dates and times of all transfers and all participants so that GRW and Milwaukee County will have a permanent record of all critical project communications. Since the Newforma web site will contain the detailed and technical project communications, it will only be accessible through a Username/Password account.



2.0 SCHEDULE

The work described in this proposal will be completed within 5 months of receiving the official Notice-to-Proceed and source material from Milwaukee County. The source material will include the 2015 Digital Orthophotography, 2015 LiDAR data set and the latest copy of the Milwaukee County mapping Geodatabase.

PLANIMETRIC MAP UPDATE PROPOSAL

3.0 COST

The fee for the planimetric map update work described in this proposal is shown in the table below. Invoices and status reports will be sent on a monthly basis defining the percent of the overall project that has been completed to that point.

Description	Fee
Updates Within County Supplied Polygons	\$65,200
Updates In Right-Of-Way Immediately Outside of Polygons	\$2,400
* Extra Update Areas Discovered During Project	\$5,000
TOTAL	\$72,600

* The Extra Update Areas will be billed on an hourly basis using our pre-negotiated hourly rates with a \$5,000 cap. The negotiated hourly rates are shown on Page 9 below.



PLANIMETRIC MAP UPDATE PROPOSAL

**MILWAUKEE COUNTY
DEPARTMENT OF ADMINISTRATIVE SERVICES, FACILITIES MANAGEMENT DIVISION**

MANPOWER, DIRECT SALARY RATE AND OVERHEAD & PROFIT FACTOR SCHEDULE
Used For Additional Services Only
Separate Schedule Required for Prime Consultant & each Subconsultant

Firm Name: GRW Inc Principal-in-Charge: Robert Hench

Wisconsin Reg. Number: G040169

Principal's Flat Rate:\$140/hr.

Overhead & Profit Factor (multiplier): 180.81% audited overhead rate and 10% profit 3.09

(Include copy of audited account of overhead factor or complete Attachment "B-2")

Name	Classification	Direct Salary Rate/Hour
Troy Schmidt	Sr. GIS Analyst	\$26.92
Darrin Belcher	Sr. GIS Analyst	\$27.40
Jay Hertz	Sr. GIS Analyst	\$28.85
Gerry Hench	GIS Analyst.Tech	\$16.50
Chad Case	GIS Analyst.Tech	\$19.50
Danny Dailey	GIS Analyst.Tech	\$17.00
Ken Sallade	Image Specialist	\$26.99
Nathan Fitch	Compiler Technician	\$15.25
Brian Kerrick	Senior Image Specialist	\$20.00
Gary Erickson	Senior Image Specialist	\$20.50
Ned Price	Senior Compiler	\$28.85
Mike Ligon	Senior Compiler	\$23.75
Pat Ziegeler	Senior Compiler	\$20.75

Direct Salary Rate is defined as each employee's actual and verifiable gross hourly cost of salary ("W-2" Statement Salary), exclusive of incentive bonus or other non-direct salary expenses.

Overhead & Profit Factor is defined as the multiplying factor representing each employee's pro-rata share of all other direct and indirect expenses and profit for the CONSULTANT. This factor remains fixed for the life of the Project.

Additions and deletions of personnel or permanent classification changes must be submitted for approval at the time the changes occur. For multi-year projects, changes in basic salary rates may be submitted for approval only in January of each calendar year.

The foregoing is a true and actual accounting of the rates:

Approved for Milwaukee County
Department of Administrative Services, Facilities
Management Division

as of: December 11, 2013

Date: 2/17, 2014

Signature: [Signature]

Signature: [Signature]

Title: GIS Manager /Vice-President

Title: _____

ATTACHMENT "B-1" of 2



2016 YTD Fiscal Report - LIO - As of May 27, 2016

2016 LIO YTD

		YTD	YE Projected
REVENUES - 2016 YTD			
		\$344,320	\$854,944.22
	2016 Actual Revenue	\$164,228	\$164,228
	2015 Encumbrances Carried Over		
	TOTAL	<u>\$508,548</u>	<u>\$1,019,172</u>
OPERATING EXPENSES - 2016 YTD			
		\$248,731	\$617,596.44
	2016 Actual Expenditures	\$274,178	\$274,178
	2016 Encumbrances	\$47,747	\$92,670
	2016 ROD GIS Analyst		
	TOTAL	<u>\$570,656</u>	<u>\$984,444</u>
	2016 Est. Net Income (Loss)	<u>(\$62,108)</u>	<u>\$34,728</u>

Fund Balance:		YTD	YE Projected
2015 Year-End Fund Balance*		\$1,316,199	\$1,316,199
	2016 Operating Revenues (Shown Above)	+ \$508,548	\$1,019,172
	2016 Exp + Enc for \$8 Fee Projects	- \$570,656	\$984,444
2016 Est Fund Balance**		= \$1,254,091	\$1,350,927
	2015 Reserve Revenue @ 10%	\$0	\$0
	2016 Est Fund Balance YTD - Unrestricted	\$1,231,303	\$1,328,139
	2016 Est Fund Balance YTD - Restricted	\$22,788	\$22,788

*2015 YE Fund Balance represents the current amount in reserve as of 2015 YE close.

**2016 Est YTD Fund Balance represents the 2015 YE reserve netted against the actual 2016 expenditures and revenues. This figure will change throughout the year as additional 2016 expenditures and revenues are realized.

NOTE: 2016 expenditures, revenues, and resulting fund balance are year-to-date ONLY. The figures represented in this report are not intended to project a year-end balance for the LIO budget. The purpose of the report is to provide committee members a "financial snapshot" of LIO activities within a specific point in time.