

Submitted to:

**Milwaukee County Automated Mapping
and Land Information System
(MCAMLIS)
Steering Committee**

Five-Year Work Plan

Submitted by:



Staff

Revised

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Executive Summary

Work Plan Background

The Milwaukee County Automated Mapping and Land Information System (MCAMLIS) has been providing location-based products and services (Data, Collaboration, and Capabilities) in various and growing capacities to its Partners for more than two decades (see Figure 1). A Business Needs Assessment (BNA) conducted in 2013 identified several influencing factors that continue to provide MCAMLIS the opportunity to improve the value it provides to its Partners.

Among these factors are industry advances in location-based data and technologies (LBDT), such as data services and mobile device capabilities. As such, MCAMLIS has taken advantage of these technologies to improve its value to MCAMLIS Partners, and will continue to do so as outlined in this update to the Five-Year Work Plan.

Another factor is that MCAMLIS Partner organizations are changing. Partners themselves are adapting to advances in LBDT and need to quickly react to the implementation of LBDT when necessary. In addition, Partner LBDT abilities vary from rudimentary to highly advanced. As such, MCAMLIS work planning will continue to promote processes and capabilities that quickly adjust to changing and varied Partner requirements.

Finally, the MCAMLIS Program has made significant progress in providing increased value to Partners by implementing recent improvements to MCAMLIS Program data and processes that were driven by the needs of its Partners. The Work Plan update will continue to build on the earlier momentum and continue to advance LBDT improvements.

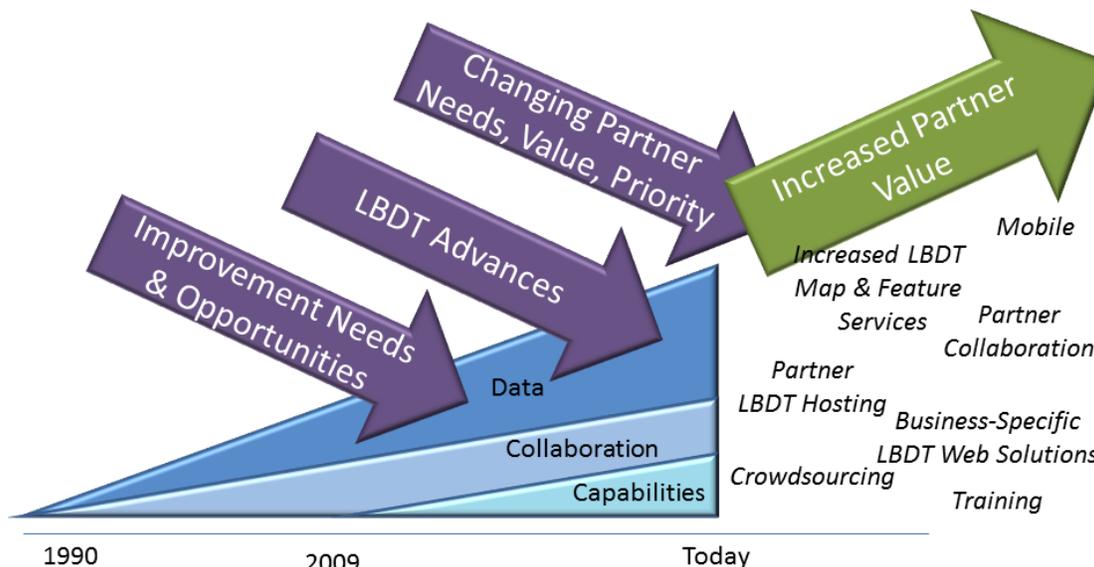


Figure 1: MCAMLIS Direction

In March 2013, the MCAMLIS consortium of Partners initiated a Business Needs Assessment (BNA) Project. The ultimate goal of this project was to foster improvements in effective and efficient management of LBDT across as many MCAMLIS Partners as can be engaged to do so, and to the extent that each Partner or group of Partners finds value in its participation. The MCAMLIS Program anticipated that these improvements would include improved access to MCAMLIS location-based data and Partner data, and would facilitate access to LBDT consulting services and core LBDT applications and services. The 2013 BNA Project set the direction for MCAMLIS for a five year window beginning in 2014. In order to continually shape and maintain the plan going forward it needs to be revised annually to move the five year window into coming years. Each annual Work Plan revision will realize what has been accomplished and what changes to the plan need to be incorporated, including both partner-driven and program-driven projects and tasks. To this end revisions to the ongoing plan incorporate the [MCAMLIS Business Planning Process \(BPP\)](#) adopted by the MCAMLIS Steering Committee in December 2014:

- Business Planning Process** – The Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee utilizes a formal Business Planning Process (BPP) that was adopted in 2014. Previous to the current BPP, input into the Business Needs Assessment (BNA) conducted in 2013 yielded many critically important insights into organizations business needs resulting the first Five-Year Plan. To assess changes that are necessary to update the MCAMLIS Work Plan the Steering Committee recently adopted a formal mechanism to capture MCAMLIS Partner input and to capture any opportunities and changing priorities for land information improvement over time. Organizational input into the formalized Business Planning Process is important to help assess MCAMLIS future direction. Each partner organization is asked to help by 1) providing answers to a ‘Yes/No’ question survey regarding projects being considered as part of the updated Work Plan and 2) if there is a gap in MCAMLIS services that is not covered by a current or proposed project, and if so to formally submit a project application through the Business Planning Process requesting to have it considered by the MCAMLIS Steering Committee for action in a future work planning cycle. The MCAMLIS Partner organizations are each listed below.

MCAMLIS Partner Organizations		
AT&T	City of St. Francis	Village of Fox Point
City of Cudahy	City of Wauwatosa	Village of Greendale
City of Franklin	City of West Allis	Village of Hales Corners
City of Glendale	Milwaukee County	Village of River Hills
City of Greenfield	MMSD	Village of Shorewood
City of Milwaukee	SEWRPC	Village of West Milwaukee
City of Oak Creek	Village of Bayside	Village of Whitefish Bay
City of South Milwaukee	Village of Brown Deer	WE Energies

- Project Initiation and Background** – This phase of the BPP is intended to encourage submittal of projects using an on-line MCAMLIS Business Planning New Project Request form. A MCAMLIS Partner completes a new Project Request and forwards it to the MCAMLIS Project Manager, Milwaukee County Land Information Office for evaluation. The

Project Manager and Staff, then perform a cursory review of the request and confer with the individual organization making the request to provide any missing information that may further clarify the request e.g., evaluate the total scope of the request, Estimate cost of project and estimate level of work (number of personnel needed to implement project) etc.

In the initiation and background phase, MCAMLIS Staff employs an array of tools to evaluate needs: online surveys, face-to-face interviews with Partner organization leadership and business areas, and if warranted collaboration workshops. If the project meets a minimum set of criteria it is then analyzed and distilled into a staff recommendation to the Steering Committee. Depending on the staff recommendation a project may be scheduled immediately into the current planning cycle or considered for placement into the Five-Year Plan as a future consideration as part of the 'Five-Year Program Task Analysis' phase . If the project is scheduled into the current planning cycle it will need to be considered and approved for funding by the MCAMLIS Steering Committee.

- **Five-Year Program Task Analysis** – This phase uses the detailed program initiatives and improvement tasks derived from the projects identified during the Project Initiation phase. The MCAMLIS Staff will prioritize the project initiatives and improvement tasks based on implementation criteria such as whether they address the specified need, the level of development effort, risks of implementation, and benefits to stakeholders.
- **Five-Year Program Development** – This phase re-casts the Five-Year Work Plan (including initiative sequencing and cost estimation) based on MCAMLIS program cycles and budget. The Five-Year Work Plan projects and tasks are derived, in part on the initiatives and improvement tasks included in the original 2013 BNA and modified based on the results of the background and analysis gathered in the previous phases. In 2015 the MCAMLIS Project Manager and staff submitted seven new or revised projects to include among a proposed sequencing of 20 tasks over the next five years. This resulted in a proposed schedule. The Five-Year Work Plan is then finalized based on MCAMLIS Partner and Staff input and submitted to the MCAMLIS Steering Committee for approval.

The MCAMLIS Program, Defined

The MCAMLIS Program activities can be organized into five key categories, which are illustrated in Figure 2. The Work Plan includes one or more Project Tasks that improve each Program Category (see the Benefits section of each Project Task description). The MCAMLIS Project manager and MCAMLIS Partner Organizations can use these categories to communicate program services and activities to MCAMLIS stakeholders. Each MCAMLIS Program Category is described briefly below:

- **MCAMLIS Portal** – The MCAMLIS Portal is the online, one-stop access to all that is MCAMLIS. The Portal provides MCAMLIS Stakeholders one place to go to learn about what MCAMLIS is; who is a part of MCAMLIS; what data, capabilities, and collaboration activities are provided through MCAMLIS; and how one obtains access to or gets involved with MCAMLIS.
- **Data Products and Services** – Essentially, there are two types of location-based data: Business Data and Reference Data. Location-based Business Data is the essential data

created and applied by Partner organizations. Examples include permits, safety-related incidents, and capital roadway improvement projects. Location-based Reference Data gives context to the Business Data. MCAMLIS has been providing Reference Data and support services since its inception, including aerial photography, road layers, parcel layers, contours, and political boundaries. MCAMLIS Partners typically manage their own location-based Business Data.

- Capability Products and Services** – Capabilities refer to location-based technology and applications, and related support services. MCAMLIS may be best known for the MCLIO Web Mapping Application, which offers a version to the public as well as a secured version offered to MCAMLIS Partners. With advances in location-based technologies and the requirements of MCAMLIS Partners, additional capabilities – such as map services – are available, allowing Partners to add MCAMLIS-hosted data into their own mapping applications. Other capabilities are possible, including data services and having MCAMLIS host Partners’ solutions or data for them.
- Collaboration Products and Services** – MCAMLIS has coordinated several forums for MCAMLIS Partners to exchange LBDT ideas and even solutions, most notably the Milwaukee Municipal GIS User Group meetings. However, MCAMLIS is striving to do more to improve the value of LBDT for certain business functions or other LBDT-based solutions (e.g., a commonly invested asset management solution).
- Program Management** – This category represents MCAMLIS activities to plan, budget, operate, and improve on the delivery of MCAMLIS products and services, including information technology, data management, MCAMLIS governance, staff management, and process management.

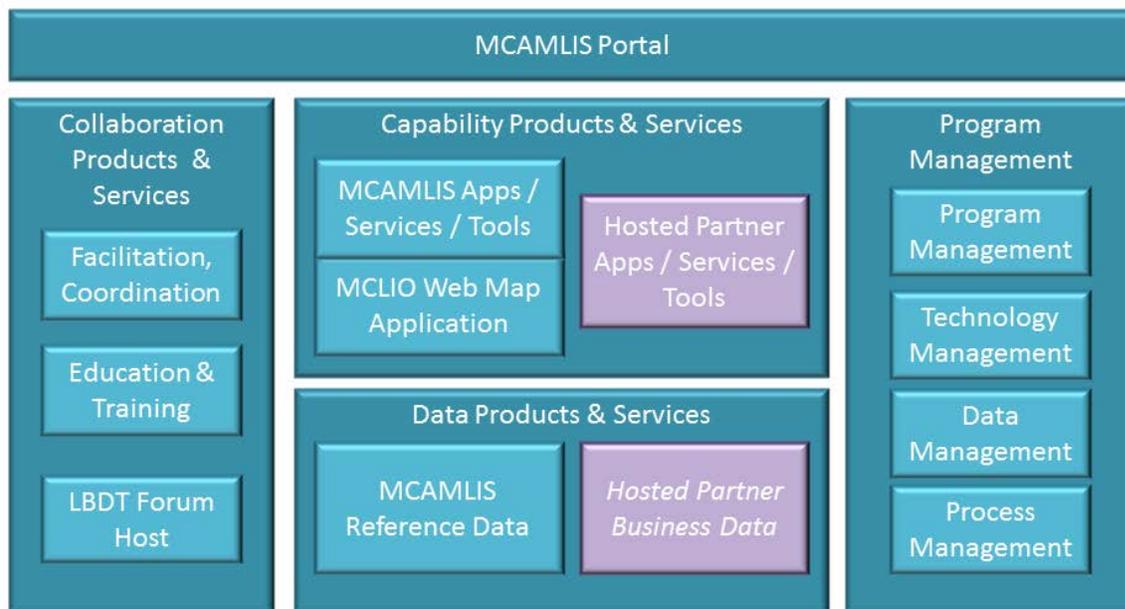


Figure 2: MCAMLIS Program Categories

MCAMLIS Program Five-Year Work Plan Overview

The MCAMLIS Five-Year Work Plan is defined by five improvement-based projects estimated to cost approximately \$1.1 million to implement over the next five years. The figure below illustrates the five projects and costs allocated over the next five years.

Project Code and Name		# of Tasks	FY2015				FY2016				FY2017				FY2018				FY2019				Project Budget
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4													
VWR	Viewer/Pictometry Improvement RollOut	3	■	■	■	■																	\$70,000
MBL	Mobile-Based Capabilities Implementation	2					■	■	■														\$45,000
COL	MCAMLIS/Partner Collaboration Improvement	3								■	■			■	■	■							\$70,000
MOL	MCAMLIS On-line Presence Improvement	6		■	■	■	■	■	■	■	■	■				■	■	■	■	■			\$155,000
DAT	MCAMLIS Data Improvement	6	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	\$735,000
Annual Budget			\$360,000				\$250,000				\$260,000				\$135,000				\$70,000				\$1,075,000

These five projects are comprised of two to six tasks (20 tasks in total). The five projects are Viewer Improvements (VWR), Mobile-Based Capabilities Improvements (MBL), MCAMLIS/Partner Collaboration Improvements (COL), MCAMLIS Online Presence Improvements (MOL), and Data Improvements (DAT).

The Work Plan proposes seven tasks in Year 1, three of which will be completed in 2015. These tasks focus on enhancing the MCLIO Viewer (VWR) and MCAMLIS website improvements (MOL). Data improvements (vector and non-vector) occur in each of the five years.

As with projects completed earlier the 2015 project tasks will ensure that MCAMLIS is responsive to stakeholders' requirements, and provide MCAMLIS a solid foundation on which to continue building. In subsequent years, the MCAMLIS Program will revisit the Work Plan and make adjustments to the proposed project tasks for the upcoming years. These adjustments need to consider progress made to date, budget realities, and shifting priorities.

Work Plan Document Purpose and Organization

The Five Year Work Plan document describes in detail the MCAMLIS projects and related tasks that MCAMLIS needs to address within the next five years – this version includes the years 2015-2019. This document incorporates a sequence strategy for tackling these projects and tasks. The proposed sequence considers projected annual budgets, MCAMLIS staff involvement, and dependencies. The MCAMLIS program will continue to refine its priorities as each year progresses, and may make changes to the sequence as appropriate.

The Five-Year Work Plan document is organized as follows:

- Executive Summary – Describes why the BNA Project is important, project methodology, key findings, and in, particular, how this document is relevant to the overall project success.
- MCAMLIS Five-Year Work Plan – Presents the Work Plan from several perspectives: timeline, and budget per year.
- Project Details – Provides details about the projects and tasks that, if implemented, would address key MCAMLIS Partner and Program requirements for the next five years. Each task is described, including key benefits, risks, and assumptions.
- Appendices – Describes the needs and improvement initiatives that drove the definition of the Work Plan.

MCAMLIS Program Five-Year Work Plan

This section of the Five-Year Work Plan describes the MCAMLIS projects and related tasks that MCAMLIS needs to address within the next five years. Also included is a proposed sequencing strategy for tackling these projects and tasks. The proposed sequence considers projected annual budgets, MCAMLIS staff involvement, and dependencies. The following table depicts the MCAMLIS BPP Projects and tasks, their sequence, duration, and milestones.

Project	Task ID	Task Description	FY2015				FY2016				FY2017				FY2018				FY2019			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
VWR		Viewer/Pictometry Improvement RollOut																				
	01	Improve the MCLIO Interactive Mapping Service																				
	01.1	System Architecture Design Consulting																				
	02	Implement MCAMLIS Data Extract Service																				
MBL		Mobile-Based Capabilities Implementation																				
	01	Deploy Mobile Property Locator Application																				
	02	Develop MCAMLIS Feature Data Service for Parcels									Complete											
	03	Prototype Services for Mobile Applications																				
COL		MCAMLIS/Partner Collaboration Improvement																				
	01	Invest in LBDT/Collaboration Education and Training									Complete											
	02	Formalize Partner Input in MCAMLIS Business Planning									Complete											
	03	Improve MMGUG Forums																				
	04	Facilitate Business-Driven LBDT Collaboration Project																				
	05	Clarify Partner Opportunities in MCAMLIS																				
MOL		MCAMLIS On-line Presence Improvement																				
	01	Make Initial Website Improvements									Complete											
	02	Determine MCAMLIS Portal Architecture																				
	03	Establish and Market the New MCAMLIS																				
	04	Implement MCAMLIS Portal																				
	05	Finish MCAMLIS Program Management Content																				
	06	Develop Partner Data Sharing Repository																				
	07	Implement Cloud-Based GIS for MCAMLIS (AGOL)																				
DAT		MCAMLIS Data Improvement																				
	01	Make MCAMLIS Non-Vector Data Improvements																				
	02	Make MCAMLIS Vector Data Improvements																				
	03	Improve Property Record Currency																				
	04	Support New Datum Needs																				
	05	Make MCAMLIS Metadata Improvements																				
	06	Acquire Cadastral Data from Outside Milwaukee Co.																				

The following table shows the annual cost associated with each Project Task and the total expected cost per year.

Project	Task ID	Task Description	FY2015	FY2016	FY2017	FY2018	FY2019	
VWR	01	Improve the MCLIO Interactive Mapping Service	\$48,000					\$48,000
	01.1	System Architecture Design Consulting	\$22,000					\$22,000
	02	Implement Initial MCAMLIS Data Extract Service*						
MBL	01	Deploy Mobile Property Locator Application		\$25,000				\$25,000
	02	Develop MCAMLIS Feature Data Service for Parcels*			Complete			
	03	Prototype Services for Mobile Applications		\$20,000				\$20,000
COL	01	Invest in LBDT/Collaboration Education and Training			Complete			\$0
	02	Formalize Partner Input in MCAMLIS Business Planning			Complete			\$0
	03	Improve MMGUG Forums		\$5,000	\$5,000			\$10,000
	04	Facilitate Business-Driven LBDT Collaboration Project				\$30,000		\$30,000
	05	Clarify Partner Opportunities in MCAMLIS			\$20,000	\$10,000		\$30,000
MOL	01	Make Initial Website Improvements			Complete			\$0
	02	Determine MCAMLIS Portal Architecture	\$20,000					\$20,000
	03	Establish and Market the New MCAMLIS			\$15,000			\$15,000
	04	Implement MCAMLIS Portal		\$25,000				\$25,000
	04.1	Portal Licensing						\$0
	05	Finish MCAMLIS Program Management Content		\$20,000				\$20,000
	06	Develop Partner Data Sharing Repository				\$15,000	\$15,000	\$30,000
	07	Implement Cloud-Based GIS for MCAMLIS			\$45,000			\$45,000
DAT	01	Make MCAMLIS Non-Vector Data Improvements						
	01.1	Create Historical Aerials	\$10,000	\$10,000	\$10,000			\$30,000
	01.2	Implement ESRI Image Extension for Server	\$10,000					\$10,000
	01.3	Evaluate DMS for MCAMLIS (OnBase)			\$20,000			\$20,000
	01.4	Implement Dedicated Server for Images					\$45,000	\$45,000
	01.5	Orthophotography/LiDAR Acquisition	\$185,000		\$145,000			\$330,000
	02	Make MCAMLIS Vector Data Improvements						
	02.1	Create/Deploy 2015 Planimetric Update	\$20,000	\$100,000				\$120,000
	02.2	Energize EAS/SCL Data Update				\$20,000		\$20,000
	03	Improve Property Record Currency		\$50,000				\$50,000
	04	Support New Datum Needs		\$25,000				\$25,000
	05	Make MCAMLIS Metadata Improvements		\$15,000				\$15,000
	06	Acquire Cadastral Data from Outside Milwaukee Co.				\$50,000		\$50,000
	Total:			\$315,000	\$295,000	\$260,000	\$125,000	\$60,000

The remainder of this document provides details on the projects and tasks derived from the initiatives (Data Distribution, Data Integration, Capabilities/Solutions, Collaboration/Training, and Program Management) and associated improvements tasks. For each project¹, the following information is provided:

- Task ID
- Task Name
- Description
- Cross-referenced relationship to Improvement Tasks
- Deliverables
- Participants
- Objectives/Perceptions (Cross-reference)
- Needs (Cross-reference)
- Improvement Task Source (Cross-reference)
- High-level Cost Estimate
- MCAMLIS Staff Involvement (Low, Medium, and High)
- Duration
- Predecessors (other projects)
- Benefits
- Risks
- Assumptions.

¹ Completed projects summaries are included in an abbreviated form

Project VWR: Viewer Improvement Rollout

1. Improve the MCLIO Interactive Mapping Service

Task ID: WP-VWR-01

Task Name: Improve the MCLIO Interactive Mapping Service

Description:

This project will migrate and enhance the MCLIO Interactive Map Viewer. The current website viewing application(s) uses plug-in technology that is being deprecated and will soon be unsupported e.g., Google has declared that all plug-ins will not load in the Chrome browser as of September 2015. ESRI has also declared that they have stopped development and will discontinue support as of June of 2016. For additional information reference the following links: <http://blogs.esri.com/esri/supportcenter/2014/11/10/final-release-and-support-plan-for-the-arcgis-apis-viewers-for-flex-and-silverlight/>

<http://blog.chromium.org/2014/11/the-final-countdown-for-npapi.html>

This project was identified in the 2013 Business Needs Assessment (BNA) and is a continuation of the Website Viewer Improvement Project included in the 2014-2015 MCAMLIS Work Plan. Feature enhancement, platform migration and tool enhancement will be addressed with this project.

This task will finalize multiple improvements to the MCLIO Interactive Mapping Service and plan and execute the roll-out of the HTML viewer.

The task involves refining the improvements to the viewer, creating a roll-out plan, transitioning to the new HTML viewer, and executing the roll-out plan. It includes:

- Identifying new functionality and implementation.
- Updating the GeoCortex user guide with MCLIO web viewer specifics. For example, how to access certain data (e.g., CSMS) and functions (e.g., Pictometry oblique imagery).
- Developing and executing training materials (online, self-paced, group, etc.).
- Marketing/support of the new viewer.

Finally, Users will also have access to Pictometry Online (POL) as a stand-alone viewer. In addition to supplying HTML or web service, MCAMLIS will continue offering information on the availability of these tools and training on how to use them.

Deliverables:

- System Architecture Assessment (SAA) Report
- Outstanding Viewer capability
- Viewer Roll-Out Plan
- Online documentation / how-to materials on applying the Viewer.
- Online documentation of improvements offered through the Viewer.
- Online Viewer-specific user guide and training materials (including short how-to videos).
- Provide training on MCLIO web viewer (classroom and/or virtual).

- See also WP-VWR-02

<p>Participants: Viewer: All; Pictometry Access: in particular, City of Milwaukee Planning</p>	<p>Objectives / Perceptions: O1, O2, O3, O4, O5; P1, P4, P5, P6</p>	<p>Needs: BN08, BN09, PN02</p>	<p>Improvement Task Source: IT-03-01, IT-01-02, IT-03-05</p>
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High-level Cost Estimate: \$70,000
 Costs are included for Professional Services Consultant fees required to consider near and long term infrastructure needs assessment (\$22,000); Viewer migration from Silverlight to HTML including additional customization, configuration, and implementation of the viewer (\$48,000)

MCAMLIS Staff Involvement: Medium (Staff)

Duration: 9 months **Predecessors:** WP-VWR-01 (2014 Silverlight) ;

- Benefits:**
- SAA provides roadmap for future MCAMLIS Infrastructure
 - Improves on current web version.
 - Increases utility of the MCLIO Viewer to handheld and tablet devices.
 - Improves functionality and tools available through the viewer.
 - Continues to provide users with access to Pictometry data without having to go to a separate viewer or application.
 - Improves MCAMLIS Program Category: Capability Products and Services.

- Risks:**
- May not meet all Partner improvement requests.
 - All users may not be informed of the change to the viewer and therefore will not be adequately trained on the new product.

- Assumptions:**
- Geocortex HTML viewer provides enhanced capabilities and ease of use.
 - Training and tutorials on how to use the new site are included.
 - Roll-out needs to at least mention the sunset plan for the existing MCLIO website.
 - Latitude Geographics will continue to increase its use of services-based capabilities in its Geocortex products so these capabilities can be exposed to other information access interfaces that Partners use in their own applications.

2. Implement Initial MCAMLIS Data Extract Service

Task ID: WP-VWR-02			
Task Name: Implement Initial MCAMLIS Data Extract Services			
<p>Description:</p> <p>Task will provide users with a service that will allow them to select one or more MCAMLIS reference data layers to be extracted for a user-specified geographic area, which will result in downloadable datasets in one of a predetermined set of data formats.</p> <p>A "how-to" instructional guide needs to be included with the service.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> Operational data extract service for Milwaukee County Reference Data available on the MCLIO interactive mapping service for partner access. Documentation / how-to materials for applying the data extract service. 			
<p>Participants:</p> <p>MCAMLIS Partners, capital improvement contractors, and land developers</p>	<p>Objectives/ Perceptions:</p> <p>O1, O2, O3, O5; P1, P6, P8</p>	<p>Needs:</p> <p>BN01, BN21, BN04, PN1, PN2</p>	<p>Improvement Task Source:</p> <p>IT-01-02</p>
High-level Cost Estimate: part of WP-VWR-01			
MCAMLIS Staff Involvement: part of WP-VWR-01			
Duration: 3 months		Predecessors: WP-VWR-01; influenced by WP-COL-01 (how-to materials/training)	
<p>Benefits:</p> <ul style="list-style-type: none"> Users of the MCLIO interactive web mapping tool will select data for a particular geographic area to use in their desktop mapping applications. This on-demand service to extract the data reduces the turn-around time for Partners to obtain the required data. Reduces MCAMLIS staff effort spent on responding to user data requests. Provides a service to select data from a specified geographic area. Provides a means for users from outside (e.g., developers) to access the data for use in their projects. Adopts best practice. Improves MCAMLIS Program Category: Capability Products and Services. 			
<p>Risks:</p> <ul style="list-style-type: none"> Tracking use of the data. 			

- Data currency – If Users extract data instead of accessing directly via a web service, the data may become outdated and unsuitable for many purposes.

Assumptions:

- The costs and MCAMLIS staff involvement of this task are included in WP-VWR-01.
- Through training, address the use of web services as a preferred method of data sharing.

Project MBL: Mobile-Based Capabilities Implementation

1. Deploy Mobile Property Locator Application

Task ID: WP-MBL-01			
Task Name: Deploy Mobile Property Locator Application			
Description: The mobile property mapping application will provide organizations with the ability to view property ownership information in the field via a mobile application for phone or tablet. Core capabilities include the ability to retrieve the property and owner information at or near the user’s current location, or to retrieve property information based on a user-supplied address. In addition, this task will develop and deploy feature data services for Parcels (see WP-MBL-02).			
Deliverables: <ul style="list-style-type: none"> • Deployed property locator mobile application. • Deployed mobile address retriever tool. • Deployed online how-to materials; limited number of webinars and/or podcasts. • See also WP-MBL-02. 			
Participants: All	Objectives/ Perceptions: O1, O2, O3, O4, O5; P1, P6, P8	Needs: BN13, BN16 PN02, PN05	Improvement Task Source: IT-03-04
High-level Cost Estimate: \$25,000 Includes consulting services, implementation, configuration, and training of the property locator application.			
MCAMLIS Staff Involvement: Low (PM)			
Duration: 6 months		Predecessors: influenced by WP-COL-01 (how-materials/training)	
Benefits: <ul style="list-style-type: none"> • Provides access to MCAMLIS-based property data via a mobile application on a phone or tablet. • In the future, provides map and data services developed for this application to Partners who have their own mobile applications. • Improves MCAMLIS Program Category: Capability Products and Services. 			
Risks: <ul style="list-style-type: none"> • MCAMLIS Partners will not be able to commit to the use of the application. 			

- Reliable mobile connections across the County geographic area.

Assumptions:

- Property and ownership data available through MCAMLIS will be initially exposed.
- Initial users of the application will be the City of Milwaukee Assessor's office and Planning Department.
- MCAMLIS and Partner data will be served up via map and feature services.
- MCAMLIS staff will formalize production-quality copies of the necessary MCAMLIS data in the necessary datum, as well as copies of the map and data services, as required.
- Estimated costs will vary depending on the selection of mobile framework.
- The application can be extended in the future to include the capability to provide data corrections or updates back to the proper authority.

2. Develop MCAMLIS Feature Data Service for Parcels

Task ID: WP-MBL-02 (Completed 2014)			
Task Name: Develop MCAMLIS Feature Data Service for Parcels			
<p>Description:</p> <p>This activity is part of Task WP-MBL-01 but is separated out to emphasize its importance and provide additional detail.</p> <p>This activity includes the development of a feature data service for parcels. The feature data service will be established using a direct connect and will be accessed through REST endpoints. The Web feature service will expose the parcel data layer for use by MCAMLIS Partners. They can pull that data layer service into their desktop application or enterprise solutions for publishing along with their own business data.</p> <p>Users will be able to:</p> <ul style="list-style-type: none"> • Query and retrieve parcel attribution and symbology, • Control access to features using ownership-based access control, and • Prevent users from editing feature geometry. <p>The feature service will allow MCAMLIS to serve parcel features over the Internet, and will provide the symbology to use when displaying the features. Partners can execute queries to get features that can be used in client applications. Partners can consume feature services using either a web client (e.g., Geocortex), desktop applications (e.g., ArcGIS for Desktop), or Mobile applications.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Deployed Web Feature Service for Milwaukee County Parcel Data available to MCAMLIS Partners. • Documentation / how-to materials on accessing the Parcel Feature Data Service. 			
<p>Participants:</p> <p>Milwaukee Metropolitan Sewerage District (MMSD), We Energies, City of Milwaukee, Partners with mobile apps or ability to integrate with feature services.</p>	<p>Objectives / Perceptions:</p> <p>O1, O2, O3, O5; P1, P8</p>	<p>Needs:</p> <p>BN01, BN21, BN04</p>	<p>Improvement Task Source:</p> <p>IT-01-01</p>
<p>Benefits:</p> <ul style="list-style-type: none"> • MCAMLIS Partners will have access to updated parcel data and property information to bring into their applications and use how they wish. • Provides the data for use within a user’s application (ArcGIS Desktop, Web clients, and AGOL mobile applications). • Provides immediate access to most current data available at MCAMLIS. • Involves limited data management tasks for consumer. 			

- Reduces MCAMLIS staff effort spent on responding to user data requests.
- Provides a means for users from outside (e.g., developers) to access the data for use in their projects.
- Follows industry best practices by moving away from creating copies of data.
- Improves MCAMLIS Program Category: Data Products and Services.

3. Prototype Mobile Applications Using Services

Task ID: WP-MBL-03			
Task Name: Prototype Using Services in Mobile Applications			
<p>Description:</p> <p>This task will provide MCAMLIS staff experience with mobile applications and application of MCAMLIS map and feature services deployed in such applications. In particular, MCAMLIS will prototype asset viewer, field data collector, and property locator mobile applications. This task will most likely incorporate feature and map data services from the preceding mobile tasks (see WP-MBL-01 and -02).</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Prototypes of simple mobile applications, with MCAMLIS map and feature services: asset viewer, field data collector, and preliminary work on the property viewer. • Documented lessons learned for MCAMLIS parcel feature data services, MCAMLIS property locator, and online general lessons learned for MCAMLIS Partners. • Confirmation of Partners who will apply the at least the parcel feature data services and the MCAMLIS property locator application. 			
<p>Participants:</p> <p>MCAMLIS Staff</p>	<p>Objectives/ Perceptions:</p> <p>O1; O2-O5; P1, P6, P8</p>	<p>Needs:</p> <p>BN11, BN16, BN06 PN02, PN05</p>	<p>Improvement Task Source:</p> <p>IT-03-03, IT-01-01</p>
<p>High-level Cost Estimate: \$20,000</p> <p>Costs include consulting services to assess what was done in 2013 and look at more general solutions.</p>			
<p>MCAMLIS Staff Involvement: Medium (staff)</p>			
<p>Duration: 6 months</p>		<p>Predecessors: None; influenced by WP-DAT-04</p>	
<p>Benefits:</p> <ul style="list-style-type: none"> • MCAMLIS Partners and MCAMLIS can leverage experiences gained in developing and applying map and feature services for particular mobile applications. • More effectively defines the mobile framework and requirements. . • Improves MCAMLIS Program Category: Capability Products and Services. 			
<p>Risks:</p> <ul style="list-style-type: none"> • Technology used during prototype may not be what is applied in follow-up applications. • Multiple datum handling may be required. 			
<p>Assumptions:</p>			

- Incorporates the results of WP-MBL-01 and WP-MBL-02.
- MCAMLIS staff will create copies of the necessary MCAMLIS data in the necessary datum, as well as copies of the map and data services.
- Some infrastructure investment is expected; most likely will deploy ArcGIS Online field collector tool (free).
- The task will leverage experiences and build on the recent collaboration with the City of Cudahy.
- The task will leverage experiences gained from the mobile applications in place at We Energies and MMSD.
- Additional collaborative efforts will result from these efforts.

Project COL: MCAMLIS/Partner Collaboration Improvement

1. Invest in LBDT/Collaboration Education and Training

Improvement Task ID: WP-COL-01 (Completed 2014)			
Improvement Task Name: Invest in LBDT/Collaboration Education and Training			
<p>Description:</p> <p>This task will establish and execute an education and training program sponsored by MCAMLIS for Partners and MCAMLIS support staff, and includes two key components:</p> <ol style="list-style-type: none"> 1) Coordinating and executing commonly needed training or education among Partners, in the form of webinars or short in-room or virtual classroom settings focused on particular subjects that do not require full days. This will focus initially on responding to immediate needs associated with the other projects and tasks outlined in the Work Plan: <ul style="list-style-type: none"> • Establishing and operating technology architectures that are new to MCAMLIS/Partners, such as feature services and mobile LBDT. • Applying LBDT-based technologies (e.g., Geocortex Essentials, Pictometry tools, and if relevant, core applications that are based on LBDT, e.g., ProPhoenix). • Providing consulting support services: consensus building, collaborative decision-making, and business analysis associated with these new technology architectures. 			
<p>Delivered:</p> <ul style="list-style-type: none"> • Sustainable criteria, and MCAMLIS procedures for producing and deploying online user and training how-to materials for MCAMLIS-provided capabilities and data. • Commonly needed Partner-driven Training: <ul style="list-style-type: none"> ➢ Two to three key topic sessions each plan year (webinar-like or part of MMGUG). • Six months of support on guidelines and JIT training coordination. • Next Steps plan for training program, including costs. 			
<p>Participants:</p> <p>MCAMLIS Support Staff, All Interested Partners</p>	<p>Objectives/ Perceptions:</p> <p>P8, P7, P1, P2; O4</p>	<p>Needs:</p> <p>BN11, BN13, BN16, BN20, BN22; PN05</p>	<p>Improvement Task Source:</p> <p>IT-04-02</p>
<p>Benefits:</p> <ul style="list-style-type: none"> • Partners will be able to attend training courses on GIS and related LBDT technologies that will be supplied by MCAMLIS. • Provides more cost-effective education and training. • Develops a more educated user community. • Reduces time for MCAMLIS and Partner staff in supporting general user inquiries. • Improves MCAMLIS Program Category: Collaboration Products and Services (Education and Training). 			

2. Formalize Partner Input in MCAMLIS Business Planning

Task ID: WP-COL-02 (Completed 2014)			
Task Name: Formalize Partner Input in MCAMLIS Business Planning			
<p>Description:</p> <p>This task will establish the process and procedures to make certain that Partner requirements and priorities are included in MCAMLIS Programming and planning activities. This will include involvement in strategic planning, as well as tactical planning: the process needs to include how to adjust to opportunities or key demands (e.g. natural disaster) as they surface. The process will need to be able to balance providing solutions for countywide needs with those that might be more specialized (smaller area, select set of Partners). This task will result in a detailed process – including criteria used to select and prioritize projects - and a first run-through of the process for tactical planning.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Documented Strategic and Tactical MCAMLIS Business Planning Process and procedures. • Adjustments to MCAMLIS Program for Year 2016. 			
<p>Participants:</p> <p>MCAMLIS Support Staff, All Partners, MCAMLIS Steering Committee Members</p>	<p>Objectives/ Perceptions:</p> <p>P8, P7, P1</p>	<p>Needs:</p> <p>PN03</p>	<p>Improvement Task Source:</p> <p>IT-05-04</p>
<p>Benefits:</p> <ul style="list-style-type: none"> • MCAMLIS Partners will have more influence on the projects that are created and, in return, will see direct benefits from these projects in the future. • Includes explicit Partner input in MCAMLIS project priorities. • MCAMLIS Partner input will be standard operating procedure. • Improves MCAMLIS Program Category: Program Management. 			

3. Improve MMGUG Forums

Task ID: WP-COL-03			
Task Name: Improve MMGUG Forums			
<p>Description:</p> <p>This task will clarify and execute an improvement program given MMGUG member feedback on the MMGUG collaboration activities and tools. The program includes procedures to streamline MMGUG coordination and therefore re-allocate activities to increase the MMGUG value.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Small set of improvements implemented. • Documented procedures for MMGUG feedback surveys and meeting delivery. • Improved online content (MCAMLIS portal-compliant). 			
<p>Participants:</p> <p>Milwaukee metropolitan area LBDT Professionals</p>	<p>Objectives/ Perceptions:</p> <p>O4; P1, P2, P7, P8</p>	<p>Needs:</p> <p>BN14, PN03</p>	<p>Improvement Task Source:</p> <p>IT-04-01</p>
<p>High-level Cost Estimate: \$5,000</p> <p>Costs include consulting services, website content.</p>			
<p>MCAMLIS Staff Involvement: Low (PM)</p>			
<p>Duration: 3 months</p>		<p>Predecessors: influenced by WP-COL-01</p>	
<p>Benefits:</p> <ul style="list-style-type: none"> • MCAMLIS Partners will benefit by having direct access to the knowledge and experiences of other GIS professionals in Milwaukee County. • Improves the MMGUG experience driven by MMGUG members. • Allows MCAMLIS Partners to stay up on the latest trends and co-Member practices in LBDT. • MCAMLIS will have procedures to allow support staff/interns to perform most of the administrative activities. • Improves MCAMLIS Program Category: Collaboration Products and Services (LBDT Forum Host). 			
<p>Risks:</p> <ul style="list-style-type: none"> • Duties to proactively improve and support MMGUG grow beyond what can be accomplished by MCAMLIS staff. 			
<p>Assumptions:</p> <ul style="list-style-type: none"> • Partners continue to participate in such forums. 			

4. Facilitate Business-Driven LBDT Collaboration Project

Task ID: WP-COL-04			
Task Name: Facilitate Business-Driven LBDT Collaboration Project			
<p>Description:</p> <p>This task proactively leverages one business area forum (e.g., regional public works or safety conference) to promote LBDT and what MCAMLIS and its Partners can offer. It then follows through with a project that implements a product of value to the collaborative parties.</p> <p>One example is to hold a forum for Partner safety staff who will be or are using ProPhoenix to share how they handle certain workflows – especially as it relates to using LBDT to their advantage – and then support a pilot or implementation of improved location-based data or capabilities that can be shared among Partners.</p> <p>Another example is associated with asset management, bringing together public works engineers and field staff from municipalities to create an application and data flow that allows field staff members to report asset problems or data issues identified in the field to neighboring public works municipalities (e.g., data, capabilities).</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> A particular data, service, or application used by similar business areas from multiple MCAMLIS Partners. 			
<p>Participants:</p> <p>Partner Public Works or Safety professionals.</p>	<p>Objectives/ Perceptions:</p> <p>O4; P1, P2, P4, P7, P8</p>	<p>Needs:</p> <p>BN14, PN03</p>	<p>Improvement Task Source:</p> <p>IT-04-03</p>
<p>High-level Cost Estimate: \$30,000</p> <p>Costs include consulting services, training, and data and/or capability.</p>			
<p>MCAMLIS Staff Involvement: Low (Staff)</p>			
<p>Duration: 6 months</p>		<p>Predecessors: influenced by WP-COL-01 (how-materials/training)</p>	
<p>Benefits:</p> <ul style="list-style-type: none"> MCAMLIS Partners will benefit by having access to the knowledge and experiences of other professionals in Milwaukee County in their area of interest. Shares LBDT best practices with colleagues in the context of forum business perspective. Learn about ROI in context to the business perspective. Initiates data, capability, and other collaboration initiatives. 			

- Reduces time required of MCAMLIS and Partner staff to support general user inquiries.
- Improves MCAMLIS Program Category: Collaboration Products and Services (Facilitation, Coordination), and Capability Products and Services (Hosted Partner).

Risks:

- The MCAMLIS budget may not be able to support the prioritized business area project.
- Partners do not incorporate the data or capabilities into their business practices.

Assumptions:

- The first project should be a ProPhoenix-related group led by a number of crime analysts from a police department.
- Subsequent projects could be associated with asset management (public works), planning and zoning, elections, or working with emergency management leadership to be prepared to support LBDT activities for an emergency event.
- Partners will participate and encourage their users to engage in such forums.
- This task may drive the specific requirements of, or replace the need for, one of the other improvement tasks, such as WP-MBL-03 or WP-VWR-03.

5. Clarify Partner Opportunities in MCAMLIS

Task ID: WP-COL-05			
Task Name: Clarify Partner Opportunities in MCAMLIS			
<p>Description:</p> <p>This task will clarify and implement refined roles and responsibilities that MCAMLIS Partners have regarding the MCAMLIS Program. In particular, Partner involvement in the following MCAMLIS activities will be explored at a high level to make certain that proper roles and responsibilities are established: MCAMLIS business planning, accessing MCAMLIS-collaborated data and services, providing data and services to MCAMLIS Partners, and participating in MCAMLIS initiatives. This task will include clarifying the relationships between the MCAMLIS Program, MCAMLIS Steering Committee, and MCAMLIS Partners.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Expected outputs: MCAMLIS Partner-related processes defined at a high level, established Partner roles and responsibilities (e.g., Steering Representative, Organizational Representative, Business Area Representative or Champion), and established levels of involvement (e.g., directing member, active member, and member). • Expected outcomes: Partners have determined their roles in MCAMLIS and people are assigned to those roles; selected Partner members are assigned to participate in other initiatives that will implement and test the improved roles and responsibilities; MCAMLIS will incorporate the processes into its operations. 			
<p>Participants: MCAMLIS Support Staff, All Partners, MCAMLIS Steering Committee Members</p>	<p>Objectives/ Perceptions: P7, P8</p>	<p>Needs: PN03</p>	<p>Improvement Task Source: IT-05-03</p>
<p>High-level Cost Estimate: \$30,000 Costs include consulting services.</p>			
<p>MCAMLIS Staff Involvement: Medium (Staff)</p>			
<p>Duration: 3 months</p>		<p>Predecessors: None</p>	
<p>Benefits:</p> <ul style="list-style-type: none"> • Allows MCAMLIS support staff and Partners to clearly understand how they can participate in and more effectively benefit from MCAMLIS. • Allows MCAMLIS Support Staff and Partners to have contacts to make certain that Partners can be engaged in or informed of the proper MCAMLIS activities for their role; in particular: business planning, updates or changes in data and services, opportunities for collaboration, or LBDT networking. 			

- Improves MCAMLIS Program Category: Program Management.

Risks:

- The initial MCAMLIS Partner staff members assigned to certain roles may change frequently (e.g., target area [business area] representatives).

Assumptions:

- Task will leverage the roles and responsibilities and lessons learned from the BPP process.

Project MOL: MCAMLIS Online Presence Improvement

1. Make Initial MCAMLIS Website Improvements

Task ID: WP-MOL-01 (Complete 2014)			
Task Name: Make Initial MCAMLIS Website Improvements			
<p>Description:</p> <p>This task will make it easier for MCAMLIS Partners and other stakeholders to obtain information about MCAMLIS data, data services, and the MCAMLIS Program.</p> <p>Most importantly, this task will provide an online, easily searchable and filtered list of the MCAMLIS data and map/data services available through MCAMLIS. This list will include the last time the object was updated and when it is anticipated to be updated next. Online how-to materials will be created.</p> <p>In addition, this task will load material for online presence that more clearly defines the MCAMLIS organization and its Partners, and the MCAMLIS Program components (Portal, Data, Capabilities, Collaboration, and Program Management). This task will then begin to expose this new information in a roll-out of this material and, in particular, the data/service inventory and the Five-Year Work Plan.</p> <p>These improvements will be done either to the existing MCAMLIS website or a new site, whichever is more effective for short-term value and can be easily migrated to the MCAMLIS Portal (see WP-MOL-02).</p> <p>This task will also begin the process of looking into a new MCAMLIS brand; if a cost-effective opportunity arises, this task be extended to fully develop a brand (logo, colors, banners, slogan, etc.) (See also WP-MOL-03).</p>			
<p>Delivered:</p> <ul style="list-style-type: none"> • Refinements to existing Site or a new stand-alone site (MCAMLIS.com). • Improved online, searchable list of MCAMLIS Data, Data Services, and their currency. • Online how-to materials for the searchable list (will be influenced by guidelines from WP-COL-02). • Improved online, searchable content regarding MCAMLIS: who, what, Work Plan. • Preliminary findings for a new MCAMLIS brand. 			
<p>Participants:</p> <p>MCLIO staff, MCAMLIS Partners</p>	<p>Objectives/ Perceptions:</p> <p>O2, P1, P7, P8</p>	<p>Needs:</p> <p>BN05, PN02, PN06, BN14, BN15, BN21, PN03</p>	<p>Improvement Task Source:</p> <p>IT-05-01, IT-05-02</p>

Benefits:

- Efficiently distributes MCAMLIS-related information, in particular, information regarding the currency and update plans of MCAMLIS data and data services.
- Increases use of MCAMLIS services and applicability of the data.
- Improves exposure to the MCAMLIS Program.
- Improves MCAMLIS Program Category: MCAMLIS Portal.

2. Determine MCAMLIS Portal Architecture

Task ID: WP-MOL-02			
Task Name: Determine MCAMLIS Portal Architecture			
<p>Description:</p> <p>The improvement task will determine the architecture for a MCAMLIS Portal. The Portal will be the location for Partners and the public to access MCAMLIS data and services. MCAMLIS will manage the Portal to include access to MCAMLIS web and mobile applications. In addition, the Portal needs to provide the means for MCAMLIS Partners to post and access their own web and mobile applications. The Portal will also provide the framework for the data sharing repository.</p> <p>The portal architecture will need to provide for managing membership and access, cataloging data and services, and potentially managing content for program management-related information (examples include what/who is MCAMLIS, current MCAMLIS initiatives, MMGUG, and training).</p> <p>Options for the Portal architecture could make use of Esri's AGOL, Esri's ArcGIS Portal, or Open Source Data Portals such as CKAN. The primary output from this task will be a document that presents initial and five-year operating costs.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Documentation on recommended portal architecture options. • Budget estimate for recommended portal architecture solution(s). • Technical content for a Request for Proposals (RFP) as may be required. 			
<p>Participants: County, City, MMSD</p>	<p>Objectives/ Perceptions: O5; P1, P8</p>	<p>Needs: BN05; BN03, BN04, BN17 PN01, PN02, PN03, PN05</p>	<p>Improvement Task Source: IT-01-03</p>
High-level Cost Estimate: \$20,000			
MCAMLIS Staff Involvement: High (Staff)			
Duration: 3 months		Predecessors: None; influenced by WP-DAT-04	
<p>Benefits: (once implemented)</p> <ul style="list-style-type: none"> • The Portal offers one-stop shopping for MCAMLIS Partners to access information and services without having to log into multiple sites. In addition, the Portal provides a location for collaboration between Partners. • Provides a single location for MCAMLIS information and services. • Provides access to MCAMLIS data and services. • Improves MCAMLIS Program Category: MCAMLIS Portal. 			

Risks:

- Recommended architecture may require changes in infrastructure and administration of services.
- Issues, both internal and external, with the direction of the County Information Technology (IT) may stand in the way of adopting a portal.
- A single product may not include all the necessary functionality for MCAMLIS services (e.g., Partners posting data, single membership sign-on, metadata retrieval for both data and services).

Assumptions:

- This service will allow Partners to access information posted by other MCAMLIS participants.
- Partners will engage and put resources toward sharing their data with other MCAMLIS participants.
- The solution must meet the requirements outlined in the following tasks:
 - MCAMLIS will develop a service for Partners to post their data (public works initially) (WP-MOL-06).
 - The Portal can meet the membership requirements of obtaining information about the MCAMLIS Program (see WP—MOL-01, 03, 05; WP-COL-05), in particular, access to secure or public content, and notification services to inform members when new data and services are posted to the site.
 - The Portal has advanced map-based portal capabilities or is fully integrated with such a solution (see also WP-MOL-07).
 - The data sharing repository would allow for posting data in multiple formats, including Esri, AutoCAD, spreadsheets, Google, and other formats (WP-MOL-06).
 - The portal can be branded to the MCAMLIS (WP-MOL-03).
- Once a particular object is selected, the user can then link to capabilities that allow access to that object (e.g., MCLIO Web Map application, a map or feature data service, or Partner application).
- Implementation may include piloting and/or iterative deployment.
- Milwaukee County IT would prefer not to manage logons for stakeholders external to Milwaukee County government.

3. Establish and Market the New MCAMLIS

Task ID: WP-MOL-03			
Task Name: Establish and Market the New MCAMLIS			
<p>Description:</p> <p>This task will establish a new look and feel for MCAMLIS; it will initiate activity to clarify to LBDT stakeholders the purpose and value MCAMLIS provides to Partners and their stakeholders. This task will define a MCAMLIS brand (colors, logo, etc.) and additional marketing material covering MCAMLIS value proposition. Finally, the task will define and assist MCAMLIS in the execution of an outreach campaign that most likely includes presenting at IT and business forums and having a more aggressive presence on Partner Internet and intranet websites.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Branding (colors, logo, banners). • Marketing materials (value proposition). • Initial execution of an outreach campaign on MCAMLIS, the Work Plan, and the portal. 			
<p>Participants:</p> <p>MCAMLIS Partner Business Area Representatives; MCAMLIS Steering Committee Members or proxy</p>	<p>Objectives/ Perceptions</p> <p>:</p> <p>P8</p>	<p>Needs:</p> <p>PN06</p>	<p>Improvement Task Source:</p> <p>IT-05-01</p>
<p>High-level Cost Estimate: \$15,000</p> <p>Costs include consulting services.</p>			
<p>MCAMLIS Staff Involvement: Low (PM)</p>			
<p>Duration: 3 months</p>		<p>Predecessors:</p> <p>WP-MOL-01, WP-MOL-02</p>	
<p>Benefits:</p> <ul style="list-style-type: none"> • MCAMLIS Partners will be able to better communicate what MCAMLIS is to their leadership. • Clarifies MCAMLIS value proposition with Partner senior leadership and key operational decision-makers in Partner business areas. • Positions MCAMLIS image for the future. • Improves MCAMLIS Program Category: MCAMLIS Portal. 			
<p>Risks:</p> <ul style="list-style-type: none"> • Branding and MCAMLIS message require more refinement than estimated. 			

Assumptions:

- Tasks WP-MOL-01, WP-MOL-03, and WP-MOL-05 are highly inter-related.
- Costs assume contracting with a local small business or individual that specializes in marketing for IT service provider companies, and corresponding website design and development.
- MCAMLIS branding logo and some initial materials may be defined in an earlier task, WP-MOL-01, and applied here.

4. Implement the MCAMLIS Portal

Task ID: WP-MOL-04			
Task Name: Implement the MCAMLIS Portal			
<p>Description:</p> <p>This task would implement the MCAMLIS Partner Portal solution determined in IT-01-03. This Portal would be a single location where Partners would interface with MCAMLIS. It would provide Partners with access to and use of MCAMLIS data and services, as well as a location to publish their business data. In addition, the portal would offer a location for Partner collaboration.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Implementation and roll-out of portal solution. • Documentation. • Initial primary support of portal solution (three months). 			
<p>Participants:</p> <p>County, City, MMSD</p>	<p>Objectives/ Perceptions:</p> <p>O1, O2, O3, O5; P1, P6, P7, P8</p>	<p>Needs:</p> <p>BN03, BN04, BN17 PN01, PN02, PN03, PN05</p>	<p>Improvement Task Source:</p> <p>IT-01-04</p>
<p>High-level Cost Estimate: \$25,000</p> <p>These are implementation and first-year costs; the annual operating cost for subsequent years adopted solution will be determined as part of the MOL-02 adopted solution.</p>			
MCAMLIS Staff Involvement: Medium (Staff)			
<p>Duration: 6 months</p>		<p>Predecessors: WP-MOL-02; influenced by WP-COL-01 (training), WP-DAT-04, WP-MOL-05, WP-MOL-06.</p>	
<p>Benefits: (once implemented)</p> <ul style="list-style-type: none"> • The Portal offers one-stop shopping for MCAMLIS Partners to access information and services without having to log into multiple sites. In addition, the Portal provides a location for collaboration between Partners. • Provides a secure location for Partner access to MCAMLIS data and services. • Alleviates staff from having to administer multiple individual services and sites. • Improves MCAMLIS Program Category: MCAMLIS Portal. 			
<p>Risks:</p> <ul style="list-style-type: none"> • Recommended architecture may require infrastructure investment and changes. • The owner of a Portal object (e.g., MCLIO Web Map application, a map or feature data service, or Partner application) will not keep the metadata up-to-date. 			

Assumptions:

- MCAMLIS will maintain and administer the Portal.
- The Portal will allow Partners to access all MCAMLIS services.
- Partners will engage and use the MCAMLIS Portal.

Finalize MCAMLIS Program Management Content

Task ID: WP-MOL-05			
Task Name: Finalize MCAMLIS Program Management Content			
<p>Description:</p> <p>This task will finish what was started with increasing and updating online material regarding MCAMLIS and participation in the MCAMLIS Program, and will do so as part of the new MCAMLIS Portal. This additional content includes: updated and more detailed information about MCAMLIS and the definition of LBBDT; information on key data, information services, and consulting services available through MCAMLIS; Work Plan updates and the new upcoming Portal; information on upcoming regional LBBDT events.</p> <p>This content will include both secure and publicly available information, and will be integrated with the MCAMLIS Portal to take advantage of membership and cataloging capabilities to be supported by the MCAMLIS Portal. The primary purpose of access to membership capability is to allow both MCAMLIS support staff and MCAMLIS Partners to efficiently disseminate MCAMLIS-related information to each other. Accordingly, the membership system on the Portal must include the ability to establish certain subgroups, for example, MCAMLIS roles. Processes will be established to make certain that the system is managed over time. Expected outputs/outcomes include the system becoming operational with an initial set of MCAMLIS members loaded, and members having access to and receiving training on how to use the system. Regardless of the solution, web analytics capabilities must be included.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • MCAMLIS membership capabilities populated and deployed, including secured membership and message notification management. • Earlier MCAMLIS Program content migrated to the MCAMLIS Portal. • MCAMLIS cataloging capabilities integrated with search lists from WP-MOL-01. • Online how-to materials and rollout to MCAMLIS membership for accessing and maintaining membership information. • Branding applied to new MCAMLIS Portal. 			
<p>Participants: MCLIO staff, MCAMLIS Partners</p>	<p>Objectives/ Perceptions: O2, P1, P7, P8</p>	<p>Needs: BN05, PN02, PN06, PN03 BN14, BN15</p>	<p>Improvement Task Source: IT-05-02</p>
<p>High-level Cost Estimate: \$20,000 Costs include set-up, content population, and training development and delivery.</p>			
<p>MCAMLIS Staff Involvement: Low (Staff)</p>			
<p>Duration: 6 months</p>		<p>Predecessors: WP-MOL-01, WP-MOL-02, WP-MOL-03; influenced by WP-COL-01 (how-materials/training) and WP-MOL-04</p>	

Benefits:

- Along with the Portal Development and the MCAMLIS Marketing, the content will allow Partners to get directly to MCAMLIS versus going through the Milwaukee County website.
- Membership provides the ability to sign up for and send out notifications to the proper MCAMLIS membership.
- Increases use of MCAMLIS services and applicability of the data.
- Improves exposure to the MCAMLIS Program.
- Efficiently distributes MCAMLIS-related information.
- Improves MCAMLIS Program Category: Collaboration Products and Services, MCAMLIS Portal.

Risks:

- Whether a single secure logon can be established for both the portal and the MCLIO viewer (especially the secure website).
- Members will not keep their contact information or roles updated.
- Restrictions that government and quasi-government organizations place on creating, managing, having access to, or receiving notifications from a website outside of the organization's firewall.

Assumptions:

- Tasks WP-MOL-01, WP-MOL-03, and WP-MOL-05 are highly inter-related.
- For MCAMLIS Membership:
 - The Project will first focus on MCAMLIS Partners and their proxies; others like business Partners, LBDT solution and service providers, and certain public groups can be the second phase.
 - The expected system will be based on an existing product that can be provided via the web, most likely as a software as a service, and may be as simple as capabilities provided as part of the MCAMLIS website initiative.
 - Members will keep their information up-to-date.
- Content for MMGUG and the MCAMLIS-supported training program would be migrated as part of this Task.
- Milwaukee County IT would prefer not to manage logons for stakeholders external to Milwaukee County government.

5. Develop Partner Data Sharing Repository

Task ID: WP-MOL-06			
Task Name: Develop Partner Data Sharing Repository			
<p>Description:</p> <p>Based on the recommended portal architecture in WP-MOL-02 and implemented in WP-MOL-04, MCAMLIS would develop and deploy the selected data sharing repository solution.</p> <p>This action would provide a service where Partners could post their data on the MCAMLIS website, which would be available to other MCAMLIS Partners via a secure login. For example, Partners would post their own spatially enabled public works data, such as municipal storm and sanitary sewer utility data, capital improvement project information, and street projects, to the repository. It would then be available for access by other municipalities and MCAMLIS Partners. Once this repository is established for public works data, Partners would use this same method for sharing zoning and land use data.</p> <p>Items included in the Partner data sharing repository may eventually migrate to formalized data integration processes that MCAMLIS may host.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Implementation and roll-out of the repository. • Documentation / how-to materials on applying and accessing the repository. 			
<p>Participants:</p> <p>County, City, MMSD</p>	<p>Objectives/ Perceptions:</p> <p>O1, O2, O3, O5; P1, P6, P8</p>	<p>Needs:</p> <p>BN03, BN04, BN17, BN21 PN01, PN02, PN03, PN05</p>	<p>Improvement Task Source:</p> <p>IT-01-05</p>
High-level Cost Estimate: (Depends on WP-MOL-02; assume \$30,000)			
MCAMLIS Staff Involvement: Medium (Staff)			
Duration: 3 months		Predecessors: WP-MOL-02; influenced by WP-COL-01 (how-materials/training) and WP-MOL-04	
<p>Benefits:</p> <p>The data sharing repository provides MCAMLIS Partners with a hosted location for sharing their data with other Partners in a secure and coordinated manner.</p> <p>Same benefits as IT-MOL-02, as well as:</p> <ul style="list-style-type: none"> • Allows users/organizations to upload their data, extract data, and use applications hosted by MCAMLIS, and to download application templates to be used within their own environments. This frees up MCAMLIS staff time. • Besides data, can also include a web service catalog/directory for all of MCAMLIS. • Besides data, can also include a web application catalog/directory for all of MCAMLIS. 			

- Offers pushing of new data/apps/functionality to all organizations as a service by MCAMLIS.
- Grows user adoption and involvement.
- Improves MCAMLIS Program Category: Capability Products and Services (Hosted Partner), Data Products and Services (Hosted Partner), and MCAMLIS Portal.

Risks:

- Uncertainty of MCAMLIS Partner adoption.
- MCAMLIS staff administration will be required.
- May require MCAMLIS to invest in new technology.
- Will require staff and Partner training.
- New data update workflows and quality assurance/quality control (QA/QC) processes.

Assumptions:

- Architecture fits well into the existing MCLIO environment.
- MCAMLIS will have staff to administer the data sharing repository.
- This service will allow Partners to access information posted by other MCAMLIS participants.
- Partners will engage and put resources toward sharing their data with other MCAMLIS participants.
- Metadata is included with the data.
- This task includes implementation of the service for at least two, preferably more, Partners who will post their data; initially, this is public works data.
- After this repository is operational for public works data, the process will be applied for zoning information.
- Notification service alerts members when new data is posted to the site.
- The data sharing repository would allow for posting data in multiple formats, including Esri, AutoCAD, spreadsheets, Google, and other formats.

6. Implement Cloud-Based GIS for MCAMLIS

Task ID: WP-MOL-07			
Task Name: Implement Cloud-Based GIS for MCAMLIS			
<p>Description:</p> <p>This task would provide a pathway toward MCAMLIS having a cloud-based GIS presence. Present thinking is that this would be AGOL for MCAMLIS. However, the environment may change by the time this task is executed.</p> <p>A cloud-based GIS presence will offer a collaborative content management system for maps, applications, and data. A cloud-based GIS capability will be an important technology that MCAMLIS can leverage to provide Partners and public users with access to data and services through mobile, web, and desktop applications in the future. This technology would be a means for accessing MCAMLIS-hosted data and services in addition to the MCLIO viewer.</p> <p>This task includes an assessment of the proper implementation technology choices available, including AGOL, and includes a determination of initial and operating costs associated with a MCAMLIS cloud-based presence that Partners can access. A Go/No-Go determination will be made based on this assessment and then the solution will be acquired and implemented.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Documentation of assessment findings from the cloud-based GIS options. • Expected initial implementation and ongoing operating costs for two to three options. • If a Go determination is made, initial implementation is complete. 			
<p>Participants:</p> <p>All</p>	<p>Objectives/Perceptions:</p> <p>O1, O2, O3, O5; P1, P4, P5, P6, P8</p>	<p>Needs:</p> <p>BN08, PN02</p>	<p>Improvement Task Source:</p> <p>IT-03-02</p>
<p>High-level Cost Estimate: \$45,000</p> <p>Costs include the initial assessment and implementation.</p>			
<p>MCAMLIS Staff Involvement: Medium (Staff)</p>			
<p>Duration: 6 months</p>		<p>Predecessors: WP-MOL-02; influenced by WP-MOL-04 and WP-COL-01 (training)</p>	
<p>Benefits:</p> <ul style="list-style-type: none"> • Partners will see benefit in researching a cloud-based GIS solution. • Increases usage of MCAMLIS data. • Allows non-programmers to deploy and share web maps containing their own GIS data. • Allows mapping applications to be shared with a group or the public through a web browser, smart phone applications, social media, or emails. • Embeds maps into websites. 			

- Enables layer editing by multiple authors and tracks edits for data sets (volunteered geographic information – VGI).
- Improves MCAMLIS Program Category: Capability Products and Services, MCAMLIS Portal.

Risks:

- Pricing structure has not yet stabilized.
- Enough MCAMLIS Partners will not invest in integrating this solution into their LBDT websites and business functions to justify the investment in software and support.
- Users may need to create and manage an additional MCAMLIS-related account.

Assumptions:

- One-third of the budget is for assessment, the rest for implementation.
- The solution can be integrated to the MCAMLIS Portal without customization.
- Services will be provided via MCAMLIS servers and registered to the cloud-based GIS solution; implementation includes security.
- Training and tutorials on how to use the solution are included.
- MCAMLIS is moving in the same direction as the solution's technology.

Project DAT: MCAMLIS Data Improvement

1. Make MCAMLIS Non-Vector Data Improvements

Task ID: WP-DAT-01			
Task Name: Make MCAMLIS Non-Vector Data Improvements			
<p>Description:</p> <p>This task will improve data management practices technologies that get MCAMLIS non-vector reference data into the MCAMLIS data repository and prepare it for efficient access. MCAMLIS non-vector reference data refers to the following: georeferenced imagery (Imagery: Ortho, Oblique, LiDAR, Caches), documents and photos, and potentially, video and audio. This does not include Partner-shared or Partner-hosted data, and does not include MCAMLIS vector reference data (see other WP-DAT tasks).</p> <p>In particular, this task will focus on providing the following: apply Esri Image Server; finalize historical aerial work; and explore the value of using OnBase, the County’s document management solution, for MCAMLIS.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Deployed additional Historical Aerials. • Deployed Esri Image Extension for Server. • DMS Tool Evaluation (OnBase?) Results. • Deployed Dedicated Image Server. 			
<p>Participants: MCAMLIS Staff</p>	<p>Objectives/ Perceptions: O1; P1, P8</p>	<p>Needs: Based on MCAMLIS Program Assessment</p>	<p>Improvement Task Source: IT-02-04</p>
<p>High-level Cost Estimate: \$250,000²</p> <p>Costs include consulting services, hardware and software, and online how-to materials.</p> <ul style="list-style-type: none"> • Deployed additional Historical Aerials: \$30,000. • Deployed ESRI Image Extension for Server software: \$10,000. • DMS Tool Evaluation (OnBase) Results: \$20,000 • Deployed Dedicated Image Server (hardware and software): \$45,000 • Orthophotography/LiDAR Acquisition: \$145,000 			
<p>MCAMLIS Staff Involvement: Low (Staff)</p>			

² MCAMLIS funds totaling \$185,000 are committed for 2015 Ortho and LiDAR acquisition

<p>Duration: distributed over 4 years:</p> <ul style="list-style-type: none"> • Historical Aerials: each of 3 years • ESRI Image Extension for Server: 3 Months • DMS Tool Evaluation: 3 Months • Dedicated Image Server: 3 Months 	<p>Predecessors: None; influenced by WP-COL-01 (training), WP-DAT-02</p>
<p>Benefits:</p> <ul style="list-style-type: none"> • Partners will see improvements in the raster-based information offered by MCAMLIS through better processes and more formal management of these data. • Eliminates the need for the same image data to be in two different data structures as is currently done. • New image storage approach allows for existing geoprocessing tools to be used to develop a simple image extract service. • Completes the historical aerial project; enhances the ability to analyze historical drainage patterns across the county. • Promotes the function and benefit of what MCAMLIS provides and how it goes about providing it, resulting in increased use. • Improves MCAMLIS Program Category: Data Products and Services. 	
<p>Risks:</p> <ul style="list-style-type: none"> • Increased automation of data integration procedures may require further development and a wider range of skills for the small number of MCAMLIS staff. • May result in modifying current cached MCAMLIS products. • Partners may be slow to take advantage of new improvements. 	
<p>Assumptions:</p> <ul style="list-style-type: none"> • The improvements defined here will be integrated with the improvements from other WP-DAT tasks. • Milwaukee County IT and OnBase and its licensing can effectively support external stakeholder access. • Priorities will be influenced by Partner requirements (priorities are driven by Partners who are willing and able to implement the improvements being made). • Implementation may include piloting and/or iterative deployment. • Task will also result in recommended next steps and associated costs for highest priority items. • A dedicated image server will be necessary. 	

2. Make MCAMLIS Vector Data Improvements

Task ID: WP-DAT-02			
Task Name: Make MCAMLIS Vector Data Improvements			
<p>Description:</p> <p>This task will improve data offerings, management practices, and automation that get MCAMLIS vector reference data into the MCAMLIS data repository and prepare it for efficient access. MCAMLIS vector reference data refers to the following: Topographic / Planimetric Mapping, Enterprise Address System, and the Routable Street Centerline. This does not include Partner-shared or Partner-hosted data, and does not include non-vector data (imagery, video, audio).</p> <p>In particular, this task will focus on providing the following: complete the polygonization of key planimetric data; provide map and data services associated with these planimetric features; and if priority is confirmed by Partners, improve enterprise address system (EAS) data maintenance (streamline coordination and prototype an upcoming Esri product) and expedite routable street centerline (SCL) data maintenance.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Deployed completed planimetric polygons. • Deployed map/data services for planimetric polygons. • Deployed updated enterprise address and street centerline data. 			
<p>Participants: MCAMLIS Staff</p>	<p>Objectives/ Perceptions: O1; P1, P8</p>	<p>Needs: Based on MCAMLIS Program Assessment</p>	<p>Improvement Task Source: IT-02-03</p>
<p>High-level Cost Estimate: \$140,000 Costs include consulting services.</p> <ul style="list-style-type: none"> • Create/Deploy 2015 Planimetric Feature Polygons and Services: \$120,000 • Updated EAS, SCL data: \$20,000 			
<p>MCAMLIS Staff Involvement: Low (Staff)</p>			
<p>Duration: Distributed over 32 months:</p> <ul style="list-style-type: none"> • Planimetric Polygons and Services: 6 months • Updated EAS, SCL data: 3 months 		<p>Predecessors: influenced by WP-COL-01 (training), WP-DAT-01</p>	
<p>Benefits:</p> <ul style="list-style-type: none"> • Partners will see benefits in the vector information by having better knowledge about the currency and quality of the information being provided by MCAMLIS. • Planimetric objects in polygon form will assist with impermeable surface run-off analysis and improve cartographic flexibility. • More current street addressing and routable network data. 			

- Defines current and necessary capabilities and specifications for ETL procedures (both for providing data to MCAMLIS and extracting data out of MCAMLIS) and database APIs for developing against web services to the data.
- Promotes the function and benefit of what MCAMLIS provides and how it goes about providing it, resulting in increased use.
- Improves MCAMLIS Program Category: Data Products and Services.

Risks:

- Increased automation of data integration procedures may require further development and a wider range of skills for the small number of MCAMLIS staff.
- Partners may be slow to take advantage of improvements.

Assumptions:

- Planimetric features: building footprints, bridges, traveled ROW, sidewalks, surface parking, paved trails, and unpaved driveways and access points.
- WP-DAT-03 focuses on cadastral data (parcel and property/owner) so this task will not focus attention there.
- The improvements defined here will be integrated with the improvements from other WP-DAT tasks.
- Priorities will be influenced by Partner requirements (priorities are driven by Partners who are willing and able to implement the improvements being made).
- Implementation may include prototyping and/or iterative deployment.
- Task will also result in recommended next steps and associated costs for highest priority items.

3. Improve Property Record Currency

Improvement Task ID: WP-DAT-03			
Improvement Task Name: Improve Property Record Currency			
<p>Description:</p> <p>This task will improve the processes that collect, process, and publish property record data. The result will be access to more current property ownership records and associated parcel data. This includes working with GCS, which provides a property record service to all but three municipalities and villages in the county, and individually with the municipalities and villages that do not use GCS. The initiative would include communicating the details of the information by posting the currency of the property record information to the MCAMLIS website.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Improved and enhanced automation of property and parcel data integration and publishing processes. <ul style="list-style-type: none"> ➤ Wisconsin State Statutes require that no later than June 30, 2017, the County board shall post on the Internet, in a searchable format determined by the department of administration, the following information related to individual land parcels: <ol style="list-style-type: none"> 1. Property tax assessment data as provided to the county by municipalities, including the assessed value of land, the assessed value of improvements, the total assessed value, the class of property, as specified in s. 70.32 (2) (a), the estimated fair market value, and the total property tax 2. Any zoning information maintained by the county 3. Any property address information maintained by the county 4. Any acreage information maintained by the county • An updated version of property and parcel data and/or data services. • Improved and updated parcel and property metadata. 			
<p>Participants:</p> <p>Municipal Partners, GCS</p>	<p>Objectives/Perceptions:</p> <p>O2, P1, P8</p>	<p>Needs:</p> <p>BN02, BN07, BN15 PN01, PN02, PN03</p>	<p>Improvement Task Source:</p> <p>IT-02-01</p>
<p>High-level Cost Estimate: \$50,000+</p> <p>This includes consulting services, development, training, and limited support costs. Note that costs are unknown for MCAMLIS to obtain access to GCS data (attribute) or data services.</p>			
<p>MCAMLIS Staff Involvement: High (Staff)</p>			
<p>Duration: 12-15 months</p>		<p>Predecessors: None; influenced by WP-DAT-02, WP-DAT-01, and WP-COL-01</p>	

Benefits:

- Partners will have access to the most up-to-date property records from municipalities within the county.
- Provides a process for delivering more current property-related data.
- Offers consistency with the update process.
- Is more in sync with the Partner property record data.
- Instills confidence in the use of property data being provided via MCAMLIS.
- Improves MCAMLIS Program Category: Data Products and Services.
- Meets Wisconsin Statute requirements as specified in s. 70.32(2)

Risks:

- Partner organizations may resist changing their internal business practices.

Assumptions:

- This includes both parcel features as well as property/owner data.
- This would require MCAMLIS to refine or redesign the process for scheduling data transfer with the Milwaukee County Treasurer's office, the City of Milwaukee Assessor's office, and other municipalities for the data to be as current as the data available at the municipalities.
- Will begin working with one suburban organization that uses GCS, (Shorewood, for example), GCS, and one Partner organization that does not use GCS, on the process to better time the delivery of property records, and then translate this process to the remaining Partners.
- The improvements defined here will be integrated with the improvements from other WP-DAT tasks.

4. Support New Datum Requirements

Task ID: WP-DAT-03			
Task Name: Support New Datum Requirements			
<p>Description:</p> <p>The current NAD 27 datum standard limits the interoperability of certain web services and use of MCAMLIS data in certain applications. This task will design and implement automated transformation tools so MCAMLIS data can be made available to MCAMLIS Partners and other stakeholders who need to integrate MCAMLIS data with other data that is available in new datums. This task will leverage the work accomplished in the SEWPRC studies on the multiple datum issue.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • NAD 27 datum > New Datum transformation tools. • A deployed version of key MCAMLIS data and map/data services in the new datum. • Documented transformation procedures to create new map/data services. 			
<p>Participants: MCAMLIS Data Stakeholders who also use other datums</p>	<p>Objectives/ Perceptions: O5; P6</p>	<p>Needs: BN12, PN01</p>	<p>Improvement Task Source: IT-02-02</p>
<p>High-level Cost Estimate: \$25,000 Includes consulting services.</p>			
<p>MCAMLIS Staff Involvement: Medium (Staff)</p>			
<p>Duration: 6 months</p>		<p>Predecessors: None; influenced by WP-MBL-01, WP-MBL-02, WP-MOL-02, 04, 06</p>	
<p>Benefits:</p> <ul style="list-style-type: none"> • Solving the datum issue will allow Partners to integrate MCAMLIS services into their mapping environments seamlessly without having to transform their data. This is valuable for using consumer or mapping-grade GPS devices, mobile phones, and other web services from the state or federal government. • Can offer map/data services that integrate with commercially available data. • Use of statewide and national datasets with MCAMLIS services. • Use of MCAMLIS data in mobile and field applications that include location-based services that accommodate consumer-grade or mapping-grade accuracy requirements. • Improves MCAMLIS Program Category: Data Products and Services, Capability Products and Services. 			

Risks:

- Initially, most partners may be slow to adopt the new data and services.

Assumptions:

- Analysis needs to include approaches that may incrementally resolve the issue.
- MCAMLIS and MCAMLIS Partners will implement the recommendations.
- Will work with the County Surveyor and regional LIO's to address datum modernization throughout the region
- The improvements defined here will be integrated with the improvements from other WP-DAT tasks.
- If budget allows, the procedures used to create new map and feature services for data copied into the new datum should be automated.

5. Make MCAMLIS Metadata Improvements

Improvement Task ID: WP-DAT-05			
Improvement Task Name: Make MCAMLIS Metadata Improvements			
<p>Description:</p> <p>This task will improve the metadata content and associated processes and procedures that obtain, update, and publish the metadata. More specifically, this task will improve metadata across all MCAMLIS-provided vector and non-vector layers, and establish processes and procedures to make sure metadata is maintained and published.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Updated metadata for MCAMLIS-provided data. • Processes and procedures to update and publish metadata (online format). 			
<p>Participants: MCAMLIS Staff</p>	<p>Objectives/ Perceptions: O1; P1, P8</p>	<p>Needs: Based on MCAMLIS Program Assessment</p>	<p>Improvement Task Source: IT-02-03, IT-02-04</p>
<p>High-level Cost Estimate: \$15,000 Costs include consulting services.</p>			
<p>MCAMLIS Staff Involvement: Medium (Staff)</p>			
<p>Duration: 3 months</p>		<p>Predecessors: Influenced by WP-DAT-01, WP-DAT-02, WP-MOL-04, WP-MOL-07</p>	
<p>Benefits:</p> <ul style="list-style-type: none"> • Partners will see benefits in the vector information by having better knowledge about the currency and quality of the information being provided by MCAMLIS. • Promotes the function and benefit of what MCAMLIS provides and how it goes about providing it, resulting in increased use. • Improves MCAMLIS Program Category: Data Products and Services, MCAMLIS Portal. 			
<p>Risks:</p> <ul style="list-style-type: none"> • Partners may be slow to take advantage of improvements. • Metadata formats are not effectively integrated with the MCAMLIS portal. 			

Assumptions:

- WP-DAT-05 focuses on cadastral data (parcel and property/owner) so this task will not focus attention there.
- The improvements defined here will be integrated with the improvements from other WP-DAT tasks.
- Priorities will be influenced by Partner requirements (priorities are driven by Partners who are willing and able to implement the improvements being made).

6. Acquire Cadastral Data from Outside Milwaukee County

Improvement Task ID: WP-DAT-06			
Improvement Task Name: Acquire Cadastral Data From Outside Milwaukee County			
<p>Description:</p> <p>This task will assess, acquire, and then make available data or data services (e.g., map or feature services) obtained from public agencies that border Milwaukee County. In particular, the focus will be on cadastral data (parcels, property, CSM, ROW). This task needs to also consider collaboration with GCS. This task will inventory the availability of planimetric mapping data (e.g., transportation, facilities, and utilities) and imagery (e.g., Ortho, Oblique, and LiDAR) data, but does not focus on its acquisition. This task would end with MCAMLIS putting in place processes and procedures to refresh the external cadastral data as required or as able.</p> <p>While outside the scope of this task, the longer term vision would be to incorporate this external data into the same data and data services that MCAMLIS provides so Partners can apply the data seamlessly.</p>			
<p>Deliverables:</p> <ul style="list-style-type: none"> • Parcel and property data and/or data services areas bordering Milwaukee County. • Processes and procedures for accessing updated versions of the data/services. • Inventory of available framework data from border governments. 			
<p>Participants:</p> <p>Municipal Partners (especially public safety business areas) along Milwaukee County borders, We Energies, MMSD, and SEWRPC</p>	<p>Objectives/ Perceptions:</p> <p>O4, O5; P8</p>	<p>Needs:</p> <p>BN10, BN18, BN19 PN01, PN02</p>	<p>Improvement Task Source:</p> <p>IT-02-05</p>
<p>High-level Cost Estimate: \$50,000</p> <p>This includes consulting services and limited support costs.</p>			
<p>MCAMLIS Staff Involvement: Medium (Staff)</p>			
<p>Duration: 6 months</p>		<p>Predecessors: WP-DAT-03; influenced by WP-COL-01 (training)</p>	

Benefits:

- MCAMLIS Partners will have access to cadastral data from participating counties surrounding Milwaukee. This will offer access to this data from the same services provided for MCAMLIS reference data.
- Provides a process for delivering property-related data from outside the County area.
- Offers consistency with the update process.
- Improves MCAMLIS Program Category: Data Products and Services.

Risks:

- Costs to process and make the data available may be significantly higher than estimated.
- GCS costs are prohibitive.
- Partner organizations may resist changing their internal business practices to have the data made available through MCAMLIS or may resist applying the data once it is available.

Assumptions:

- This includes both parcel features as well as property/owner data.
- Will work to acquire, load, and publish the data only in the areas where Partners are willing and able to participate and apply the data.
- The improvements defined here will be integrated with the improvements from other WP-DAT tasks.

Appendix A: Acronyms

AGOL – ArcGIS Online

BNA – Business Needs Assessment

CAD – Computer Aided Design

COL – MCAMLIS/Partner Collaboration Improvement

DAT – MCAMLIS Data Improvement

GIS – Geographical Information System

LBDT – Location-Based Data and Technologies

MBL – Mobile-Based Capabilities Implementation

MCAMLIS – Milwaukee County Automated Mapping and Land Information System

MCLIO – Milwaukee County Land Information Office

MMGUG – Milwaukee Municipal GIS Users Group

MMSD – Milwaukee Metropolitan Sewerage District

MOL – MCAMLIS Online Presence Improvement

VGI – Volunteer Geographic Information

VWR – MCLIO Viewer/Pictometry Improvement Rollout

WP – Work Plan

Appendix B: Initiative and Project Cross-Reference

The Initiatives and related Improvement Tasks from the Improvement Task Analysis phase of the Business Needs Assessment Project were the primary input to creating the Project Tasks that make up the Work Plan. The table below provides a cross-reference between the Initiatives and Improvements Tasks to the Projects and Project Tasks. Most of the Project Tasks correspond to only one Improvement Task; those that do not are footnoted. Note that a list of names for both Initiatives and Projects is provided below the table.

Initiative	Improvement Task ID and Name		Project	Project Task ID and Name	
Initiative 3	IT-03-01	Improve the MCLIO Interactive Mapping Service	VWR	WP-VWR-01	Improve the MCLIO Interactive Mapping Service
Initiative 3	IT-03-05	Implement Pictometry Desktop Plug-In	VWR		
Initiative 1	IT-01-02	Implement Initial MCAMLIS Data Extract Service	VWR	WP-VWR-02	Implement Initial MCAMLIS Data Extract Service
Initiative 3	IT-03-04	Deploy Mobile Property Locator Application	MBL	WP-MBL-01	Deploy Mobile Property Locator Application
Initiative 1	IT-01-01	Develop MCAMLIS Feature Data Service for Parcels	MBL	WP-MBL-02	Develop MCAMLIS Feature Data Service for Parcels
Initiative 3	IT-03-03	Provide Data Services for Partner Mobile Applications	MBL	WP-MBL-03	Prototype Services for Mobile Applications
Initiative 4	IT-04-02	Invest in LBDT/Collaboration Education and Training	COL	WP-COL-01	Invest in LBDT/Collaboration Education and Training
Initiative 5	IT-05-04	Formalize Partner Input in MCAMLIS Business Planning	COL	WP-COL-02	Formalize Partner Input in MCAMLIS Business Planning
Initiative 4	IT-04-01	Improve MMGUG Forums	COL	WP-COL-03	Improve MMGUG Forums
Initiative 4	IT-04-03	Facilitate Business-Driven LBDT Collaboration Project	COL	WP-COL-04	Facilitate Business-Driven LBDT Collaboration Project
Initiative 5	IT-05-03	Clarify Partner Opportunities in MCAMLIS	COL	WP-COL-05	Clarify Partner Opportunities in MCAMLIS
Initiative 5	IT-05-01	Establish and Market the New MCAMLIS*	MOL	WP-MOL-01	Make Initial MCAMLIS Website Improvements

Initiative	Improvement Task ID and Name		Project	Project Task ID and Name	
Initiative 5	IT-05-02	Develop a MCAMLIS Program Management Website*			
Initiative 1	IT-01-03	Determine MCAMLIS Portal Architecture	MOL	WP-MOL-02	Determine MCAMLIS Portal Architecture
Initiative 5	IT-05-01	Establish and Market the New MCAMLIS*	MOL	WP-MOL-03	Establish and Market the New MCAMLIS
Initiative 1	IT-01-04	Implement the MCAMLIS Portal	MOL	WP-MOL-04	Implement the MCAMLIS Portal
Initiative 5	IT-05-01	Establish and Market the New MCAMLIS*	MOL	WP-MOL-05	Finalize MCAMLIS Program Management Content
Initiative 5	IT-05-02	Develop a MCAMLIS Program Management Website*			
Initiative 1	IT-01-05	Develop Partner Data Sharing Repository	MOL	WP-MOL-06	Develop Partner Data Sharing Repository
Initiative 3	IT-03-02	Research and Possible Adoption of ArcGIS Online (AGOL)	MOL	WP-MOL-07	Implement Cloud-Based GIS for MCAMLIS (AGOL)
Initiative 2	IT-02-04	Make MCAMLIS Non-Vector Data Improvements*	DAT	WP-DAT-01	Make MCAMLIS Non-Vector Data Improvements
Initiative 2	IT-02-03	Make MCAMLIS Vector Data Improvements*	DAT	WP-DAT-02	Make MCAMLIS Vector Data Improvements
Initiative 2	IT-02-01	Improve Property Record Currency	DAT	WP-DAT-03	Improve Property Record Currency
Initiative 2	IT-02-02	Determine How to Support New Datum Needs	DAT	WP-DAT-04	Support New Datum Requirements
Initiative 2	IT-02-04	Make MCAMLIS Non-Vector Data Improvements*	DAT	WP-DAT-05	Make MCAMLIS Metadata Improvements
Initiative 2	IT-02-03	Make MCAMLIS Vector Data Improvements*			
Initiative 2	IT-02-05	Acquire Cadastral Data from Outside Milwaukee County	DAT	WP-DAT-06	Acquire Cadastral Data from Outside Milwaukee County

**These Improvement Tasks are Listed More than Once*

Initiatives:

- Initiative 1: Data Distribution
- Initiative 2: Data Integration
- Initiative 3: Capabilities/Solutions
- Initiative 4: Collaboration/Training
- Initiative 5: Program Management

Projects:

- VWR: Viewer/Pictometry Improvement Rollout
- MBL: Mobile-Based Capabilities Implementation
- COL: MCAMLIS/Partner Collaboration Improvement
- MOL: MCAMLIS Online Presence Improvement
- DAT: MCAMLIS Data Improvement