Technical Memorandum

Asset Management and Work Order Software Feasibility Study

Elgin County
Asset Management and Work Order Software Feasibility Study
Project Number: 25105
Date: Thursday, March 26, 2026

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March 26, 2026
File No.: 25105

Attention: Peter Dutchak
Director, Engineering Services
Elgin County

RE: Asset Management and Work Order Software Feasibility Study – Technical Memorandum: Asset Management and Work Order Software Feasibility Study

Dear Peter:

Aspire Consulting Group Ltd. is pleased to submit Technical Memorandum for the Asset Management and Work Order Software Feasibility Study as a deliverable for the project.

The memorandum documents the findings of the discovery and requirements-gathering phase undertaken as part of the feasibility study for a unified Asset Management and Work Order Management System for Elgin County and its seven Local Municipal Partners (LMPs): Town of Aylmer, Municipality of Bayham, Township of Malahide, Central Elgin, Township of Southwold, Dutton Dunwich, and West Elgin.

Should you have any questions regarding the information provided; we would be happy to discuss the memorandum with you at your convenience.

Aspire Consulting

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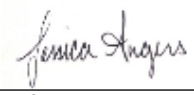

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1 Executive Summary

This Technical Memorandum documents the findings of the feasibility study for a unified Asset Management and Work Order Management System for Elgin County and its seven Local Municipal Partners (LMPs): Town of Aylmer, Municipality of Bayham, Township of Malahide, Central Elgin, Township of Southwold, Dutton Dunwich, and West Elgin for Roads Maintenance.

Workshops and meetings with the LMPs established a clear, evidence-based understanding of current operating environments, system capabilities, organizational readiness, and future needs. The outcome of this work forms the foundation for evaluating feasibility options, assessing deployment approaches, and developing defensible vendor shortlisting and scoring criteria.

This memorandum captures research, questionnaire responses, and consultations into a consolidated view of requirements, constraints, risks, and opportunities associated with implementing a shared or integrated Asset Management and Work Order Management framework across the County and LMPs.

The study followed a structured and consistent approach across all organizations, including the development and distribution of a detailed survey questionnaire and virtual stakeholder consultation sessions. These engagements explored current workflows, system usage, pain points, and future needs related to maintenance operations, work order lifecycles, asset tracking, reporting, and integration with finance, GIS, and other enterprise systems.

The assessment confirmed that Elgin County and its LMPs operate within a highly variable and fragmented system landscape, ranging from manual or spreadsheet-based environments to digital management system platforms.

Laserfiche is used and valued for stability and document management but lacks full Asset Management and Work Order Management functionality and relies heavily on manual data entry. Burnside is used for road patrol, and PSD Citywide is used in some cases for asset management, maintenance management and road patrols. There is very limited integration between the platforms which causes issues in county-level data analytics due to a lack of streamlined reporting.

Despite differences in maturity and variation in organizational readiness, there is strong alignment across the County and LMPs on core requirements. There is broad support for improved consistency, visibility, and reporting, and limited tolerance for disruption, intensive retraining, or wholesale system replacement.

The study confirms that there is a need for improved coordination, visibility, and reporting across Elgin County. Existing investments, system maturity differences, and workforce capacity constraints preclude a full system replacement. The study also confirms that a flexible, integration-first, hybrid approach best balances standardization with municipal autonomy and long-term success will depend heavily on phased implementation, clear governance, strong change management, and vendor-supported training and integration. This approach can be utilized across multiple asset classes within the County including but not limited to Facilities where similar opportunities exist. The implementation roadmaps covers pre, post and during implementation requirements and it is recommended that Elgin County include a dedicated resource to this and begin completing the necessary action items on data and process readiness.

2 Introduction and Purpose

This Technical Memorandum documents the findings of the feasibility study for a unified Asset Management and Work Order Management System for Elgin County and its seven Local Municipal Partners (LMPs) for roads maintenance.

The purpose was to establish a clear, evidence-based understanding of current operating environments, system capabilities, organizational readiness, and future needs across all participating municipalities. The outcomes of this work formed the foundation for evaluating Asset Management and Work Order Software options, assessing feasibility, and developing a potential vendor list.

This memorandum consolidates desktop research, questionnaire responses and stakeholder consultations into requirements, constraints, risks, and opportunities related to implementing an Asset Management and Work Order Management system.

2.1 LMP Engagement

This feasibility study phase included engagement with the Elgin County (upper-tier municipality) and seven Local Municipal Partners (lower-tier municipalities): Town of Aylmer, Municipality of Bayham, Township of Malahide, Central Elgin, Township of Southwold, Dutton Dunwich, and West Elgin.

The scope of assessment covered maintenance and operations, asset management and work order processes, supporting systems such as finance, GIS, and document management, organizational capacity, governance, and readiness for change.

The study focused on identifying both common requirements suitable for standardization and municipal-specific needs that must be preserved within any future computerized maintenance management system (CMMS) solution.

2.2 Feasibility Study

This study assessed the viability of implementing a single CMMS to satisfy the asset management and work order requirements across the County and its seven Local Municipal Partners (LMPs) while promoting a cohesive approach to work management planning for all municipal assets. Findings of the feasibility study are outlined in **Section 3**. This resulted in a list of system recommendations and requirements, documented in **Section 4 and 5** of this technical memorandum, and further refined in **Appendix B,** that were assessed against the following three potential scenarios:

- **Do nothing** – Status quo, i.e., each municipality continues operating its existing systems, spreadsheets, or manual processes. Additional effort required for data-driven decision making through normalization of data and management of multiple data sources.
- **Hybrid** – Retain local systems with County-level integration and reporting. Each municipality continues operating its existing systems, spreadsheets, or manual processes. A deployment of an Elgin County CMMS integrated with LMPs through data sharing agreements and middleware as required. Future municipalities could be onboarded in and system configurations could be shared with LMPs wishing to adopt the same system and speed up the onboarding process and provide better support from the County.
- **Full** – A single enterprise system with multi-site configuration that all LMPs can use.

These requirements were further detailed in **Appendix B** in Table B1. Systems Requirements Matrix. The Systems Requirements Matrix captures all the user needs that would drive decision making around software system functionality. These were identified through stakeholder consultations with Elgin County and its seven LMPs. This matrix would be used to evaluate feasibility options as mentioned above and to support vendor shortlisting and scoring. This will help ensure traceability between stakeholder needs and system capabilities.

3 Discovery

The discovery phase of the project consisted of stakeholder consultation completed through distribution of a survey to employees and virtual meetings. The information was gathered to understand the existing systems in place, current challenges, and requirements for a future system.

3.1 Development of Survey Questionnaire

Based on the best practices, a detailed survey questionnaire was developed to cover the following main areas:

- Organizational Readiness
- Technical Readiness
- Functional Requirements
- KPIs and Reporting
- Training and Support
- Existing Systems (if applicable)

The link to this questionnaire was shared with the county and all LMPs. The completed Survey Questionnaire is included in **Appendix A** for the county and all LMPs.

3.2 Stakeholder Consultation

Based on the responses to the questionnaire, consultations were conducted with representatives from each organization using virtual sessions to maximize participation and flexibility.

Consultations examined both the current operations and the future needs related to maintenance workflows and the work order lifecycle. They covered aspects such as preventive and reactive maintenance practices, system functionality and usability, and integration with finance, GIS, Automated Vehicle Locating (AVL), and asset management systems. Additionally, they addressed user roles, permissions, and licensing requirements.

The interactive sessions also included discussions on reporting, performance measurement, and level of service (LOS) tracking. Key areas identified by most stakeholder groups included data management, migration, and security, as well as training, change management, and expectations for ongoing support.

3.3 LMP Discovery

Existing systems for Elgin County and each LMP were discussed with each representative to identify common practices and highlight areas of variation across municipalities. During the workshop, the current work order platforms were discussed, including any asset management systems, data repositories, and financial and resource management systems. GIS platforms and spatial data integration, digital field tools and forms-based workflows were discussed for integration considerations.

The variation across LMPs ranges from integrated platforms to manual or semi-manual processes supported by spreadsheets and both digital and print forms. This diversity is a key consideration in assessing feasibility and implementation pathways. Existing systems range from no maintenance management system to enterprise platforms, with many LMPs using Laserfiche, CityWide, Pearl, Burnside, Excel, and email-based workflows.

3.4 Key Observations

Across eight organizations, maintenance activities are managed using a mix of reactive, preventive, corrective, and inspection-based approaches. While most municipalities track work activities, the level of structure, automation, and reporting maturity varies significantly.

Common challenges identified include:

- Manual data entry and duplicate record keeping.
- Limited real-time visibility of work order status.
- Inconsistent association of work orders and related costs to an assets.
- Reliance on individual knowledge rather than systemized, documented workflows.

Technological environments cover the full range of complexity. Some environments leverage integrated systems with Asset Management and Work Order tools, while others use document management systems out of excel or comparable platforms. There is reliance with several LMPs on LaserFiche, which, while a useful system for document management, does not satisfy the recommended requirements for a computerized maintenance management system, nor does it meet the typical performance expectations to be considered a work order management system. It does provide an electronic alternative to paper documentation of work orders but lacks crucial functionality to support analysis of these records or provide understanding of the relationships between the work completed and the assets and resources involved.

Integration capability, data governance practices, and IT capacity differ substantially between organizations, influencing readiness for a shared or standardized solution. The following types of systems are utilized to varying degrees by the municipalities:

- Asset Management Systems.
- Work Order Systems.
- GIS platforms.
- Financial and Enterprise Resource Planning (ERP) systems.
- Document management tools.

3.5 Current System Environments

Documented below in Table 1, the County and LMP use a variety of different systems within their environment. Laserfiche is widely used and valued for stability, documentation, and form-based workflows, but is heavily reliant on manual entry and lacks crucial functionality to be considered an asset management and work order system. PSD Citywide provides more advanced capabilities and participants report satisfaction with the functionality meeting both asset management and work order execution requirements but indicated the training investment needed. Burnside Mobile is a route patrol and inspection tool and is capable of integration back into many asset management and work order systems, though does not offer the functionality to act as either of those. The variation in versions of Burnside Mobile has resulted in LMPs considering their options and in 2026 the Municipality of Bayham began the transition to PSD Citywide.

Table 1. Existing Systems Overview

Municipality	Asset Management	Work Order Management	Route Patrol/Inspection	AVL Monitoring
Town of Aylmer	PSD Citywide	LaserFiche	Malahide handles Patrol and Maintenance	Yes
Municipality of Bayham	LaserFiche	LaserFiche	PSD Citywide	GeoTab
Township of Malahide	Pearl WorkTech	Pearl Worktech	Burnside Mobile	Viaesys
Central Elgin	WorkTech	Pearl WorkTech	Burnside Mobile	GeoTab
Township of Southwold	PSD Citywide	PSD Citywide	PSD Citywide	ACE Infobite
Dutton Dunwich	PSD Citywide	PSD Citywide	PSD Citywide	ACE Infobite
West Elgin	PSD Citywide	PSD Citywide	PSD Citywide	ACE Infobite

Further to the table above, Elgin County's Facility Department currently uses WorxHubs for maintenance management.

Table 2 below outlines the current level of integration between the existing systems. The platforms in use have limited existing integrations between them, though there is typically the capacity to implement these integrations. Limitations around integration are typically due to resource constraints – both financial and staff capacity.

The benefits of these integrations can be further explored but are typically found to be automation of data population from inspections and work orders, historical asset information and preservation of inspection comments and open text fields. These can be valuable in reporting, performance metrics (where data is sufficiently structured against assets and asset attributes, and formal data management standards), cost and resource tracking, and in reducing staff burden in transferring this data to the primary system of record. Reports from municipalities are not standardized or streamlined and make reviewing and comparing data difficult.

Table 2. Existing Systems Integrations

Municipality	AM Integration	GIS Integration	Financial Integration	AVL Integration
Town of Aylmer	Limited	Partial	Yes	N/A
Municipality of Bayham	Limited	Partial	Manual	Limited
Township of Malahide	Limited	Yes	No	Limited
Central Elgin	Moderate	Partial	Partial	Limited
Township of Southwold	Full	Yes	Yes	Limited
Dutton Dunwich	Limited	Partial	No	No
West Elgin	Limited	Yes	Yes	Yes

3.6 Findings of the Discovery Process

Across the board, there is concern about the data migration effort versus operational benefit, licensing and long-term sustainability, risk of abandoning familiar tools without clear gains, and staff resistance and implementation fatigue. LMPs report considerable investment of time and resources in implementing suitable existing asset management and work order systems, and refining business processes to support these systems, and notable satisfaction with the results of these efforts.

There is uncertainty of the current asset management and work order tools outside of the roads, water and wastewater asset classes. The County and LMPs are all responsible for a wide range of asset classes and types that would all benefit from consideration in this initiative because those same benefits of standardization, asset maintenance history, cost and resource tracking and evidence-based decision making, to name only a few, apply to all assets within the County and LMP asset portfolios. Within the County the adoption of a platform used between departments such as Roads and Facilities would gain the benefits of above and also streamline Asset Management Plan programming and sustainment.

Based on the findings, the key transition requirements include a preference for a hybrid or shared-service approach, rather than full replacement. The new software system must have:

- The ability to integrate or coexist with existing systems where feasible;
- The ability to support across multiple asset classes, categories and types;
- Low-risk transition pathways that build on current practices and;
- Clear articulation of benefits, particularly around consistency, visibility, and reporting.

4 Feasibility Study

4.1 Technical Requirements

Technical requirements describe how the system will be built and the specifications it must meet to operate in the technical environment.

Despite the differing technical environment within the County and across all participating LMPs, there is a strong core of consistent requirements. This is driven by shared management of cross-jurisdictional assets, a shared asset management operating context due to O. Reg 588/17 and shared priorities in maintenance and project planning undertakings. Through the engagement process, the following list of technical requirements were identified by participants:

1. Mobile functionality is essential, with lightweight mobile interfaces suitable for low-bandwidth environments. Inspection lists and work orders must be accessible at worksites, and should connectivity be disrupted, must support offline data capture, automatic synchronization once connectivity is restored.
2. The system must be cloud based (SaaS) with offline capabilities, with minimal local administration requirements. A robust technical support program by the system provider must be available for consideration, for the duration of the use of the system.
3. Clearly defined data ownership and access controls alongside strong system uptime and disaster recovery provisions.
4. Comprehensive training programs must be available to support the development staff skills and capacity in using the system.

5. Integration of other systems and platforms within the County and LMPs must be optional, configurable, and role-based, supporting the unique operating context of participating LMPs. This includes:
    a. GIS integration is critical, particularly for asset location, mapping and spatial reporting.
    b. Financial system integration is essential for audit integrity.
    c. AVL integration is desirable but is not universally applicable, with GeoTab and Ace Electronics being the two primary AVL systems in place.
    d. Interoperability between County and LMP systems must avoid data duplication but remain updated, respect local ownership of asset and work order data and prevent unauthorized access across municipalities

4.2 User Profile Requirements

Table 3 User Estimates shows the estimated user count per municipality. Based on consultation findings, a preliminary estimate of system users was developed, segmented by role i.e. administrators, supervisors, field users and read-only or viewer users. While still preliminary, these estimated user counts can help inform licensing models, system configuration and permission structures.

Table 3. User Estimates

Role	Estimated Range per municipality
Administrators	1 - 7
Supervisors	3 - 10
Field Users	5 – 25
View-Only Users	Varies

The key technical requirement is intuitive, role-based interfaces, simplified workflows for field staff and minimal reliance on complex configuration or advanced technical skills.

4.3 Functional Requirements

Functional requirements describe how the County and LMPs intend to use the system, or, in other words, the function the system is expected to provide. Despite varying maturity levels, there is strong alignment on a core set of functional requirements needed across all organizations. These functional requirements are:

1) The system must act as a primary asset register, providing configurable attribute fields that houses all necessary data to facilitate the development, management and continual improvement of maintenance, renewal, rehabilitation and replacement programs for asset infrastructure.
2) All aspects of the work order management system should be supported by the selected system including, but not limited to:
    a) Work order progress tracking and status updates.
    b) Resource usage per work order (staff hours, supplies and materials, and costs).
    c) Clear visibility between work orders and the assets being worked on (i.e assignment of the asset(s) to the work order).
    d) Identify basic work order lifecycle stages, such as request/intake, review/approval, assignment, in progress/completion / close-out.
    e) Track Work Order type, e.g. reactive, corrective, and planned work and capture work descriptions, completion notes, dates and response times.

3) Associate assets with physical locations and facilitate selection of assets during Work Order creations (and other relevant system functionality) through spatial mapping tools.
4) Allow in-field lookup of asset maintenance history and any other asset attribute information stored in the register.
5) Support effort and cost tracking to the work order.
6) Allow for service requests to be entered, either through integration with an existing system or through built-in functionality in the system.
7) Support dashboarding functionality to report on key, relevant KPIs as identified by the County and LMPs. Preliminary categories and examples are as follows:
    a) Work Order Performance, such as:
        i) Number of work orders created, completed, and outstanding.
        ii) Work order backlog by type and priority.
        iii) Average time from request to completion.
        iv) Emergency vs. non-emergency work orders.
        v) Reactive vs. preventive maintenance ratio.
        vi) Work order status visibility.
        vii) Labour hours per work order.
        viii) Compliance with Road Maintenance Agreement (RMA) standard.
        ix) Response times by service request.
        x) Volume of service requests by category.
    b) Cost and Financial
        i) Cost per work order.
        ii) Cost per asset/asset class.
        iii) Labour vs. material vs. contractor cost breakdown.
        iv) Budget vs. actual maintenance spend.
        v) Historical cost trends.
        vi) Overtime tracking.
    c) Preventative Maintenance
        i) PM compliance rate (% completed on schedule).
        ii) Overdue PM tasks.
        iii) PM vs. corrective maintenance trends.
        iv) Seasonal maintenance completion rates.

4.4 Training, Change Management & Support

Training and change management emerge as critical success factors across the County and all LMPs. Based on the responses to the questionnaire and workshop sessions, **Table 4** outlines a consolidated training, change management and support areas where the LMPs anticipate facing challenges:

Table 4. Anticipated Training and Change Management Requirements

Challenge Being Addressed	Proposed Solution
Training time requirements	Role-based training and materials, including recorded and digital content as well as in-person.
Apprehension around adopting a shared system & process	A formal change management plan tailored to varying readiness levels across participating municipalities. Should reflect existing systems and tools, technology needs, and staff capacity to sustain system.
Limited local IT support	Named system account manager, and defined escalation routes to support the systems

Challenge Being Addressed	Proposed Solution
After-hours operational support	Consideration for 24/7 emergency system support.
Uncertainty around roles and responsibilities	Data management standards that outline roles and responsibilities around maintaining and updating data sets. SLAs that address system needs and processes

The key challenges are digital literacy among staff, especially field operators, and many LMPs report staff apprehension toward new systems. Time available for training is limited, and prior implementation experiences have made organizations cautious about repeating intensive training efforts.

Preferred training approaches include in-person sessions for field staff, supplemented by online or role-based training for supervisors and managers. There is strong interest in demo periods, phased rollouts to create an internal support structure, and full-time hands-on support during the implementation period. It was also suggested to arrange training to occur outside of the winter maintenance period to avoid conflicts with reactive weather-related work.

5 Recommendations

Throughout the engagement process and following review of the survey findings and feasibility study, there are two recommended options for consideration, with one the preferred option when it comes to system selection.

1) The first approach is implementation of a single, unified asset management and work order system. In this approach, the system would be managed by the County, with access provided to all LMPs. This approach would leverage existing County GIS datasets, ensure that data is established, maintained, and monitored in a cohesive and consistent manner, and would facilitate establishment of standardized reporting structures and streamline reporting processes. Additional foreseeable benefits include cost sharing opportunities that support economies of scale and practical system maintenance benefits reducing burden on LMPs in sourcing technical support to maintain the system.

   Likely challenges with this approach are data security and user role definitions that ensure each municipality is only accessing the data and work orders relevant to their organisation. Change management can also be challenging, particularly if the proposed system differs from an existing system in place at the municipality. This is also likely to be cost-intensive.

2) The second, and preferred, approach is a hybrid implementation that integrates systems currently in place. In this approach, a new system would be adopted by the County, with relevant support in place to integration or enable expedited adoption across other LMPs. Many of the practical benefits of identified in the first approach also apply here, while some of the anticipated challenges are mitigated. This is a similar approach to Middlesex County where their RFP in 2021 was intended to provide a cohesive, multi-functional, flexible, robust, and integrated system that will increase efficiency, support informed decisions, and support the County and Local Municipalities asset management needs (RFP ITS-02-21). The project was awarded to PSD Citywide.

This approach balances local autonomy with County-level coordination and integration. It will also enable standardization in reporting tools and forms without forcing any system replacement. It will reduce financial and operational risks and aligns well with feedback from advanced LMPs based on engagement and will allow participants to benefit from lessons learned by the more mature municipalities within the County. One anticipated challenge with this approach remains the topic of change management. To position the project for success, a robust plan for training, business process refinement and long-term support, is essential. Recommendations on this topic are included in **Section 7 Implementation Considerations and Roadmap**. The specific recommendations are provided in the following sections to address the technical and functional requirements previously identified.

Additional recommendations identified are noted below.

5.1 Asset Registry & GIS Integration

Establish a standard asset hierarchy and naming conventions: These will standardize data inputted into attribute fields (such as material type, measurement units, street naming approaches, location identifiers, etc.) as well provide a consistent approach developing asset ID codes. This will help operators find assets in the dataset, whether that is the CMMS or GIS, and streamline processes for linking assets to work orders.

The future system should have a comprehensive asset registry, hierarchal asset structure, criticality ratings, integration with GIS, and the ability to filter assets by varying asset attributes and criteria. In addition to GIS, road patrol data and AVL integration are required for monitoring asset condition. Configurable attribute fields must be included and will have to reflect the minimum mandatory planning fields, such as install/acquisition year, replacement cost, estimated service life, and condition findings of the inspections. As identified in **Appendix** B, it should also include fields relating to the roles of the County and LMPs in planning for, and managing, cross-boundary assets, such as region, subregion, owner, maintainer, and planner.

5.2 Integration of Facilities, and Other Asset Classes

Select a system that supports implementation across a range of asset categories. While linear assets, particularly those required to adhere to the Minimum Maintenance Standards and other regulatory and legislative reporting requirements, are essential to account for in these systems, the County and their LMPs are also responsible for a variety of other asset types and categories. A notable category are Facilities; a complex combination of asset systems that support crucial community programming and service delivery objectives. The assets that make up these systems benefit from a wide range of intervention types, such as preventative and reactive maintenance, renewal, rehabilitation and replacement activities, all of which reflect significant resource investment. Other asset classes identified included water and wastewater. The system selected should support the variety of asset classes, categories and types used by the County and the LMPs to meet levels of service commitments and provide services to their communities.

5.3 Work Order Management

Assign work order numbers, and develop standard work order status, prioritization categories, and workflows, including workorder templates where there are repetitive activities and time tracking to the work order. The system must have unique work order numbering and configurable work order types, prioritization, and workflows. The work orders should be integrated with the asset register so

that they can be linked directly to the related assets. Work order templates must be available for common tasks, and response times should be tracked via the system to monitor service levels. These findings should be linked to a real-time dashboard to provide information on KPIs used to monitor service levels.

By associating workorder information with the asset, staff will be able to readily assess what work was previously completed, and which approaches were most effective. There will also be comprehensive lifecycle information on the assets providing a deeper understanding of whole-life costs, allowing for design and asset selection processes based on historical information, selecting the best design, or the right make, model and manufacturer for the unique context and application.

5.4 Preventive Maintenance & Inspections

The selected system must support implementation of scheduled preventative maintenance inspection programs. Key functionality should include calendar and meter-based preventative maintenance scheduling, automatic work order generation for preventative maintenance and to address failed inspections, and configurable inspection forms that can be accessed through mobile devices rather than paper forms. This will reduce maintenance planning work on operations and maintenance staff, manage risk of unexpected asset failure by supporting proactive maintenance efforts, and allow for robust resource planning with regards to staffing, skills required, material and supply needs, and financial requirements.

Like the requirements of the Work Orders, all Preventative Maintenance and Inspection-related activities must be tracked to the asset to associate all relevant historical information with the assets. This information should be accessible to staff whether on mobile or fixed platform access. The benefit of this work is enhanced understanding of lifecycle costs and needs, which can guide budgeting and planning efforts.

With regards to inspection programs, the system should support all mandatory reporting requirements as outlined by the MMS, OSIM and RMA inspection standards, and should facilitate association of all findings of those inspections with the assets themselves. This is intended to support enhanced preventative maintenance and risk management planning and strengthen understanding of failure modes experienced by the county and its LMPs. As OSIM and BCA are completed and data is saved, the capability for the system to allow for bulk-uploading of data to reflect current state is critical for operational efficiency. It will also ensure that all participants in this system are able to readily manage and respond to regulatory and legislative requirements, and monitor and report on their compliance.

5.5 Resources and Cost Management

Staff time and the materials and supplies associated with the work should be tracked to the Work Order. The system should allow users to identify typical labour hours for Work Orders with material costs and/or quantities based on subject matter expertise.

These should be automatically populated for these routine activities when a new work order is generated but allow the user to update these quantities during work order close out. The system should also facilitate cost tracking by work order and total cost calculation once the work is complete, where sufficient information is provided to do so. This information should be tracked through the real-time dashboard mentioned in Section 5.3 Work Order Management. This information is critical in planning for future activities and forecasting scheduled resource needs. Overtime, this will streamline the County and LMPs budget planning processes and help balance staff capacity with service delivery goals.

5.6 Service Requests & Public Interface

The system must support either integration with existing service request platforms or provide a public interface to submit a service request. Currently most LMPs receive work requests through multiple paths, so the new system must be able to receive multi-channel service requests and create work orders from them. A key component of this is to keep the request tracking separate from the work order tracking to reduce confusion between the work requests and execution. This is an opportunity to reduce administrative burden on staff and develop consistent process around work order setup.

5.7 Performance Monitoring

The system must support performance monitoring relating to work order progress and statistics. As the County and the LMPs develop robust asset management systems that include levels of service frameworks, and other associated KPIs, there is the desire to strengthen evidence-based decision-making processes and approaches. The system must track and report on the work order backlog and status, as well as the preventative maintenance compliance. It should monitor the response time for different types of work orders, the ratio of preventative vs reactive work orders, and keep a real-time dashboard of visible KPIs. All work orders, whether for projects or maintenance activities, and inspections should be associated with the asset(s) involved to ensure historical information is maintained in a way that can be aligned with the asset register. The resulting information can be used by the County and LMPs to drive asset investment, maintenance and renewal program development, and resource planning as well as guiding budget and project prioritization.

5.8 Report Standardization

The system must support standardized reporting templates on Work Orders and assets aligned with County and LMP needs. A significant priority is the development of a standardized reporting approach for the County and the LMPs for cross-jurisdictional services. Creating a standard report format County-wide will ensure uniform data collection and presentation and facilitate data comparison across the LMPs. It will also reduce the burden on staff to support these reporting processes and enhance transparency across the process.

It is crucial to have fixed reports with standardized data outputs, regardless of the CMMS system used by the LMP. To achieve this, data inputs should be selection-based rather than free text, for ease of data categorization and comparison. For seasonal operations, data should be nested to separate summer versus winter functions. Complicated data should be broken up in the same way among LMPs so that the final reports to the County Council are similar and comparable.

5.9 Integration & Security across Multi-Municipality Architecture

System integration efforts will require clearly defined role and organization-based security processes. While each LMP utilizes GIS and CRM, there do exist dependencies on the County's GIS support for that platform, though existing integrations are currently limited. In addition, some of the LMPs have already implemented an asset management system, eg. PSD CityWide. These three systems reflect major platforms within each LMP and would be key considerations in any implementation going forward. Integration with these systems with each other and the desired CMMS presents an opportunity to improve asset location consistency, tracking, and status of associated work orders across all participating LMPs. Integrations represent an opportunity to streamline processes and process implementation, and support consistent reporting methods. Any integrations will need to ensure that security restrictions are maintained at the appropriate level to reduce the risk of unauthorized cross-municipal access. Multi-site

configuration would help to address data separation and ownership concerns, and support change management work through the implementation process.

5.10 Training, Support, and Change Management

Any CMMS implementation initiative should include resourcing for staff training, implementation support and change management strategies. Notable, and reasonable concerns were identified around participants accessing implementation support throughout the initial software roll-out, as well as in the longer term. The system implementation should include role-based training as part of the primary project workplan. This is often included as part of the platform implementation and can be identified as a requirement early in the RFP process. Another opportunity during the RFP and implementation process would be consideration of defined support Service Level Agreements (SLAs) to ensure continuous support from vendors at the appropriate level for each participating LMP.

Longer term, the County and its participating LMPs should review the opportunities to implement a clear internal roles and responsibilities matrix. This would outline reporting responsibilities, data upkeep expectations where relevant and data is shared, CMMS maintenance and resourcing plans, and other similar items of note. This will ensure clear understanding between all participants and outline explicit scope expectations around long term maintenance and resourcing items.

6 Options

There are several CMMS offerings that could be effectively implemented by the County of Elgin to integrate asset and work data from the LMPs. The four offerings listed below are all cloud-based, with mobile data collection, work order scheduling and management, and GIS integration possibilities. Often systems with more capability are costly to implement with a greater need to spend considerable time from the County on configuration followed by more costly sustainment.

While there are many systems available in the market, the platforms identified below have a strong Canadian presence with a proven background on municipal-centric implementations. Depending on specific requirements and specific integration needs, we anticipate for the County an initial implementation and license cost between $350,000 and $500,000 with and annual license and support fee between $50,000 and $75,000 increasing each year.

Depending on the system of choice, middleware systems for integration will be required. These systems vary by subscription model in the $25,000 to $50,000 per year licensing and implementation varying from in-house development to $50,000 to $75,000 for additional support.

6.1 PSD CityWide

PSD Citywide has the capability to provide the required services and is a scalable system which can integrate other functions or municipalities as needed. As a cloud-based CMMS, Citywide has subsystem options dedicated to maintenance management and asset management. They offer a Route Patrol function that automates work orders and service requests, tracking deficiencies for each patrol. The municipalities of Bayham, Southwold, West Elgin, Dutton Dunwich, and Town of Aylmer are already using various Citywide programs and functions with varying levels of integration.

6.2 ESRI CityWorks (Trimble)

The County is familiar with ESRI through ArcGIS and Esri's Cityworks system is similarly designed for public works in a cloud-hosted system that can be accessed from mobile or desktop and focuses on asset, work, and property management. The asset management system, Cityworks AMS, is built on ArcGIS, and assets can be modelled and interacted with via the GIS map. Another optional application they feature is their Pavement Management System which can be integrated into their ESRI GIS system.

6.3 Brightly

Brightly is another similar system with asset lifecycle management capabilities that can be integrated with existing systems and workflows. Brightly's Asset Essentials focuses on infrastructure asset management and has a native GIS system that specifically integrates with external GIS systems. Asset Essential also has an integrated citizen request portal, whereas some other providers offer it as an optional addition. The County is familiar with Brightly through the current Facilities maintenance management tool (TheWorxHub)

6.4 OpenGOV (Formerly Cartegraph)

Formerly known as Cartegraph, OpenGOV is a versatile system that is integrated natively with GIS, among other procurement, permitting and utility systems. It has a proven track record across all asset classes (e.g. transportation, stormwater, parks and recreation, facilities, water, wastewater and fleet), and promotes real-time GIS integration that tracks location, condition, costs and work history. The Enterprise Asset management module can be scaled to align with the asset categories being included in the licensing and includes the ability to identify custom asset classes and associated information, or use out-of-the-box structures. This is a cloud-based offering that includes by default much of the functionality required as mandatory through this undertaking, and additional functionality can be added to the license to include scenario and what-if analysis through the infrastructure planning modules and a community service request portal through the community engagement module.

7 Implementation Considerations and Roadmap

The preferred implementation option uses a hybrid approach that has been identified throughout the engagement process as manageable and effective. That said, there is still a need to consider the organisational readiness, change management strategies and business process improvements that would support engagement in the broader initiative, secure buy-in and user adoption, and create an actionable, efficient system.

7.1 Organizational Readiness

Across Elgin County and the participating municipalities, organizational readiness to adopt a new or shared asset management and work order management software varies. Readiness is influenced by prior investments in existing systems, staff capacity and digital literacy, availability of implementation time, and the presence of formal change management structures. While there is broad recognition of the potential value of improved maintenance management, it is also important to minimize disruption, retraining, and cost impacts.

7.1.1 Workforce Capacity and Change Requirements

Several LMPs identify workforce characteristics as a major readiness constraint. This constraint reflects the complexity of succession planning within the workforce, as well as the need for robust resource planning to support adoption of the system. Ensuring that users of the system have access to the correct tools for their role and duties is essential, which is, in turn, best supported through a long-term resourcing plan for the CMMS. Documenting the informal processes by subject matter experts across the County and LMP will not only enhance succession as new members join the workforce, but it will also ensure that the system itself reflects the unique needs of each LMP, and that the implementation has maximized on system automation opportunities.

This formalization of maintenance processes represents a significant opportunity across the County. Common expectations for any future initiative include a clear implementation roadmap with defined roles and responsibilities, as well as transparent communication. This should also include medium and long-term plans for on-going support provided by the County to the LMPs (or as agreed upon between the County and participating LMPs) to ensure trust and confidence in the process.

7.1.2 Current Organizational Practices

The current practices highlight the need for workflow standardization without eliminating local flexibility, automation that reduces administrative burden rather than increasing it and clear governance on who owns, manages, and validates data.

Several LMPs have recently invested in systems such as PSD Citywide and for them the preferred readiness is contingent on integration rather than replacement, respect for existing system maturity and avoidance of duplicate effort and redundant configuration.

To be organizationally feasible across Elgin County and all LMPs, an Asset Management and Work Order management software-related initiative must:

- Support phased or “light” implementation pathways.
- Allow municipalities to participate at different maturity levels.
- Minimize disruption to day-to-day operations.
- Reduce administrative burden rather than increase reporting effort.
- Accommodate upcoming staff turnover and onboarding across municipalities.

Any feasible asset management and work management strategy must be adaptive, respectful of local context, and grounded in strong change management, or it risks low adoption, operational disruption, and stakeholder resistance.

7.2 Implementation Roadmap

To support development of an implementation roadmap, and associated understanding of resource and costing needs, a gap analysis was undertaken. This analysis compared current-state capabilities against identified requirements, and the results highlighted priority areas requiring special focus, including:

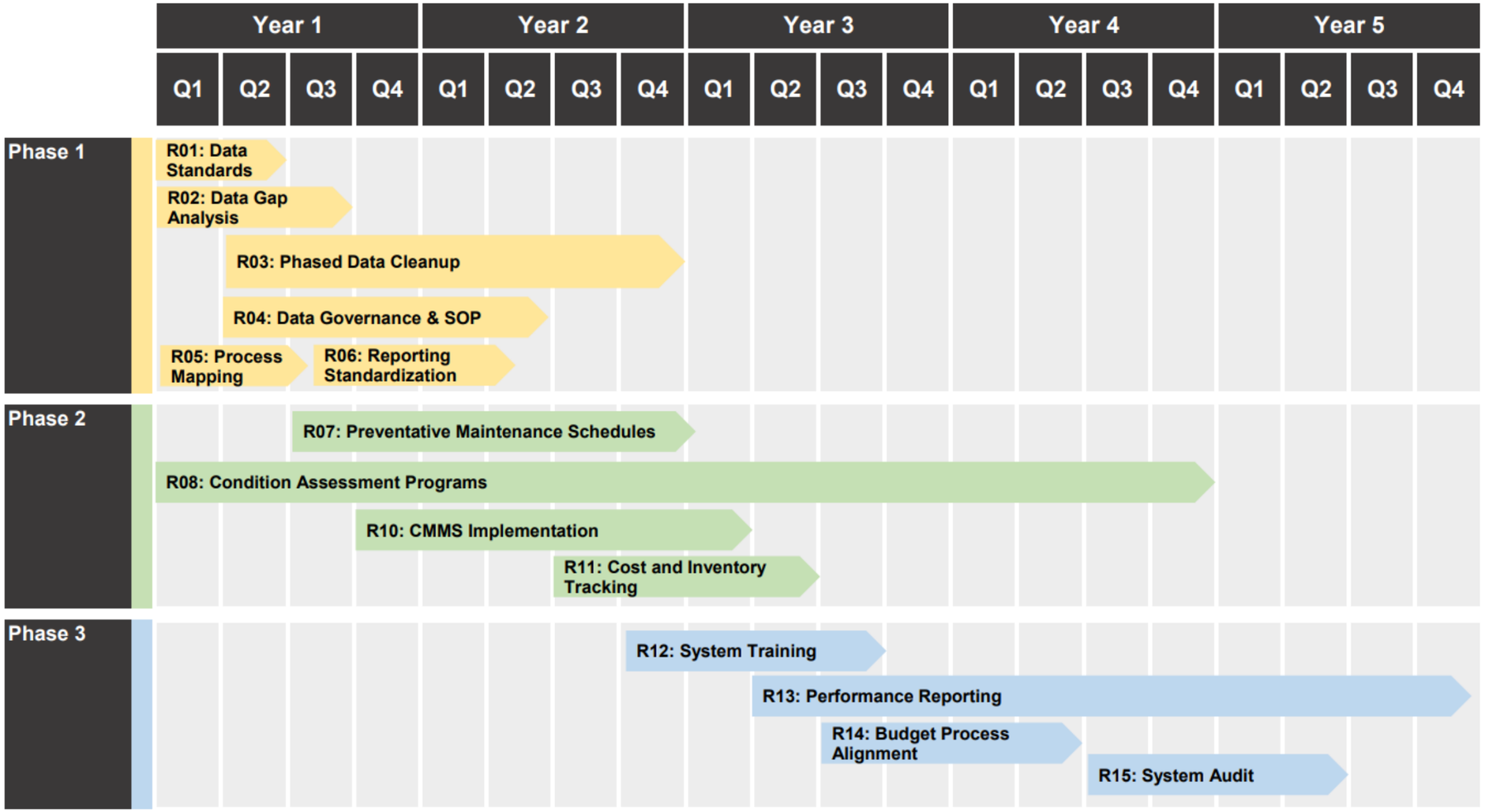
- Data gaps that limit efficiency, visibility, or reporting.
- Integration gaps between asset management, work order management, finance, and GIS.
- Organizational gaps related to training, governance, capacity and support.
- Risks associated with system fragmentation or over-standardization.

This analysis, alongside the engagement activities and resultant requirements and recommendations, have provided the insight necessary to develop a preliminary sequenced list of activities that would support the County and LMPs in a successful implementation journey. These activities are grouped into three major phases and spread over a five-year period to balance burden on participating staff, and reflect activities intended to support both the immediate implementation and long-term sustainment of system adoption. These are outlined in **Figure 1** below.

Where activities are identified as phased, the suggestion is to focus on high priority areas first, and then gradually integrate additional areas of work. For example, phased data clean up should reflect the findings of the data gap analysis as well as the priority of the CMMS implementation by service or asset classes. If the County and participating LMPs chose to implement the new system for specific service areas or asset classes first, then the corresponding datasets should be prioritized first.

This logic can be extended to the development of preventative maintenance schedules and benchmarks, condition programs, and other related undertakings. This approach will provide examples of successful outcomes, builds buy-in for the system and processes and allows participants to refine the implementation methodology as they gain a better understanding of how the system works. This iterative approach ensures later phases of work go smoother and quicker – particularly where these types of software systems may be very new – and mitigates risks relating to resistance and disengagement.

Figure 1. Proposed Implementation Roadmap



7.2.1 Pre-Implementation Activity Considerations

Undertaking this implementation represents a significant investment of resources, both in staff time and financial commitments. To ensure the success of this implementation, it is recommended that the County and all participating LMPs consider completion of the following activities before beginning implementation. It will be necessary that the County dedicate a fulltime equivalent resource to their activities to ensure an efficient implementation and successful onboarding experience for staff.

- **Data Readiness Review:** Review the existing asset data, complete an Asset Data Gap analysis and prioritize key asset data sets for improvements. This should include estimation of necessary resources, timing and program requirements to collect the data.
- **Data Management Standards and SOPs:** Develop a Metadata Standard, and/or an Asset Information Management Strategy, and engage all participating LMPs to ensure consensus and alignment. Develop supporting training materials to ensure onboarding of staff is aligned with the recommendations and requirements of these standards and SOP.
- **System SLAs and Governance:** Develop, or update, SLAs for roles and responsibilities in maintaining and managing the data. Note that this is sometimes addressed as part of point two (2) above.
- **Reporting Standardization:** Identify and develop any key reporting requirements. Establish key reporting need between the County and participating LMPs based on the current documented approach that identifies timing, level of detail, mandatory information to be provided to the county. This can inform what asset attribute fields are mandatory, and the sequency of roles and reporting needs.
- **Implementation Journey Change Management Strategy:** Advance development of a change management plan for the project can also be beneficial. These plans address both the immediate needs of the project as well as the medium- and long-term needs of the broader program to ensure the success of the implementation. This typically considers things such as plans for long-term data management and updates, stakeholder engagement strategies, on-going support for participating LMPs that is driven by the County rather than terms of the system agreement, and other strategic needs that ensure the success of this project.

It is also recommended that any data updates or cleanup for high-priority data sets, particularly those with legislative or regulatory requirements, be completed prior to initiation of this project. Additional resources are recommended to complete this. Having clean datasets to work with in the early phases of the implementation can help participants understand the full functionality and capacity of the system, as well help with change management by demonstrating early wins.

7.2.2 Post-Implementation Activity Considerations

Following the implementation, it is recommended that a dedicated fulltime equivalent resource is assigned for the County to ensure the successful and effective use of the system. This role is essential in mitigating one of the key risks commonly faced by these implementation journeys which is the long-term viability of the system, both with regards to maintaining user support and engagement with the system and in ensuring compliance with data management standards and relevant SLAs. This will ensure that the data inputted into the system will bolster evidence-based decision-making, provide transparent and clear support for business cases, and support efficient, effective identification of asset investment needs and priorities.

This role would be responsible for continual improvements, data management and optimization, end-user engagement as well as liaising with the system implementor. Typical activities necessary to maintain the system include:

- **Program Optimization**: These activities are intended to develop and monitor key performance indicators, make recommendations to program areas and drive continual change for data driving decision making. They are used to assess how effectively the system is being used, and support targeted refinements to the system, training supports, and other continual improvement activities.
- **Account Administration:** This includes the onboarding and offboarding of users through system training, overviews and peer support.
- **Updates to Master Data:** These activities are intended to ensure data is relevant and accurate. This includes ensuring current asset information, spare parts, preventative maintenance activities, reports and activity cost rates. This can also include refinements to data schemas and structures to ensure consistency across multiple platforms or systems, and to facilitate reporting and business case development.
- **Supporting Integrations:** As the system is integrated with other systems within the County, GIS and ERP, ensuring the data flow is working and resolving errors that occurring during the integration will require support. In addition, as data flows in externally from the LMPs, adjustments may be required for fringe use cases not originally considered or as systems and processes from the LMPs evolve and improve.
- **Enhancements to the System**: Following the implementation, users will identify changes necessary to the system to improve on reporting or ease of use. The resource would support these initiatives and where necessary engage with the vendor on how it can be completed.
- **Future Planning:** While this is focused on Roads and Facilities, a properly selected system will be able to manage other core and non-core assets identified within the AMP. This resource can share learnings and support the onboarding of additional asset groups.

8 Conclusions

The discovery and requirements-gathering phase confirms that there is a strong case for improved coordination, visibility, and reporting across Elgin County and its LMPs. Existing investments, system maturity differences, and workforce capacity constraints preclude a full system replacement.

A flexible, integration-first, hybrid approach best balances standardization with municipal autonomy. Success will depend heavily on phased implementation, clear governance, strong change management, and vendor-supported training and integration as well as dedicated staffing commitments from the County to support the work. The recommendation to implement at a county level and allow LMPs to adopt or integrate with their existing functions and programs allows for data synchronization between municipalities and the county while each maintaining the privacy of their sensitive data. This approach aligns with the direction of the Asset Management Plan, enabling evidence-based planning, and decision making.

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Appendix A

Survey Questions and Results

Municipality	Describe your work order lifecycle (request to completion)	Do you create, edit, and manage work orders with unique WO numbers?	What are the work order types you use?	What work order priority levels do you use?	What work order statuses do you use?	Do you link work orders to specific assets/equipment?	How do you assign a Work order to individuals, crews, or contractors?	How do you prioritize maintenance activities?	Do you have work order templates for common maintenance tasks?	How do you perform preventive maintenance scheduling?	How do you track labour, materials, and equipment costs?	How do you manage customer service or citizen requests?	How is asset data stored and structured? (GIS, spreadsheets, etc.)	Are asset IDs, hierarchies, or spatial locations standardized?	What level of cost detail would you expect the system to provide?	How do you track Levels of Service performance?
County of Elgin	receive notice from public, usually via email (sometimes through website or from another LMP). Gets passed to appropriate staff to review and respond. Normally involves 3rd party to rectify. Lots of redundant responses (canned answers to residents that are personalized so they don't appear to be canned answers)	Not at this time.	Reactive;Corrective;Capital Project;			No	emails	safety to the public, maintain services	No	Yes, such as asphalt crack sealing.		emails	GIS, spreadsheets, scanned.pdfs	yes	actual costs	
Municipality of Bayham	Service Requests - Office admin take the calls and submit' These go to manager/supervisor Supervisor/manager set up plan Supervisor completes form and stored back on Laserfiche	No	Reactive;Preventative;Inspection;Corrective;	Emergency;	Work Requested;Work Order Closed;	No	Verbally,	Prioritized by managers/supervisors workload knowledge and emergencies	Yes	Pre-entered work orders with specific date and time.	This is completed manually based on supervisor notes and operators time cards	Municipal built forms-Laserfiche- Service request can be submitted on-line which internal staff review and send to appropriate department head.	Spreadsheets-	NO	Unknown at this time	Manual notes,
West Elgin	2 processes - manual process, customer driven thru citywide	no	Reactive;Administrative;	High;Medium;Low;		No	supervisor Lead	safety, highly travelled roads, financial impact	No		excel tracking with codes for jobs, machine, labour, and materail	citywide	city wide	yes	we currently track hours, machine time, fuel, materials which reflect cost	N/A
Township of Southwold	Service Request Comes in (phone email, web in person) and assigned - reviewed by supervisor - resolved, or further inspection needed, or work order created and assigned to worker with equipment materials and asset assignment - worker completes work tracks materials labour time and equipment time - supervisor reviews and corrects if necessary - work order closed	Yes	Reactive;Preventative;Corrective;Inspection;Administrative;	Emergency;High;Medium;Low;	Work Order Closed;Work Complete;Work Inprogress;Work Scheduled;Work Waiting for Scheduling;Work Approved;Work Waiting for Approval;Work Requested;	Yes	its an option within the software, can create a crew, or go to individuals or to a contractor depending on the work.	By safety implications, costs, request dates, work scheduled close by if non-emergency, scheduled preventative maintenance.	Yes	This schedule was developed as part of the implementation of the software, took a lot of time to create and format, provide timelines and details for. The scheduled activities are created and given recurrence timelines or date driven automatic creation dates, the WO is created and assigned to the supervisor, the supervisor then assigns it to a crew or worker, closed out after completion and once the trigger/date is hit again it starts over.	Built into the work order itself, at work order creations the supervisor assigns workers, equipment and materials from an inventory or add new materials if needed, estimated against the work order and edited by field personnel reviewed and approved by supervisor prior to close out.	Through the Work Order Software.	In our Work Order Software, linked to GIS.	Yes	The same as PSD does now, down to asset specific if asked.	The software spits out analytics automatically and we use those metrics to measure (completion percentage, time from request to close out etc)
Town of Aylmer	Work orders are created/assigned by Managers/Customer Service or on-line forms through Laserfiche - assigned to appropriate department and staff- staff update Laserfiche task - process is very quick - extremely quick response times	Yes work orders are assigned into tasks that are then managed or edited by the assigned staff member.	Reactive;Preventative;Corrective;Inspection;Capital Project;Administrative;	Emergency;High;	Work Complete;Work Waiting for Approval;Work Order Closed;Work Inprogress;Work Scheduled;Work Requested;Work Approved;	No	Laserfiche tasks	Dependent on urgency of maintenance - generally, we have extremely quick response times to any priority level of service request	Yes	Annual, monthly, weekly preventative maintenance tasks are assigned though Laserfiche tasks or scheduled on shared outlook calendars. Also, track activities on schedule board at public works facility	Great plains software - Excel spreadsheets	Laserfiche forms/tasks - on-line website standard forms - customer service can also fill out the standard work order/task and assign to staff members	CityWide platform will provide reports or download excel spreadsheets - Great Plains for financials	Yes - standardized as per financial statement presentation	All labor, equipment and material costs	Through Laserfiche - provide Council with summary and annual service level reports
Township of Malahide	-Admin receives service request, admin assigns work order, supervisor reviews work order and assigns crew, crew completes work, supervisor reviews work and closes work order. -In some cases, the supervisor creates a work order for planned work. -Minimal completion details are entered into the system.	Yes	Reactive;Preventative;Corrective;Inspection;Capital Project;Administrative;	High;Medium;Low;	Work Requested;Work Waiting for Approval;Work Approved;Work Waiting for Scheduling;Work Scheduled;Work Inprogress;Work Complete;Work Order Closed;	Yes	Through Pearl, we assign staff and record staff time, equipment time, and materials used	MMS -> Capital Projects -> Planned maintenance -> low priority requests	Yes	Outlook calendar scheduling, repetitive knowledge	Pearl, Keystone	Pearl – requests entered by admin staff after receipt of email, phone call or website request	Spreadsheets – desire to improve GIS system and integrations	Yes	Ability to retrieve labour, equipment, and material costs, tied to financial systems to be able to also pull third-party invoices into a single summary of the total cost of a job	No, but we should and would like to do better
Central Elgin	Depends on the task	yes	Reactive;Preventative;Corrective;Inspection;Capital Project;Administrative;	Emergency;High;Medium;Low;	Work Requested;Work Waiting for Approval;Work Approved;Work Waiting for Scheduling;Work Scheduled;Work Inprogress;Work Complete;Work Order Closed;	Yes	They have access to tablets and computers with individual logins	Based on needs studies	Yes	Through regularly scheduled work orders	In work orders	Through the customer service module	Database that is linked to GIS	Yes	We run reports	Through reports
Dutton Dunwich	work in progress at this point	populated by the software	Reactive;Corrective;Preventative;Inspection;Capital Project;	Medium;Low;High;	Work Requested;	Yes	software is capable, not used frequently	basically by memory and viewing of spreadsheets	Yes	as time is available	Through our payroll system	as the needs come in prioritize	Elgin County mapping is used			

Municipality	What maintenance management system are you currently using?	How long have you been using this system?	What are the key features of your current system?	What types of maintenance activities are tracked in your current system?	What improvements or innovations would you like to see in a future maintenance management system?	What challenges or limitations have you experienced with your current system?	Can your current system export data? If so, in what formats (e.g., CSV, Excel, API)?	Are there any custom configurations in your current system that need consideration?	What concerns do you have about transitioning from your current system?	What is your cost for annual licensing?	Does your licensing agreement include support?	What system(s) do you currently use for road maintenance planning and tracking?	How do you currently manage scheduling, performance tracking, and cost reporting?
County of Elgin												Excel spreadsheets	Excel Spreadsheets
Municipality of Bayham	Laserfiche	10 years	Ability to pre-load work orders Time stamp tracking Easy access to closed order database Data storage is important for each maintenance asset and not group together.	Road Patching Caatchbasin Cleaning Road Debris vegetation control- Brushing-limbing- Road side mowing Shoulder repairs Grading of Gravel roads Sign Repairs Playground maintenance Beach maintenance Maintenance to buildings- lots of sub forms based off this Mailbox repair Road Sweeping	Easier option to see if operators are utilizing the program. Daily reports or weekly	Lots of manual entries proper Data with in the forms	yes	Possibly however only system Bayham has used so hard to say	Change over Capital Cost IT service	Will have for meeting	At a fee	BurrSide first Addition - Patrol Softwear, Laserfiche in house forms	Completed through Supervisor and manager manually. utilizing Laserfiche forms for tracking and planning
West Elgin	citywide	over 5 years	resident service requests, patrol inputs,	service request from residence		none	more training would be needed with citywide	no	learning curve, excessive paperwork for public works staff, additional budgeting time required to enter issues.	30,000	yes	City wide, ace, orrga apps	following minimum standard, and complaint driven using citywide, with track time and material thru usage.
Township of Southwold	PSD Citywide	2.5 years or so.	Fully integrated Work Order Management, Asset Management and Inventory, GIS Integration, Roles and Permissions, Financial Analysis, Capital Planning Asset Reports, Capital Lifecycle Analysis.	All of them from Roads to Admin, Development, Water, Drainage, Parks, literally everything.	I am not sure right now, PSD is very comprehensive and meets the needs of the Township	Not many, training staff is a challenge, and changing would require to live through that challenge again.	CSV, there is significant API capabilities	Yes	Previously mentioned.	$ 23,875	yes	PSD Citywide	The software has modules that can pull in service requests from the public, deficiencies from patrols, and assign work orders, it also has the ability to schedule routine and preventative maintenance activities. All of which were established during the software implementation. The software has the ability to pull data from those work orders and service requests to complete performance analytics and financial tracking down to the asset level if desired.
Town of Aylmer	Laserfiche - CityWide	5-6 years	AMP - work orders/tasks/service requests	Service requests - road maintenance, trees, garbage, wastewater/STM inquires, snow removal, animal By-law inquires Development/Planning inquires Road Occupancy Permits Site Alteration Permits Facilities requests	Detailed Costing with completion of work orders	Resorces to effectely implement new processes and moduals	Yes, CSV, Excel	Asset ID's and hierarchy's, EUL's and replacement values	We do not have the time or resources to transition to a new system. Any transition will affect the financial statements and reports.	$7-8K annually	Yes	We utilize the CityWide platform - Laserfiche - Great Plains for reporting - Road maintenance follows minimum maintenance standards	Current Asset Replacement Values through CityWide -Asset Cost Tracking/Reporting through Management Report Viewer - Laserfiche is utilized for scheduling/
Township of Malahide	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Burnside Mobile, Pearl	Pearl, Keystone
Central Elgin	Worktech	This is our second system. Its been in place for years	Tracking costs, time and assignments	Everything	None	None	Yes	We have been using this system for years and there are some customizations to suit our needs	The time and cost to change	Not sure	Yes	Worktech	Worktech
Dutton Dunwich	citywide	1 year			citywide does not link with Ace electronics Infobite for vehicle maintenance.	very complex, need to use it more to understand it more	yes				yes	Citywide, Excel	mostly excel

Municipality	What performance indicators do you currently track?	How should the system support transparency and accountability in road maintenance?	What type of training would be most effective for your staff? (e.g., in-person, online, self-paced)	How much time can your staff realistically dedicate to training?	What kind of ongoing support would you expect from the upper-tier municipality or the system provider?
County of Elgin		Like activities need to be compared across LMPs to determine efficiencies and identify room for improvement	online	3 half day sessions max.	good question. answer is none. Solution should have technical support built in.
Municipality of Bayham	Service request - Close out of request	Real time process status ability to define roles and responsibilities Documentation and clear communication	In person - General Staff/Supervisors/ Managers On-line - Supervisor/Managers	What ever is needed? With supervisor and managers full understanding Possibly the ability to have a demo period to help understand the implementation.	Upper-Tier -Communication between LTM and UTM for updates, training, funding support for system licences.
West Elgin	N/A	Work complete as needed in Minimum Maintenance, customer complaints and further patrol indicate the need for additional work.	in person	depends on the training and the need	financial, ease of use, a program that would match our needs, eg. citywide and supervisor direction
Township of Southwold	Number of Request and Work Orders, Average Cost per WO by department, Time from Request to Completion, and about 30 other metrics the software automatically pulls and presents in Widget Format and Report formats.	Forms part of our reporting to Council, automatic reminders are built into WOs to ensure timely attention.	In person, a significant amount of in person training was required.	Almost none currently, maybe an hour a week.	Full cost recovery for our sunk cost, full cost recovery and funding for re-training and implementation of the system, Data Migration and Protection, IT Support, Data Security, Hosting, Insurance, provision of devices at no cost to the Township, if the County forces this on the partners this should be a zero cost to the Township, as we have working software already.
Town of Aylmer	Origin of tasks - number of tasks assigned - time of completion - departments involved with tasks	It should support Water & Wastewater accountability, not just roads. It should provide levels of service so these can be reported.	In-person	Our staff have spent a substantial amount of time in the last 5 years implementing the new systems and processes. The Towns AMP is drastically improved and we continue to update accordingly. We do not have time or resources to dedicate to a new system or training.	GIS services to integrate with operations and the AMP would be great support. We do not want this to be levied by the upper tier. The lower tier currently obtained and funds the system/software. It is working good and we continue to optimize.
Township of Malahide	None	Ability to report on job costs and completion timelines	Online and in-person where required	Admin/Supervisory Staff – (16hrs) Field Staff (8hrs)	Troubleshooting, System Updates, and customization of reports
Central Elgin	Costs	Meeting the MMS	All the above	As much as it takes, its a gradual process as you develop you skills	We already have good support from our vendor

Municipality	How prepared is your organization to adopt a new system,?	What concerns do you have about implementing a new maintenance management system?	What would make this system successful?	How do you see your municipality's maintenance needs evolving over the next 5–10 years?	Are there any IT limitations that could affect system use?	Do you require integration with existing systems specific to your organization (e.g., AVL)?	Estimate the number of users by role? (Admin, Supervisor, Field, Viewer)	What is the staff's overall digital literacy (1–Not comfortable, 5 - Very comfortable)	Do you have a change management plan and requirements?
County of Elgin	Not prepared	Staff resourcing to implement and operate.	A fully integrated software solution that is used daily by all staff and provides reporting metrics for Council, collects data to plan and report. A system where I can trust the information and the information I need is readily accessible. Easy to upload information/data. Integrates with GIS seamlessly. Can adjust unit rates regularly and provides budget scenarios based on desired levels of service.	Roads become busier and levels of service expectations by the public increase. New senior staff across the County LMPs will create learning curves.	Yes, ideally this is cloud based.	GIS	1 admin, 3 supervisors	2 - Comfortable	no
Municipality of Bayham	Somewhat prepared	Management and staff training The ability to put enough time as side to implement this. Connectivity throughout the muncipality-Current issue with burnside	User friendly- Bayham has an aging workforce which has many issues with digital technology. Staff are apprehensive with new technology, so staff would be looking forward to a implementation plan.	Maintenance demands, will continue to raise and the importance of a better system will be benificail for tracking and long term planning.	Current utilization of a Third party IT company.The limitations would be communication connection with them as well as the municipal staff.	Intigrating the system with current AVL or future AVL system would be great.	1-Manager 1- Supervisor 1- Foremen Possibly 7 Operators	2 - Comfortable	No
West Elgin	Somewhat prepared	another new system that will not integrate with our current system and how long will it last,	easy of use, limit the amount of reporting that needs to happen between the county and the municipalities.	There hasn't been a lot of change in the infrastructure but the cost to keep the infrastructure to the standard is rising	we could have hard ware issue, and a need for additional unit and possible upgrades needed.	unknown	Admin - 2, Supervisor - 3, Field - 10, viewer - 5	1 - Not comfortable	no
Township of Southwold	Not prepared	We expended a significant amount of money to implement a system that can provide the data required under the RMA, and for our internal purposes. The same software is used for our asset management, tracking all Township assets conditions, expenditures, maintenance, financial forecasting etc. The system already has the ability to meet reporting and tracking requirements of the County and Township. A new system would make waste of that investment, and require significant effort on our part to implement, for the taxpayer of Southwold it would represent a significant waste of resources. These software's are often, as is in our case tied to our asset management, a County led software would open significant data management concerns, complications. Who manages what, what kind of permissions levels are available, data migration concerns, who sees what data. Who is responsible for that data's security, given this is a provincial regulation and required there is some significant implications if something bad were to happen, that risk would have to be factored in. Also, who pays for this, is it a cost shared license across all the municipalities? If so, what incentive is there for us to change, especially given my earlier comment on a wasted investment. Work Orders, especially our scheduled preventative maintenance, vary by municipality, so there would be a massive number of work order types, and would need to be tailored to each municipality, redundant work given we have software that captures this. I am unsure of how the working groups and permissions would work and split the work orders and data up by partner, assigning the work orders to the wrong person, or not having access to them, or inadvertent access to neighbours work orders and assets would have to be carefully considered and divided, if the software is unable to provide that level of division and separation that would be very difficult to manage and track. Significant time and effort was expended to train our staff in using this software, retraining, even on a use of the same software but organized differently to suite a larger user base would represent significant effort and cost, the Township is not interested in reinvesting in something it has already completed at it's own cost.	With the current structure of the County, and division of responsibility I firmly believe that this wouldn't be successful if handled at the County level, there is too much data that is the responsibility of the partners, and given its integration with AMP, it belongs as a local responsibility to meet the reporting requirements. I am doubtful that savings to the taxpayer through a single license would cover the capital cost to set such a complex system up. Would the other municipalities reimburse the partners that have already adopted their own systems? Or is that just a forced sunk cost to the taxpayer? Given the majority of municipalities in the County have their own versions of WO Management Software tied to their AM Software, this just isn't financially feasible, or smart for the County to bring into their portfolio, this should just remain with the local municipalities.	As we grow and add additional residential and commercial properties, we will see and increased demand for urban maintenance activities, parks maintenance activities (sidewalk plowing, boulevard maintenance, turn around maintenance, parks gardens decorative feature maintenance, storm water management maintenance activities, storm and sanitary maintenance activities etc.). Demand for resources will grow, however the Township is in a good position in terms of WOM Software to adapt to these increased service requests, work force management, and financial reporting.	- System security and responsibility, how are risks managed, who is responsible for maintenance and operations of the software, who is responsible for hosting, security, insurance? Change in the system style away from our current software would have implications on compatible devices, cell phone charges (who pays), training, implementation costs.	Our system is integrated with our Assets Management Software, GL Accounting, and GIS.	Admin 7 Supervisor 5-7 Field Viewer - 17-20	2 - Comfortable	Anything would need Council Approval, and this change would require a specific CMP to manage the varying levels of training, implementation costs, responsibilities etc.
Town of Aylmer	Not prepared	The Town (lower tier) is an urban environment, where the upper tier is more of a rural environment. It is not an "apples to apples" comparison when comparing the upper tier to lower tier. There are more assets (i.e. wastewater, STM, etc..) that the lower tier would be required to change/implement with a new system/AMP. The lower tier has spent a substantial amount of time, effort and costs, in implementing the current system. We have not accounted for or have the resources to implement an new system.	Which system? We utilize CityWide and would suggest that the upper tier utilize the same system. Many lower tiers currently utilize CityWide for asset management and work order systems.	We will continue utilize the various functions and options available through CityWide maintenance manager for operations - integration into Citywide records integration	No specific IT restrictions - we do not have the resources or time to implement a new system.	Not at the moment, looking to integrate asap.	Finance, Operations, Parks and Legislative services = approx. 15 users	2 - Comfortable	Yes, financial integrity needs to stay intact for financial statements.
Township of Malahide	Not prepared	Capital and recurring costs, hardware compatibility, mobility	Full spectrum software, customizable, adaptable	Real-time updates, live reporting, integration with AVL	No on-site IT staff, hosting capabilities, cellular/internet coverage throughout municipality	Viaesys AVL system	2 Admin 2 supervisors 15 field 5 viewers	2 - Comfortable	No
Central Elgin	Not prepared	We have implemented several systems and it takes a significant amount of time and effort to change systems	Keeping it as is because we already have the historical data to do trending analysis and staff trained to use the system	Continue to use the current system	No	No	20	3 - Very Comfortable	Yes
Dutton Dunwich	Not prepared	We have just begun Citywide in 2025	Using the same System	More urban = more needs	no	Also using Ace Electronics Infobite software	1 supervisor 1 foreman 6 operators 3 contract users	2 - Comfortable	no

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Appendix B

Appendix B Detailed Requirements Matrix

Req ID	Category	Requirement Description
ORG-01	Organizational	Support phased, configurable implementation, allowing municipalities to adopt functionality incrementally (e.g., asset data, then service requests, then work orders, then financial and cost tracking) by asset or service areas (e.g. roads, culverts, facilities, sidewalks, etc.) minimizing operational disruption.
ORG-02	Organizational	Support municipality-specific configurations within a shared governance model, allowing each LMP to retain ownership of its workflows, data, and asset structures.
ORG-03	Organizational	The vendor shall provide a structured change management approach.
ORG-04	Organizational	Shall be usable by staff with low digital literacy, emphasizing simple workflows, minimal data entry burden, and intuitive mobile interfaces.
ORG-05	Organizational	Shall not require significant internal IT administration at the local or County level.
ORG-06	Organizational	Allow LMPs to retain existing systems where required, supporting a hybrid operating model rather than forcing full system replacement.
ORG_07	Organization	Shall provide mobile functionality to support in-field WO creation, data entries, and information retrieval.
AST-01	Asset Registry	Comprehensive asset registry with unique identifiers that are aligned with County and LMP naming conventions.
AST-02	Asset Registry	GIS-based asset display and selection
AST-03	Asset Registry	Hierarchical asset structure that identifies the relationship between assets and major components (major as defined by the County and LMP). For example, Transportation à Roadways à Local Road à Road Name. This hierarchy will reflect the service provided by the assets and facilitate logical groupings of assets for interventions.
AST-04	Asset Register	At a minimum, must include the following attribute fields, set as mandatory within the system, aligned with County and LMP expectations: • Install Year • Estimated Service Life • Asset Replacement Cost • Region • Subregion • Owner • Operator • Maintainer • Planner • Diameter • Length • Quantity
WO-001	Work Orders	Unique work order numbering and lifecycle management

Req ID	Category	Requirement Description
WO-002	Work Orders	Provide a standardized work order lifecycle, configurable by municipality, including: • Request • Review • Approval • Assignment • In Progress • Completed / Closed out
WO-003	Work Orders	Assign unique work order identifiers for all work, including internal tasks and public requests.
WO-004	Work Orders	Support multiple work order types, including: • Reactive • Preventive • Corrective • Inspection • Administrative • Capital • Project work
WO-005	Work Orders	Link work orders to specific assets
WO-006	Work Orders	Allow work orders to be linked to assets, locations, or spatial features at a practical level
WO-007	Work Orders	Support assignment of work orders to Individuals/Crews/Contractors
WO-008	Work Orders	The system shall capture labour, materials, equipment, and completion notes within each work order.
WO-009	Work Orders	Support configurable priority levels (e.g., Emergency, High, Medium, Low) aligned with MMS, safety, and service level objectives.
WO-010	Work Orders	Allow work order creation from multiple sources, including public service requests/Patrols / inspections/Internal staff requests/GIS-based triggers
PM-01	Preventive Maintenance	Calendar and meter-based PM scheduling that is based on County and LMP scheduling requirements.
PM-02	Preventive Maintenance	Ability to associate asset identifiers from the asset registry with preventative maintenance workorders, even if autogenerated.
PM-04	Preventive Maintenance	Allow assets to be displayed, selected, and filtered via GIS maps.
PM-05	Preventive Maintenance	Associate maintenance history and prior inspections with work orders to allow users to access and review previously completed work.
INSP-01	Inspections	Auto-generate WOs from failed inspections.
INSP-02	Inspections	Ability to support regulated/legislated inspection programs such as MMS and OSIM, as well as other County and LMP condition inspection programs, such as CCTV and BCAs. This should include scheduling of inspections, and storing key defect and condition findings associated with the asset.
INSP-03	Inspections	Interface with specialized software such as Burnside.
COST-01	Cost Mgmt	Track actual labour, material, equipment, and contractor costs per work order, at a minimum by allow user entry into appropriately defined fields during Work Order Completion, and attachments of photos, receipts, pdfs or other relevant support content.

Req ID	Category	Requirement Description
COST-02	Cost Mgmt	Support cost aggregation by Asset/Location/Municipality/Program/Time period.
COST-03	Cost Mgmt	Support unit rate updates for labour and material
COST-04	Cost Mgmt	Total work order cost (labour based on configurable burden rates + materials + services). This should be accomplished, at a minimum, by providing defined fields for user entry at work order completion.
COST-05	Cost Mgmt	Export WO cost data for integration with municipal financial systems and audits.
RPT-01	Reporting	Provide real-time dashboards for Work order backlog/Completion rates/Response times/PM compliance. This must include reporting on ratio of reactive to preventative maintenance Wos completed, as well as any other key LOS, MMS, and RMA-aligned performance reporting needs.
RPT-02	Reporting	Support standardized County-wide reporting, based on County reporting requirements that permits filtering to municipality-specific expenditures.
RPT-03	Reporting	Enable export of reports (Excel, PDF, CSV),
RPT-04	Reporting	Allow the user to specific which fields should be included in the Excel/PDF/CSV report export.
RPT-05	Reporting	Support a user-friendly approach to development of additional, simple reports when they use existing fields and built-in functionality.
INT-01	Integration	Support multiple GIS / service request systems by LMP while maintaining the integrity of the asset hierarchy and work execution structure.
TECH-01	Technical	Multi-municipality architecture with data separation and secure user roles and access privileges.
TECH-02	Technical	Be cloud-hosted (SaaS) with no requirement for County or LMPs to maintain on-premise infrastructure.
TECH-03	Technical	Support multiple municipalities (sites) within a single instance, with strict logical separation of Assets/Work orders/Users/Reporting.
TECH-04	Technical	Support role-based access control, ensuring users can only view or edit data for authorized municipalities.
TECH-05	Technical	The system shall provide robust offline mobile functionality, allowing field staff to complete work, inspections, and data capture in low-connectivity environments
TECH-06	Technical	Integrate with GIS platforms, supporting Asset spatial location/Map-based work order creation/Route and patrol visualization
TECH-07	Technical	Support secure data exchange (API / CSV) with existing platforms (e.g., CityWide, PSD) / Financial systems / Laserfiche or document repositories / AVL / telematics systems) where applicable.
TECH-08	Technical	Meet municipal data security and hosting requirements, including Canadian data residency (preferred)/Encryption at rest and in transit/Audit trails/Permission logging.
SR-01	Service Requests	Support centralized service request intake, including Email/Web forms/Manual entry/Integration with existing systems.

Req ID	Category	Requirement Description
SR-02	Service Requests	Track service requests through to resolution, maintaining traceability to work orders.
SR-03	Service Requests	Reduce duplicate manual handling and redundant responses.
SR-04	Service Requests	Allow privacy controls for public requester data.
MOB-01	Mobile	Support offline mobile functionality
SEC-01	Security	Ensure each user is able to access only the data associated with their role and municipality.
IMPL-01	Implementation	Support role-based training programs that reflect County and LMP timelines.
TRN-01	Training & Transition	Provide role-based training, including Field staff/Supervisors/Managers/Administrators
TRN-02	Training & Transition	Include in-person and online options, with emphasis on practical, task-based learning, and recorded sessions for re-use by the municipality.
TRN-03	Training & Transition	Include embedded guidance, help text, and user prompts.
TRN-04	Training & Transition	Support selective data migration where beneficial, not mandatory.
TRN-05	Training & Transition	Enable County-level visibility without compromising municipal data ownership.
SUP-01	Support	Provide ongoing support, including defined SLAs Issue escalation/Software updates.
SUP-02	Support	Defined support response SLAs.