Town of Canmore

IT Master Plan

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1 Introduction

The Town of Canmore retained the services of Tantus Solutions Group Inc. to develop a 5-year Information Technology Master Plan. The IT Master Plan will guide the Town over the next years in planning, procuring, implementing and managing current and future technology and resources, to optimize its IT investment.

The Town has experienced strong growth over the past years, with a strong tourism industry. The Town continues to experience strong development and growth. Town administration has also experienced significant growth and change in the past years, including several major technology system investments. In addition, the Town faces similar pressures to provide comparable services to property owners who do not live locally.

The Town faces strong resident expectations, as many residents come from larger centres are used to "big city" service levels. The Town is facing pressures to enhance online presence and services, ensure improved network infrastructure and connectivity, and enhance reporting and data availability for residents.

From this base, development of a longer term, more strategic view for their IT investment has been authorized and thus, this project came about. The following observations and recommended course of action should be viewed from several perspectives.

1. The IT organization has never formally been planned. It has arrived at is current configuration due to immediate business requirements and the skills and talents that have been acquired through the hiring process. The current staff complement is capable in many aspects of IT service delivery, but the current scale and scope of talent may not be enough to manage the foundation and enhancement projects that the Town will require.

2. Business areas have done an admirable job 'making do' with manual processes or standalone systems to support their business operations; however, the increase in resident's demand for service and information and senior management's requirement for more timely, integrated reporting will not allow them to continue with their current processes and tools.

3. Town leadership (including Council) is aware of their current circumstance and is active and passionate about resolving their current technology gap.

This report includes a more detailed assessment of the current technology environment deployed by the Town, a review of how the technology is currently supporting the Town's strategic and operational goals and a roadmap that outlines a course of action to allow the Town to meet its objectives and position itself for continued growth.

3 IT Roadmap

This section defines the 5-year IT roadmap for the Town of Canmore. The roadmap approach outlines additional business area projects to leverage and extend capabilities as well as implement new capabilities. This approach is represented by the figure below:

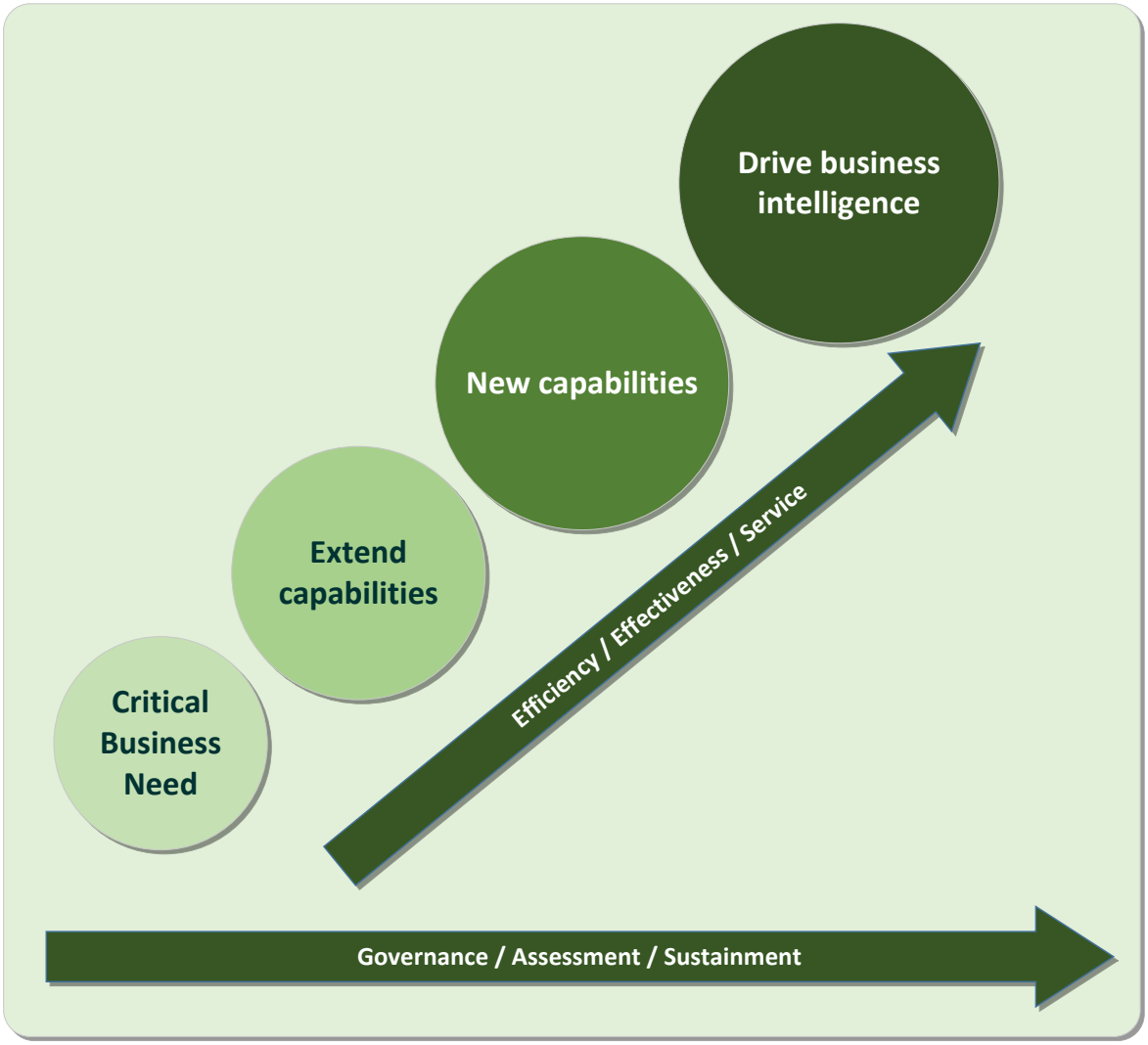


Figure 1 – Deployment Approach

As the Town progresses, the roadmap will be continually updated through the Governance process outlined in Section 4.1 that follows. It allows the Town to adjust to changing priorities, manage its IT investments in small enough pieces that it does not over-commit itself in any one area, and finally incorporates appropriate benefits measurement activity to ensure the Town is receiving value for its IT investment.

3.1 PRIORITIZED PROJECTS

The following projects were identified during sessions with the business areas of the Town. In each business area, near-term and longer-term business needs were explored. The projects were then scored using a prioritization process outlined below:

Rating					
Score	Cost*	Time	Complexity	Effectiveness	Criticality
	(1-5)	(1-5)	(1-5)	(1-5)	(1-5)
5	< $25,000	< 3 months	Single BU and purpose	Regional Leadership	Immediate business need
4	$25,001 - $100,000	3 months – 6 months	Single BU, foundational	Enhance Citizen Service	IT Operational need
3	$100,001 - $250,000	6 months – 1 year	N/A	Enhances internal information sharing	N/A
2	$250,001 - $500,000	1 year – 2 years	Multi-BU / Internal	Enables core process	Business Enhancement
1	> $500,000	> 2 years	Multi-BU / External	Improves IT service	New capability

The cost of the project includes an estimate of the hardware and software costs, as well as a full spectrum of resource time for project management, change management, business analysis, technical analysis and business area staff effort. The effectiveness of the initiative works on a scale that moves from internally-focused improvements, to regional improvements. The lowest score possible would be a project that improved IT service delivery. The higher scores move along a scale of core business process improvement to enhancing information sharing, to enhancing citizen-facing services, to being a leader in the region. The criticality rating indicates the level of urgency placed on the initiative by the business areas, with new capabilities and enhancing capabilities scoring the lowest, while IT operational improvements and critical business needs score the highest.

Each potential project was scored in each of these areas and summed. For each area, the best score possible is a "5" and the worst score possible is a "1", so the highest overall prioritization score is "best."

In terms of overall scoring, high scoring projects are often considered to be "quick-wins," in terms of being low cost, low complexity and having positive effectiveness. There is also often a clustering of projects that are more costly and complex, but are extremely effective and important to the organization. These projects are often considered "foundational" and usually score in the middle to end of the rankings. This lower scoring does not diminish their importance to the organization.

For the Town, we've scored both the foundational IT projects to be completed in the near term (shaded in Green) and the main business area projects (shaded in grey). Both sets of projects have been sorted separately to show the distinction between the two project types.

The scoring is outlined below:

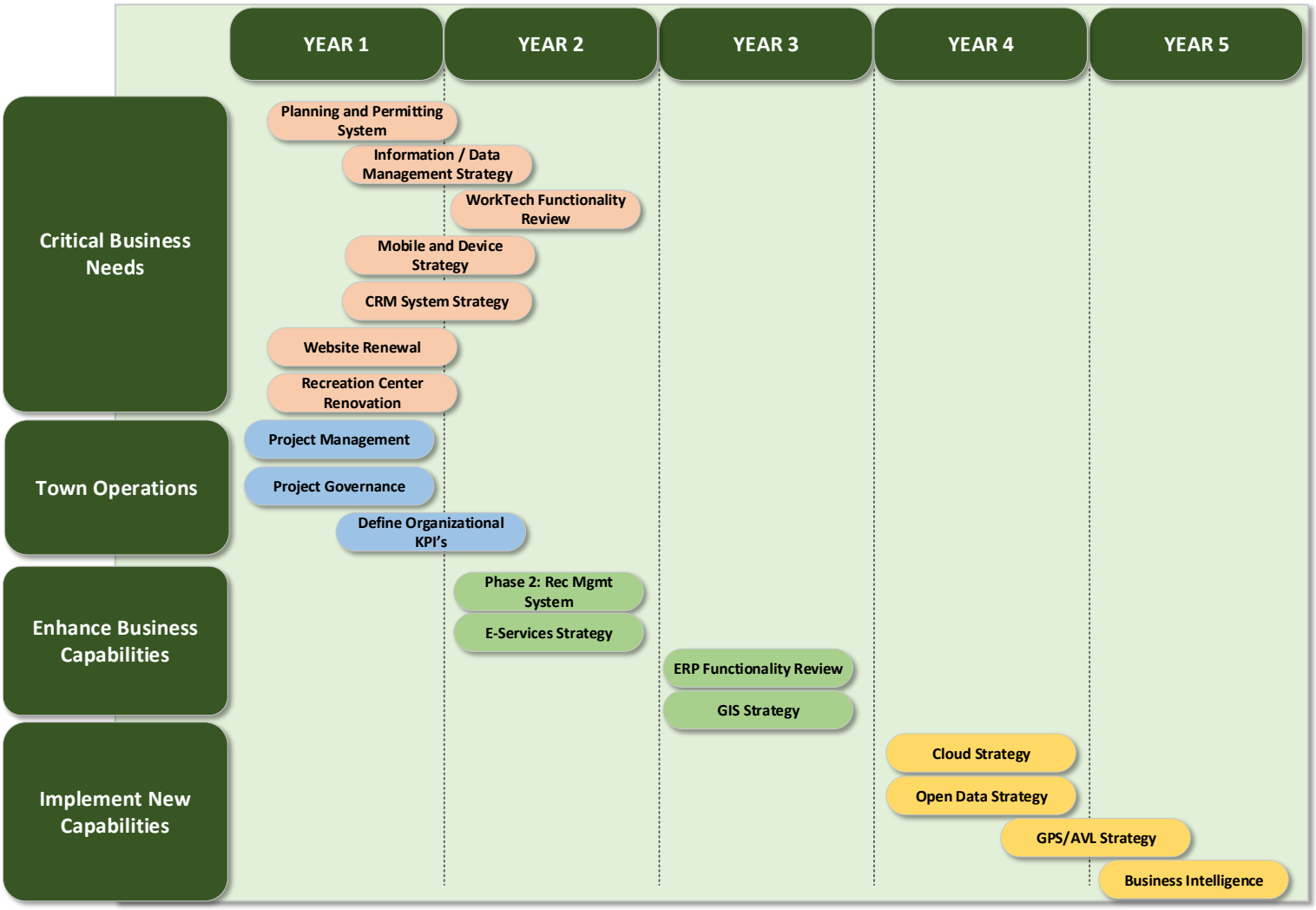
Project / Initiative	Rating						Score
	Score	Cost* (1-5)	Time (1-5)	Complexity (1-5)	Effectiveness (1-5)	Criticality (1-5)	
	5	< $25,000	< 3 months	Single BU and purpose	Regional Leadership	Immediate business need	
	4	$25,001 - $100,000	3 months – 6 months	Single BU, foundational	Enhance Citizen Service	IT Operational need	
	3	$100,001 - $250,000	6 months – 1 year	N/A	Enhances internal information sharing	N/A	
	2	$250,001 - $500,000	1 year – 2 years	Multi-BU / Internal	Enables core process	Business Enhancement	
	1	> $500,000	> 2 years	Multi-BU / External	Improves IT service	New capability	
Review and define SLA's with vendors		5	5	4	2	4	**20**
IT Policy and Procedures review		5	5	4	1	4	**19**
Business Architecture Standards development		5	4	4	2	4	**19**
Define IT organizational KPI's		4	5	4	1	4	**18**
Enterprise Architecture Standards development		4	4	4	2	4	**18**
Bandwidth and Network Assessment		5	5	2	1	4	**17**
Define SLA's with Business Areas		4	5	2	2	4	**17**
Planning and Permitting Project		4	4	4	3	5	**20**
Define organizational KPI's (business areas)		4	4	2	3	5	**18**
Mobility and Device Strategy		4	5	2	1	5	**17**
Project Governance		5	5	2	3	2	**17**
Information / Data Management Strategy		4	3	2	3	5	**17**
Project Management		5	5	2	3	2	**17**
WorkTech Functionality Review		4	4	2	2	5	**17**
Customer Relationship Management System Strategy		4	5	1	2	5	**17**
Phase 2 Build-out of Recreation Management Software		4	3	4	4	2	**17**
Website Content Management Renewal		3	3	1	4	5	**16**
eServices Strategy		4	5	1	4	2	**16**
Cloud Strategy		5	5	4	1	1	**16**
Open Data Strategy		5	5	2	3	1	**16**
ERP Functionality Review		4	4	2	3	2	**15**
GIS Strategy		4	5	2	2	2	**15**
Recreation Center Renovation		4	4	1	1	5	**15**
GPS / AVL Strategy		4	5	2	2	1	**14**
Business Intelligence and Analytics Strategy		3	3	2	3	1	**12**

3.2 BUSINESS PROJECT ROADMAP

The project roadmap does not perfectly follow the prioritization scoring above. In general, we would expect to see natural tiers of projects as we move from the highest to lowest scoring: quick-win projects for the short-term, foundational, and longer-term initiatives for the medium-term, and long-term projects or abandoned initiatives. However, we applied an additional lens to the roadmap sequencing, focusing on whether the project supported:

- Critical business need
- Town operations and governance
- Enhanced business capabilities
- New business capabilities

These additional categorizations generally indicate shorter-term to long-term projects, respectively. The recommended roadmap and project sequencing, based on prioritization scoring, business priority and categorization, is as follows:



The roadmap is broken down into three distinct periods as described below:

Years/Period	Description
1 – 2	Short-term business area priorities and a focus on enhancing business capabilities, in addition to IT operations and governance improvements
3- 4	Medium-term focus on new business capabilities and significant work to improve data integration and business intelligence
5+	Long-term focus on data integration and business intelligence. Renewal as required and continued extension and implementation of new capabilities based on changing business needs

In the longer-term, business driven priorities will emerge. They will likely require new technologies, devices and reporting requirements than the projects currently outlined. IT needs to ensure the technology and governance environment of the Town can adapt and support these emerging needs as required. Strong technology governance mechanisms for the Town will help to identify emerging technology and business needs, and research, prioritize and implement them accordingly.

IT Roadmap Business Project Descriptions

Critical Business Needs

These are shorter-term initiatives due to their high demand from business areas. These initiatives are generally to address a significant current gap in technology or access to information that is impacting current operations. These initiatives have a range of scores and costs, but are pushed to happen within first 18 months of the roadmap. Projects include:

- **Planning and Permitting System**: A currently planned and initiated project, however there has not been sufficient IT involvement budgeted into the current project plan. There will be project work for integration with core financial and GIS systems, as well as testing and implementation support, which will need to be supported by IT staff.
- **Information & Data Management Strategy**: This strategy should build off of the current electronic records / SharePoint project that is being initiative to cover all business areas and all record types. The strategy should focus on a full document inventory, taxonomy definition for storing of information, and searchability. The strategy should also outline policies and procedures for records management. It should also develop formalized, corporate governance for data and to provide formal categorization and access to business information. A governance body should develop corporate data standards, access standards, retention standards and any other applicable standards for structured data in the organization. The group should also lead one-off data or business intelligence projects.

- **WorkTech Functionality Review**: The challenging WorkTech implementation has limited the systems use compared to how it was envisioned as a broad system for facility management, asset management, and work order management. The Town should review the current implementation, the needs of each business area for daily operations, and the Asset Management Coordinator to ensure corporate asset management needs are being met. The corresponding strategy should outline the system or systems needed to move forward, and should determine if WorkTech should be continued. This project could also be attached to current Asset Management Strategy efforts being undertaken by the Asset Management Coordinator.

- **Mobile and Device Strategy**: An IT led corporate plan that will outline standards, expectations, policies and activities to standardize and enhance mobile access options. The strategy will require significant business area input to determine key current and future mobile needs. The plan should also include a standardization of telecommunications and device standards.

- **Customer Relationship Management System Strategy**: Communicating with stakeholders, and maintaining one true customer identity will become increasingly important for the Town. Each of these interactions from residents, visitors or potential business owners will reflect on the ability to track and follow-up on these interactions. A strategy for an integrated CRM will help determine interested departments, provide performance metrics, and identify potential software that could be eliminated with a comprehensive CRM in place.

- **Website & Content Management Renewal**: The current Town website has had recent efforts to improve, and it sits on a robust platform. However, there are concerns about the current content structure, the searchability and user experience of the site, and the processes and vagueness required to update content or social media. A review of the platform should be conducted to determine the ideal way forward, then a renewal of the site's content should occur, with a focus on usability and searchability. The content management system should also be renewed to ensure easier usability for staff. Finally, the Town should clarify roles and responsibilities for website and social media updates, ensuring processes are suitable for business areas that need to update content during evenings or weekends.

- **Recreation Centre Renovation:** This is a currently planned project to renovate the older recreation centre in the Town. This renovation provides IT an opportunity to provide input and ensure that the renovation project can address the current network and internet challenges that have occurred at the facility, which were largely caused by the structure of the facility.

Town Operations and Governance

The focus is on shorter- term initiatives to improve internal Town operations and the governance bodies that support its work, most notably project governance and data/information governance. These initiatives are over and above normal continuous improvement work. These projects mostly scored quite highly as they have limited cost, and are relatively quick to implement. Major projects are:

- **Project Governance**: An initiative to formalize project management roles, responsibilities, processes and approach for technology projects. Improved project governance will ensure thorough requirements gathering for technology projects by involving IT and business areas. Project governance will also involve formalized tracking and reporting of technology projects.
- **Project Management**: Proper project management disciplines will be extremely important moving forward for the Town, given the large number of upcoming projects and recent challenges. Implementing and utilizing formal project management tools and processes and mitigating risk by ensuring that Time, Cost and Scope are tracked and managed properly.
- **Define Organizational KPI's**: A formalization of performance measurement for each business area based on core services and expectation. The performance measures and key performance indicators required to manage department performance should be documented and formalized. Once completed, IT services, support and expectations should be aligned to enable the performance measures of each business area.

Enhance Business Capabilities

This categorization of projects is focused on enhancing existing business capabilities through shorter-term initiatives. This section also includes a number of high-priority business needs to enhance existing functionality. Many of these projects scored highly in the prioritization process, but some scored low but had a high business need. Major projects in this category are:

- **Phase 2 Recreation Management System Implementation**: The Town has made a significant investment in the current version of the Recreation Management Software, and ongoing implementation efforts have expanded the functionality and available and financial integration. A redesigned Town website will provide the opportunity for additional online self-service options to be rolled out to citizens as a phase 2 of the implementation.
- **E-Services Strategy**: Self-service functionality is becoming increasingly sought after by citizens as well as staff within municipalities. The Town should have an organizational strategy for rolling out self-service components via the website or internal portal. The E-service needs of business areas should be considered and can be coordinated with the Website Renewal project.

- **ERP Functionality Review**: The current ERP system is meeting the needs of the Town will likely be an ideal system to expand the capabilities of to meet its changing needs. A comprehensive review of the current functionality as well as functionality which might not be currently enabled in the software should be reviewed, as well as future integrations that need to be in place. A separate, small ERP roadmap should be done so that the system can be more fully utilised. The ease and ability to conduct reporting in the system should also be examined.

- **GIS Strategy**: There a strong increase for expanded GIS functionality and access across the organization as a key information repository and source of business knowledge. A GIS strategy should be developed to determine the Town's ability to meet this demand, should formalize a platform roadmap, and should determine where in the organization GIS should be placed.

Implement New Capabilities

These are medium and longer-term initiatives that introduce new business capabilities into the Town, including a focus on new system implementations and an opportunity for significant levels of new electronic citizen service delivery.

- **Cloud Strategy**: Many applications are being deployed into the Cloud. The Town should identify their requirements and strategy for dealing with this as an organization. This strategy will help guide them through the decision process when deciding on cloud versus on-premise solutions. Security and integration challenges should be considered for each area. The standards for cloud computing should be incorporated into the Town's Enterprise Architecture.

- **Open Data Strategy**: Municipalities are increasingly being asked to provide open datasets so that the data can be used in making decisions for a region or province. The strategy should examine the current regional efforts with Calgary, and should determine if additional internal capacity needs to be developed for Open Data in the future.

- **GPS/AVL Strategy**: A medium-term initiative involves reviewing the current needs and to define a future corporate strategy for GPS/AVL technologies. While some technology is in place in Public Works, the initiative will define corporate need and use of GPS technology. The initiative should include efforts for business area involvement and training to conduct ongoing data analysis and policy renewal based on GPS/AVL data

- **Business Intelligence & Analytics**: Having a repository of information which can be considered the "Source of Truth" for the Town will become increasingly important as the town grows. Right now, there are many disparate systems and amalgamating the data is a very labour-intensive process. Having a Business Intelligence area will speed up the information searching and will also support the reporting against KPI's for the organization. Business Intelligence will also provide the Town with richer reporting and analytics for better data-driven management and true predictive analytics capabilities. A strategy will outline the key tools, skills and data management processes required to build business intelligence and analytic capacity in the organization.

3.3 FOUNDATIONAL IT PROJECTS

While the focus of the Town's IT capabilities is to improve project delivery and business area analysis, there are a number of operational IT activities still in need of improvement, or formalization. The following roadmap shows the IT operational work required over the next five years.

Foundational IT Operational Project Descriptions

Review Service Levels with Vendors: Review all existing Service Level Agreements that are in place for the various vendors to the Town of Canmore IT systems. Ensure that they are aligned with expectations of The Town and include adequate vendor support for business areas.

IT Policy and Procedure Review: The Town should review existing policies regarding the acceptable use and also the deployment of technologies, including devices to staff. The review should include documenting internal operational processes and policies, guidelines & service standards. Currently many of these policies and standards are informally known, but may lack formality and consistency.

Business Architecture & Standards: An initiative to identify the major business areas and their relationships with one another. The initiative will also focus on data, examingin the major business objects within each business area, how these objects relate to one another, and how each object is virtually represented in terms of data. These standards will also help IT focus and make sure that the architecture supports the current organization as well as any future organizational changes.

Enterprise Architecture & Standards: An initiative to define the hardware and software technology standards based on the Town's overall operating environment. These standards will help drive decisions as it relates to any further software/hardware acquisitions for the Town. These standards are fairly well understood by IT, but should be formalized with business areas to ensure corporate understanding of the technology environment.

Define & Refine IT Organizational KPI's: Define the criteria that will be used to track the Key Performance Indicators so that IT can manage organizational expectations. These KPI's will be around more focused on business area service delivery and project execution, due to the groups handle on operational KPI's. It should also be tied to the SLA's that it has with the various business units.

Define SLA's with Business Areas: It is important that IT understand what it is being help accountable to by each of the business units. These service level agreements will be negotiated with the departments and KPI's defined so that IT can measure their effectiveness.

Bandwidth & Network Assessment: Network and internet reliability is critical to supporting Town operations, but also to support the expansion of future IT technology functions as new projects are rolled out. The current state of internet and network infrastructure is well known, however an assessment should be conducted to determine the future needs of each business area, and should include considerations for enhanced wireless solutions and community infrastructure.

3.4 BUSINESS TRANSFORMATION & CHANGE MANAGEMENT

The IT Roadmap that is being proposed will introduce a significant level of change to the organization, largely in terms of business process change to ensure standard practices are implemented in concert with the new technologies, and that these practices are optimized in order to get the full value out of the IT investments being proposed. In this regard, Business Transformation and Change Management should be part of each initiative the Town undertakes, and is costed into our project scoring.

Business transformation is achieved by one or more of:

- Realigning the way staff work,
- Realigning how the organisation is structured,
- Changing the service portfolio of the business, and
- Changing how technology is used.

Typically, organizations go through several stages in transforming themselves.

The business transformation program should have the following elements:

- Agreeing what form the change should take, the objectives of the change and a vision that describes the target state;
- Understanding what the organization is changing from and what needs to change in detail;
- Designing the new organizational way of working and its support and management;
- Testing and implementing changes, usually as part of the new technologies or applications being implemented; and
- Reinforcing the change so that the organization continually moves forward to its target state and does not slip back to how it was.

Change Management (CM) involves having an approach to transitioning the Town's staff and stakeholders to the new technologies and processes that will be implemented through the IT roadmap. Change management considers the full organization and what needs to change, it addresses:

- Gaining consensus amongst stakeholders that change is necessary;
- Communications about upcoming changes to build awareness, tailored to specific stakeholder groups based om impact etc.; and
- Training of end users and those affected by the upcoming IT deployment.

Implementation Advice

More detailed planning should be conducted during each business planning cycle to determine timelines and resource requirements for each upcoming project. In addition to this more detailed planning, the following implementation considerations should be addressed:

- **Project governance**: The Town should work towards implementation of Project Management practices early in the planning process, ensure Information Systems is involved in requirements gathering, and adhere to leading project management principles to manage budgets, timelines, and outcomes
- **Attain Senior Management commitment as sponsor/champion**: Project buy-in from senior management will ensure projects are properly resourced, supported and provided with adequate decision-making ability. SLT buy-in will highlight to staff that the technology projects have priority and will signal a need for project involvement.
- **Remove "stop the presses, council has a question/request"**: Emergent issues currently impact the progress and momentum of projects. The Town needs to manage council requests in a manner that does not impact project momentum
- **Stakeholder engagement**: Involvement of all stakeholders for technology projects should occur early in the planning process. It is critical that IT and business areas all have adequate time to plan the efforts required to deliver on technology projects.
- **Communication from start to finish/cancelation**: Strong communication on technology projects will ensure all stakeholders, management and council have the information they need on project status, expected outcomes, and any major issues. Communication should be tailored to each stakeholder as defined in the project management and change management approach.
- **Adhere to the project prioritization**: It is important to commit to planned projects in their respective order. This order may change on an annual basis, but emergent projects that are unplanned have significant impacts on planned project resourcing and progress.