



# Asset Management Improvement Program Handover May 2016

TO:	ToPH Responsible Asset Management Custodian
DEVELOPED:	Aaron Patterson, Asset Manager
DIVISION:	Works & Services
LOCATION:	Depot
DATE:	30 May 2016
SYNERGY REFERENCE:	[xxxxxxxxxx]
PROJECT SPONSOR:	Work & Services Director; Brendan Smith

## **1.0 EXECUTIVE SUMMARY**

This handover document details the core essential requirements for managing and executing the Town of Port Hedland (ToPH) Asset Management Improvement Program (AMIP) and general asset management responsibilities. Since there is no current staff managing these activities in a delivery or technical function that is a real and apparent risk to the organisation that the AMIP will stall and general asset management, functions will not function.

## 2.0 PURPOSE

The purpose of this document is to handover the Asset Management Improvement Program and key asset management responsibilities and functions of the Town of Port Hedland (ToPH) to the authorised custodian. Since at the time of writing this document there is not an assigned ToPH asset manager nor asset engineer these responsible are held in custody of the Works & Service Director.

This document provides asset management background, risks, programs, activities lists, systems, support reference material and documents with locations.

## 2.0 BACKGROUND

The Town of Port Hedland commenced development of a strategic Asset Management Improvement Program (AMIP) in March 2016. The AMIP is essentially to a two (2) year focussed implementation project plan with prioritised scheduled tasks that are resources, costed and deliverables are timeline. The purpose of the AMIP is to improve the Town's core abilities in managing its assets for financial sustainability. The Town's asset management maturity's has been measured via the National Assessment Framework (NAF) and is well below the national average. The NAF measures maturity in alignment to the Department of Local Government and Communities Integrated Planning Reporting Framework. Refer to Figure 1.



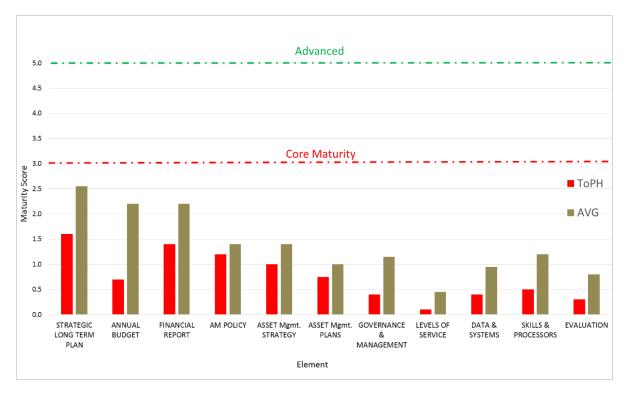


Figure 1. Town of Port Hedland Asset Management Maturity National Assessment Framework

The current exposed risk events to the organisation are:

- 1. The Town is losing in excess to \$7m pa in perpetuity poor asset management resulting in higher annual costs in maintenance, administration and capital renewal costs
- 2. It is possible that an asset catastrophic failure could occur that may result in a catastrophic injury to member(s) of the community

It is vital for the Town to commits to the asset management improvement journey in doing to these risks will be significantly reduced and translate to cost benefits in excess of \$7m pa in perpetuity.

The Town scored an overall average score is 15% compared which is well below the national average of 28% of scored participants.

#### 3.0 RISKS

#### 3.1 ASSET MANAGEMENT RISK

Asset Management Risk due to low maturity have been measured in accordance to the Town's corporate level risk matrix. Refer to Table 1: ToPH Asset Management Risk Assessment Summary.



Risk No	Risk Event	Likelihood	Dominant Consequence(s) - Catastrophic	Current Risk Score	Target Risk Score
1	Asset mismanagement	Almost certain	<ul> <li>* Financial: Losing &gt;\$7m pa,</li> <li>* Reputation: Significant strain on stakeholder relations and adverse community standing, state media coverage</li> </ul>	20	15
2	Asset catastrophic failure	Possible	<ul> <li>* Political: Coronial inquiry / royal commission</li> <li>* Safety: Fatality or permanent loss injury</li> <li>* Financial: Losing &gt;\$7m pa, reputation</li> <li>* Business Continuity: unplanned outage for more than 3 days</li> <li>* Reputation: Significant strain on stakeholder relations and adverse community standing, state media coverage</li> </ul>	15	10

Table 1. Town of Port Hedland Asset Management Maturity National Assessment Framework

The causation factors for both these events are the same:

- i. Failure to effectively manage assets
- ii. Ineffective asset management system
- iii. Failure to fund renewals
- iv. Failure to effectively maintain assets
- v. Unrealised asset ownership
- vi. Specification / design non compliance

Whilst the Town has a number of current controls to mitigate these risks these are only partially effectively. The only way to mitigate these risk is by improving controls through improved asset management. Please refer to the Asset Management Risk Assessment for additional details.

## 3.2 SPECIFIC ASSET MANAGEMENT IMPROVEMENT PROGRAM RISKS

Due the inherent nature and complexity of the AMIP there are a number of risks that can impede on the success of the delivery. These specific risks to the AMIP are:

- i. **Project commitment:** if there is no commitment to the AMIP the program may be stalled or may not be resumed
- ii. **Available resources:** is critical that resources are made available and managed effectively. The asset management plan requires adequate funding and the required human resources. Tight budget constraints, high staff turnover, and adequately skilled staff all pose changes. Failing to have adequate resources will disable the ability to of the team to effectively execute



- iii. **Internal appetite for change:** if change management is not carefully managed there may be no internal buy in, support or appetite
- iv. **Knowledge & skills:** if AIMP is not resources with personal with adequate skills or knowledge then deliverables are likely to be delayed and or with quality reduced
- v. **Communication:** the AMIP requires an Asset Management Working Group (AMWG) of technical asset custodians and an Asset Management Leadership Group (AMLG) with executives for cross interdepartmental communication, synergy and fostered collaboration for asset management change management.
- vi. **Fighting fire mentality:** asset management focussing on reactive works rather long term strategic benefits will be hijacked off the AMIP.
- vii. **Non prioritised or improperly staged sub programs**: Value engineering must be applied with a "bang for buck" emphasis with long term maximum benefit in alignment to leveraging as platform with subsequent tasks.
- viii. **Deliverable must drive real tangle outputs:** it is a real risk that if the AMIP is outsourced that "boiler plate" asset management plans for example are published that do not actually drive any real outputs.
- ix. **ToPH Knowledge Loss:** in the recent organisation restructure / re-alignment of 27<sup>th</sup> of May 2016 there are no staff are currently employed in asset management and now no current knowledge is retained in the business this poses a real risk in that continuity is likely to be lost in asset management resulting in a steep le4raning curve for any subsequent asset management personnel.
- x. **Project Constraints:** There are a number of critical path constraint activities that are the responsibilities of other team and departments or at the very least require sign off and engaged input from stakeholders. Managing these items may be difficult and if they are not delivered they will impede some sub projects of the AMIP. Examples of some identified constraint include:
  - a. Service charter
  - b. Asset roles responsibilities and accountabilities
  - c. Poor Governance controls including clear ownership and responsibilities and organisation accountabilities
  - d. Levels of Service
  - e. Intervention levels and Service Targets Manual and compliance
  - f. GIS interface and functionality
  - g. Timesheet interfaces
  - h. Schedules, treatments and tactics, inspections
  - i. Standards work orders (processors procedures)
  - j. System linkages and capabilities; The business enterprise system and the interwoven siloed systems that the ToPH is currently using
  - k. Chart of Accounts
- xi. **Project Constraints:** There are a number of critical path constraint activities that are the responsibilities of other team and departments or at the very least require sign off and engaged input from stakeholders. Managing these items may be difficult and if they are not delivered they will impede some sub projects
- xii. Asset Management Systems: Often referred to as computerised maintained management systems or work management systems are the interwoven information systems that effectively functional the asset management system. The Systems must have accurate data, be interwoven with linkages and be able to serve the asset management functions that are needed. Current systems include



RAMM, Intramaps GIS, Mydata, Synergy and excel. The area is targeted specifically for significant improvement to enable;

- a. Customer service raising works requests
- b. Works scheduling and dispatching
- c. Asset failure and defects management
- d. Renewal management
- e. Job ticketing with procedures
- f. Asset register, and condition management
- g. Asset accounting and revaluations
- h. Geo spatial asset data available to all staff
- i. Mobile inspections, mobile requests

The Town cannot effectively manage its asset without proper functional asset management system. Refer Appendix 4 Asset Management System Function Analysis.

xiii. Effective Decision Making at Council Level; Council must be well informed, educated and understanding asset management term of long term financial planning so that decisions are made in awareness to the long term impacts and not made in isolation.
 It councillors do not understand the importance in asset management resources (money) may not be appropriately applied.

- xiv. **Levels of Service**; In simple terms assets are linked to levels of service. Without formal documented levels of service the Town does not know to what level to manage its assets
- xv. **Executive Strategic Direction:** The Executive Leadership Team must lead strategic direction and own the journey in asset management improvement. The Executive Leadership Team are a critical to the success for stakeholder engagement and organisational asset management change management.
- xvi. **Financial Sustainability:** It is vital that financial sustainability and modelling is achieved so that long term financial planning can be obtained for maintenance and renewal budgeting so that resources are made available, money is not wasted and necessary works are completed.
- xvii. Asset must be safe: It is critical that assets are maintained so that assets provide a safe service to the public. Failing to do so could cause injury or death with subsequent investigations and public relations damaging to the ToPH image.

## 4.0 CURRENT PROGRESS

The Town has made significant progress in asset management in the last three (3) months. Refer to Table 2: Asset Management Improvement Program Progress



OUR OBJECTIVES	ACHIEVEMENT	COMPLETE
1. Develop AMIP	1.1. Develop 2 Year Asset Management Improvement Project Plan and Budget	~
2. Develop Capital Works	2.1. Develop a forward planned Capital Works Priority List	✓
Priority List	2.2. Develop Capital Budget for Fy16-17	✓
	2.3. Develop Renewals Budget for Fy16-17	✓
3. Analyse City Assets	3.1. Determine Data Level of Confidence	~
	3.2. Analyse and Modell Asset Financials	~
4. Risk Assessment	4.1. Complete corporate risk assessment for asset management	✓
5. Establish Asset	5.1. Measured Asset Management Maturity (ACELG NAF)	√
Management Core Performance	5.2. Capital and Renewal Expenditure Analysis	~
	5.3. Renewal Backlog Analysis	✓
	5.4. Asset Financials - Long Term Financial Plan Analysis	✓
6. Condition Assessments	6.1. Sealed roads for 230km sealed, 459km unsealed roads	✓
	6.2. Open drain 580 km and Kerb 280km	✓
	6.3. 1450 Road Defects identified with GIS locations for maintenance planning	~
	6.4. 43 Buildings inspections with 380 Defects identified maintenance planning	✓
	6.5. Sample audits on playgrounds	✓
	6.6. Sample audits on footpaths	✓
	6.7. Level 1 Bridge Inspections (MRWA)	✓
7. Maintenance	7.1. Unsealed roads	✓
Scheduling	7.2. Buildings	✓
8. Inspection Templates	8.1. Developed Tem unsealed roads	✓
	8.2. Developed for footpath and accessibility	✓
9. Ownership	9.1. Draft Asset Management Responsibility Matrix	✓
10. Knowledge & Skills	10.1. Developed and Published Training Matrix	✓
11. Engineering	11.1. Marque Park	✓
investigations	11.2. 22 x Structures	✓
	11.3. Stadium HVAC	✓
12. Asset Management	12.1. Develop Order of Magnitude of Project	✓
System	12.2. Preliminary Product Research	✓
	12.3. Project Risk Assessment and Constraint Identification	✓

Refer to Table 2: Asset Management Improvement Program Progress



## 5.0 AMIP BUDGET REQUIREMENTS

The operational budget for the AMIP including business as usual actives are listed in Table 2: Asset Management Budget Submission.

Asset Management Operational Budget Fy16 - 17				
Category	ltem	Cost		
Employee Expenses	Asset Engineer	\$100,000		
Employee Expenses	Asset Engineer	\$100,000		
Employee Expenses	Graduate Engineer	\$70,000		
Employee Expenses	Asset Manager	\$165,000		
Employee Expenses	Asset Senior Engineer	\$140,000		
Consultancy Services	Asset Management Consultant	\$230,000		
Training	Various	\$45,000		
Tools & Materials	Various	\$20,000		
Software Systems		\$65,000		
TOTAL		\$935,000		

Table 3: Asset Management Budget Submission.

## 6.0 AMIP LONGTERM GOAL

It is forecasted that with an investment of \$1m pa it will take five (5) years to obtain the ACELG NAF core maturity. Refer to Table 4 as follows.

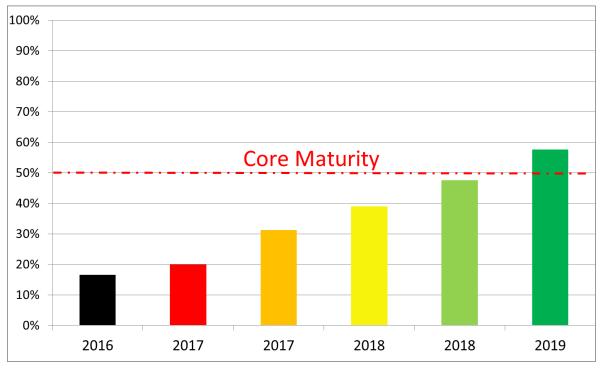


Table 4. Asset Management Improvement Forecast



## 7.0 ASSET MANAGEMENT MATURITY AND AREAS FOR IMPROVEMENT

Asset management maturity has been calculated via the ACELG NAF with Table 5 below being tabulated. These elements with sub components are scored as either; not started, in progress, well progressed and advanced. This status check effectively provides a gap analysis on where the ToPH needs to improve that can be subsequently programmed for improvement.

ELEMENT	SUBCOMPONENTS	STATUS
Asset Data Management	<ul> <li>Asset register: consolidated, integrated, accurate, up to date and complete componentised annually revised with disposals and acquisitions</li> </ul>	In progress
	<ul> <li>Asset Hierarchy integrated for all asset groups applied across all systems</li> </ul>	<ul> <li>In progress</li> </ul>
	<ul> <li>Asset Condition Data: accurate, up to date and complete componentised</li> </ul>	<ul> <li>In progress</li> </ul>
	<ul> <li>Asset Data Availability: available to operations, design and planning staff across services areas when planning and undertaking works.</li> </ul>	In progress
	<ul> <li>Asset Performance Management: Data is available and accessible to enable performance measurement and reporting against Key Performance Indicators used to measure levels of service.</li> </ul>	<ul> <li>Not started</li> </ul>
	<ul> <li>Data enable Projections / Modelling: allow projections which inform a range of service provision scenarios and costs.</li> </ul>	<ul> <li>Not started</li> </ul>
Asset Management Systems	<ul> <li>Asset Management System Integration: integrated with other corporate knowledge systems such as the finance, GIS and property information systems.</li> </ul>	In progress
	<ul> <li>Maintenance Programs: asset management systems can functionally generate</li> </ul>	<ul> <li>In progress</li> </ul>
	Renewal Programs: asset management systems can functionally generate	In progress
	<ul> <li>Asset Management Systems Data Operations: systems and processors are in place where data is automatically updated from works done in field</li> </ul>	In progress
	<ul> <li>Asset Management System Drives Maintenance Schedules:</li> </ul>	<ul> <li>Not started</li> </ul>
	Asset Management System is generates Standard Work Orders	<ul> <li>Not started</li> </ul>
Controls	<ul> <li>Asset Management Maturity: measured and benchmarked</li> </ul>	<ul> <li>Advanced</li> </ul>
	<ul> <li>Asset Rates: Documented and applied unit rates, design lives, residuals</li> </ul>	<ul> <li>In progress</li> </ul>
	Team Meeting: Formal minuted and regular scheduled meetings	<ul> <li>In progress</li> </ul>
	<ul> <li>Management Reporting: formal meetings and progress reporting</li> </ul>	<ul> <li>Advanced</li> </ul>
	Director Reporting: formal meetings and progress reporting	In progress
	• External Government Reporting: submitting annual accurate and timely reporting to WALG, LGA, ACLG and other agencies	Advanced



ELEMENT	SUBCOMPONENTS	STATUS			
	<ul> <li>Asset Management Improvement Program: well defined, project planned, resourced and budgeted 2 year asset management plan aligned to executive direction</li> </ul>	Advanced			
	<ul> <li>Key Performance Indicators: a performance assessment of progress towards achieving the goals and strategic objectives of the Strategic Longer Term Plan</li> </ul>				
	• State of the Assets Report: includes a statement on "State of the Assets" and the financial sustainability of services provided by its infrastructure assets including any proposed adjustment to services/assets to address issues and risk as they arise.	Not started			
	Asset Criticality List: formal council endorsed asset management criticality list with contingency plans	Not started			
	Asset Issues Register: formal register that lists known asset defects and issues	Not started			
Framework	<ul> <li>Policy: Council has an adopted up to date advanced Asset Management Policy defining the Council's vision and service delivery objectives for AM</li> </ul>	In progress			
	<ul> <li>Asset Management Business Plan: up to date detailed plan</li> </ul>	<ul> <li>Not started</li> </ul>			
	<ul> <li>Asset Management Strategy: Council has an adopted up to date advanced Asset Management Strategy defining the Council's vision and service delivery objectives for AM</li> </ul>	In progress			
	<ul> <li>Asset Management Plans: up to date detailed AMP for each asset class containing 2yr focussed implementation plans and 20 years modelling and defined Levels of Service</li> </ul>	<ul> <li>Not started / In progress</li> </ul>			
	<ul> <li>Asset Management Leadership Team and Asset Management Working Group: establish the groups with cross functional representation and clearly defined and documented terms of reference, focussed on coordinating the linkages between service delivery and asset management implementation. Council involves all its departments in Asset Management.</li> </ul>	In progress			
Processors	Asset Handover Process	Well developed			
	Asset Disposal Process	<ul> <li>Not started</li> </ul>			
	<ul> <li>Asset Management Responsibilities: Council has a process to identify operational risks, assign responsibilities and monitor risk treatment actions all recorded within a risk register.</li> </ul>	In progress			
	<ul> <li>Asset Management Process Calendar: an annual calendrer that timelines, high level activities and their timings</li> </ul>	Not started			
Asset Financial Management	<ul> <li>Asset Valuations &amp; Revaluations: annual publication of asset valuation data, CRC,FV, Dep for all assets with high level of confidence</li> </ul>	In progress			
	<ul> <li>Long Term Asset Financial Modelling: annual publication of asset financial modelling; CRC,FV, Dep, renewal budget demand, maintenance budget demand, age profiling, with high level of confidence</li> </ul>	Well developed			



ELEMENT	SUBCOMPONENTS	STATUS	
	<ul> <li>Asset Financial Ratio Modelling: analysis, modelling and publishing key asset financial and performance ratios</li> </ul>	<ul> <li>Not started</li> </ul>	
Asset Engineering	<ul> <li>Asset Engineering Investigations: responding to work requests for asset investigations</li> </ul>	Well developed	
	<ul> <li>Root Cause Analysis: asset failure investigations in identifying underlying causes and developing improvement opportunities</li> </ul>	<ul> <li>In progress</li> </ul>	
	<ul> <li>Asset Risk Analysis: documenting and reporting asset risks and publishing to management and director</li> </ul>	<ul> <li>Not started</li> </ul>	
	<ul> <li>Life Cycle Analysis: analysing asset condition and life cycle trends to enable establishing useful lives, condition, risk, tactics and strategies</li> </ul>	Not started	
	<ul> <li>Maintenance Tactics Development: implementing the principles of Reliability Centred Management (RCM) and Failure Mode and Effects and Criticality Analysis (FEMCA)</li> </ul>	<ul> <li>Not started</li> </ul>	
	• Total Cost of Ownership Analysis: analysing and establishing asset costs of the life of the asset or all assets	Not started	
Asset Skills & Knowledge	<ul> <li>Asset Management Team Training: annual training programs are developed and implemented</li> </ul>	In progress	
	<ul> <li>Internal Stakeholder Asset Management Training / Knowledge Transfer: annual training</li> </ul>	In progress	
	<ul> <li>Councillor Stakeholder Asset Management Training / Knowledge Transfer: annual training</li> </ul>	In progress	

Table 5. Asset Management Maturity Gap Analysis

## 8.0 ASSET MANAGEMENT IMPROVEMENT PROGRAM

The AMIP currently has 53 sub programs prioritised scheduled from starting March 2016 ending in June 2018. Refer to Figure 3 for AMIP Summary and Table 6: AMIP Legend as follows.

Ghent Chart Legend			
Item	Meaning		
$\odot$	Project On track		
	Project delayed at risk monitor		
Project in late, critical needs realignment			
Table 6: AMIP Legend.			

It is important that a fully detailed project plan is not yet developed that identities all task steps and critical paths with assigned resource allocation. The 'flag ship' project within the AMIP is the Asset Management System Project, this is denoted as yellow in the AMIP in Figure 3. In addition to the high level program summary there is Asset Management Action List with ninety five (95) priorities actionable items. In this list is a number of immediate required actionable items. The asset management journey is illustrated in Figure 4.



Project Business As Usual	Breif	
Measure Asset Mgmt Maturity	Annually measure asset mgmt maturity via NAMS & ACELG	AP
		AP
Asset Mgmt Improvement Program	Develop improvement program, management and project controls Reporting as needed WALGA, ALGA, LGA, MRWA, Grants Commission	AP
Government Reporting		
Capital Budget Development	Develop New/ Upgrade and Renewal Budgets of nxt FY	AP
Opex Budget Development	Develop AM Opex budget & tech support maintence budget	AP
Asset Revalations and Revsions Financi	a Update & revise asset financials, CRC, FV, Dep, Residuals, DL, RUL	AP
Asset Reconciliations	Reconciling acquisitions and disposals	AT
Asset Long Term Finacial Modelling	Ensure the LTFP includes AM projections & and ratio targets	AP
Reactive (15%)	Random Reactive works, work requests, ELT requests, other unplanned	AP
Major Projects		
Range & Level of Service Review	Technical Support for Range & Levels of Service	SB
Wedgefeild Asset Management Plan	Develop a long term plan	DV
Framework	Develop a rong term plan	50
		-
Asset Accounting Definitions	Asset Accounting Definitions incorporate into Chart of Accounts	AP
Asset Mgmt Team Resources	Establish Asset Mgmt Team & Aquire all Resources	AP
Asset Mgmt Leadership Team	Establish Asset Mgmt Leadership Team	AP
Asset Mgmt Working Group	Establish Asset Mgmt Working Group	AP
Asset Responsibility Matrix	Establish asset responsibilties across organisation	AB
Asset Mgmt Policy	Update Policy to meet core requirements (NAMF)	AP
Asset Management Business Plan	Develop a Asset Manangement Business Plan	AP
State of the Assets	Publish State of the Assets Report	AP
1	(Linked to LOS)	AP
Service Targets Manual		AP
Asset Mgmt Strategy	Update AM Strategy to meet core requirements (NAMF)	AP
Processes, Systems & Controls		-
Capital Works Asset Review Process	Develop a process to technically review all designs & capex projects	AP
Asset Handover Process	Develop a process for asset to be handover to the ToPH	AP
Drawing Investigation Sample Audit	Publish preliminary drawings	AP
Skills & Knowledge		
Training Matrix for AM Team	Develop Training Matrix ofr AM Team	AP
Asset Mgmt Team Training	Team Training and mentoring including, purchasing of tools & manuals	AP
		AP
Asset Mgmt ELT Training	Deliver asset mgmt fundementals workshop training to ELT	
Asset Mgmt Councillor Training	Deliver asset mgmt fundementals workshop training to ELT	AP
Asset Mgmt Primary Stakholder Train	Deliver asset mgmt fundementals workshop to key stakeholders (depot)	AP
Condition Audits		
Unsealed Roads (OPUS) 410km	Full methodical condition audits, incl table drains, PCI, floodways	AP
Sealed Roads (OPUS) 230km	Full methodical condition audits, incl SCI, PCI intersection and kerbs	AP
Drainage (Culverts) Sample Audit	Manage high Risk, potential catastrophic failure	AP
Playgrounds (22)	Audit play grounds; High risk, non compliances	AP
Carparks (30)	Full methodical condition audits, incl SCI, PCI and kerbs	
Buildings (140)	Preliminary Budilings Audits then comprehensive	AP
Bridges (5)	Conduct Level 1 Inspections	AP
Paths (110km)	Full methodical condition audits of entire Path Network	AP
Marine Assets	High Level risks and ascope analysis	AP
Parks (all assets incl lighting)	Preliminary Sample Audits	AP
Waste	Preliminary Sample Audits	AP
Road Safety Audit - Wedgefeild	Feed into Row 26 (moved to CAPEX planning)	AP
High Level Drainage Investigation	Drawings, GIS layering, condtion rating and surveying	AP
Data & Systems	statings, distayering, conductin rating and surveying	
Data Investigation	Determine data level of confidence	AP
GIS Asset Layering	Geographical Positioning all assets into GIS	AP
Updating Assets Register (Mydata)	Maintain and Improve Asset Data up uploading into Mydata	AP
	Run MyPredictor Renewal Modelling	AP
MyPredictor Renewals Modelling	Commence a Mydata Works Model Pilot Program (buildings)	AP
	commence a wydata works woder Priot Program (bundlings)	Ar
Asset Management System		
Asset Management System Asset Plans	Develop a Backs Asset Ment Blan	
Asset Management System Asset Plans Parks Asset Mgmt Plan	Develop a Parks Asset Mgmt Plan	AP
Asset Plans Parks Asset Mgmt Plan Drainage Asset Mgmt Plan	Develop a Drainage Asset Mgmt Plan	AP
Asset Management System Asset Plans Parks Asset Mgmt Plan		

Works & Services – Asset Management Improvement Program Handover



				Don't just fix it, improve it	Improve it & sustain
Performance Measures	Fix it AFTER it fails Reactive Defer Maintenance	Fix it BEFORE it fails Planned Plan Schedule Coordinate	Measure it & fix it Predictive Predict Plan Schedule Coordinate	Reliability Eliminate Defects Improve Precision Redesign Value Focus	Enterprise Alignment (shared vision) Integration (Supply, Operations, Engineering) Differentiation (System Performance) Alliances
CMMS Functionality & Utilization	CMMS PM Management	CMMS Planning & Inventory Management	CMMS Scheduling & Robust Reporting	CMMS Automated Work Generation	CMMS Lifecycle Cost Tracking
Inventory Management	Limited Inventory Control	Basic Inventory Management	Cycle Counts & Inventory Turns	Point of Use Storage	Inventory Lifecycle Management
Metrics & Performance Improvement	Minimal Performance Tracking	Lagging Indicators	Leading & Lagging Indicators	Continuous Improvement Efforts	Organizational Metrics Aligned
Maintenance & Reliability Strategy	Limited PM Effectiveness	Asset Criticality Ranking	Predictive Technologies	PM Optimization	Total Productive Maintenance
Organizational Readiness	"Fire Fighting" Heroes	Overlapping Responsibilities	Senior Facility Leadership Involvement	Documented Senior Staff Knowledge	Master Plan Implementation
Planning & Scheduling	Planning on the Fly	Planning Materials	Kitting Materials & Scheduling Technicians	Detailed CM Job Plans	Proactive Planning & Scheduling
Work Management	Limited Work Management	Effective Work Request Review & Approval	Process Management System Utilization	Monitoring Technician Work Execution	Optimized Work Package Quality

Works & Services – Asset Management Improvement Program Handover



## 9.0 ASSET MANAGEMENT SYSTEM PROJECT

The ToPH currently has numerous systems being used to manage assets and asset information, and in some cases ad-hoc approaches to systems (excel, etc.) are being utilised. These systems are being used across the various asset lifecycle stages, which include the planning for, maintaining, renewal, upgrading and operation of assets.

Some of the challenges and issues the Town faces as a result of numerous systems include:

- a. Quality and control of information.
- b. Completeness and centralisation of information
- c. Integration of information
- d. Time inefficacies and double handling
- e. Capability limitations associated with reporting, modelling, asset information, etc.
- f. Information maintenance/upkeep
- g. Supporting process surrounding systems

The Asset Management System Project has previously stated is the 'flagship project' that will successfully connect asset management with strategy, tactics, and scheduling, geographical information systems, with resources, maintenance staff, works requests and accounting.

The project introduces systemic change in a way never previously seen in the ToPH and will provide a modern effective and efficient computerised maintenance management system for managing assets. The project will enable:

- i. A consolidated, integrated, accurate, up to date and complete componentised asset register with the required functionality to ensure security and data integrity, which includes all information about each asset sorted by asset group.
  - a. Improved data quality and access
  - b. Asset Hierarchy
  - c. Centralised asset information
  - d. Integrated asset information systems (refer to figure 1)
  - e. Documented and planned data framework used across all asset groups
  - f. Asset data is available to operations, design and planning staff across services areas when planning and undertaking works.
  - g. Asset Management systems have risk management functionality available to predict criticality of assets, record risk assessments, risk treatment, treatment costs and residual risk.
  - h. Records the results of asset condition surveys and defect assessments against individual assets
  - i. City's Asset Management system is integrated with other corporate knowledge systems
- ii. Asset management systems have the functionality to generate maintenance and renewal programs
- iii. Asset Financials and accounting
  - a. Accurate asset financials enabling improved planning for sustainability
  - b. Automatic generation of asset valuations including deprecation

- c. Automatic RUL updating
- d. Long Term Financial Plan includes sensitivity analysis and scenario
- e. Automatic capture and creation of asset capex and renewals translated into assets including contributed such as gifted or land developments assets.
- iv. Asset financial accuracy and modelling capability
  - a. The cost of maintenance and operational activities are reported against adopted levels of service.
- v. Improved governance
  - a. Mechanisms to ensure that City resources are used optimally to strategic asset management objectives
  - b. Roles and responsibilities tagged to assets
  - c. Asset hierarchy as a basis for consistent reporting across the organisation.
  - d. Enable effective audit
  - e. Asset failures and causes of failures are recorded and analysed to identify failure trends and asset group rectification strategies.
  - f. City has a process whereby community enquiry and operational response issues are linked to individual assets.
  - g. Quantitative Key Performance Indicators (KPI's) are set for Technical levels of service. KPI's are monitored, measured and reported to the City against time based 'targets'.
- vi. Reduce risk of asset failure
- vii. Asset life cycle management e.g.: creating,
- viii. Capture of asset utilisation and availability
- ix. Asset Management systems are able to predict asset life based on various assessment factors and compare actual against predicted deterioration behaviour.
- x. The City's Asset Management system can generate works orders based on intervention levels and customer requests which are also linked to the asset register. It has the capacity to monitor completion targets and perform facilities management functions.
- xi. Utilising accepted innovative asset management capabilities such as:
  - a. Mobile audit device
  - b. Mobile works requests
  - c. Mobile job closures
- xii. Data is available and accessible to enable performance measurement and reporting against Key Performance Indicators used to measure levels of service.
- xiii. Enable Asset engineering analysis:
  - a. Condition modelling
  - b. Life cycle modelling and optimisation
  - c. Asset financial modelling (asset management expenses represent 75% of current costs)
  - d. Tag service plans to assets
- xiv. Store historic asset data such as works, issues, HSE, expenditure linked to a specific asset
- xv. The City has a process to identify operational risks, assign responsibilities and monitor risk treatment actions all recorded within a risk register.
- xvi. Proactivity improvements in Operational management via a:



- a. Reduce data double handling
- b. A job ticket system
- c. Fully scheduled maintenance programs with uploading of Maintenance Optimisation Project data

## xvii. Increase in asset management maturity

Figure 5 on page 13 displays the primary business functions of the various areas of a typical Local Government Body. When developing the diagram, the focus was on identifying asset management functions. It is not intended to be comprehensive, but to give a general overview, with the focus being on asset management. All of these functions are essential to the day to day operation of the Town, and to the c correct functioning of its administration.





## 10.0 INTERGRATED PLANNING & REPORTING FRAMEWORK

The AMIP is hinged and aligned to the requirements of the Integrated Planning & Reporting Framework. Refer Figure 6. The ToPH has a number of these key strategic documents which are current expired or soon to be expired, hence any changes to these Plans will have effect on the AMIP.

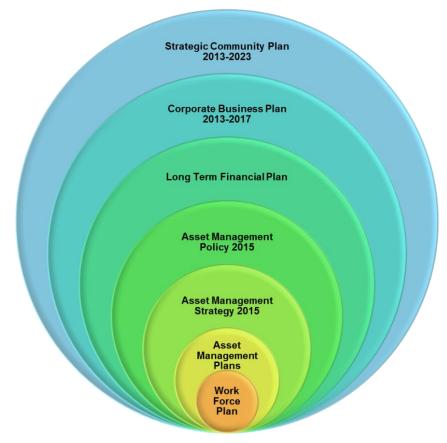


Figure 6: Integrated Planning Reporting Framework

# 11.0 ITEMS THAT REQUIRE URGENT ACTION / CLOSE OUT

The primary file locations for all asset management data are as detailed in table 1.

- i. Confirm allocation of road funding
- ii. Obtain *Talis* Quote and engage for Condition Data Load and Intersection Digitising / Segmentation to complete road condition audits and defect assessments
- iii. Obtain *Technology One* Quote and engage Luke Hancock to upload GIS data into Intramaps.
- iv. Raise purchase order for Road Safety Awareness Training on 10<sup>th</sup> of June 2014
- v. Finalise Capital Budget for Fy16-17 upon receiving Council Budget and Project endorsement
- vi. Obtain all asset handovers for project constructed Fy15-16
- vii. Complete asset management maturity assessment NAF improvement template
- viii. Complete Asset Management Risk Assessment
- ix. Commence Asset Management System Project (gap, and function, and product analysis)
- x. Complete Data Level of Confidence Project
- xi. Obtain endorsement for Asset Management Responsibility / Custodian Matrix
- xii. Analyse work requests



# **12.0 EXTERNAL ORGANISATIONAL REPORTING**

The ToPH is required to submit mandatory asset management external reporting on an annual basis to various bodies. Table 7 contains a list of some of the reporting requirement, but is by no means exhaustive.

ORGANISATION	REQUIREMENT	WHEN
Australian Local Government Association (ALGA)	State of the Assets Report	July to Sept
Western Australia Local Government Association (WALGA)	Road Financial Data	July to Sept
Main Roads Western Australia (MRWA)	Road Network Data	July to Sept
Financial Auditors	Asset Financial Data	March
Regional Roads Group, MRWA	Road Grant Submissions	February
Roads to Recovery	Road Grant Submissions	Post Cyclone
MRWA Direct Grants	Road Grant Submissions	tbc
MRWA Black Spot Program	Road Grant Submissions	December

Table 7: External Organsiational Reporting

## **12.0 INTERNAL ORGANISATIONAL REPORTING**

The asset management team is required to perform the following internal reporting.

STAKEHOLDERS	REQUIREMENT	WHEN
Director Works & Services	AMIP Updates	Monthly
Finance	Asset Financials including revaluations	March
Executive Leadership Team	Capital Work Priority List	March
Executive Leadership Team	Capital (New & Upgrade)Budget Submission	March
Executive Leadership Team	Renewal Budget Submission	March
Director Works & Services	Asset Management Operational Budget	March
Finance	Asset Capitalisations	March
Executive Leadership Team	Annual State of the Assets Report	December
Executive Leadership Team	Integrated Planning Framework Documents (Asset Management Plans, Policy, Strategy,)	As per AMIP
Director Works & Services	Annual Condition Assessment	As per AMIP
Works & Services Supervisors	Handover asset condition data for maintenance tactic development	As per AMIP
Finance	Asset Financial Modelling for Long Term Financial Plan	

Table 8: Internal Organsiational Reporting



## **13.0 REACTIVE WORKS**

Due to the ToPH low asset management maturity, reactive work request can be demanding and can come from various internal stakeholders. Examples of some reactive works include:

- i. Technical peer reviews of concept and detailed design
- ii. Technical peer reviews of land development applications
- iii. Asset engineering investigations including;
  - a. Root cause analysis
  - b. Asset handover inspections
  - c. Asset condition inspections
  - d. Asset compliance, risk and safety inspections
- iv. Technical master planning project ideations
- v. Providing Net Present Value Total Costs of Ownership Analyses for Project Business Cases
- vi. Reviewing technical reports and submissions
- vii. Technical asset engineering; failure mode, effects and criticality analysis
- viii. Asset GIS validation and analysis
- ix. Technical maintenance scheduling

## **14.0 REFERENCES**

The primary file locations for all asset management data are as detailed in Table 9.

DOCUMENT	FILE / FOLDER NAME	FILE LOCATION	FILE	FOLDER
Parent File: Asset Management Improvement Program	Asset Management Improvement Program	H:\Corporate_Services\Asset Management Working Group (sb)\Asset Management Improvement Fy15-16\Asset Management Improvement Program		V
Parent File: Asset Management	Asset Management Working Group (sb)	H:\Corporate_Services\Asset Management Working Group (sb)\Asset Management Improvement Fy15-16\Asset Management Improvement Program		V
Asset Management Improvement Program	Asset Management Improvement Program Summary 2yr +Budget AP.xls	H:\Corporate Services\Asset Management Working Group (sb)\Asset Management Improvement Fy15-16\Asset Management Improvement Program	V	
Asset Management Task List	Asset Management Task List AP 30.05.2016 v01	H:\Corporate Services\Asset Management Working Group (sb)\Asset Management Improvement	Ŋ	



DOCUMENT	FILE / FOLDER NAME	FILE LOCATION	FILE	FOLDER
		<u>Fy15-16\Asset Management</u> <u>Improvement</u> <u>Program\Asset Management</u> <u>Task List</u>		
Asset Management Maturity	Asset Management Maturity	H:\Corporate Services\Asset Management Working Group (sb)\Asset Management Improvement Fy15-16\AM Maturity		V
Asset Management Risk Assessment	Asset Management Risk Assessment	H:\Corporate_Services\Asset Management Working Group (sb)\Asset Management Improvement Fy15-16\Asset Management Risk Assessment	V	
Asset Management System	Asset Management System	H:\Corporate_Services\Asset Management Working Group (sb)\Asset Management Improvement Fy15-16\Asset Management System		V
Capital Works Priority List	Capital Budget Submission	H:\Corporate_Services\Asset Management Working Group (sb)\Asset Management Improvement Fy15-16\CAPITAL BUDGET DEVELOPMENT		N
W&S Engineering Staff Training Matrix	H:\Corporate_Services\Asset Management Working Group (sb)	H:\Corporate_Services\Asset Management Working Group (sb)\Asset Management Improvement Fy15-16\Training Matrix	V	
Asset Data Level of Confidence	Asset Data LOC	H:\Corporate_Services\Asset         Management Working         Group (sb)\Asset         Management Improvement         Fy15-16\Asset Data LOC		
Asset Management Responsibility Matrix	Data Level of Confidence Asset Register 2016-03-16 AP Working Version 5	H:\Corporate_Services\Asset Management Working Group (sb)\Asset Management Improvement Fy15-16\Asset Management Responsibility Matrix	V	

# Table 9: Primary Reference Documents and Filing Folder



## **14.0 ADDITIONAL INFORMATION SUPPORT**

For referral to current champion of ToPH asset management please contact the **Director for Works &** <u>Services</u>. For additional historical support you may contact the previous asset management team members as listed in Table 10.

NAME	POSITION	CONTACT	LINKEDIN PROFILE
Aaron Patterson	Asset Manager	0407 886 887	http://www.linkedin.com/pub/aaron- patterson/37/80a/7a5
Chris Taylor	Asset Engineer	0407 886 887	https://au.linkedin.com/in/chris- taylor-23020a2b

Table 10: Additional Support Contacts.

