

Town of Minto - Asset Management

**A.M.
Road Map**

Developing best practice asset management plans & programs



Agenda

- **Asset Management – An Overview**
- **Provincial & Federal Regulations**
- **Town of Minto's on going projects:**
 - All asset category AMP
 - Asset Management Roadmap
- **G.I.S & Works**

Asset Management is Service Management

- Infrastructure provides services that bring our cities to life
 - Pipes provide a clean drinking water service
 - Roads provide a transportation service
 - Facilities / Parks provide recreation programs and services



Asset Management Discipline

It involves:

- Processes, procedures and practices to assist and define the management of infrastructure
- Achieving total lowest cost of ownership
- Established measures for performance, risk and cost



Asset Management Discipline

It includes:

- A sophisticated and coordinated effort
- A multi - disciplined team



Provincial / Federal Regulations

Provincial:

- Year end 2013 – AMP required for roads, bridges, water, waste water

New - Federal Gas Tax:

- A comprehensive AMP (all categories) required by March 2017

New - Provincial:

- Infrastructure for Jobs and Prosperity Act (Bill 6)
 - To be finalized in 2017
 - Probably will include an A.M. Policy requirement
 - More Robust A.M. reporting on levels of service

A comprehensive AMP (all categories)

March 2017

Following the Provincial Guidelines:

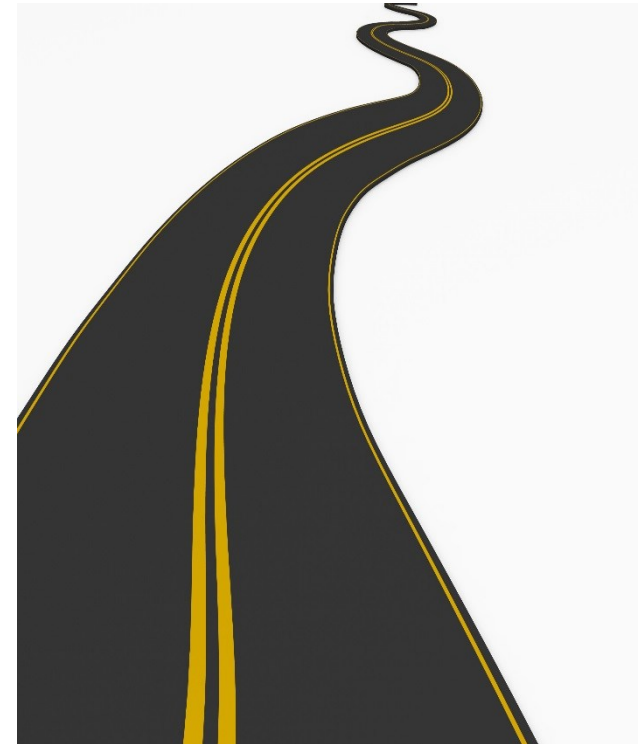
- State of Current Infrastructure Reports
- Expected Level of Service
- Asset Management Strategies
- Financial Strategy

Asset Management Road Map

Multi Year Process 2016 - 2017

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Road Map**

- Provides continuous improvement of A.M. practices
- It breaks out the core components of A.M. for separate analysis
- Provides a tailored critical activities path



Road Map Components

- Asset Management Policy (2016)
- State of Current Practice Report (2016)
- Data and information templates (2016)
- Condition assessment development (2016)
- Risk / criticality model development (2017)
- Life cycle analysis methodologies (2017)
- Project & Program Prioritization (2017)
- Financial Strategy Analysis (2017)
- Level of Service Model Development (2017)



A.M. Policy Developed

- Stated the problem / issue that needs to be addressed

“The purpose of this policy is to ensure the development of the Town’s infrastructure asset management program, including roles and responsibilities, to facilitate logical and informed decision making for the management of the Town’s infrastructure to support the delivery of sustainable community services.”

- The Players - the individuals and/or groups involved

- A course of action and key principles

- **Aligned to organizational objectives and goals**

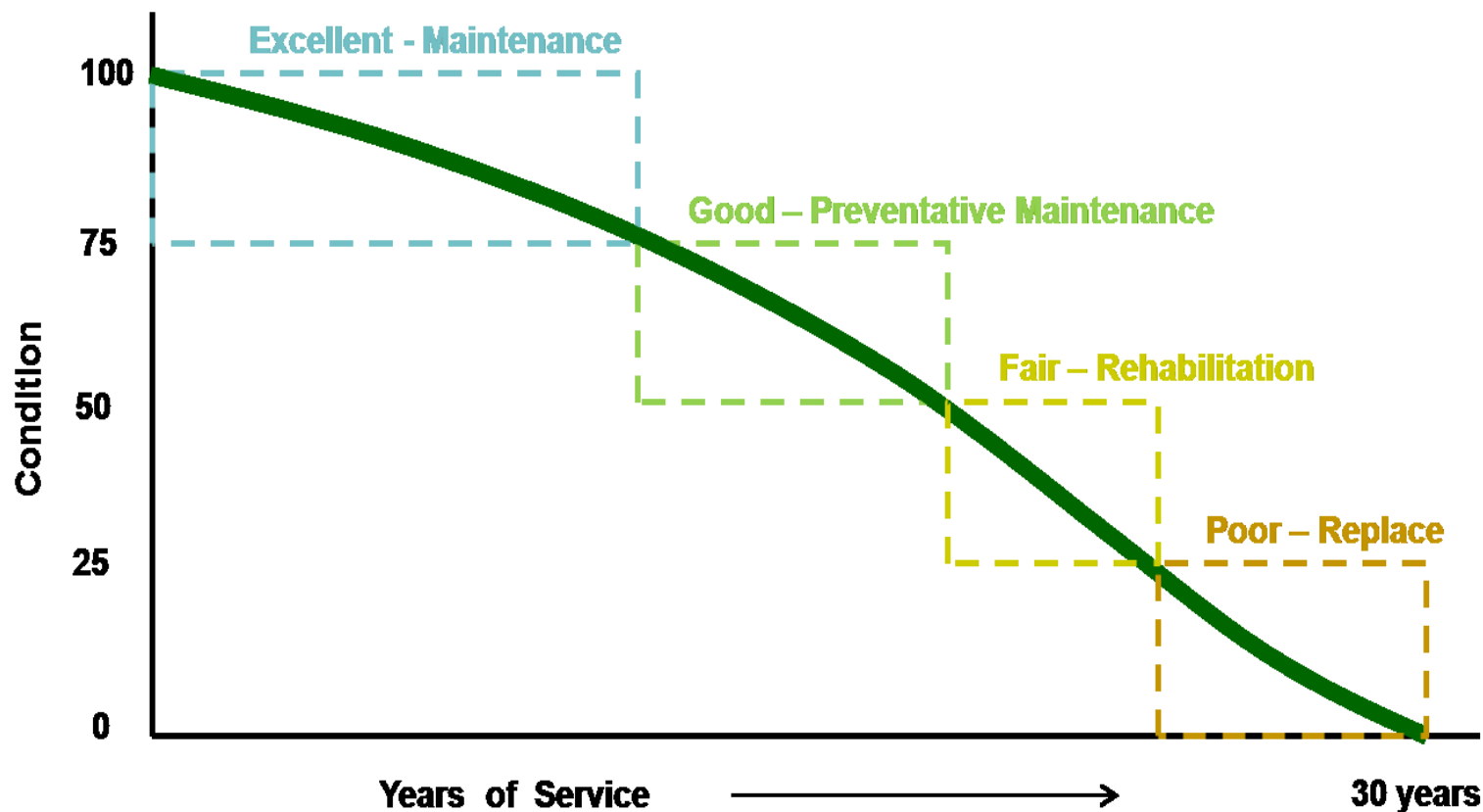


Current State of Practice Analysis (Critical Activities Path)

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ASSET MANAGEMENT COMPONENT	PROFICIENCY LEVEL
Organizational Cognisance	Intermediate
Organizational Capacity	Intermediate
Infrastructure Data/Information	Intermediate
Asset Management Strategies	Basic
Financial Strategies	Intermediate
Level of Service	Basic

2017 Processes: Life Cycle Management



Life Cycle Framework Development

ROAD LIFECYCLE ACTIVITY OPTIONS			
TREATMENT	AVERAGE UNIT COST (PER SQ. M)	ADDED LIFE (YEARS)	COST OF ACTIVITY/ADDED LIFE
URBAN RECONSTRUCTION	\$205	30	\$6.83
URBAN RESURFACING	\$84	15	\$5.60
RURAL RECONSTRUCTION	\$135	30	\$4.50
RURAL RESURFACING	\$40	15	\$2.67
DOUBLE SURFACE TREATMENT	\$25	10	\$2.50
ROUTING & CRACK SEALING (P.M)	\$2	3	\$0.67

2017 Processes: Risk / Criticality Assessment

$$\text{Risk} = \text{Probability of Failure} \times \text{Consequence of Failure}$$

Consequence of Failure	High					
	5	17 Assets 17,170.23 feet \$1,964,273.36	24 Assets 21,021.3 feet, sq ft \$3,208,071.10	3 Assets 1,196.37 feet, units \$251,790.28	9 Assets 3,034.18 feet \$398,501.45	1 Asset 438.45 feet \$50,159.25
	4	47 Assets 68,912.68 feet, sq ft \$14,465,291.35	22 Assets 17,571.72 feet, units \$1,523,077.64	17 Assets 17,892.92 feet, units, sq ft \$1,981,994.68	14 Assets 18,194.01 feet, sq ft \$2,149,881.21	5 Assets 861.01 feet, units \$276,328.13
	3	102 Assets 36,569.05 feet, units, sq ft \$3,121,307.11	51 Assets 17,555.75 feet, units \$1,275,796.11	180 Assets 58,591.54 feet, sq ft, units \$3,809,944.99	69 Assets 31,155.23 feet, units \$2,335,179.02	7 Assets 224.28 feet, units \$203,588.45
	2	225 Assets 124,145.94 feet, units \$23,178,856.60	171 Assets 93,464.19 feet, units \$15,768,427.84	157 Assets 66,827.05 feet, units \$9,523,202.32	102 Assets 56,415.14 feet, units \$6,622,105.93	33 Assets 8,038.56 feet, units \$1,932,132.03
	1	62 Assets 7,577.48 feet, units \$893,815.84	679 Assets 40,181.19 units, feet, sq ft \$7,991,954.50	205 Assets 44,303.47 feet, units, mile \$2,780,437.42	165 Assets 50,029.09 feet, units, sq ft \$3,802,913.94	222 Assets 8,891.51 feet, units, sq ft \$2,160,343.45
Low		1	2	3	4	5
		Probability of Failure				
		High				

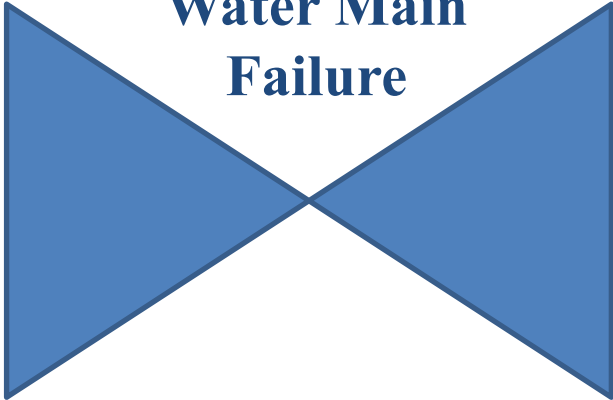


Risk and Criticality Model Development

Probability of Failure

- Age / Condition
- Break History
- Maintenance

Water Main Failure



Consequence of Failure

- Cost to Repair
- Disruption to public
- Impact to environment

2017 Processes: Desired Levels of Service

- Set desired levels of service for each infrastructure program
- Use performance measures to track targets
- Establish current performance and expected performance
- A.M. plan should outline how to bridge any gaps.

LOS Framework Example

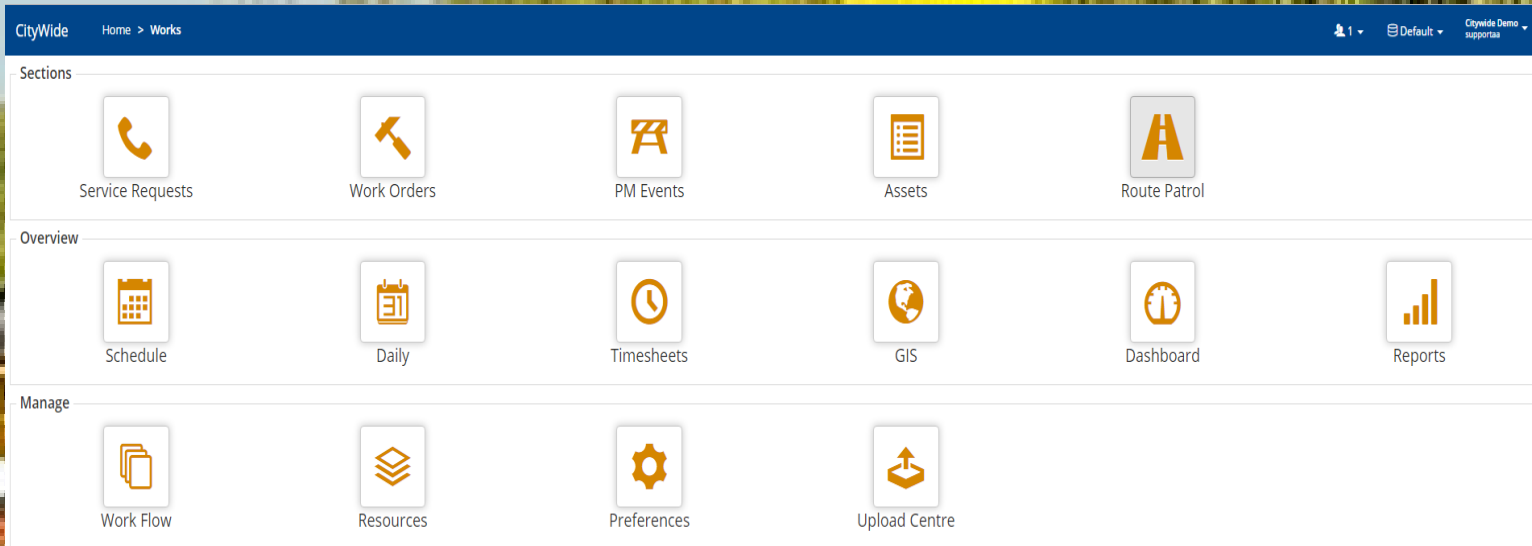
Service	Service Goal	Technical LOS
Accessible	Affordable	
		Cost of Customer Billing / Service Connection
		O&M Cost ('000) / km Length
	Accommodate Growth	
Safe	Keep employees safe	
	Protect the Public	% of Inoperable or Leaking Hydrants
Reliable	Sufficient quality / quantity	# of Water Pressure Complaints by Customers / 1,000 People Served
		# of Water Quality Customer Complaints / 1,000 People Served
	Uninterrupted Service	# of Main Breaks / 100 km Length
Regulatory	Meet License - Safety	
	Meet License - Environment	
Customer Service	Responsive	Customer requests will have a 24 hr response time.
	Accurate	

Benefits Realized from Good Asset Management Practice

- Better alignment between finance and engineering (PW)
- The robust AMP and process will be a catalyst of conversation, generating ideas, changing philosophies, and starting innovations for better management practices.
- A review of management practices & policies to better align with sustainable goals.

Work Order Management

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Road Map



- Managing Service requests, reporting and complying with Bill 8
- Supporting managers for decision making.
- Efficient scheduling improves cost accounting and saves money
- Improves productivity with real time tracking and work flow processes
- Use indicators to improve decision making: replacement, renewal, reconstruction or inspection of assets.

Work Order Management:

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CityWide Home > Works > Work Orders

Filter Q X Advanced Filter 1 Selections

ID	Origin ID	Department	Work Order Type Group
WO-5695		ROADS	Default Group
WO-5694		ROADS	Default Group
WO-5693		SEWERS	Default Group
WO-5692		DSI	ByLaw Enforcement
WO-5691		DSI	ByLaw Enforcement
WO-5690		ROADS	Default Group
WO-5689		WATER	Default Group
WO-5688	SR-3191	ROADS	Default Group
WO-5687	SR-3190	ROADS	Default Group
WO-5686		PARKS	Default Group
WO-5684	SR-3189	ROADS	Default Group
WO-5683	SR-3188	PARKS	Default Group
WO-5682		FLEET & FACILITIES	Default Group
WO-5681	SR-3186	PARKS	Default Group
WO-5680		FLEET & FACILITIES	Default Group
WO-5679		PARKS	Default Group
WO-5678		PARKS	Default Group
WO-5677		FLEET & FACILITIES	Default Group
WO-5672	SR-3183	ROADS	Default Group
WO-5670	SR-3181	ROADS	Default Group
WO-5667		PARKS	Default Group
WO-5666		PARKS	Default Group
WO-5665		PARKS	Default Group
WO-5664		FLEET & FACILITIES	Default Group
WO-5663		FLEET & FACILITIES	Default Group
WO-5658	SR-3180	ROADS	Default Group
WO-5657		DSI	ByLaw Enforcement
WO-5656	SR-3179	ROADS	Default Group
WO-5655	SR-3177	ROADS	Default Group
WO-5653		FLEET & FACILITIES	Default Group
WO-5652		PARKS	Default Group
WO-5651		FLEET & FACILITIES	Default Group

New Work Order

Customer Work Order Location Details Resources

Work Order Type

Department None Selected Work Order Type Group None Selected

Work Order Type None Selected Work Order Subtype None Selected

Priority Low

Assigned To

Assigned To Workers Workers None Selected

Schedule Dates

Scheduled Start Date Scheduled End Date

Other Dates

Target Date

Attributes

Select Attribute None Selected Filter X

Notes

Back Next

Showing 457 records (5,691 total) Add Bulk Update

Created Date	Created By	Last Modified By
2016-11-30 12:01:40		derek
2016-11-23 11:55:14		supportps
2016-11-07 15:43:44		supportps
2016-11-02 13:13:16		supportps
2016-11-02 13:09:45		
2016-11-02 11:47:49		
2016-10-25 14:08:45		
2016-09-22 13:36:34		
2016-09-22 12:21:50		
2016-09-22 12:00:56		derek
2016-09-22 10:19:37		
2016-09-22 09:56:28		derek
2016-09-21 15:32:12		derek
2016-09-21 14:22:21		
2016-09-21 13:17:25		
2016-09-21 12:17:59		
2016-09-21 12:14:02		
2016-09-21 11:45:26		supportps
2016-09-20 13:41:44		
2016-09-20 10:59:23		
2016-09-20 09:12:22		
2016-09-20 09:11:04		
2016-09-20 09:09:37		
2016-09-20 08:52:11		
2016-09-19 16:15:03		
2016-09-19 15:50:23		
2016-09-19 14:55:26		
2016-09-19 12:45:08		
2016-09-19 12:05:50		
2016-09-16 16:30:03		
2016-09-16 16:27:57		
2016-09-16 16:23:06		

Work Order Management:

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CityWide Home > Works > GIS

Search

Layers

- ☒ Aerial Imagery
- ☒ OpenStreetMaps
- ☐ None
- ☒ Parcels
- ☒ Service Requests
- ☒ Work Orders
- ☒ Bridges
- ☒ Roads (Centre)
- ☒ Row
- ☒ Traffic Signals
- ☒ Walkways
- ☒ Misc. Lands
- ☒ Sanitary Mains
- ☒ Sanitary Manholes
- ☒ Sanitary Pumpstations
- ☒ Storm Basins
- ☒ Storm Mains
- ☒ Storm Manholes
- ☒ Storm Pump Stations
- ☒ Water Hydrants
- ☒ Water Mains

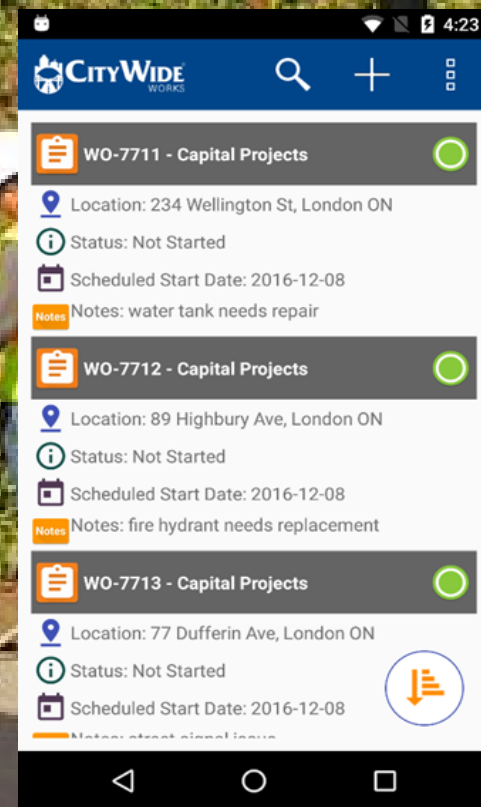
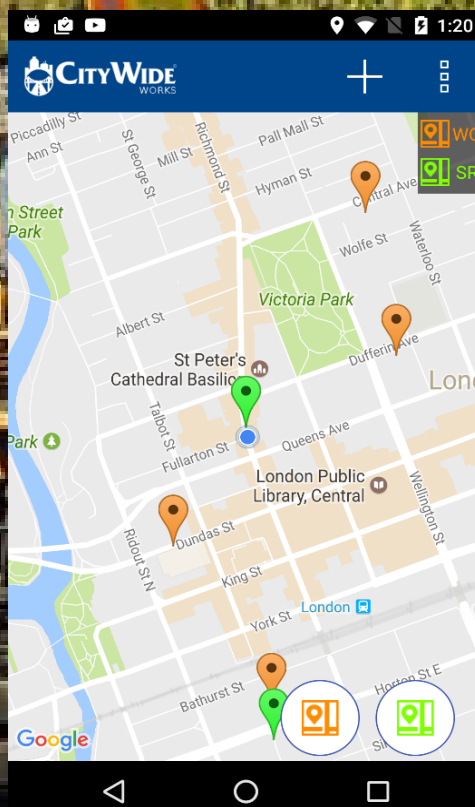
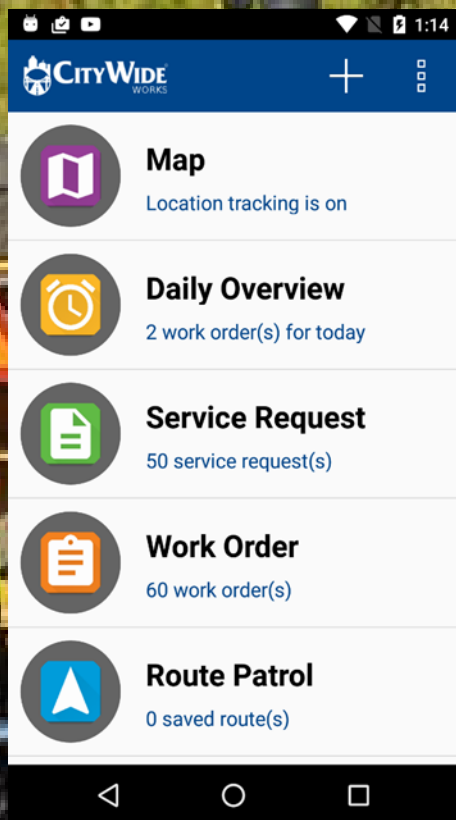
Click on a feature to select it

Work Orders

FID	WORK ORDER	DEPARTMENT	WORK ORDER TYPE GROUP	WORK ACTIVITY CODE	WORK ORDER TYPE	WORK ORDER SUBTYPE	STATUS	ADDRESS	AREA	COMMUNITY	CLASSIFICATION	PRIORITY	CREATED DATE	SCHEDULED START DATE	SCHEDULED END DATE	TARGET DATE	COMPLETED DATE	ASSIGNED TO	CREW	CUSTOMER	LATITUDE
work_order.14	WO-0014	2010 - Land Improvements	Default Group		None		In Progress	2720 Bouffard			Unscheduled Maintenance	Low	2013-08-19 18:05:09+00					No Worker Selected			42.234752

Work Order Management:

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Road Map



Questions

PUBLIC SECTOR DIGEST
INTELLIGENCE FOR THE PUBLIC SECTOR.



WINTER 2014
ASSET MANAGEMENT
A STEP-BY-STEP GUIDE TO DEVELOPING INFRASTRUCTURE MANAGEMENT PLANS
BUILDING THE RIGHT ASSET MANAGEMENT TEAM