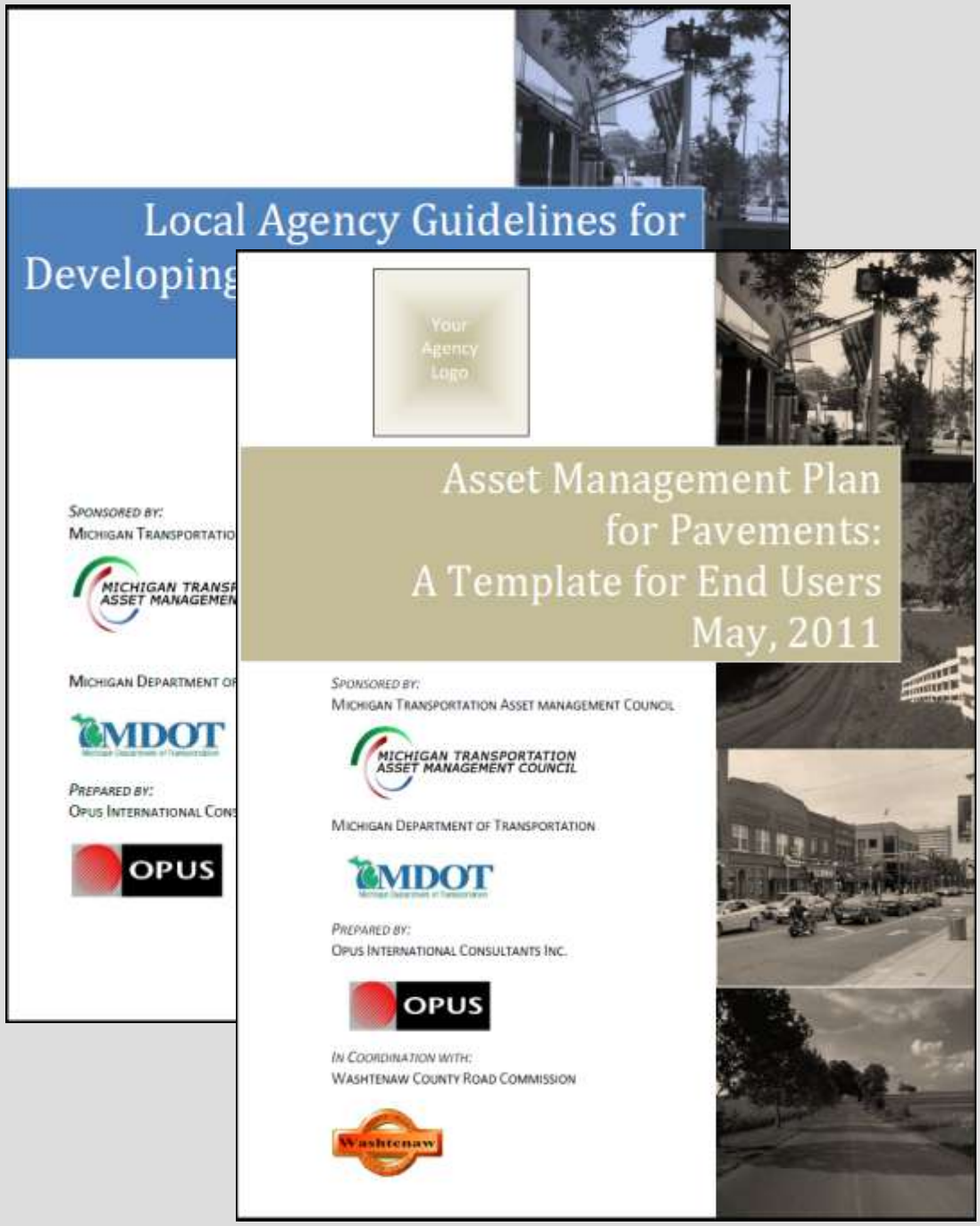


Building An Asset Management Plan

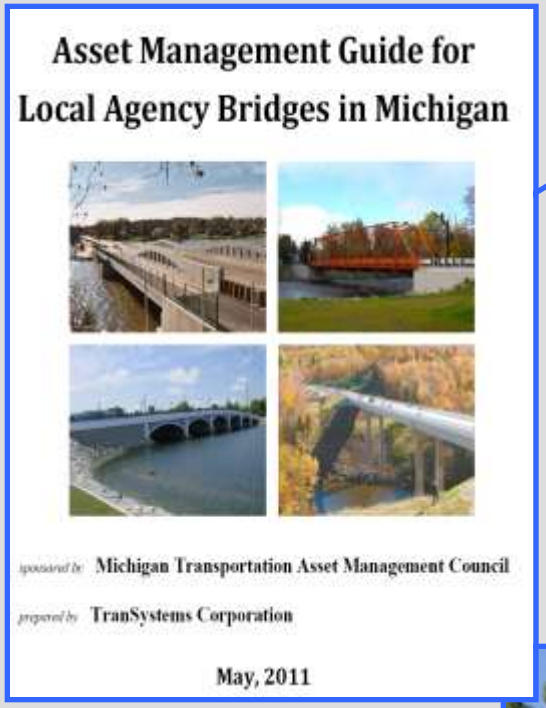
February 15, 2012

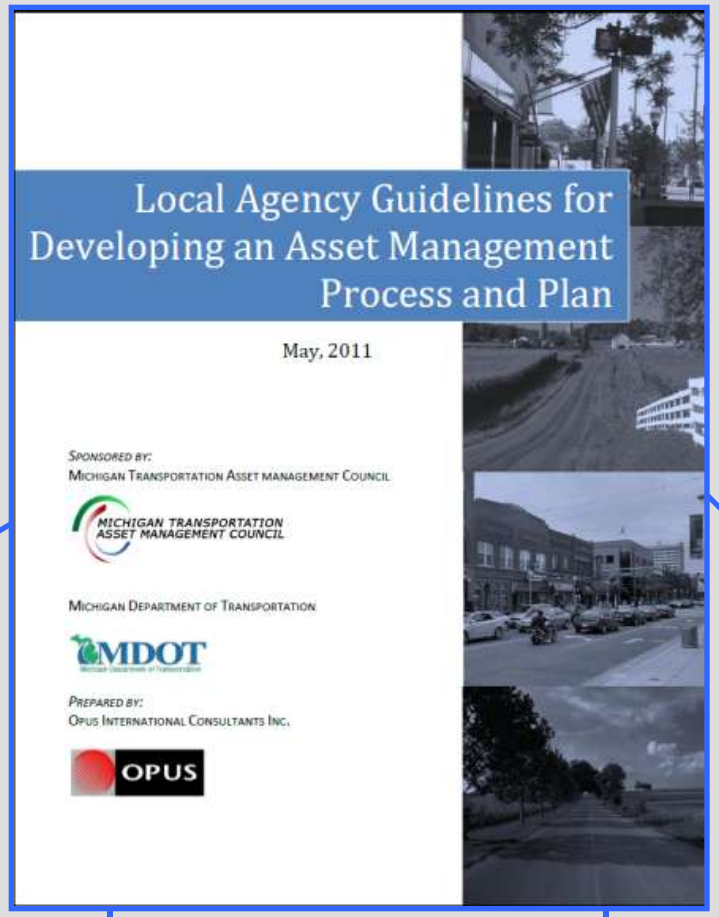
Brian Sanada

Asset Management Coordinator

MICHIGAN TRANSPORTATION ASSET MANAGEMENT COUNCIL

Bridges



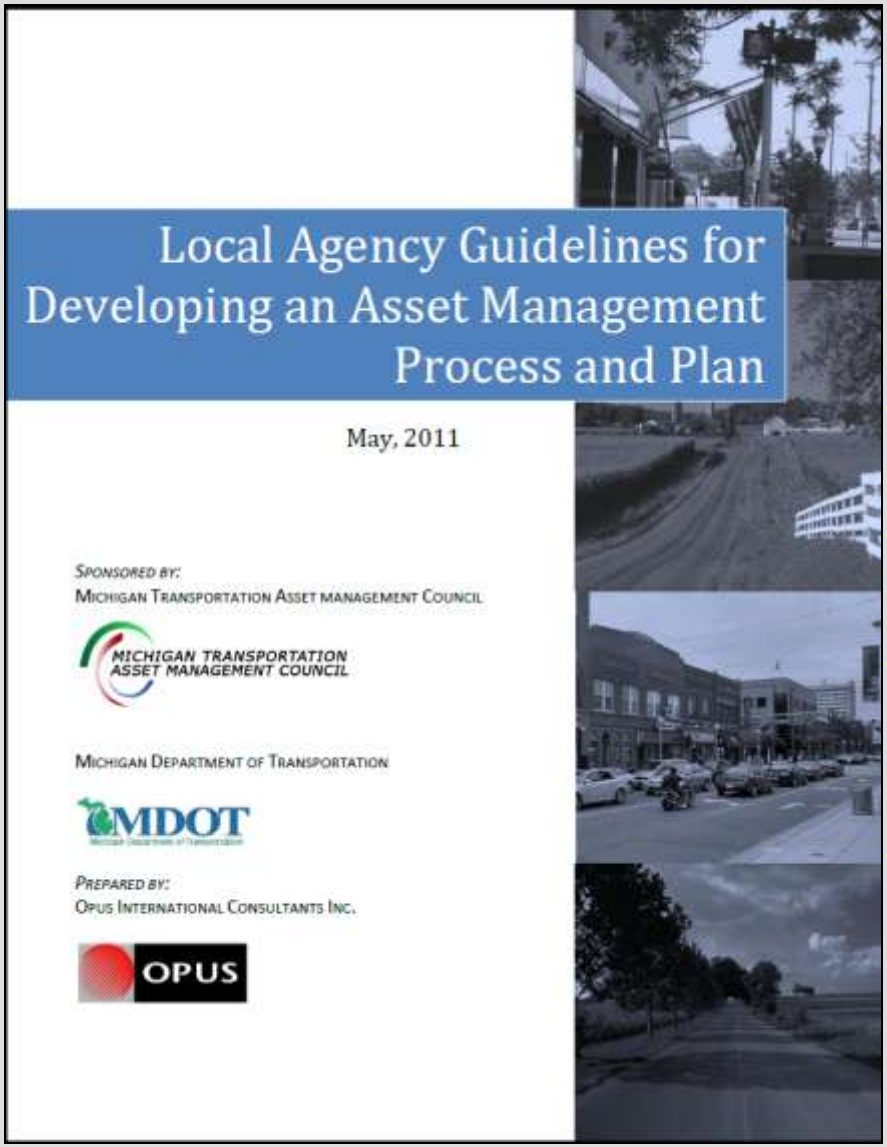


Pavements

Other Assets

MICHIGAN TRANSPORTATION ASSET MANAGEMENT COUNCIL

Revised Guidelines

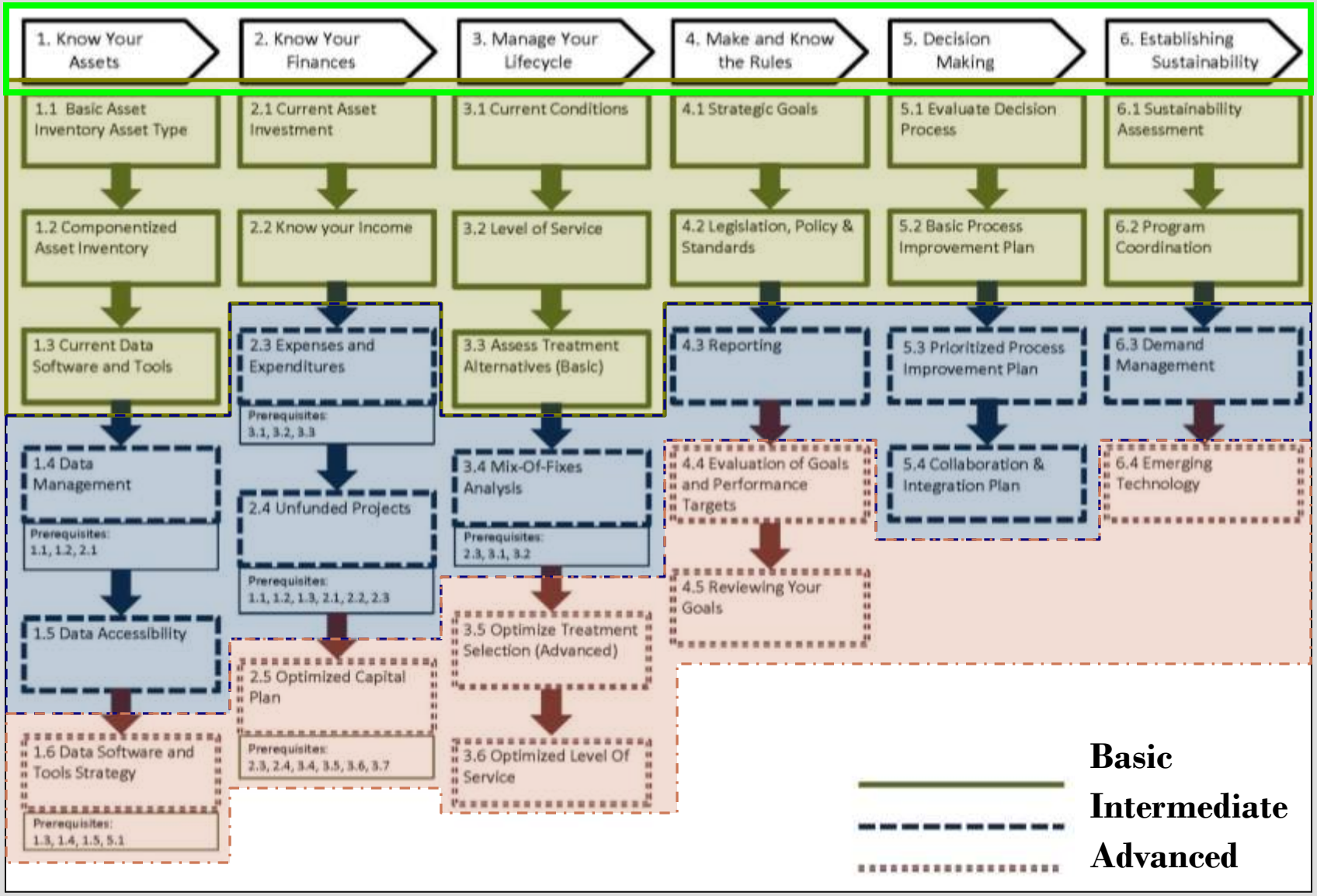


Goal: Provide Guidance to Local Agencies to Create Decision Processes that are:

- **Performance Based**
- **Utilize Quality Information**
- **Are Policy Driven**
- **Analyze a Mix-of-Fixes, Options, and Trade-Off Analysis**
- **Incorporate Monitoring to Provide Accountability, Feedback, and Sustainability**

MICHIGAN TRANSPORTATION ASSET MANAGEMENT COUNCIL

AM Plan Tiers



MICHIGAN TRANSPORTATION ASSET MANAGEMENT COUNCIL

Section Links

1. Know Your Assets

1.1 Basic Asset Inventory Asset Type

~CLICK ON ~

Will Take User to Guide Section

1 Know Your Assets

The first step in developing an Asset Management Plan is to know those assets possessed by your agency. An asset can be defined in two ways: assets may be tangible or intangible. A tangible asset may be a post mounted stop sign at an intersection while an intangible asset may be the computer programs used by your agency to perform specific tasks. For the purposes of this asset management plan we will only consider tangible assets.

1.1 Basic Asset Inventory

An asset inventory, documenting any information that is available for each asset, is the simplest way to systematically and logically begin to know your assets. Types of information that are useful in an asset management plan are type, quantity, material, useful life, installation date or age, remaining life, and location.

When you begin assembly of your asset inventory, consider asking yourself the following questions:

- How would I classify the type of asset? Is it a section of pavement, whole bridge, or a retroreflective sign?
- How many are there and what size are they?
- What are these assets made of? E.g. is the pavement flexible or rigid?
- What is the predicted useful life of the asset? How long is it expected to last?
- When was this asset installed? How old is the asset with respect to its total service life?
- What is the remaining life of the asset? How much longer will the asset be useful to the agency before it needs to be replaced?
- Where is this asset located? Do I know the approximate or exact location of this specific asset?

RoadSoft

Table 1-1, below, illustrates a way to summarize pavement data.

	Roadway Classification (lane miles)			
Material	**Type 1**	**Type 2**	**Type 3**	**Type 4**
Gravel	80	350	200	1160
Concrete	1290	2950	0	500
HMA	2350	4590	2100	1040

Table 1-1 Summary of Pavement Data

MICHIGAN TRANSPORTATION ASSET MANAGEMENT COUNCIL

NEW Template for Pavements

Goal: Assist Agencies in Preparing an Asset Management Plan Tailored to Their Own Specific Pavement Assets and Desired Level of Detail:

- Offers a Basic Framework that can be Added to via Intermediate and Advanced Strategies
- Provided in Easy-to-Use MSWord format
- Considered a Fluid Document

Template Page Set-up

Section Description

1.2 Componentized Asset Inventory

This section should contain an introduction describing the level of componentization and relevant issues, for instance, how decisions were made on splitting various types of assets into parts, what things were considered in this decision, and how and where the data is recorded.

Another useful tool is a table of the components for each asset type. The following tables show a basic componentized asset inventory from RoadSoft. Continuing to break down the pavement types will provide you with more information on your agency's asset investment. This information could be listed in an appendix and just referred to in this section.

Knowledge of the number of miles under the jurisdiction of the WCRC is an important basis for understanding the current public investment. In order to gain in depth knowledge about the public investment more information must be know about the assets. In particular, it is important to understand the types of road surfaces currently maintained. The following table lists the number of miles in each surface classification, as downloaded from RoadSoft.

Surface Type (miles)	
Total per RoadSoft	1,663.30
Asphalt	832.80
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RoadSoft

In the future, the WCRC will be able to gain a better understanding of the value of pavement assets by improving the quality of the road surface asset information they have. The basic road surface inventory must be completed. Once this information is known, it can be expanded to document individual pavement layers.

MICHIGAN TRANSPORTATION ASSET MANAGEMENT COUNCIL

Basic Plan – 1.1

1 Know Your Assets

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- How would I classify the type of asset? Is it a section of pavement, whole bridge, or a retroreflective sign?
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Table 1-1 Summary of Pavement Data

GUIDE

1 Current Assets

This section provides an opportunity to introduce the asset group (pavement/road surfaces) the asset management plan is for.

The Washtenaw County Road Commission is the jurisdictional authority over all public roads lying outside the incorporated cities and villages within Washtenaw County, exclusive of any state trunkline highways. At the end of 2008, the WCRC certified approximately 590 center-line miles of county primary roads and 1,059 center-line miles of county local roads. Approximately 770 certified center-lines miles are unsealed, i.e. gravel, roads. This section provides documentation of the assets contained on the paved roads.

1.1 Asset Inventory

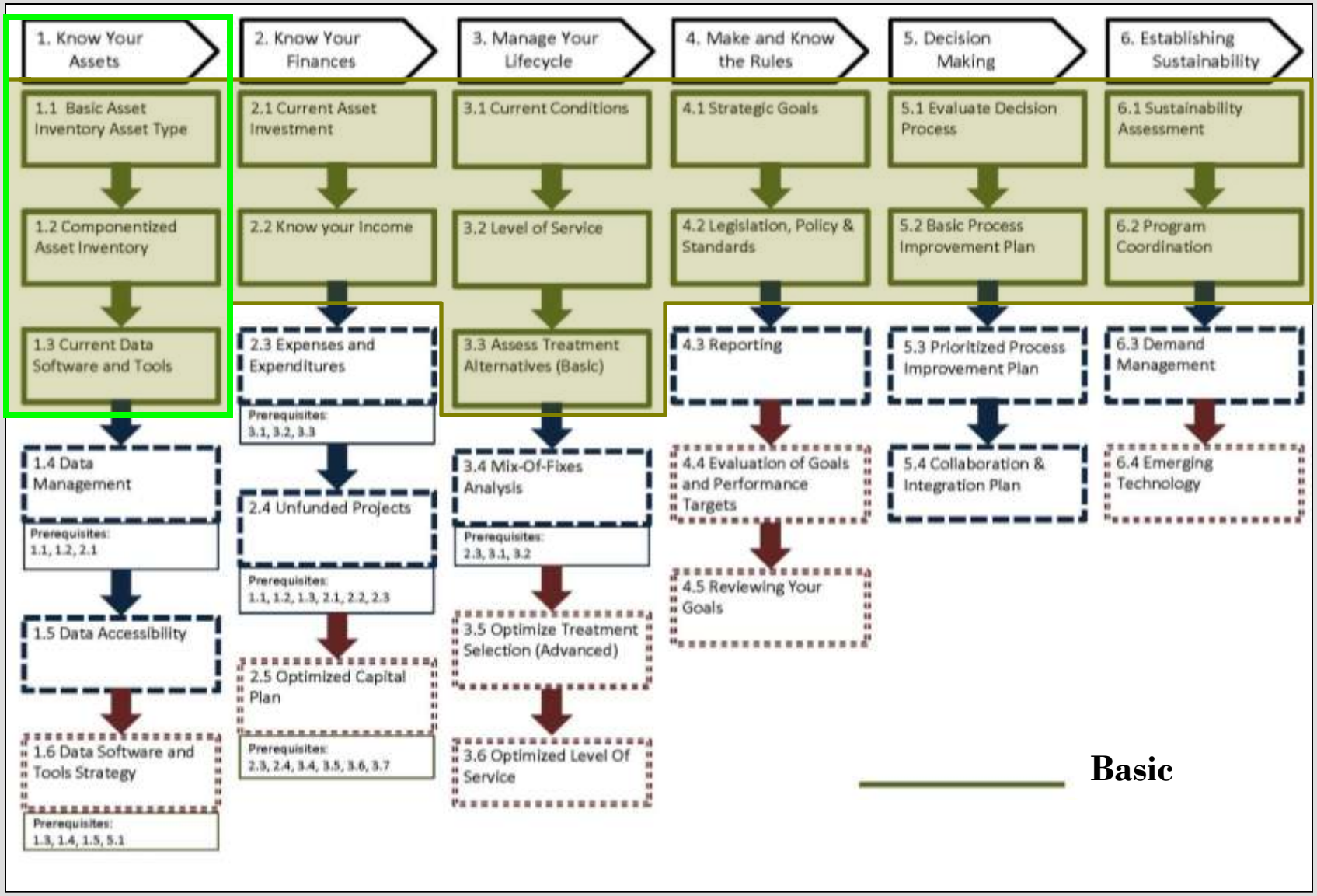
This section should contain a brief introduction on the general characteristics of the overall network. Following this, the asset inventory may contain a summary of pavement assets and convey information about key attributes such as type, size/quantity, material, and useful life/age/remaining life. This could be shown in tabular or graphical form as shown in the examples below.

MDOT annually certifies all public roads within the State of Michigan. Certification maps are maintained by the WCRC and are the basis for determining the amount of money received from the Michigan Transportation Fund. Generally, the WCRC receives a higher level of reimbursement for primary roads than local roads. Further information on public road miles can be found in the following public road mileage charts and graphs. Additional information can be found on the WCRC maps.

TEMPLATE

MICHIGAN TRANSPORTATION ASSET MANAGEMENT COUNCIL

Basic Plan



1 Current Assets

RoadSoft

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1. Know Your Assets

1.1 Basic Asset Inventory Asset Type

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Basic Plan – 1.1

1. Know Your Assets

1.1 Basic Asset Inventory Asset Type

Certification Mileage Chart

	County Wide				Urban			
Townships	*Primary*	*Local*	*Sub.*	*Total*	*Primary*	*Local*	*Sub.*	*Total*
Salem	35.19	36.77	4.28	76.24	7.56	4.45	0.51	12.52
Northfield	30.45	48.12	9.83	88.40	7.21	4.13	7.45	18.79
Webster	27.51	41.32	3.28	72.11	6.84	6.51	1.73	15.08
Dexter	29.60	24.29	14.84	68.73	9.32	3.98	5.90	19.20
Lyndon	18.04	35.21	2.72	55.97	-	-	-	0.00
Sylvan	17.10	40.26	2.77	60.13	-	-	-	0.00
Lima	25.19	44.66	1.21	71.06		0.51	0.71	1.22
Scio	47.95	25.08	35.51	108.54	40.91	19.49	34.35	94.75
Ann Arbor	23.41	13.43	6.65	43.49	19.09	7.62	6.65	33.36
Superior	31.86	35.81	25.84	93.51	19.51	8.05	24.10	51.66
Ypsilanti	59.97	19.78	125.39	205.14	59.97	19.78	125.39	205.14
Pittsfield	43.05	16.10	79.81	138.96	43.05	16.10	79.81	138.96
Lodi	21.38	45.13	10.58	77.09	10.66	11.07	8.93	30.66
Freedom	16.39	47.95	-	64.34	-	-	-	0.00
Sharon	21.18	34.94	-	56.12	-	-	-	0.00
Manchester	19.61	46.17	1.44	67.22	-	-	-	0.00
Bridgewater	21.40	40.23	-	61.63	-	-	-	0.00
Saline	23.86	28.47	1.10	53.43	3.07	3.13	0.28	6.48
York	45.85	29.86	25.63	101.34	14.76	10.21	23.29	48.26
Augusta	31.47	51.00	5.04	87.51	3.63	-	-	3.63
Totals	590.46	704.58	355.92	1650.96	245.58	115.03	319.10	679.71

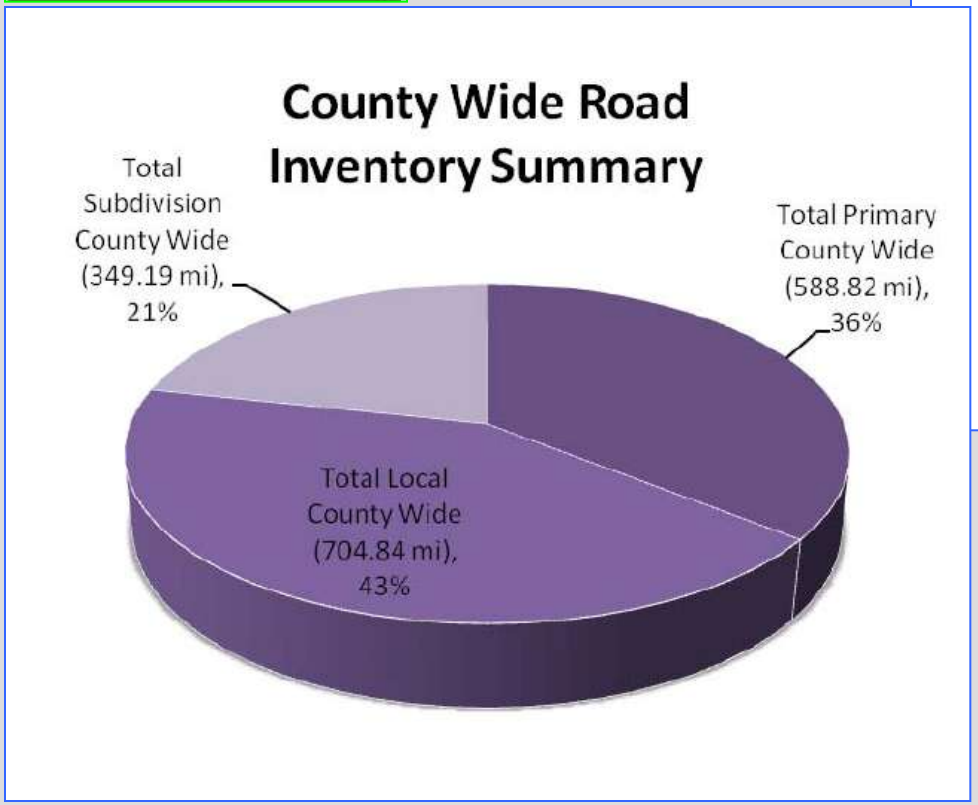
Totals

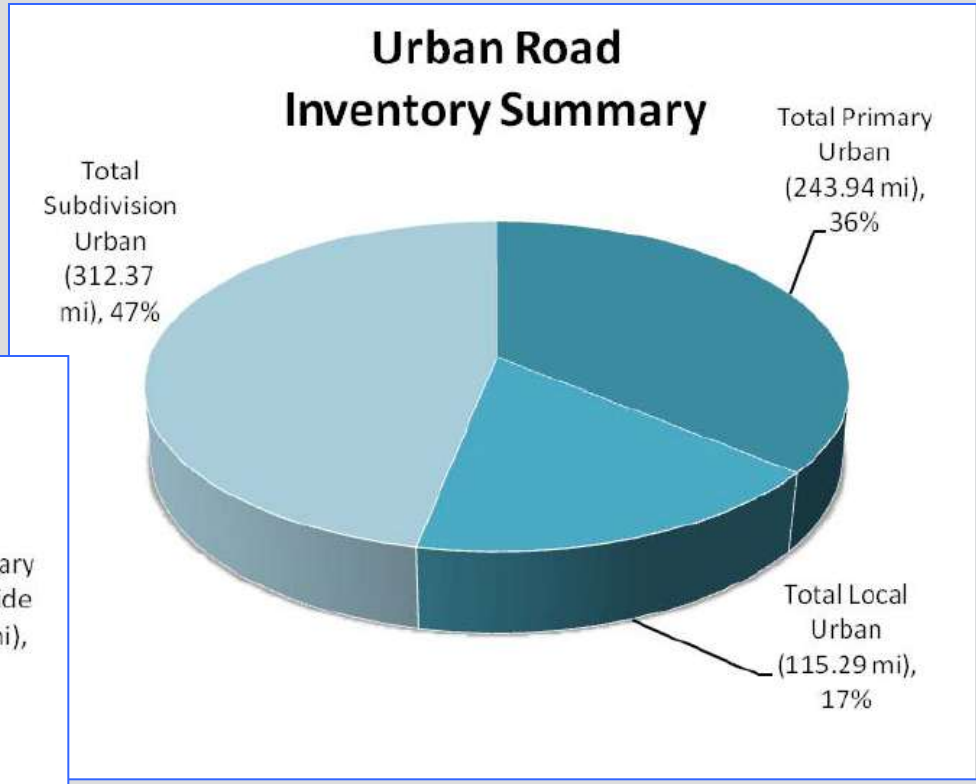
Total Primary County Wide	590.46	Total Primary Urban	245.58
Total Local County Wide	704.58	Total Local Urban	115.03
Total Subdivision County Wide	355.92	Total Subdivision Urban	319.10
Total Local and Sub. County Wide	1060.50	Total Local and Sub. Urban	434.13
Grand Total County Wide	1650.96	Grand Total Urban	679.71

Basic Plan – 1.1

1. Know Your Assets

1.1 Basic Asset Inventory Asset Type



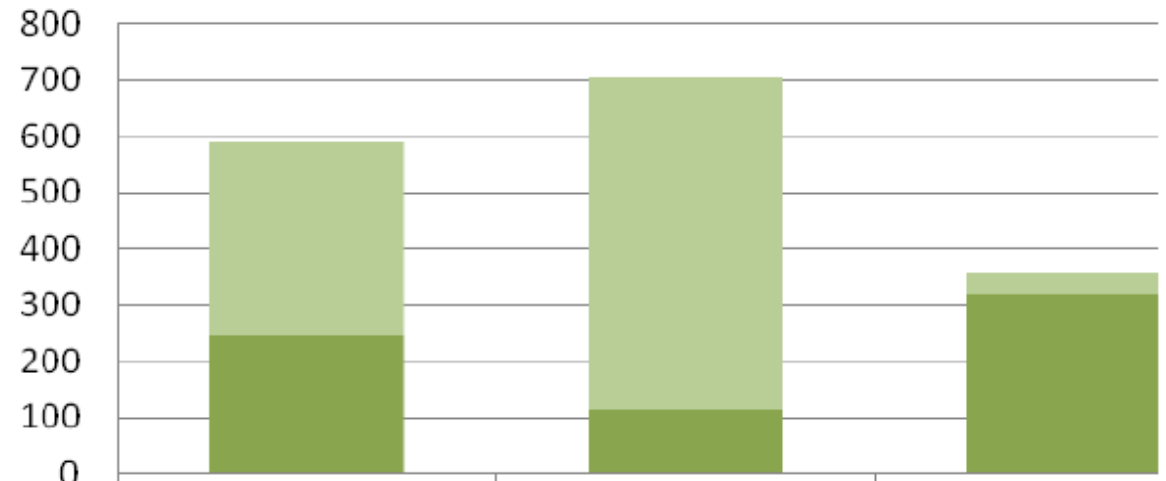


Basic Plan – 1.1

1. Know Your Assets

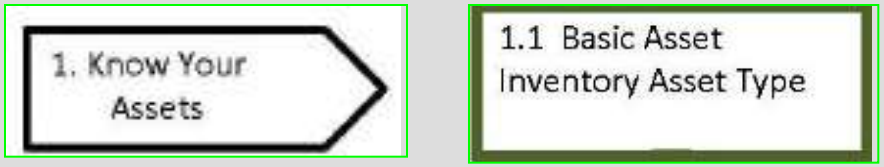
1.1 Basic Asset Inventory Asset Type

Urban vs. Rural Road Miles



	Primary	Local	Subdivision
Rural	344.88	589.55	36.82
Urban	245.58	115.03	319.1

Basic Plan – 1.1



It is important to document that an asset exists, even if little information is known about it. The amount of information known about an asset or group of assets, and the accuracy of that information can be improved over time through targeted data collection programs or capturing data in the field as work occurs. As a starting point, the asset inventory should record the known information about size, type and material to sufficient detail that a reasonable approximation of asset value can be derived from it. Careful assumptions may be added—but should be documented as such—if similar conditions may be ascertained, i.e. from plans.

This section is an introduction—it should be brief. It is not necessary to show a great level of detail in this section of the document.

1. Know Your Assets

1.2 Componentized Asset Inventory

1.2 Componentized Asset Inventory

This section should contain an introduction describing the level of componentization and relevant issues, for instance, how decisions were made on splitting various types of assets into parts, what things were considered in this decision, and how and where the data is recorded.

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In the future, the WCRC will be able to gain a better understanding of the value of pavement assets by improving the quality of the road surface asset information they have. The basic road surface inventory must be completed. Once this information is known, it can be expanded to document individual pavement layers.

1.3 Current Data and Software Tools

This section could list all of the data and software tools used for managing, recording and making decisions regarding transportation assets and transportation services. Depending on the style of the document, either a table (an example of which is given below) or a reference to an appendix containing similar information could be included.

Data about the pavement and road surface assets under WCRC's jurisdictions are maintained by the three departments at the WCRC. These departments are Administration, Engineering, and Operations. The roles of these departments are as follows:

Administration

There are five work areas that fall under Administration, which oversee the business functions of policy-making, budget, accounts receivable / payables, employment, bargaining units, workers compensation and safety, employee benefits, community relations, and technology. The sections include: Board of County Road Commissioners, Finance, Human Resources, Public Information / Community Relations, and Information Technology.

Engineering

The Engineering Department, which is responsible for providing engineering and technical services for road operations, preventative maintenance (renewal) project, and improvement projects on the county road system, is comprised of four sections; Construction, Project Development, Permits/Subdivisions, and Traffic & Safety.

Operations

The Operations Department oversees the maintenance and upkeep of all county roads, as well as Michigan Department of Transportation's state trunklines. In addition, Operations is responsible for five maintenance garages, eight gravel pits, a brine well, and approximately 150 pieces of road equipment. Operations consist of five District Crews, the Heavy Equipment Crew, the Tree Crew, the Equipment/Maintenance Crew, the Grounds & Facilities Crew, and the State Trunkline Crew.

Basic Plan 1.3

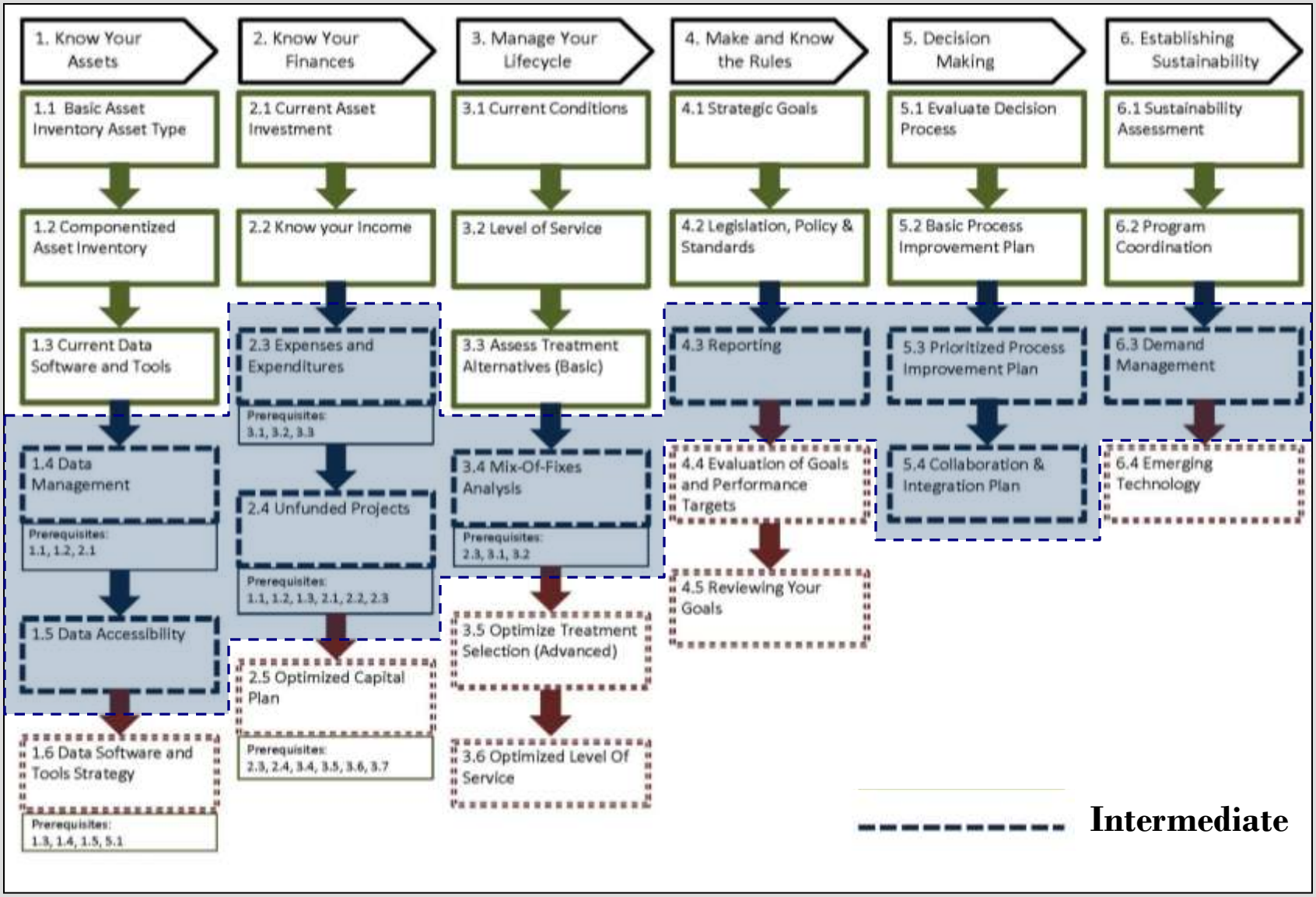
1. Know Your Assets

1.3 Current Data Software and Tools

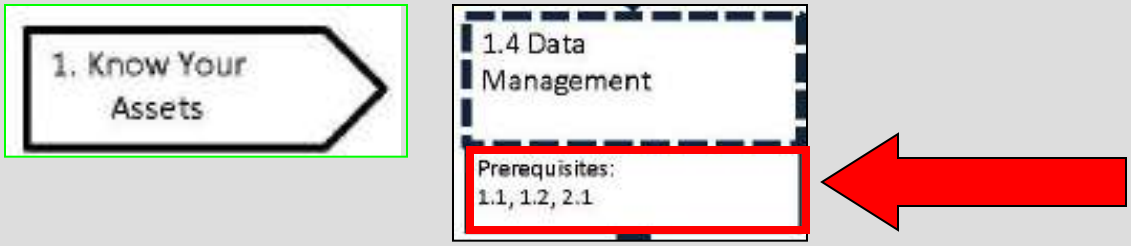
The WCRC currently uses various types of software to manage current asset data and cost information. The following table lists specific software packages utilized by the WCRC and descriptions of the functions these software packages perform.

Name	Function/Purpose/Data	Location
RoadSoft	Roadway Asset Management System	Server
	Asset Inventory	
	Asset Condition Data	
	Asset Deterioration Modeling	
	Strategy Evaluation	
MS Excel	Annual Work Program	Server
	Pavement Deterioration predictive models	
	Valuation data	
Precision	Accounting software	Server
	Income and Expenditure	
	Expenses in Labor	
Hardcopy	Maintenance history work sheets	Vault

Intermediate Plan



Intermediate Plan 1.4



1.4 Data management

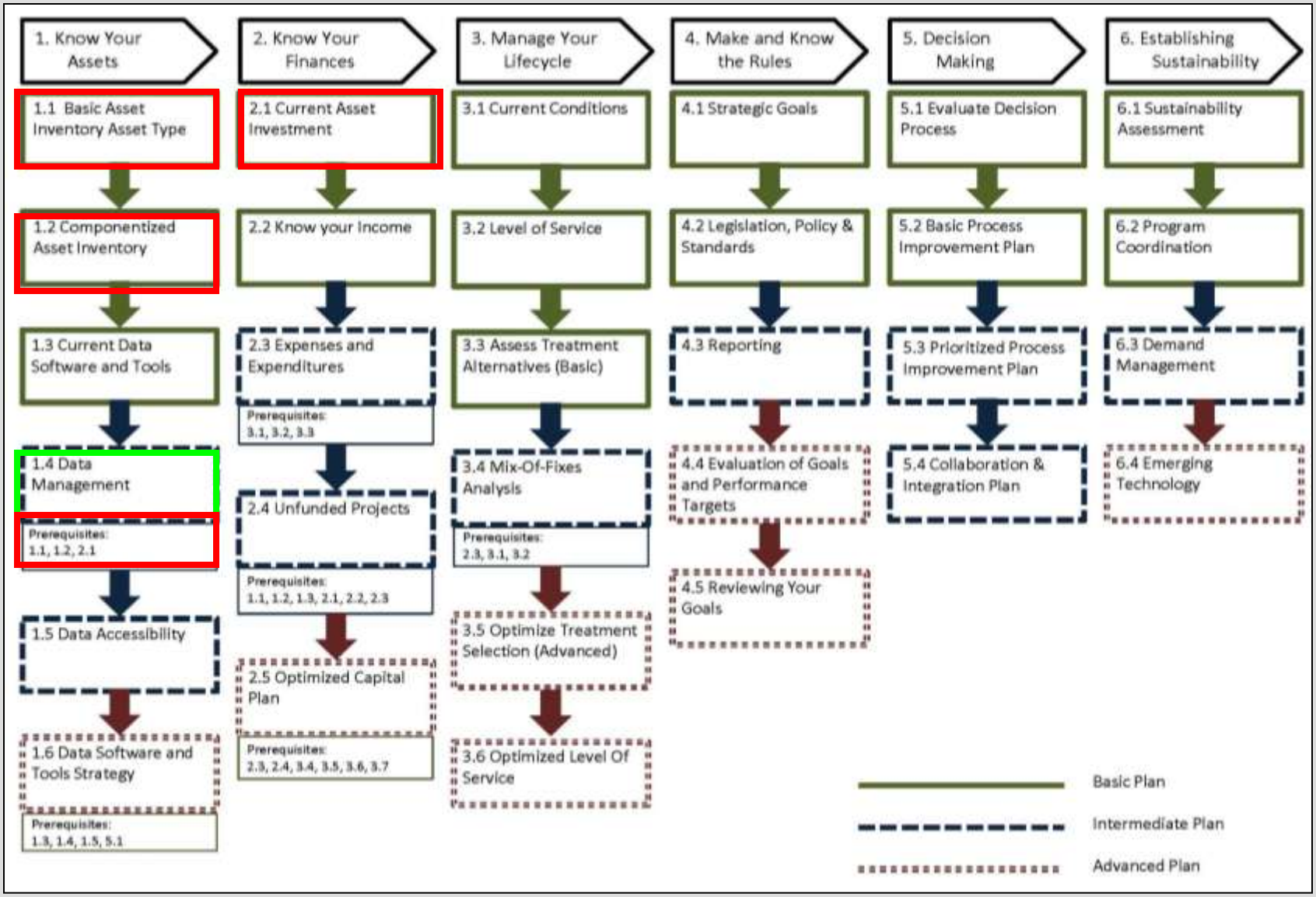
Intermediate Section

A basic plan may not include details about how data are managed. If included, the text should describe what controls, procedures and protocols are documented and in place (currently implemented) to ensure that the asset data are

a) kept up to date,
b) not able to be corrupted,
c) backed-up, and
d) improved over time for accuracy and completeness.

The security and management controls for the data could be described in words, in a table (possibly combined with the information in the table for section 1.3 above) or demonstrated/depicted with use of graphics or flow charts as desired and appropriate.

Prerequisites



THANK YOU!

Brian Sanada – Asset Management Coordinator

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ASSET MANAGEMENT COUNCIL