

# Incorporating Management Systems into a Comprehensive TAM Program

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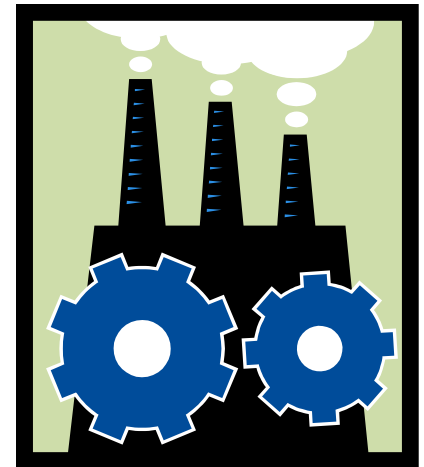


# Types of Management Systems

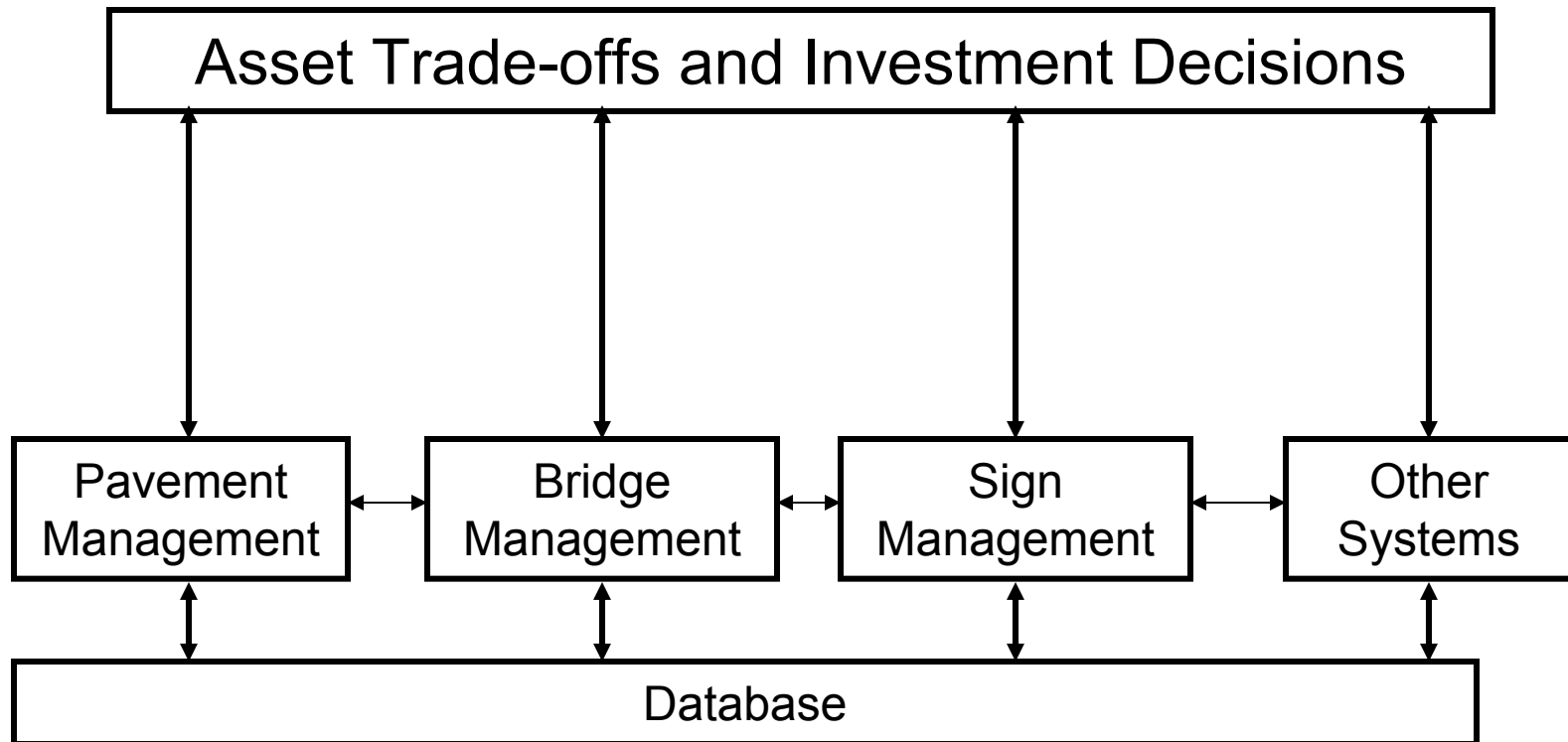
- Pavement Management System
- Bridge Management System
- Roadway Appurtenances Management System
- Sign Management System
- Maintenance Management System
- Tunnel Management System
- Financial Management System
- Others

# Traditional Structure

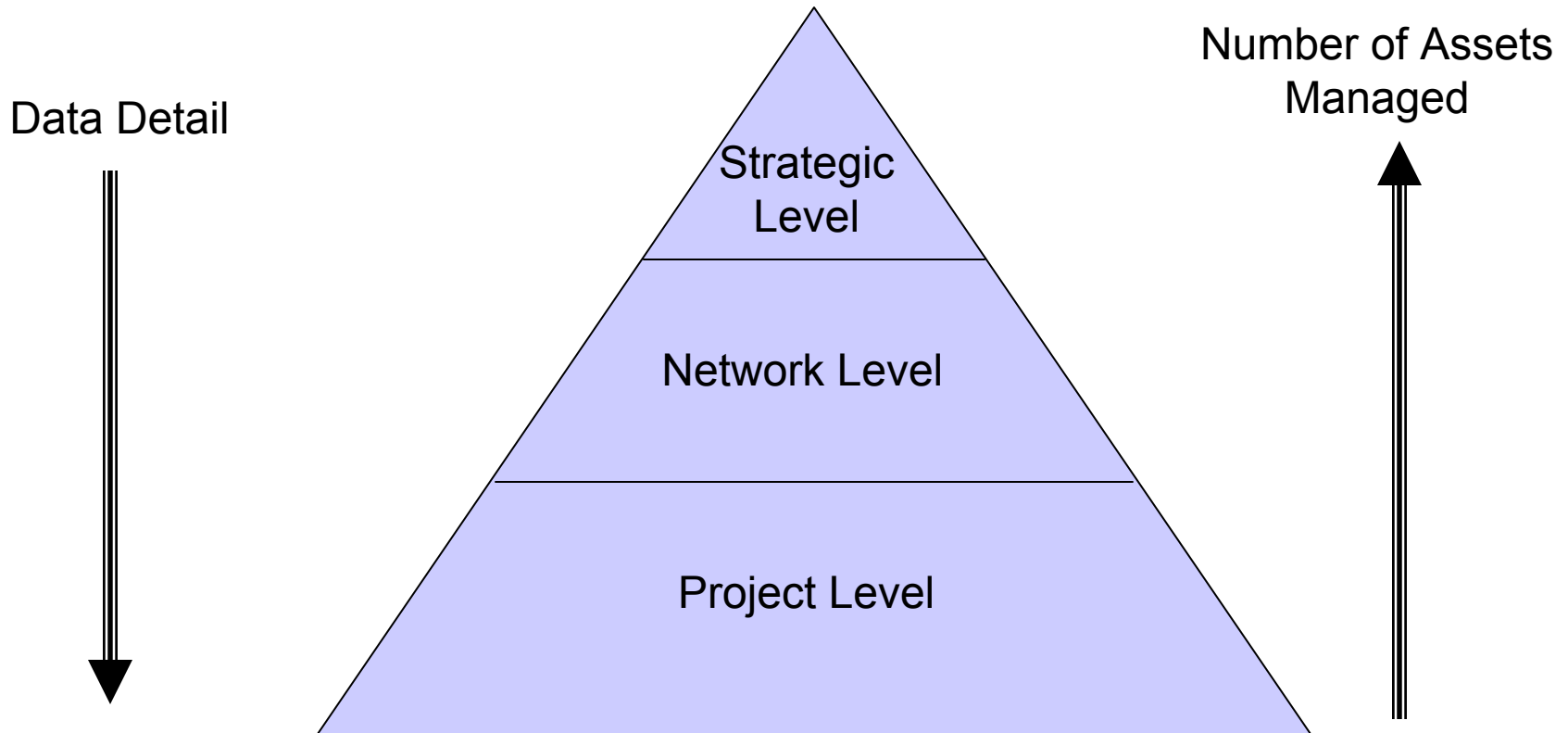
- Developed and operated independently
- Little data exchange between systems
- Limited horizontal and vertical communication between asset types
- Limited consistency and coordination in decisions
- Referred to as “stovepipe” operations



# Preferred Asset Management Framework



# Decision Levels



# Decision Level/Data Links

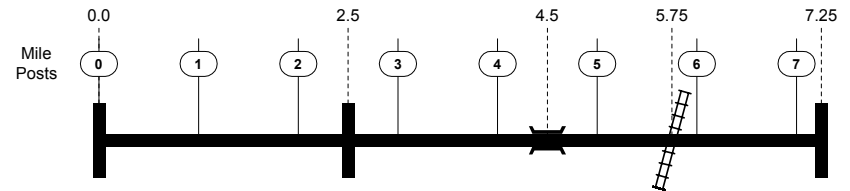
## ■ Individual System Outputs

- Asset Needs
- Network Performance
  - Past
  - Current
  - Future
- Project and Treatment Selection

## ■ Individual System Data Needs

- Objective Condition Assessment
  - Type, severity, quantity
- Location
- Treatment History
- Traffic
- Pavement Structure
- Surface Type
- Performance Models
- Treatment Rules
- Cost Data

# Data To Support Individual Systems



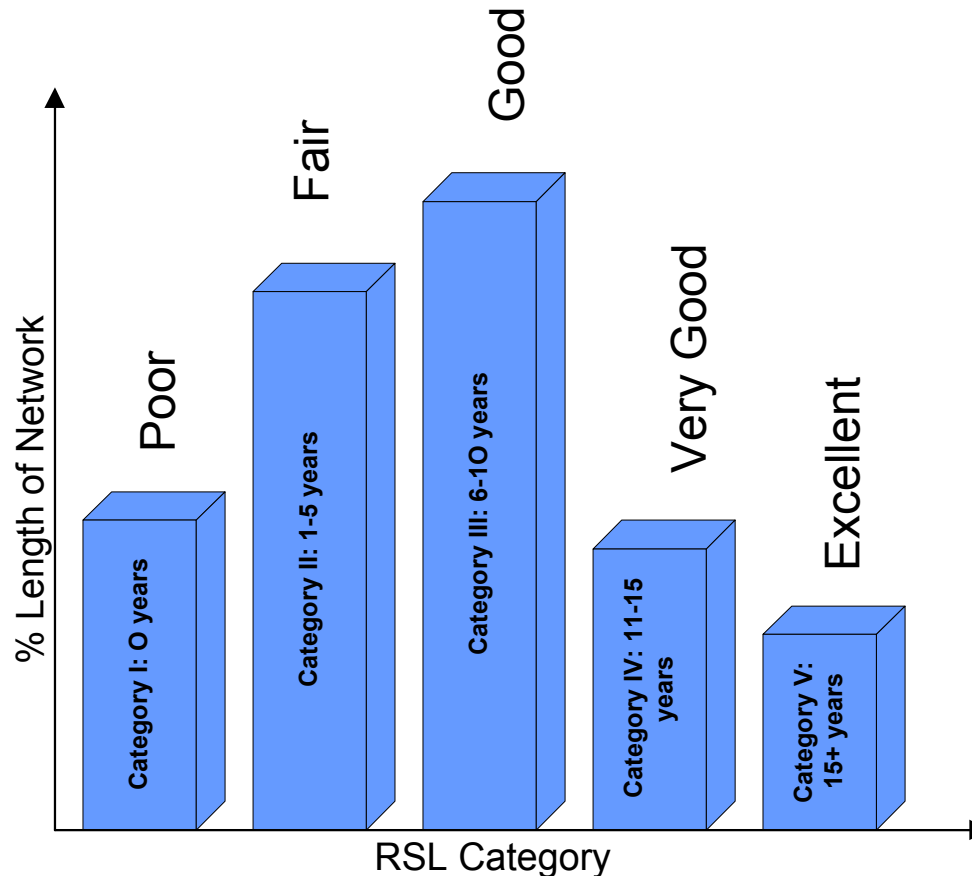
Section specific data aggregated at a network level

# Decision/Data Links

- Comprehensive Asset Management Level
  - Investment Trade-offs
  - Funding Allocations
  - Performance Targets
- Comprehensive Asset Management Data Needs
  - Current and Forecasted Performance Levels
  - Consequences of Investment Options
  - Overall Funding Available

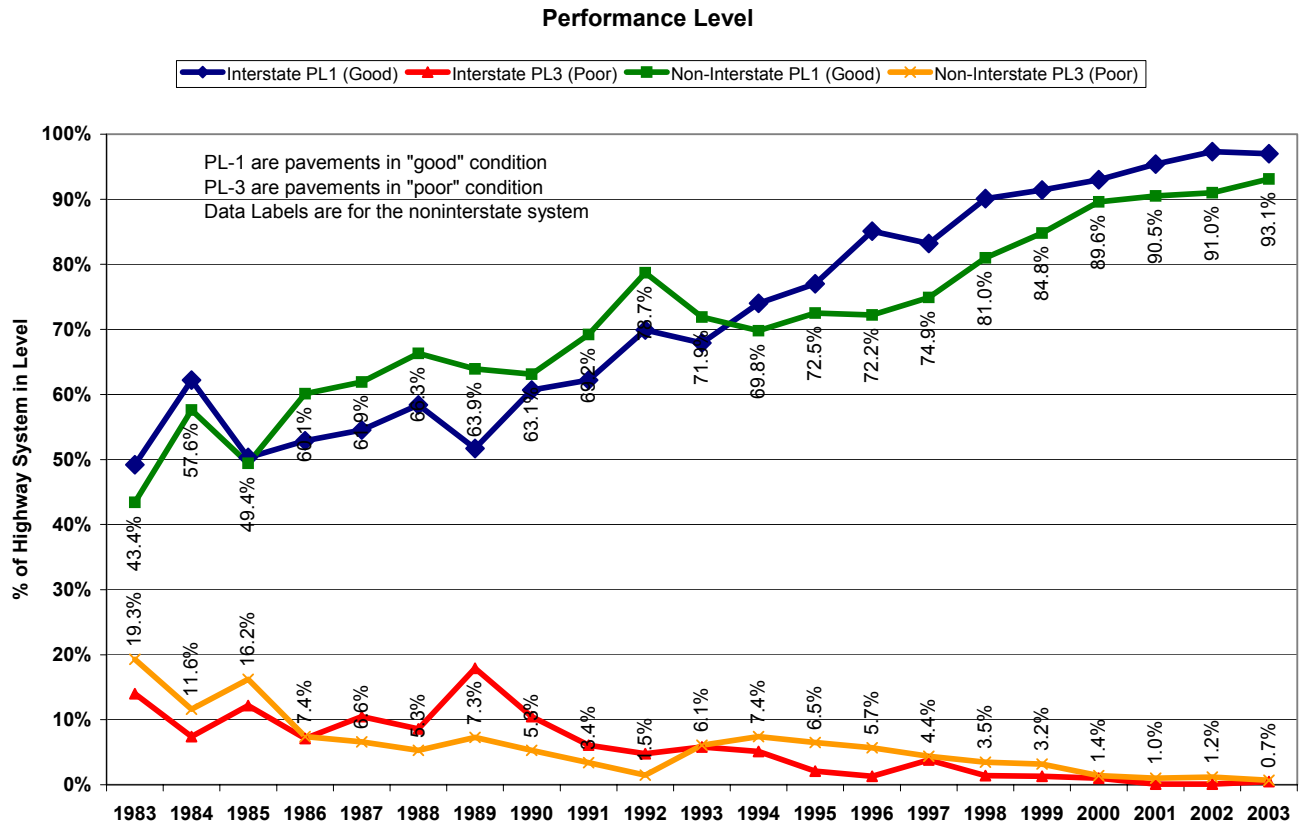
# Data To Support Comprehensive TAM

- Remaining Service Life Categories



# Data To Support Comprehensive TAM

## ■ Percent of Network in Good, Fair Poor Condition



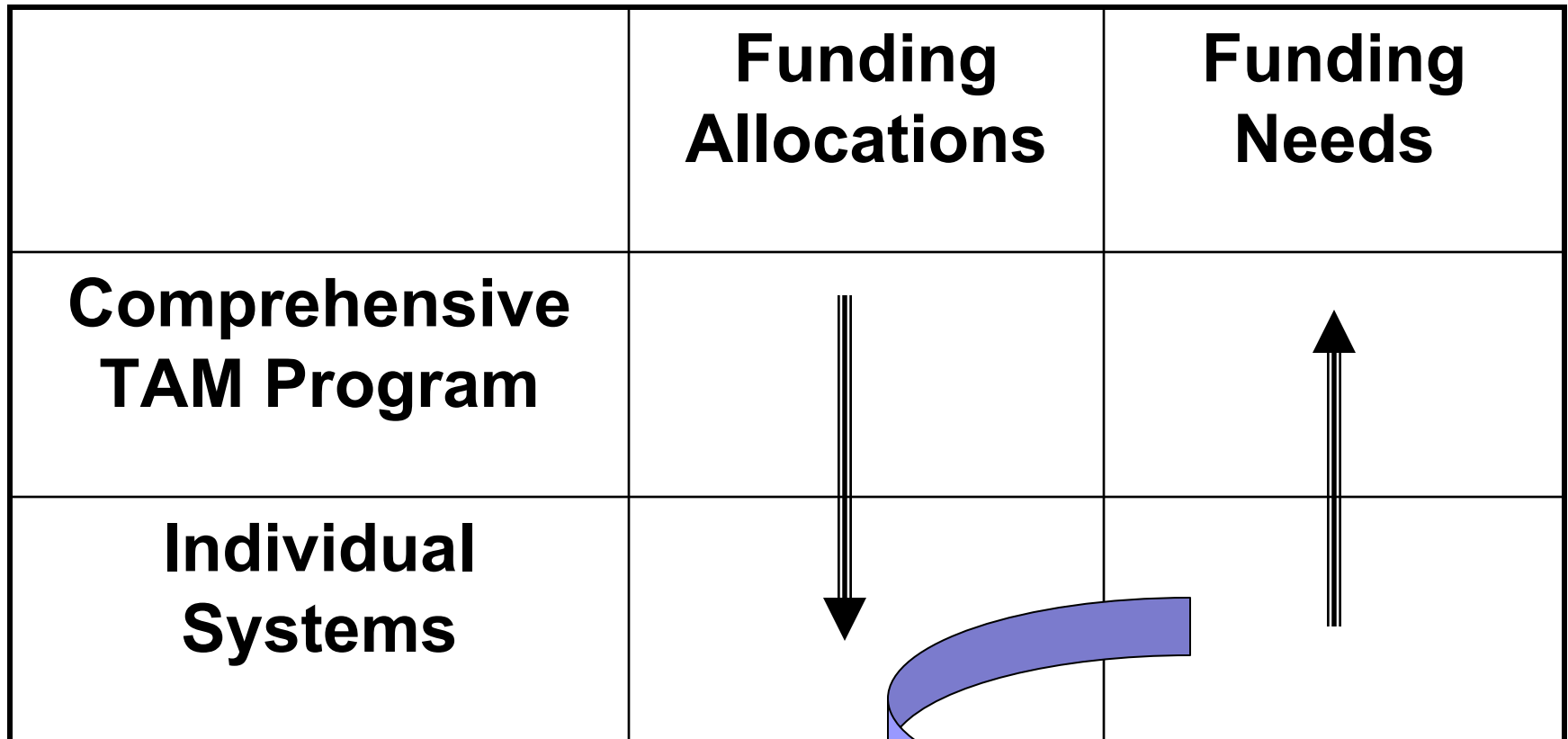
# Data To Support Comprehensive TAM

- Report Cards

Asset Type	A	B	C	D	F
Pavement conditions			■		
Bridge conditions		■			
Signs and signals			■		



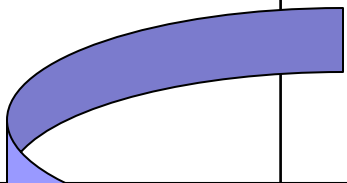
Aggregated data that is no longer section specific

# TAM Data Model



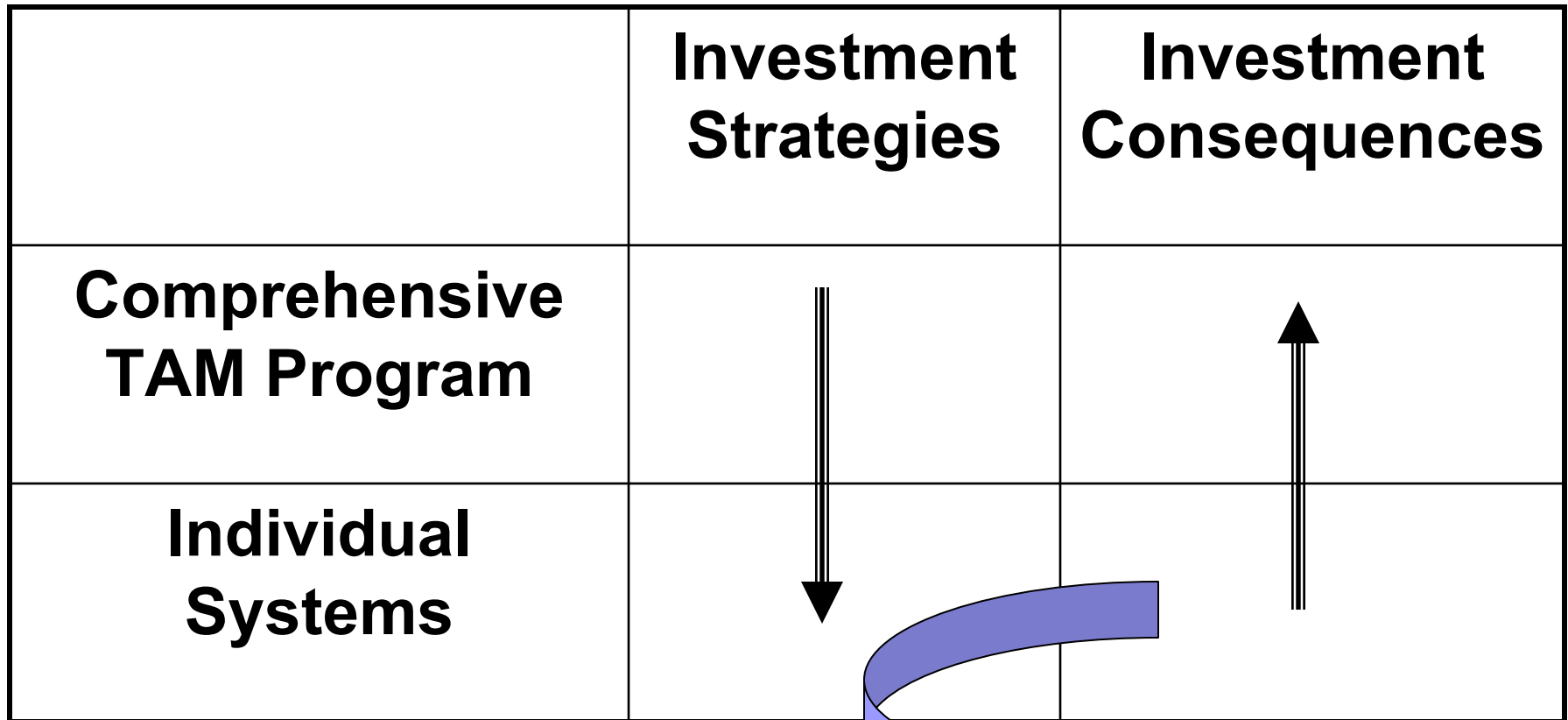
Drives the Data Requirements

# TAM Data Model

	<b>Performance Targets</b>	<b>Performance History and Performance Projections</b>
<b>Comprehensive TAM Program</b>		
<b>Individual Systems</b>		

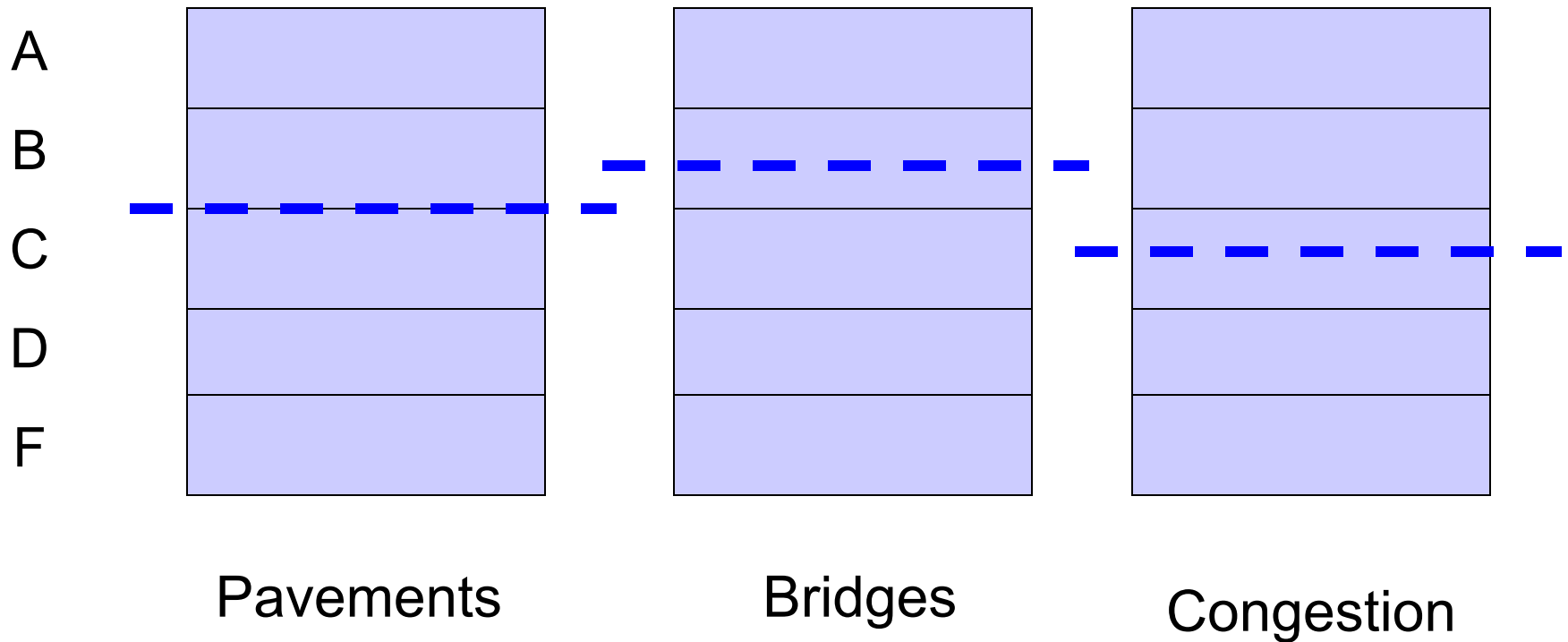
Drives the Data Requirements

# TAM Data Model



Drives the Data Requirements

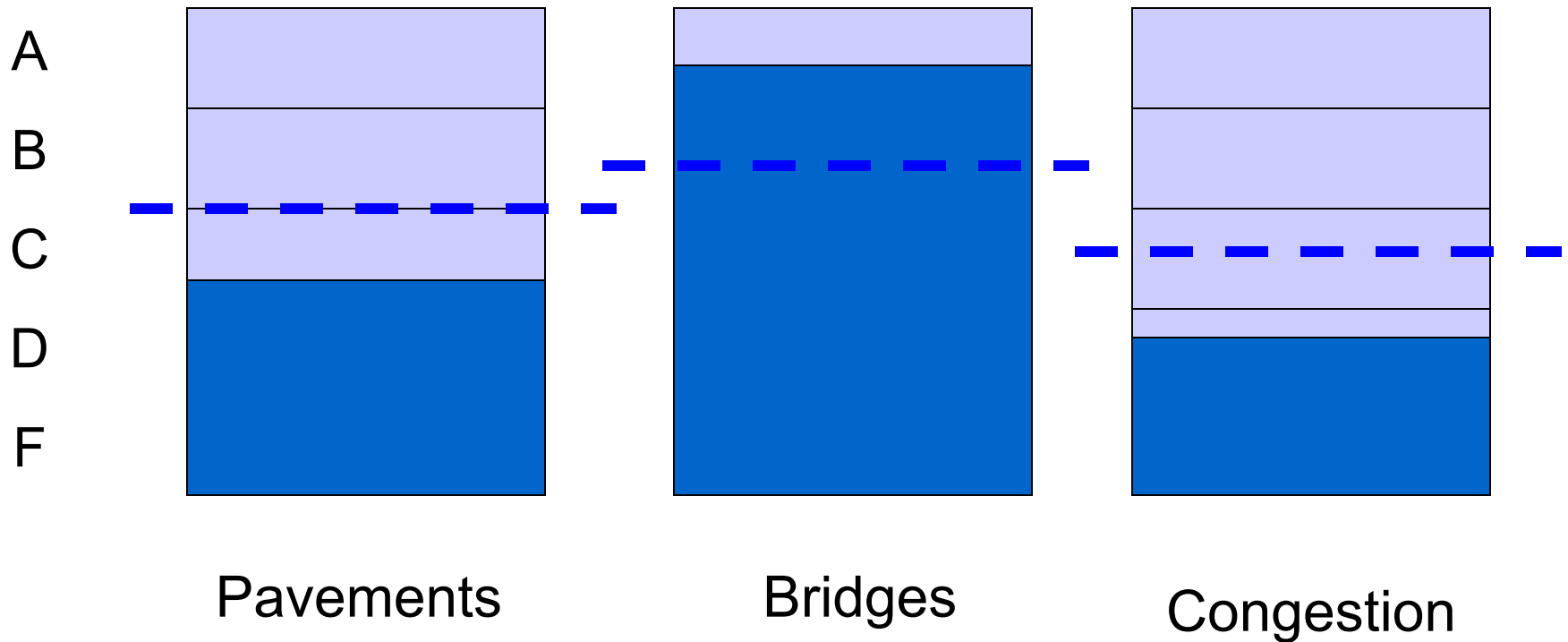
# Comprehensive TAM Framework



— — — — Performance Targets

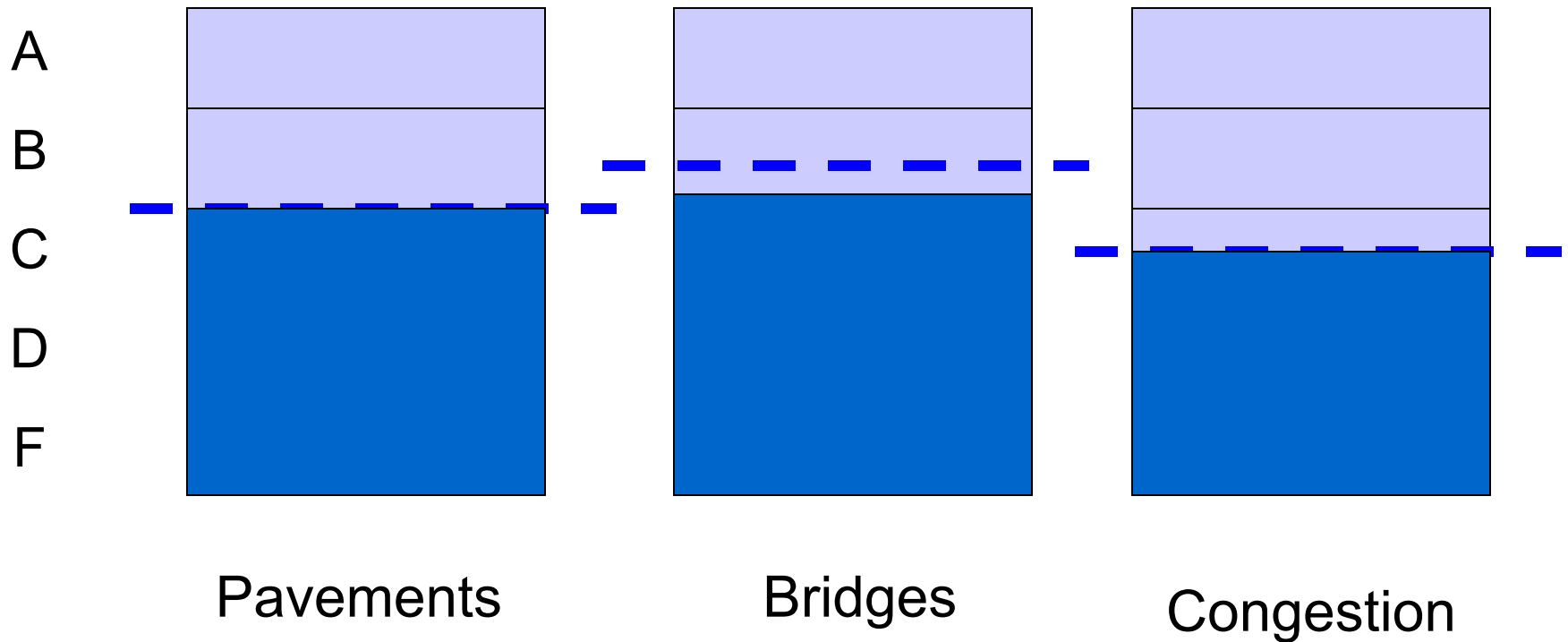
# Comprehensive TAM Framework

## Strategy #1



# Comprehensive TAM Framework

## Strategy #2



— — Performance Target      ■ Attainable Performance Level

# Summary

- Management systems are an important component of an agency's asset management program
- Independent management systems typically need detailed information to provide the information needed at the network and strategic levels
- The more detailed analysis needs should drive the data collection and analysis requirements of the agency