



NCHRP Study 24-46 Geotechnical Asset Management  
Implementation Manual

Study Team:  
Mark Vessely, Scott Richrath, Bill Robert  
Erik Loehr, Andy Boeckmann  
Vern Schafer, Omar Smadi



# NCHRP Report 903, January 2019



**Provides implementation manual, examples, and Microsoft Excel tools to begin asset management now for assets such as:**

- **Retaining walls**
- **Embankments**
- **Cut slopes**
- **Subgrades**

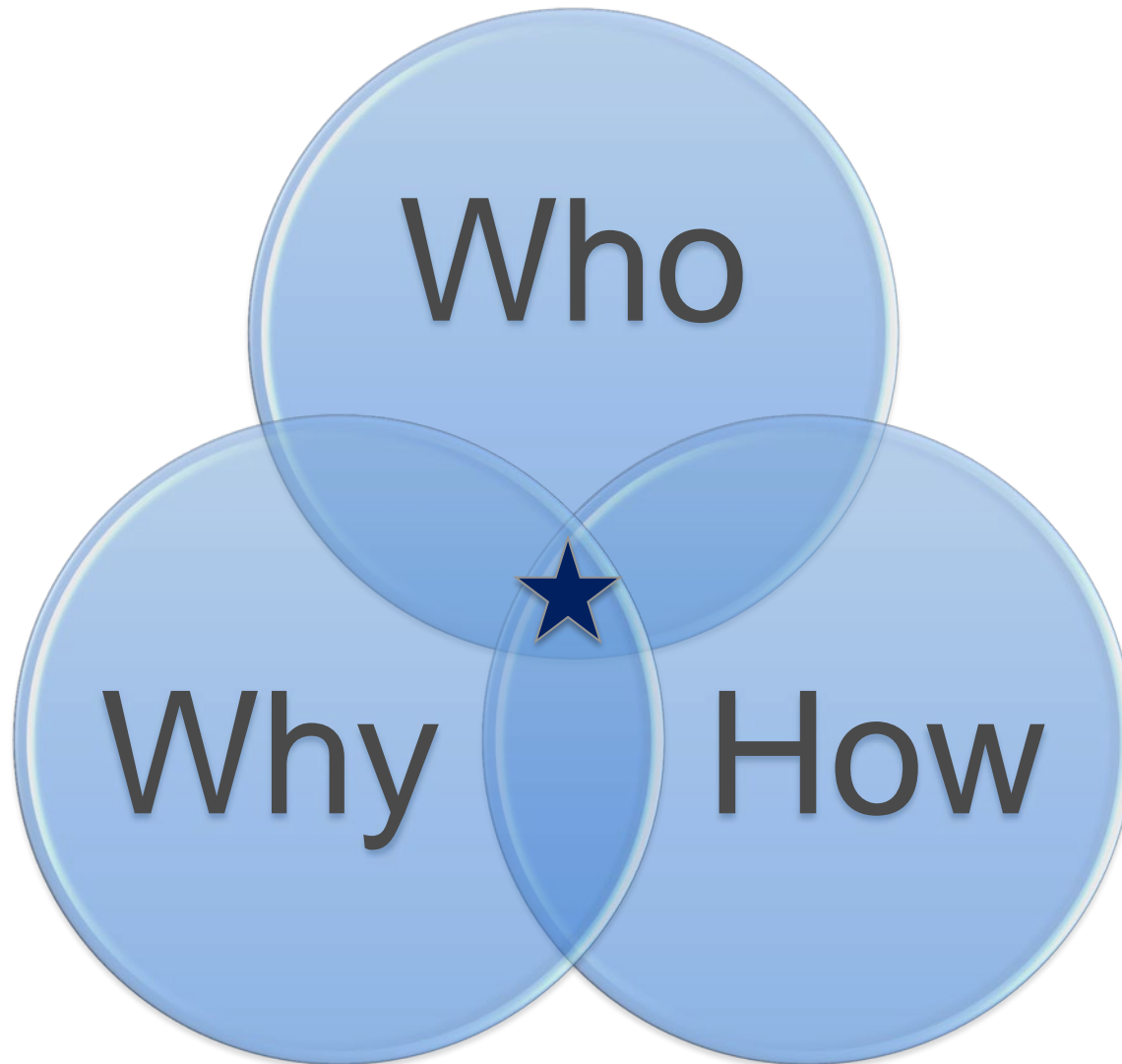
**“Fence to Fence”**

# Start Now

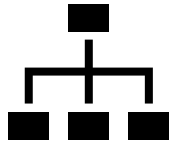
## NCHRP Report 903, Volume 2

- Implementation is designed to be simple for a low level of effort to get started
- Aligns with transportation asset management
- Includes Microsoft Excel tools:
  - GAM Planner Worksheet: simple inventory for *program* level assessment, measurement, reporting, and 10 year financial plan
  - Life-cycle Cost Analysis Template: net present value analysis for *asset* level treatment decision support

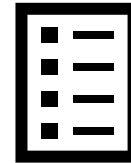
# Implementation



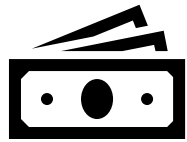
# Who



Executives



Planning Staff



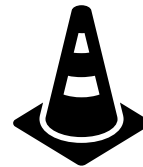
Financial  
Managers



Geo-  
professionals



Asset  
Managers



Maintenance  
Managers

# Why

Measure  
& Manage  
Safety  
Risk

Life-Cycle  
Financial  
Savings

Lessen Delay  
and Closure  
Times

Improve  
Sustainability

Reduce  
Impacts to  
Communities  
& Private  
Enterprise

Understand  
Risk Exposure  
& Manage

Reduce  
Damage to  
Other  
Assets

Agency  
Reputation

Can Start  
Simple &  
Adapt

Data for  
Informed  
Decisions

# Why in Summary

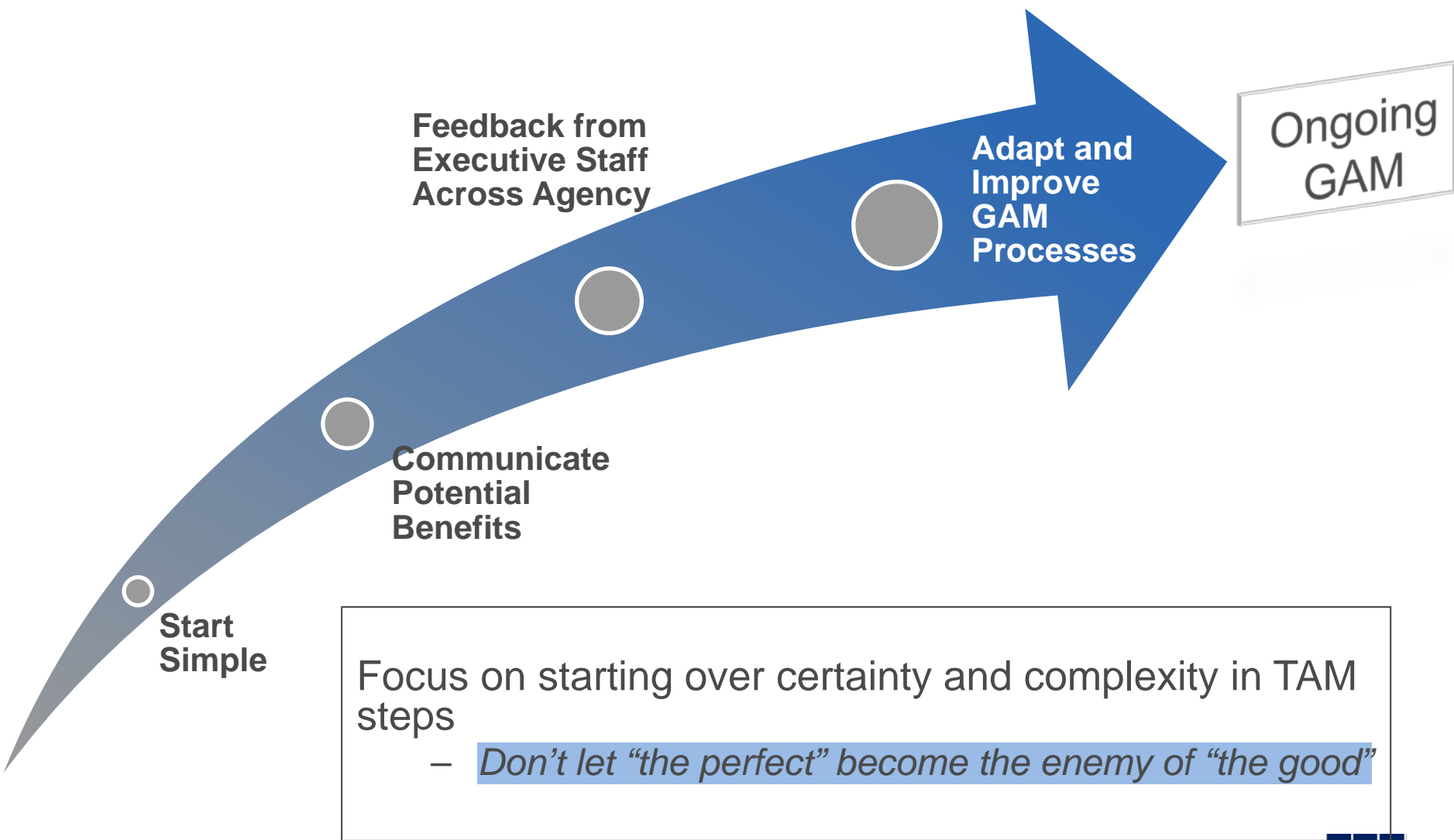
## There is a business reason

*“We couldn’t afford not to do it”*

*“There is a cost to not doing GAM”*

*“It wouldn’t make sense not to do asset management anymore”*

# How





# *Making Informed Decisions*

For any asset, the treatment options include:

- Reconstruct
- Rehabilitate
- Maintain
- Do minimum
  - Do minimum is a planned decision or the default action in the absence of a plan

# *Making Informed Decisions*

For any asset, the treatment options include:

- Reconstruct
- Rehabilitate
- Maintain

← Interventions

- Do minimum

– Do minimum is a planned decision or the default action in the absence of a plan

# *Future Questions*

For any asset, the treatment options include:

- Reconstruct
- Rehabilitate

AASHTO and FHWA design guidance, standard and special specs, textbooks support these treatments

- Maintain

Are we providing enough guidance for this treatment? (when, what, and budget)

How do maintenance practices and timing influence deterioration rates?

- Do minimum

Clean up and recover