



# Comprehensive Asset Management Program Development

Discussion with CFRTF | August 10, 2023

# District Infrastructure Portfolio

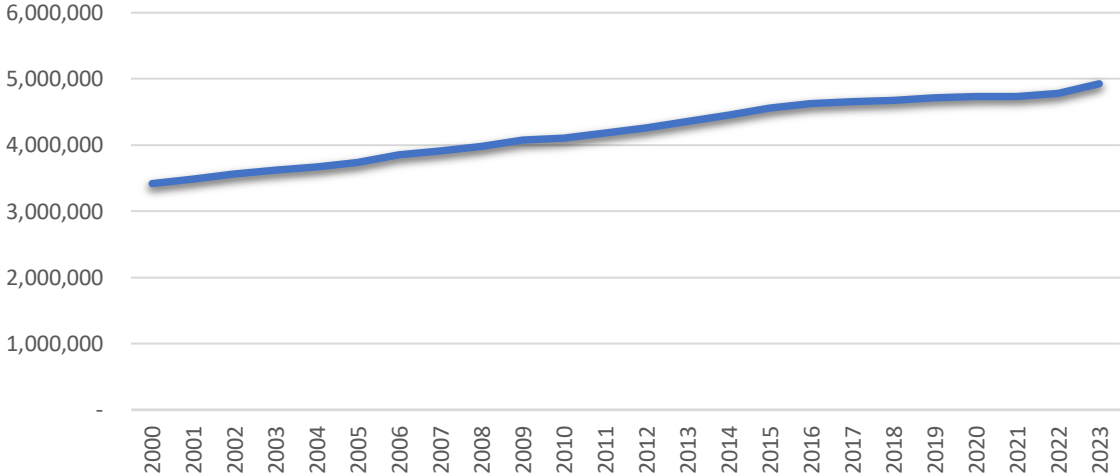
- District Infrastructure
  - 2,500 Miles of Channels (Natural, Manmade, Manmade Forested, Concrete Lined)
  - Over 260 Detention Basins
  - 2 Levee Systems
  - 3 Mitigation Banks
  - Over 3,200 Buy Out Lots
  - In total over 19,000 acres of infrastructure that is regularly maintained
- Standardized Design adopted in 1984
- Approximately two-thirds of District infrastructure was constructed pre-1984

# Maintenance Categories

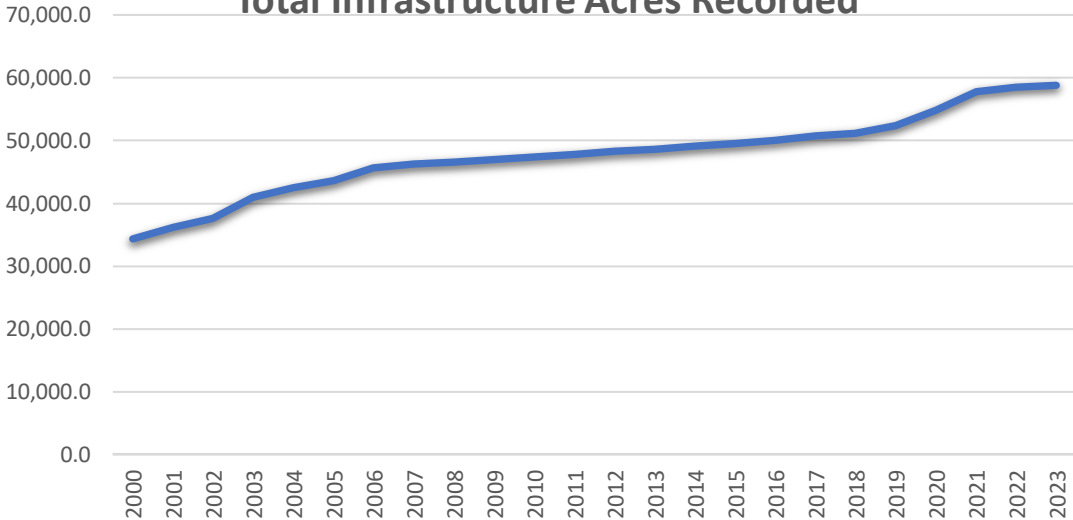
- Building Services
- Fleet Services
- Vegetation Management (Preventative Maintenance)
- Maintenance Repairs (Corrective Action Repairs)
- Maintenance Programs
- Nature Based Enhancement Program

# Operations & Maintenance Funding

### Harris County Population

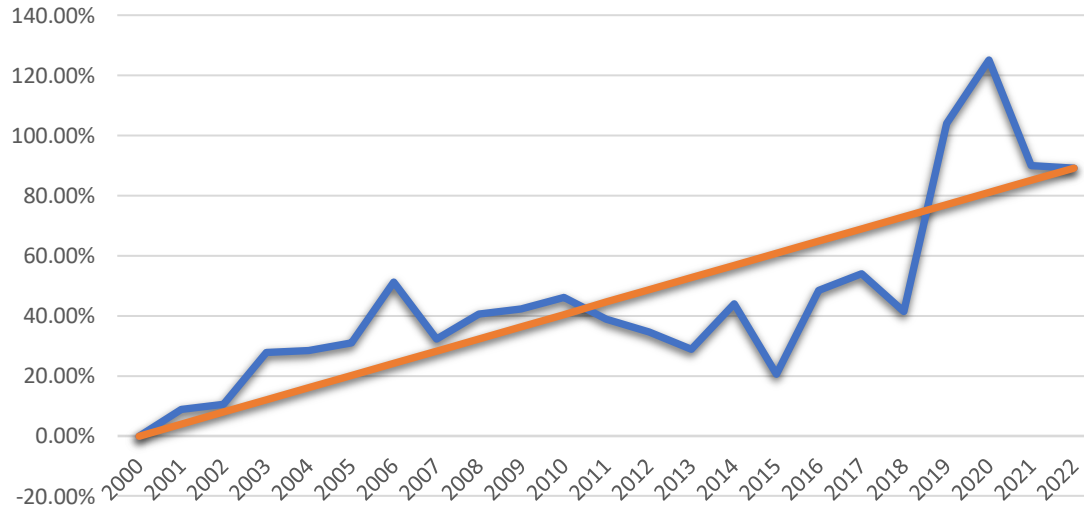


### Total Infrastructure Acres Recorded

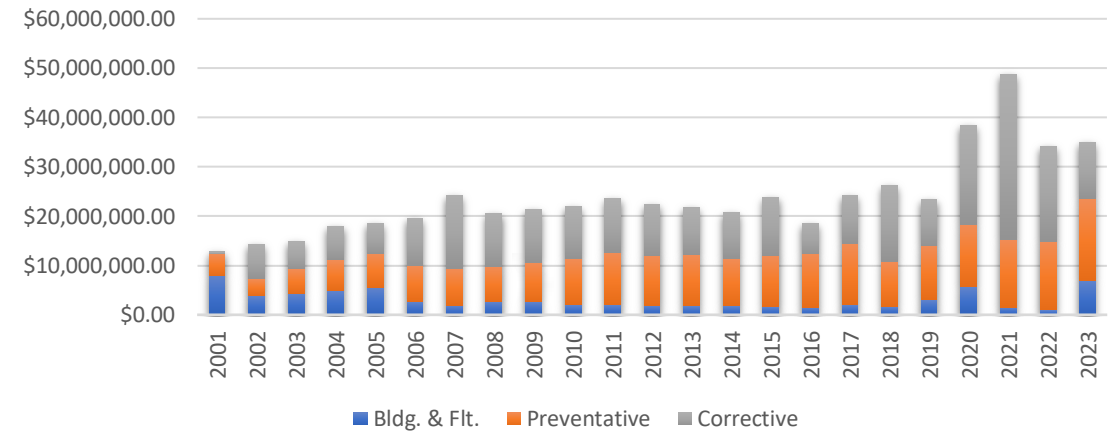


# Operations & Maintenance Funding

% Increase per Year in Maintenance Expenditures

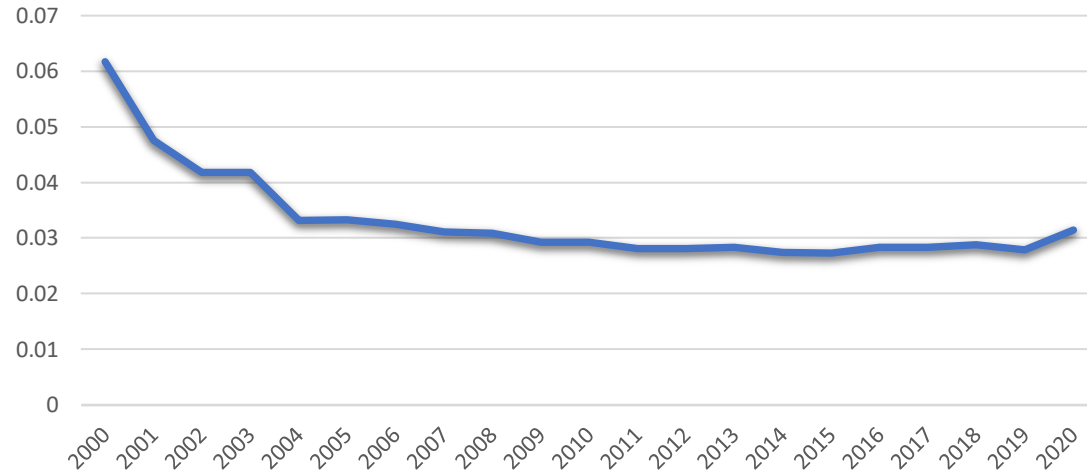


Maintenance Expenditures by Category



# Operations & Maintenance Funding

HCFCF Tax Rate per Year



## O&M Funding Takeaways & Conclusion

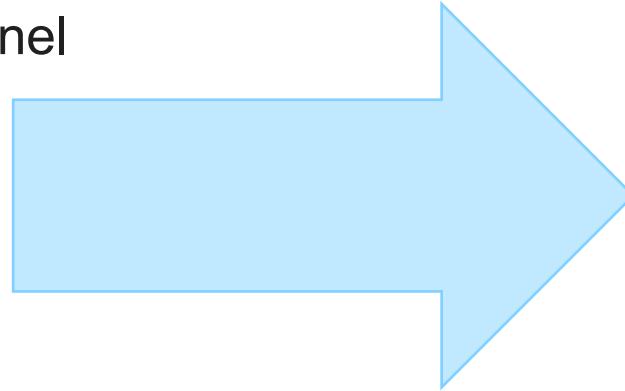
- Totality of District Maintenance Needs
- Aging HCFCF Infrastructure
- Population Growth of Harris County
- Infrastructure Growth of Harris County
- Increased O&M Expenditures for HCFCF
- Decreased HCFCF Tax Rate
- Maintenance Management Needs
  - Tracking of New Infrastructure coming online
  - Optimization of O&M funding utilization through prioritization

# Updating Our Approach

## CURRENT MODEL

The Flood Control District is responsible for managing the more than 2,500 miles of channel right-of-way under the Flood Control District's jurisdiction.

Team members document maintenance needs through photographs and resident inquiries / requests.



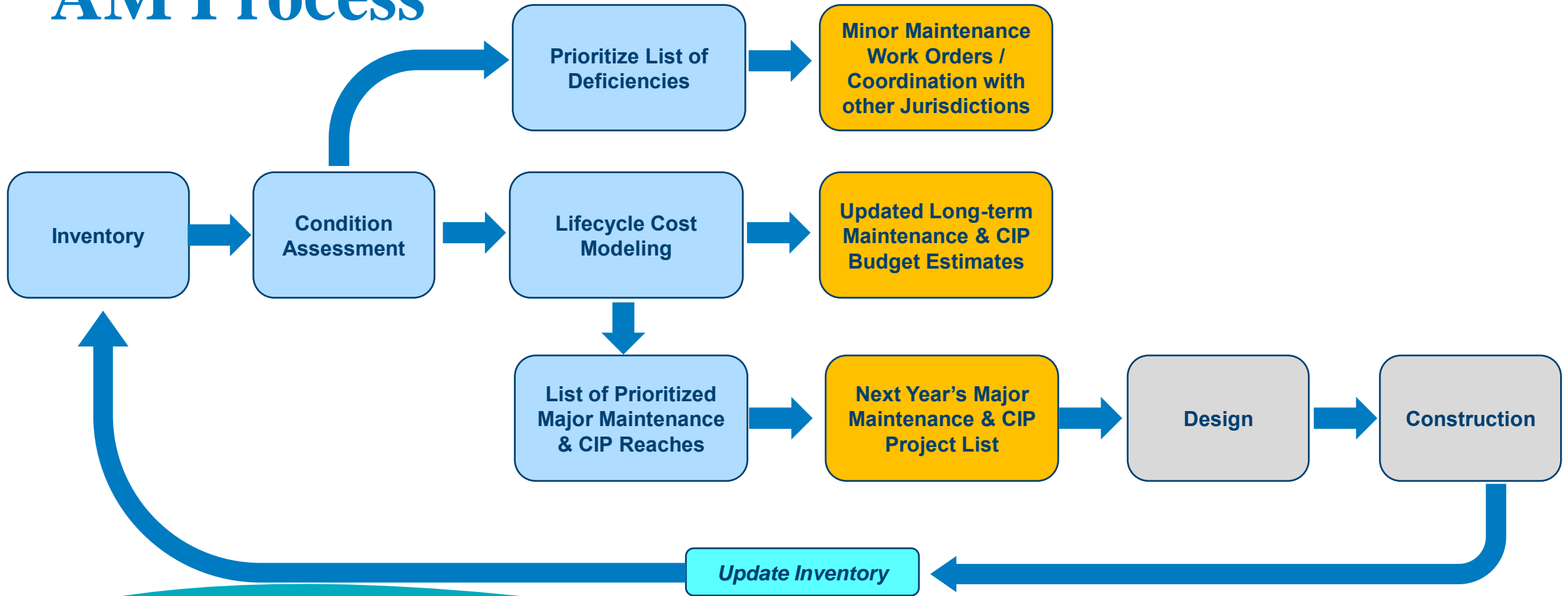
## REFINED MODEL

The **Comprehensive Total Asset Management Program** is a more structured, refined and proactive process that delivers a specified level of service to customers and regulators at an optimal lifecycle cost and an acceptable level of risk with a strategy that ensures long-term sustainability of public stormwater management assets.

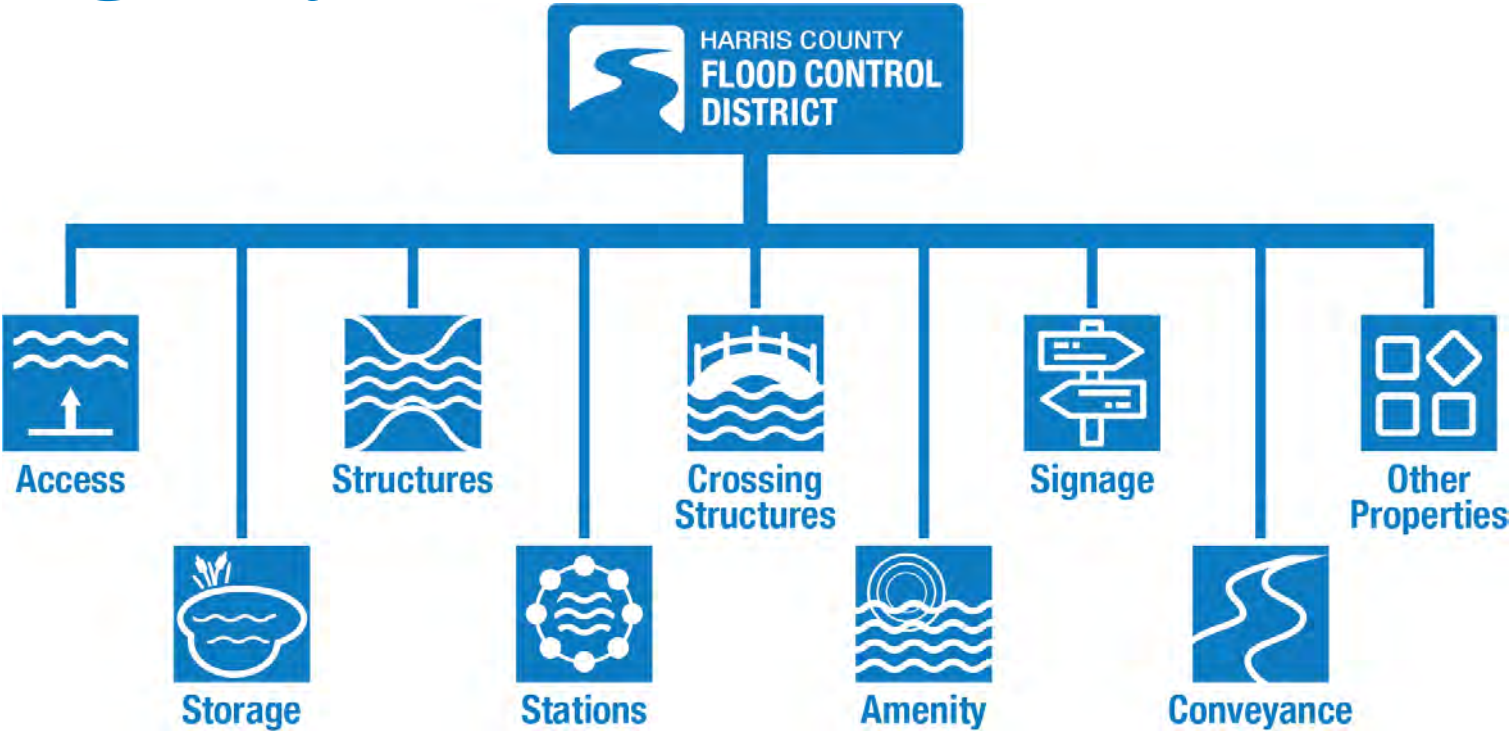
# Goals

- Manage flood damage reduction infrastructure assets responsibly.
- Implement projects and activities in a fair and efficient manner.
- Ensure third parties are responsible for their assets within the Flood Control District's jurisdiction.
- Implement performance levels for infrastructure assets that balance community expectations with the service that can be provided, the level that can be afforded and the risk that can be tolerated.
- Achieve consistency in the application of asset management practices across the organization working towards a common purpose: flood damage reduction through the delivery of all services.

# AM Process



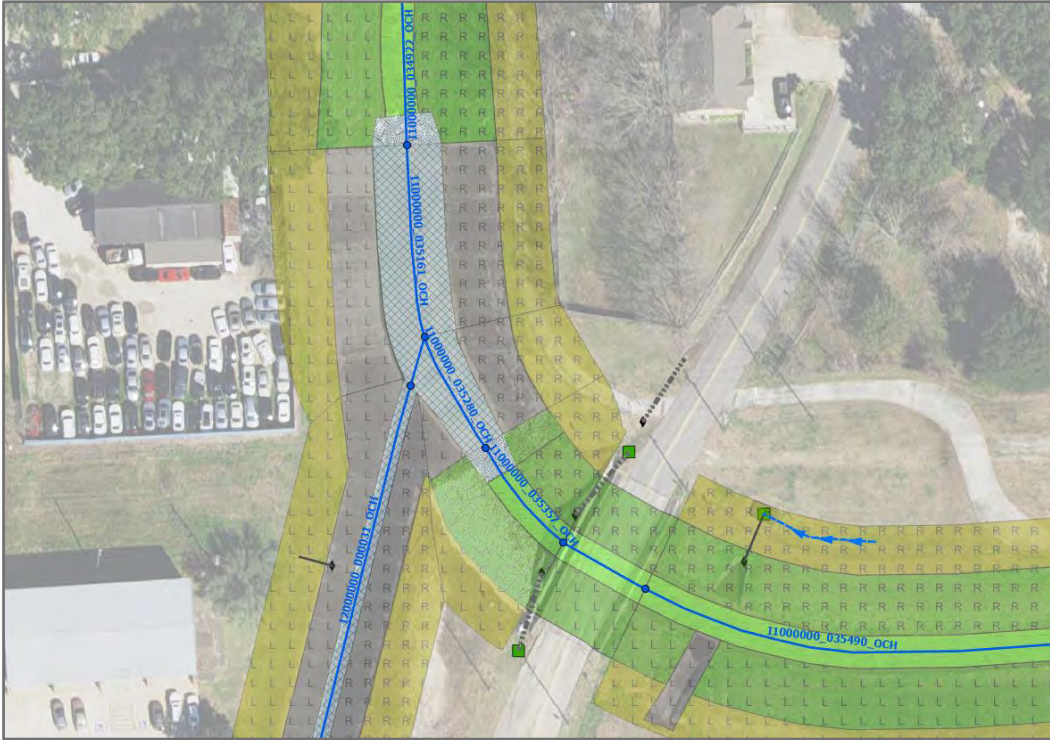
# Asset Registry



# Asset Inventory

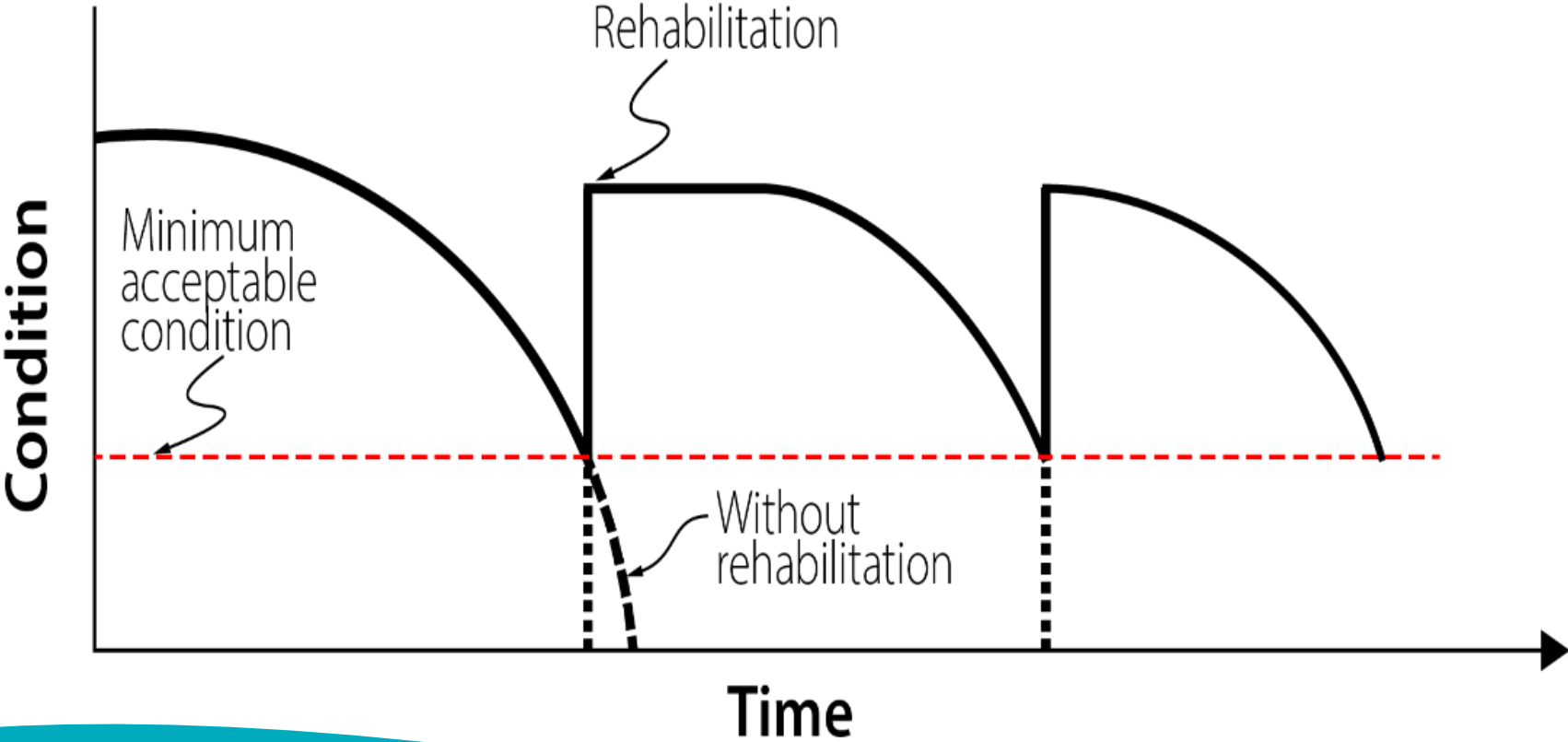


*Current District Inventory*

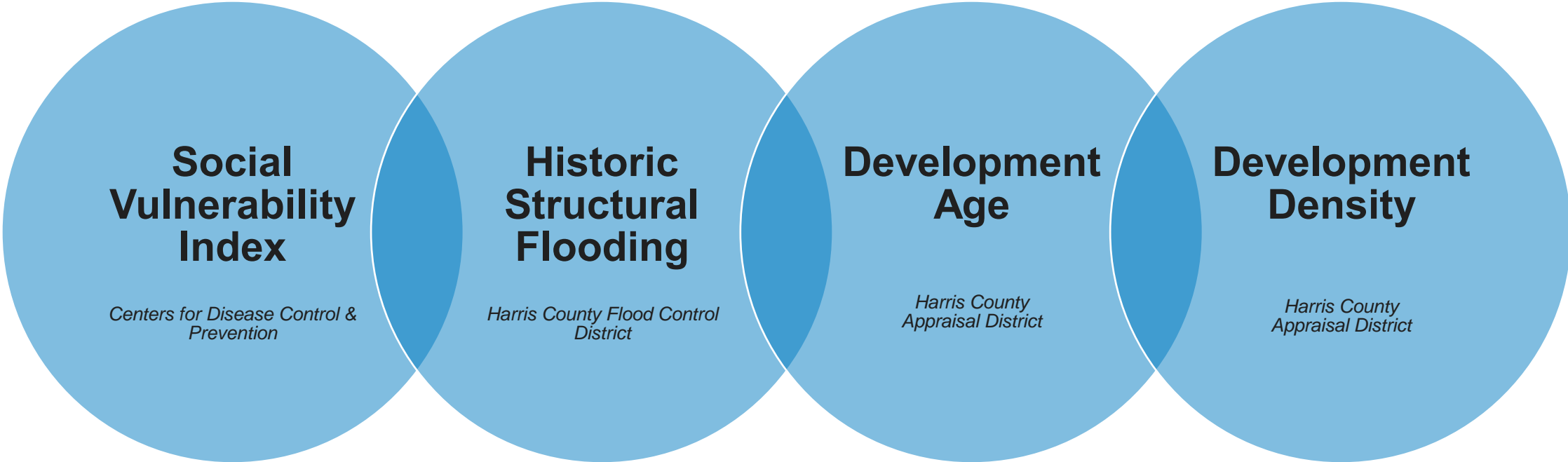


*Asset Management Inventory*

# Lifecycle Management



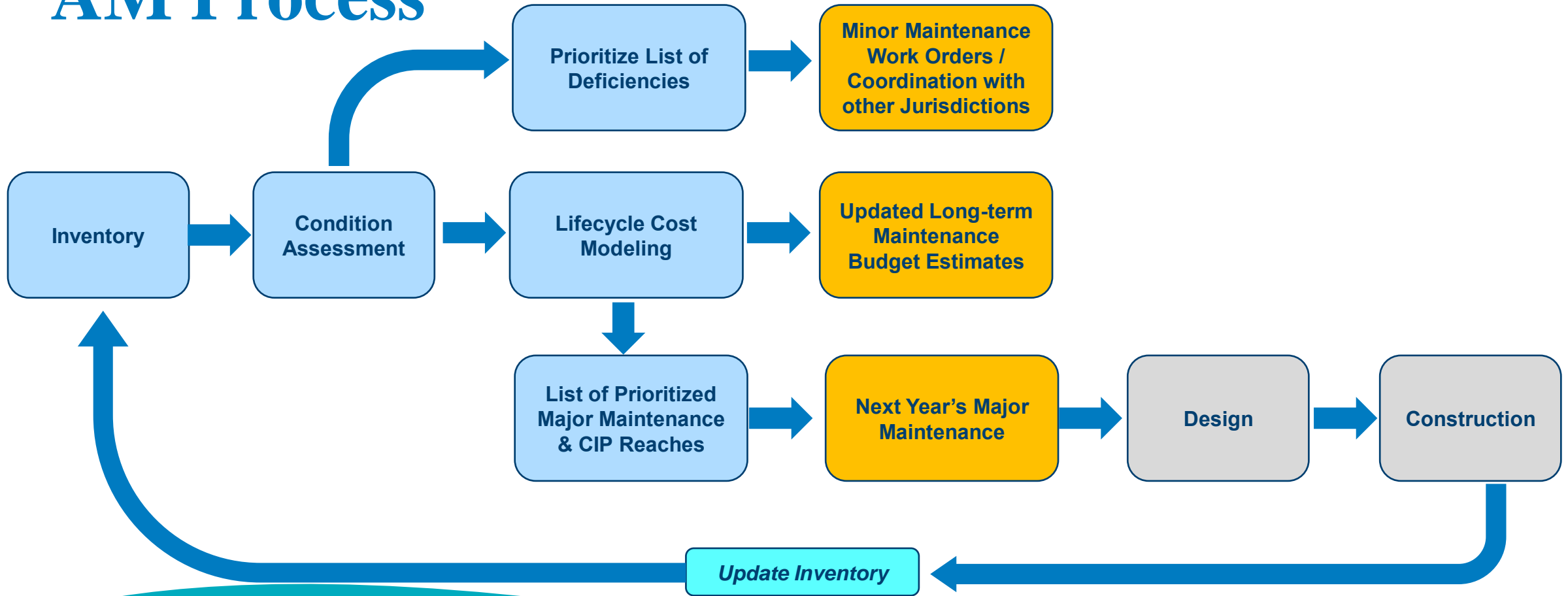
# Risk Criteria Factors



# Phase 2 Update

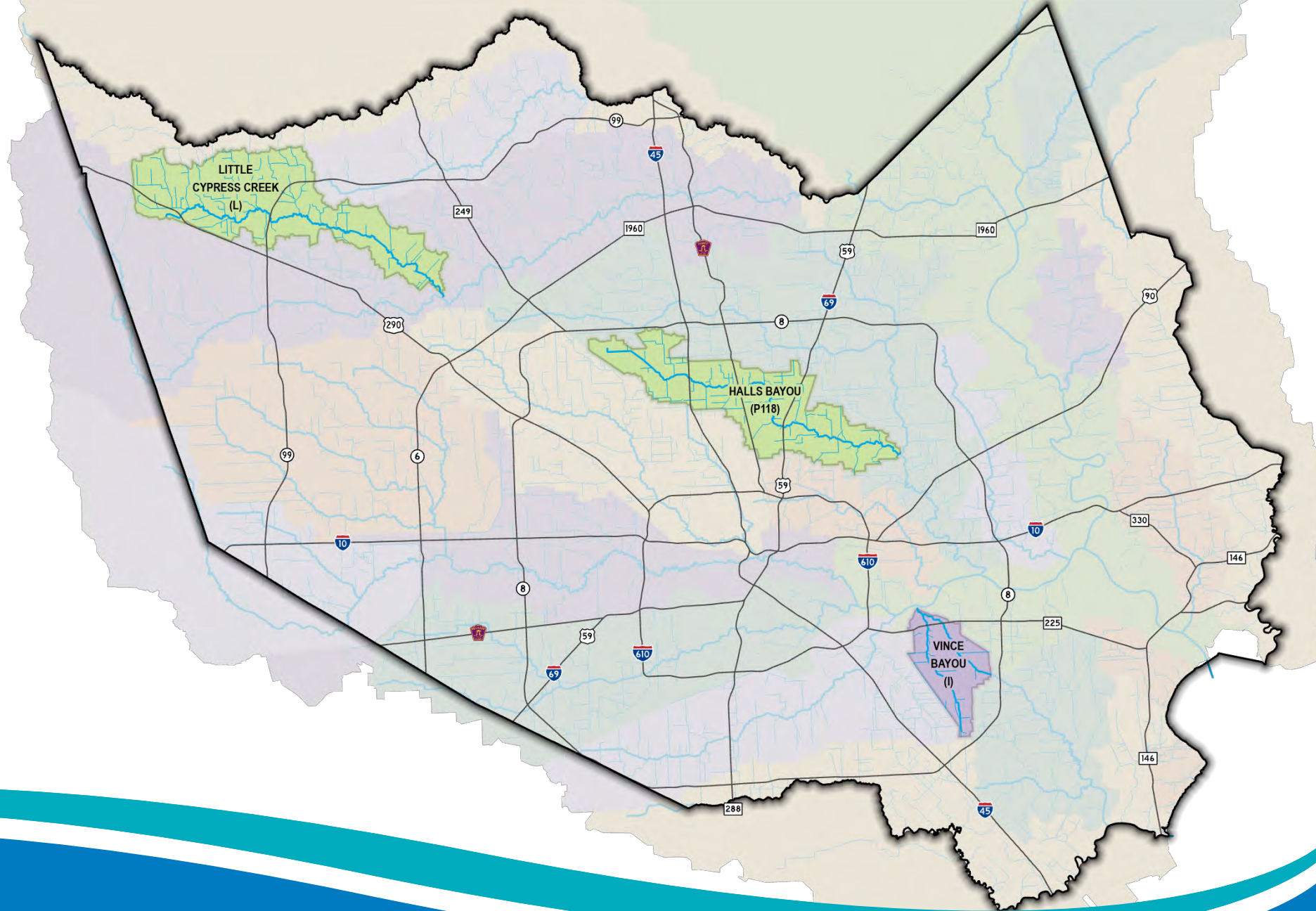
Little Cypress Creek, Vince Bayou & Halls Bayou

# AM Process



# Watershed Selection

- Native soil type
- Channel type (natural, improved, concrete-lined, composite, etc.)
- Channel conditions (slope, size, etc.)
- Development density
- Socioeconomic diversity
- Size



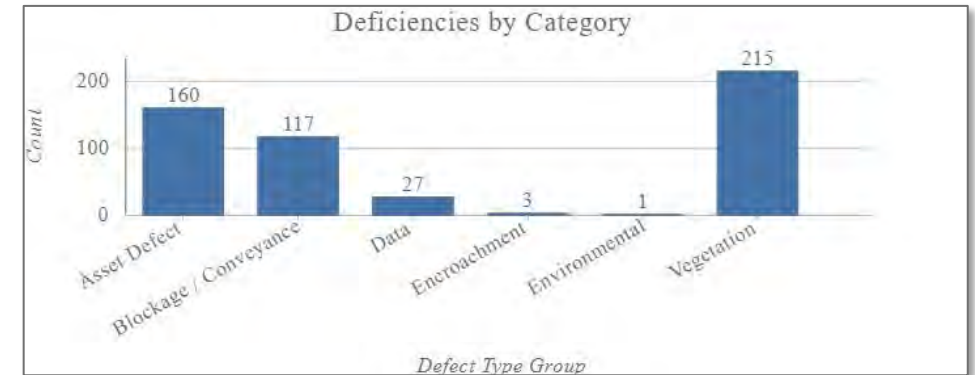
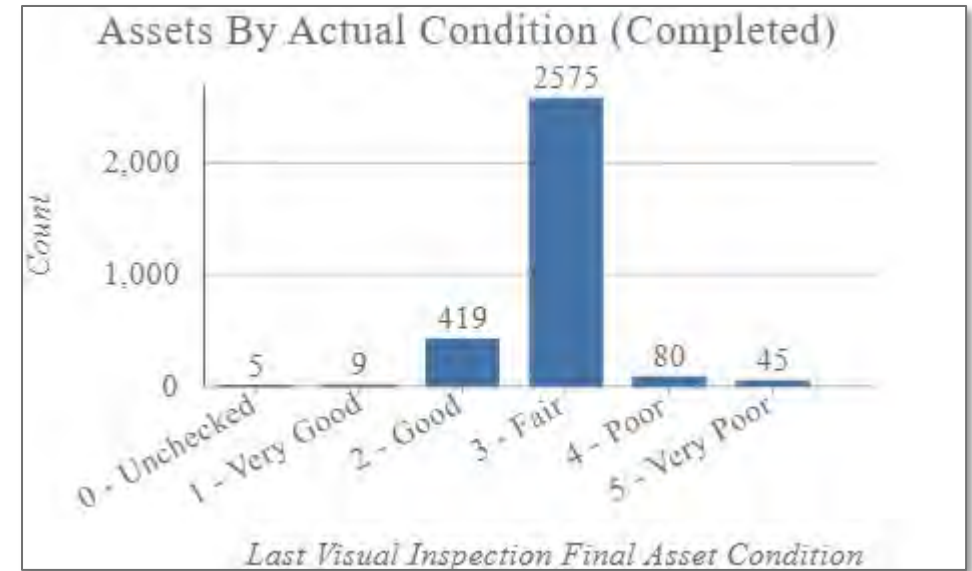
# Phase 2 Scope

The evaluation of Flood Control District assets in Little Cypress Creek, Halls Bayou and Vince Bayou included channel, outfall, manhole, inlet, conduit and control structure assets. For these watersheds and associated open channel assets, the consultant is:

- Developing a detailed register of assets
- Preparing a condition assessment framework based on industry best practice
- Conducting field inspection/condition assessment activities
- Developing long-term maintenance estimates
- Identifying maintenance projects for two fiscal years using Risk Criteria developed in Phase I

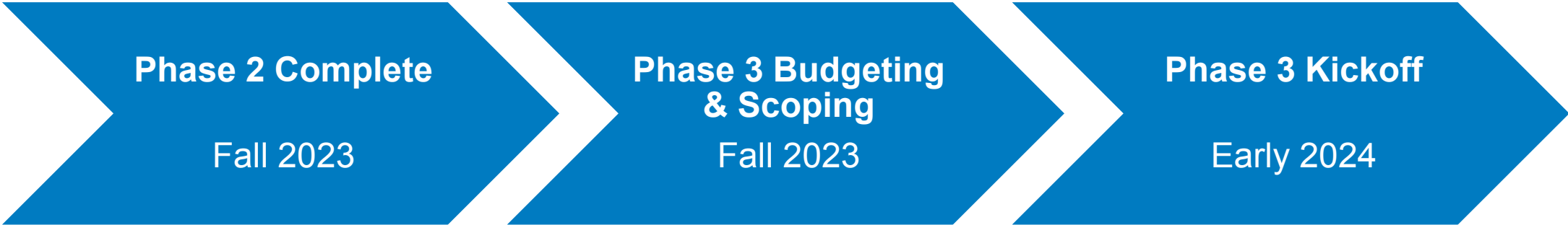
# What We Know So Far

- Over 3,100 inspections completed
- So far, we're seeing a high number of "good" and "fair" conditions across the pilot watersheds
- Establishing the baseline is labor intensive
- Breaking down assets by condition, defect and priority at scale
- Strategic and Asset level planning is crucial to successful field work



# Looking Ahead

# Timeline & Next Steps



# Questions & Discussion

# ✓ GET FLOOD INSURANCE

EVERYONE NEEDS IT

Flooding conditions can occur year-round, and you do not have to live in the 100-year floodplain to be at risk.

Flood loss claims as a result of Hurricane Harvey

- Approximately 68% were outside of the FEMA mapped 100-year floodplain.

**Hurricane Season: June-Nov**  
**Flood Season: Year-round**