AASHTOWare™ BRIDGE MANAGEMENT

Bridge Management Overview

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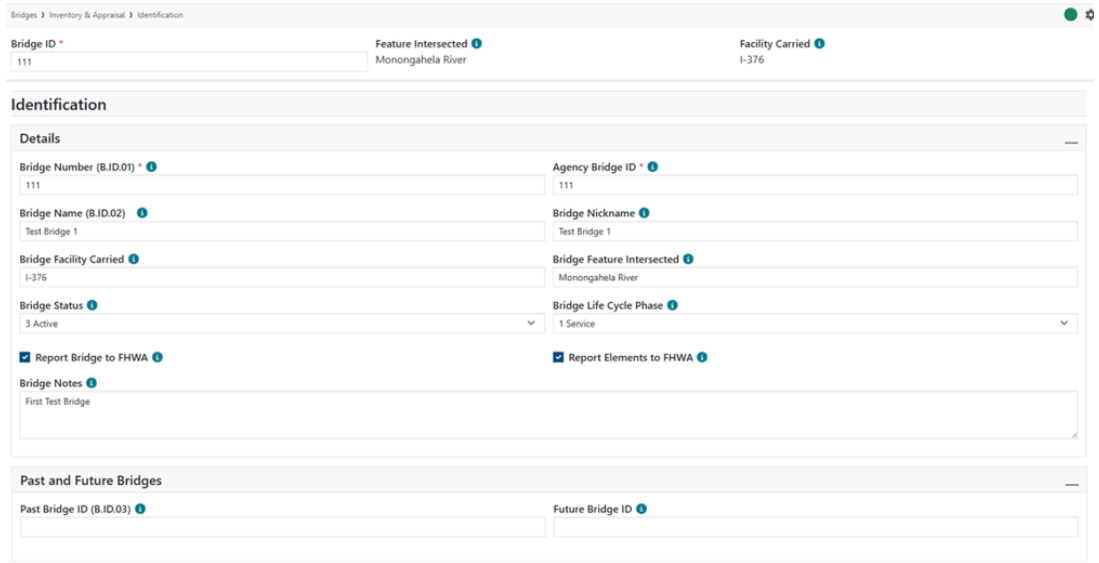
TEAM KENTUCKY TRANSPORTATION CABINET

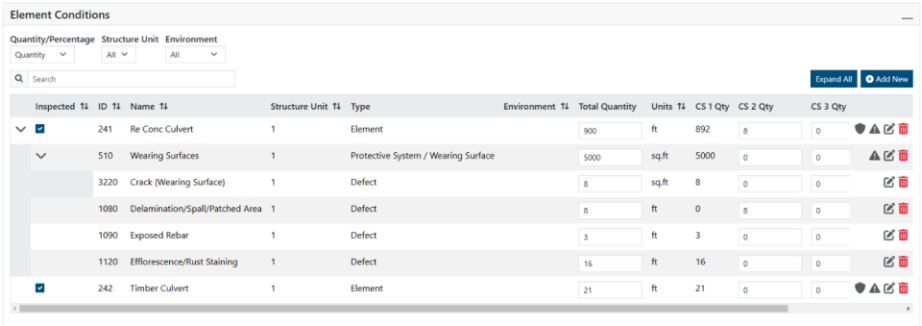
Inventory & Appraisal Data

- Identification
  - Location & Map
  - Classification
  - Construction
  - Geometry
  - Appraisal
  - Railings & Transitions
- Design
  - Superstructure Sets
  - Substructure Sets
  - Structure Units
- Features
  - Highways, Railroads, Waterways, Relief for Waterways, Pathways, Urban Features, Dry Terrain or Side Slopes



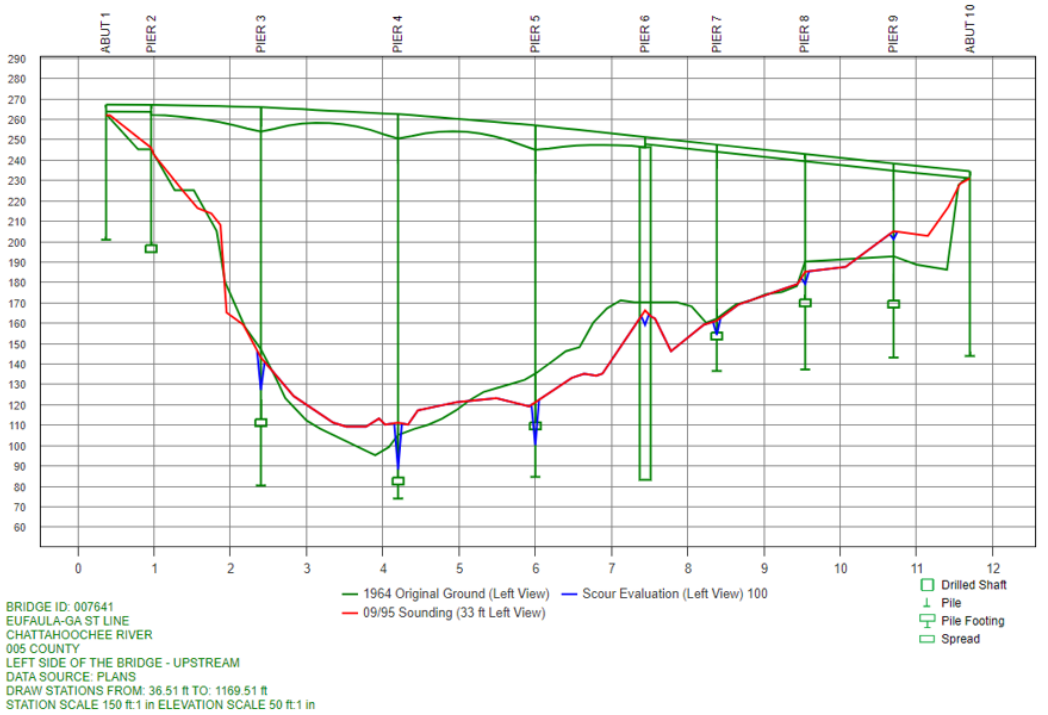
Inspection Data

- Condition
  - General Condition Ratings
  - Element, Protective System, Defect condition ratings
- Schedule
  - Inspection Types Being Performed
    - Agency-defined inspection types
  - Upcoming Inspections
- Inspection Plan
  - Equipment
  - Procedures



Cross Sections

- Streambed Cross Sections
- Scour Potential Evaluation
- Structure Detail
- Original Streambed Evaluation
- Scour Resistant Layer
- Graphing



Inspection Assignment

Management

- Configure which inspection types are appropriate for assignment (ex: routine vs damage)
- Assign to Groups or to individual BrM users
- Reassign unassigned inspection needs
- Track completion of inspection events & reviews

Inspectors

- View list of items assigned to logged in user
- Begin new inspection events

Multimedia

- Bridge-level and inspection event-level folders
- Categorization
- File linking to track an issue throughout multiple inspections

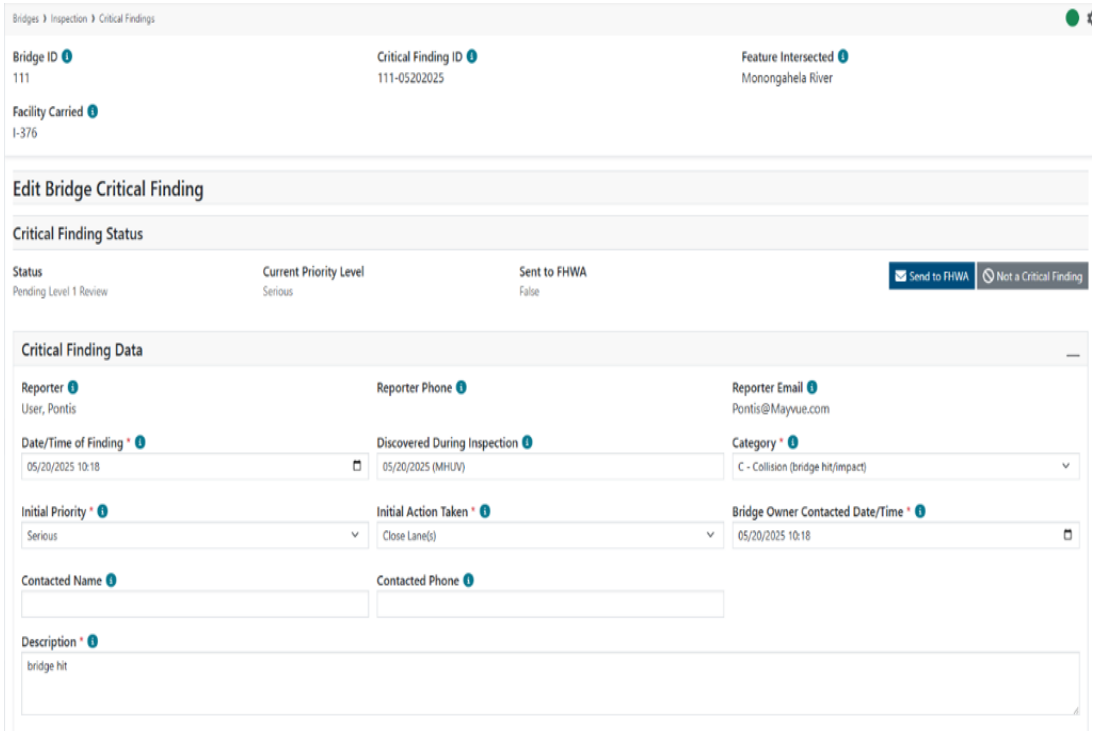
- Ability to sketch either start from template or from specific image file, Mark up file and save as copy

Work Events & Work Candidates

- Work Events
  - Reportable work performed on bridge
- Work Candidates
  - Potential work to be performed on bridge

Critical Findings

- Approval workflow
- Optional email to configured FHWA contacts
- Reminder emails for open critical findings



Inspection Review

Management

- Define review steps (office review, field review)
- Define conditions for review group for each step
- Include user validation in workflow of the inspection review module

Reviewers

- Inspections that logged in user is eligible to review
- Inspections that logged in user is currently reviewing
- See an overview of all reviews in progress

Load Rating & Postings

Load Rating

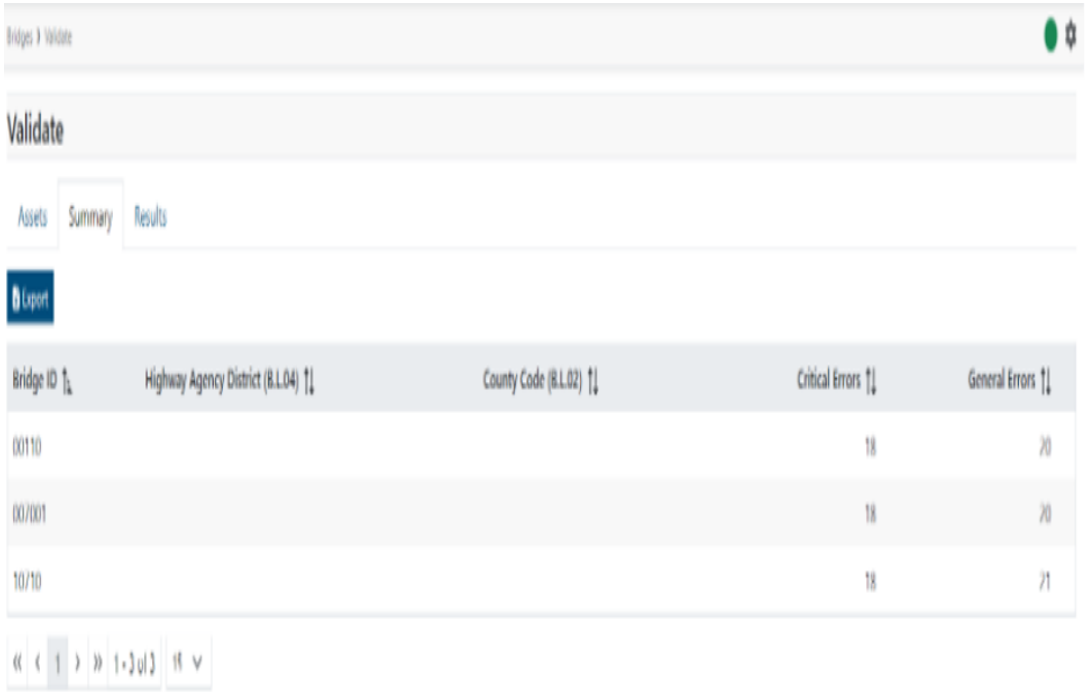
- Reportable event indicator
- Agency-defined vehicles

Load Posting

- Map Vehicle Types to Sign Types
- Uses reportable Load Rating event

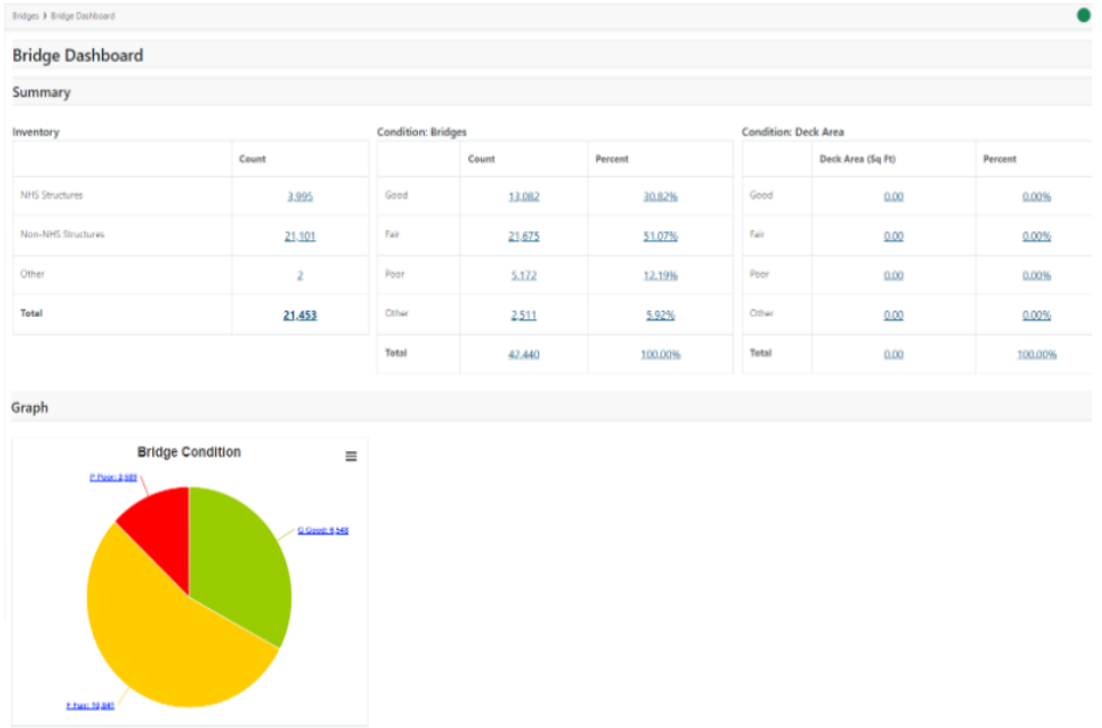
Validation & Submittal

- Validation
  - Select specific bridges or run for all reportable bridges in database
  - Summary & results of all SNBI Data Validations
- Submittal
  - Select specific bridges or run for all reportable bridges in database
  - Creates json file for submittal to FHWA



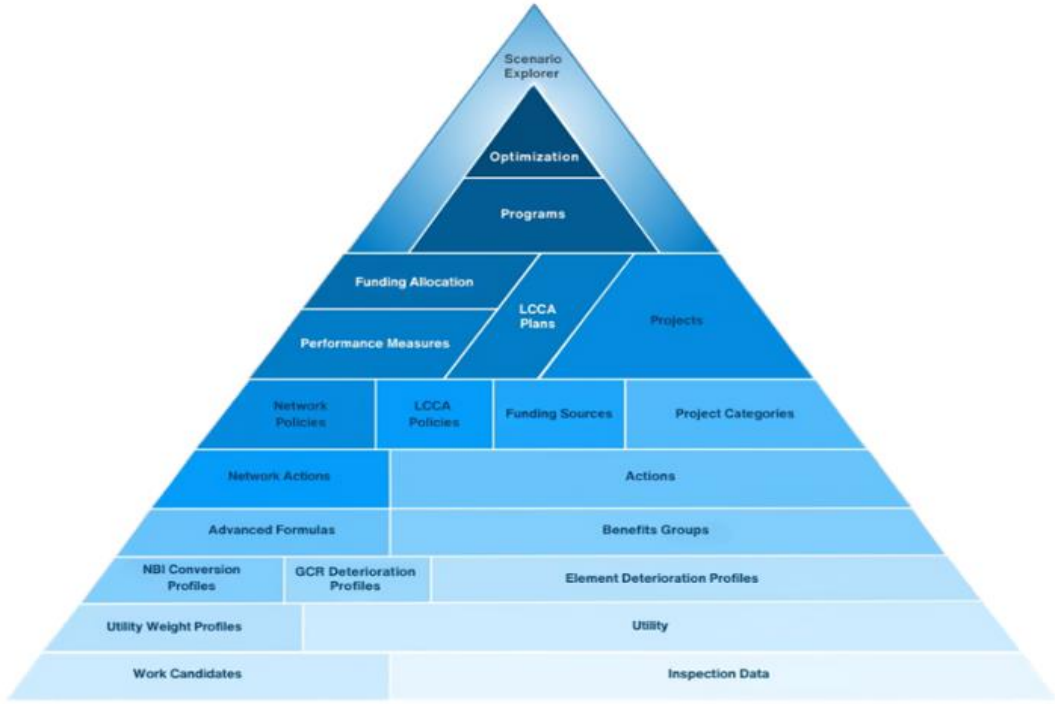
Configuration for Agency Processes

- Use Page Builder to create
  - Form pages (bridge, bridge inspection)
  - Dashboards (overview of data for all bridges)
- Reports
  - Run standard reports
  - Can create configured agency-specific reports



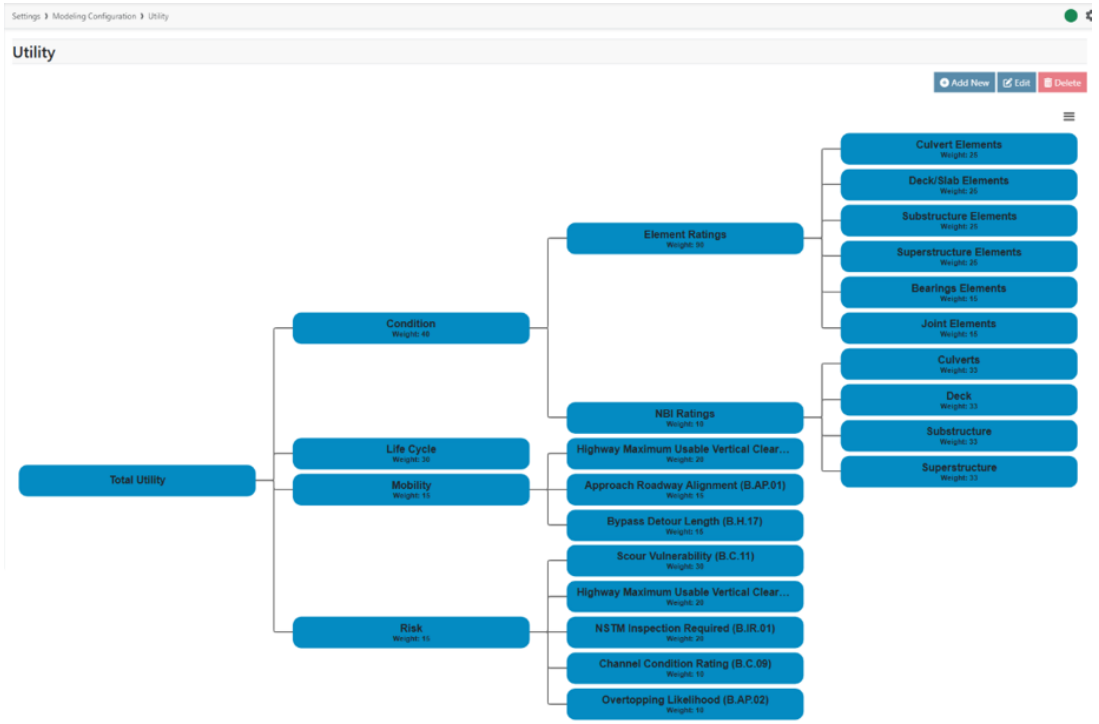
Program Planning – Modeling Configuration

- Follow BrM pyramid to complete modeling configuration settings to run program optimizations



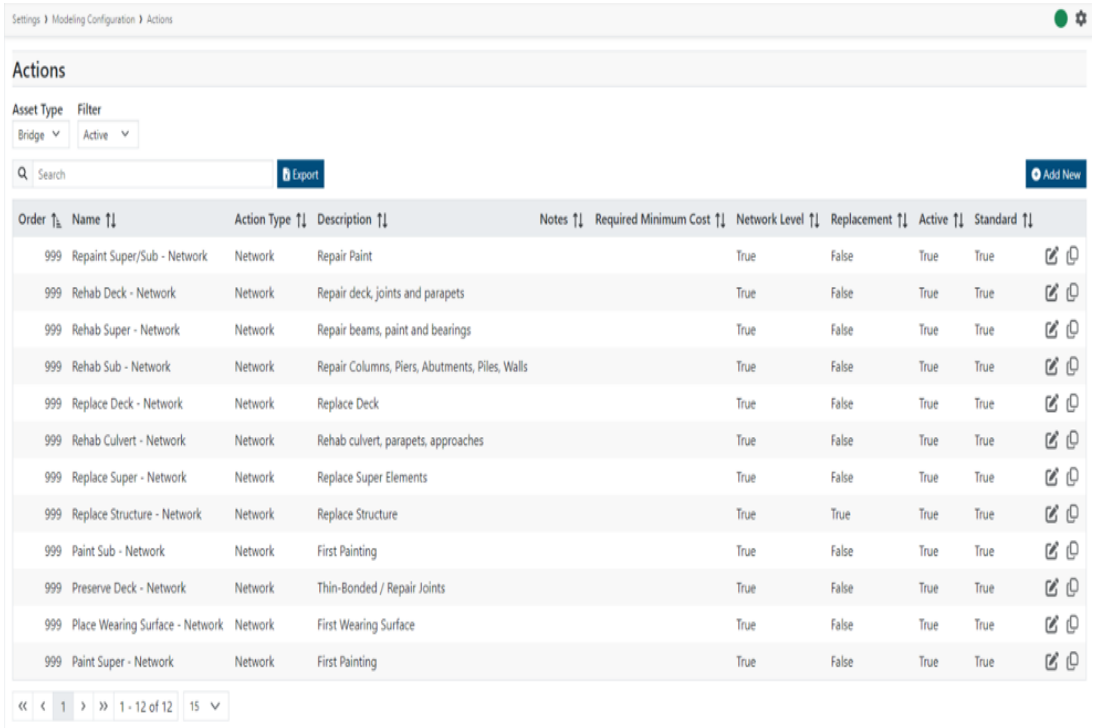
Program Planning – Utility Tree

- Define weights of each node of tree to determine utility calculation
- Can create one overall tree but many Weight Profile variations



Program Planning – Actions & Benefits

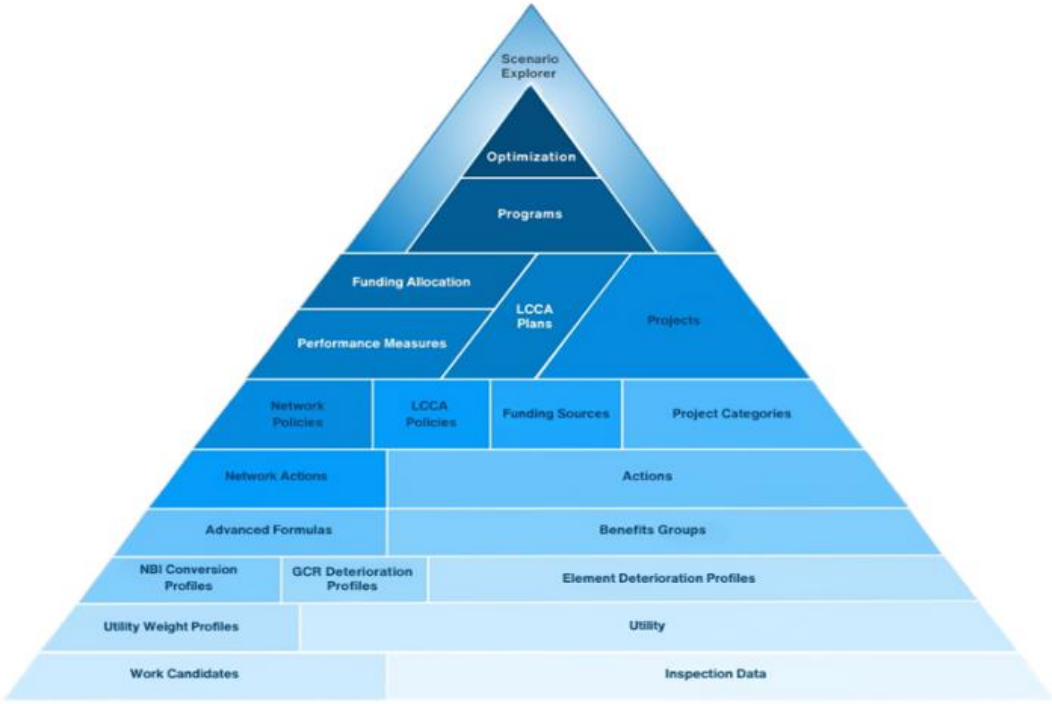
- Benefits
  - Define the effects on a bridge
  - Tie into utility tree so that benefits affect utility calculation
- Actions
  - Define potential work for a bridge
  - Link back to benefits
- Network Actions
  - Create action decision tree for related actions



Order	Name	Action Type	Description	Notes	Required Minimum Cost	Network Level	Replacement	Active	Standard
999	Repaint Super/Sub - Network	Network	Repair Paint			True	False	True	True
999	Rehab Deck - Network	Network	Repair deck, joints and parapets			True	False	True	True
999	Rehab Super - Network	Network	Repair beams, paint and bearings			True	False	True	True
999	Rehab Sub - Network	Network	Repair Columns, Piers, Abutments, Piles, Walls			True	False	True	True
999	Replace Deck - Network	Network	Replace Deck			True	False	True	True
999	Rehab Culvert - Network	Network	Rehab culvert, parapets, approaches			True	False	True	True
999	Replace Super - Network	Network	Replace Super Elements			True	False	True	True
999	Replace Structure - Network	Network	Replace Structure			True	True	True	True
999	Paint Sub - Network	Network	First Painting			True	False	True	True
999	Preserve Deck - Network	Network	Thin-Bonded / Repair Joints			True	False	True	True
999	Place Wearing Surface - Network	Network	First Wearing Surface			True	False	True	True
999	Paint Super - Network	Network	First Painting			True	False	True	True

Program Planning – Deterioration

- GCR Deterioration Profiles
  - Indicate how general condition ratings deteriorate over time
  - Define overall for program or assign to individual bridges
- NBI Conversion Profiles
  - Indicate how element condition data is converted to overall condition ratings
  - Define overall for program or assign to individual bridges
- Element Deterioration Profiles
  - Indicate how element condition states deteriorate over time
  - Define overall for program & make alternates to see effects



Program Planning

Projects

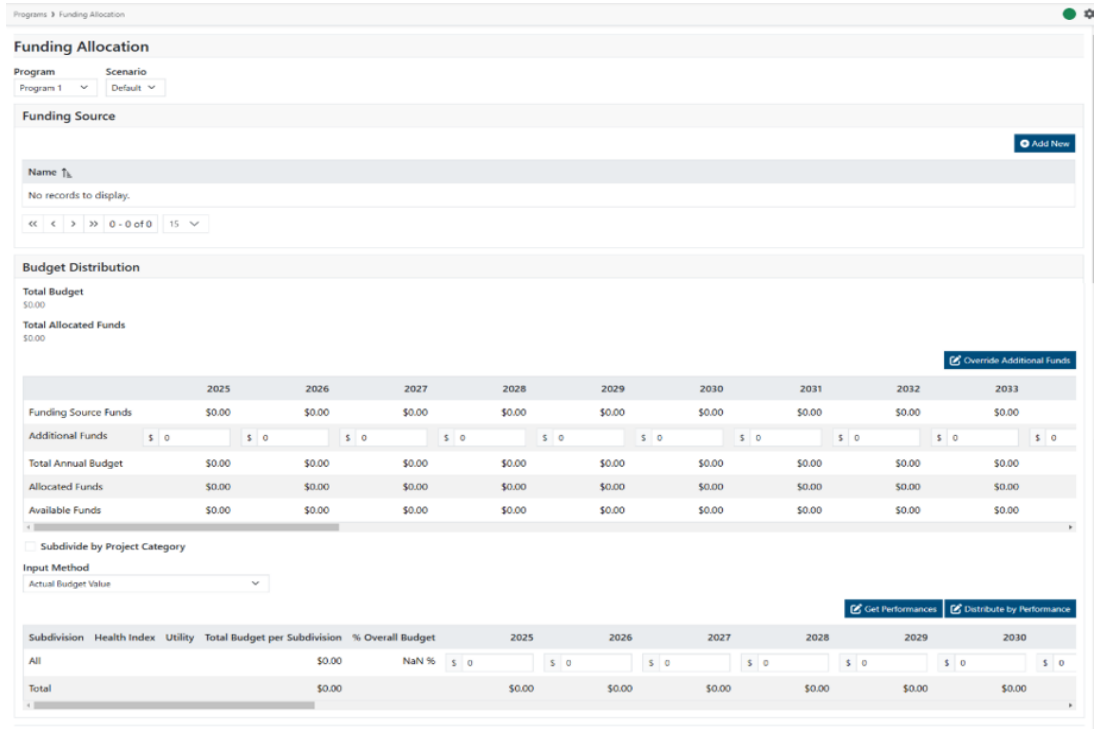
- Include bridges & the work being done to each bridge
- Can track project status through completion
- Can respect existing projects & their benefits when considering future work

Programs

- Define program conditions (modeling configuration settings)
- Assign existing projects to program

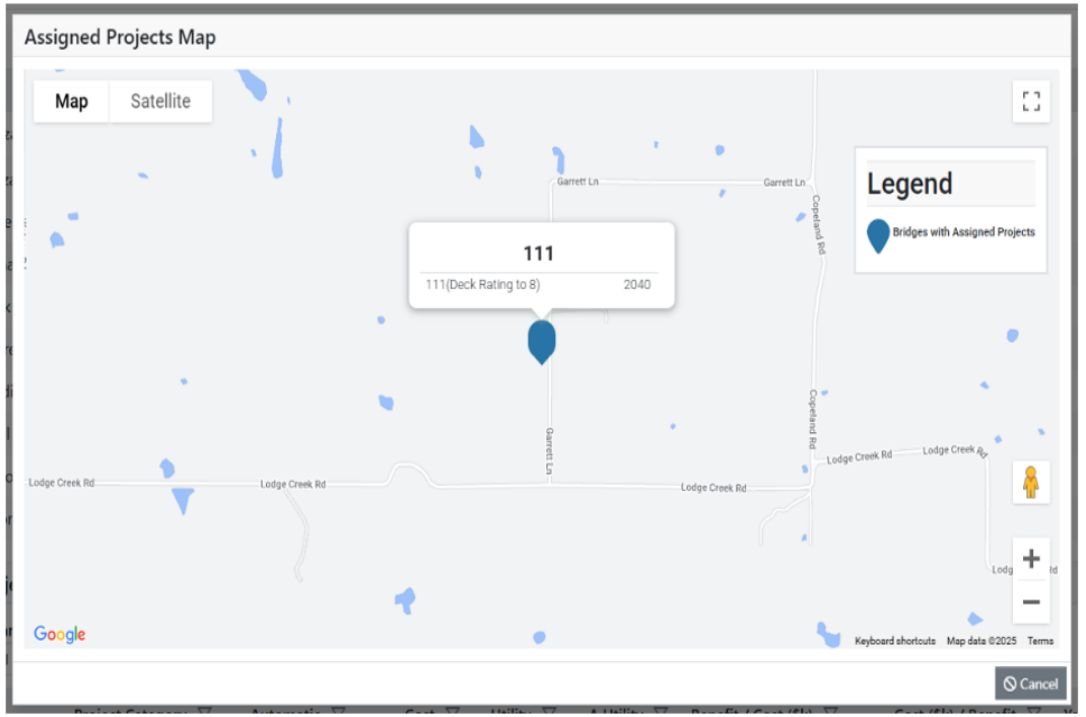
Program Planning – Funding Allocation

- Define funding sources
- Take into account allocated funds
- Subdivide funding



Program Planning – Optimization

- Returns a list of recommended projects / bridges to meet specified goals
- Can be viewed on map



Program Planning – Results

- Review graphs based on performance measures
- Agency can configure additional graphs
- Compare different scenarios for same program
  - Funding
  - Existing projects
  - Performance measures
  - Deterioration type
  - Compare recommended work for two programs
- Compare recommended work for two programs

Questions?

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