



# AASHTOWare BrM 5.2.3

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Implementation of BrM 5.2.3 to Meet Agency  
Policies and Objectives for Bridge Management  
while Addressing FHWA Requirements

April 27, 2017

Mesa, AZ

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BrM Help Desk

[AASHTOWareBridge.com](https://www.aashtowarebridge.com)

BrM@Bentley.com

JIRA tickets: [bridgeware.atlassian.net](https://bridgeware.atlassian.net)

Zachary Boyle, PE

BrM Solutions Consultant

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Or add '@ZacBoyle' to your JIRA tickets

Additional BrM Resources

- Demo Site: [AASHTOWareBridge.com/BrM523](https://www.aashtowarebridge.com/BrM523)
- Training Videos: [AASHTOWareBridge.com](https://www.aashtowarebridge.com) > Click on "Training" in Menu Bar
- User Manual Appendices

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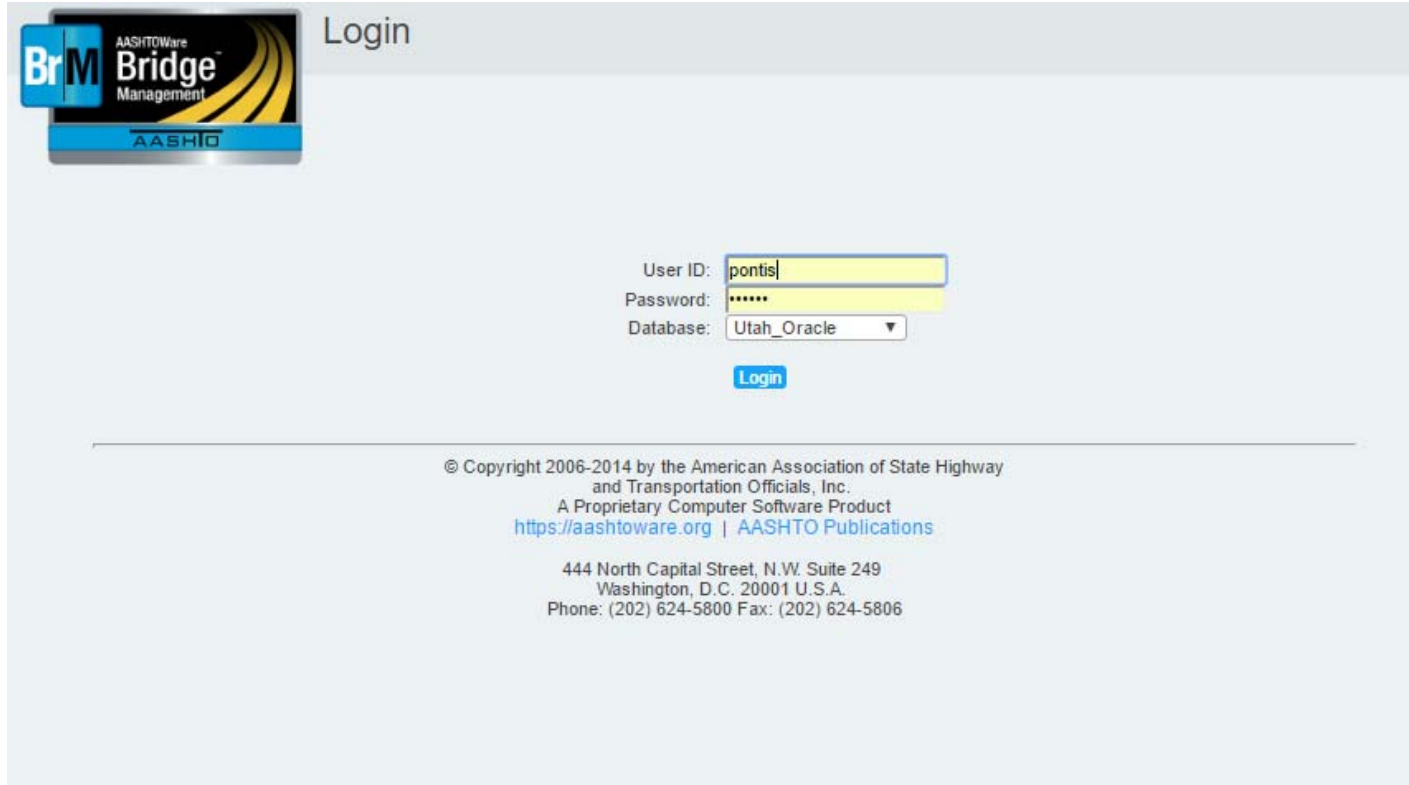
Or add '@JoshuaJohnson' to your JIRA tickets

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## Outline of Presentation

- User Interface
  - (Not Covered at 11<sup>th</sup> International Bridge Conference)
- Visual Forms Editor
  - (Not Covered at 11<sup>th</sup> International Bridge Conference)
- Inspection and Work Candidates
- Utility
- Actions and Benefits
- Network Policies
- Performance Measures
- Funding Allocation
- Program Results
- Executive Summary
- Scenario Explorer

## The New User Interface



The screenshot shows the login page for the AASHTO BrM Bridge Management system. The page has a light blue background. In the top left corner, there is a logo for "BrM Bridge Management" with "AASHTOWare" above it and "AASHTO" below it. To the right of the logo, the word "Login" is displayed in a large, dark font. Below the logo and title, there are three input fields: "User ID:" with the text "pontis" entered, "Password:" with six asterisks, and "Database:" with a dropdown menu showing "Utah\_Oracle". Below these fields is a blue "Login" button. At the bottom of the page, there is a horizontal line followed by copyright information: "© Copyright 2006-2014 by the American Association of State Highway and Transportation Officials, Inc. A Proprietary Computer Software Product https://aashtoware.org | AASHTO Publications". Below this is the address: "444 North Capital Street, N.W. Suite 249 Washington, D.C. 20001 U.S.A." and contact information: "Phone: (202) 624-5800 Fax: (202) 624-5806".

BrM AASHTOWare Bridge Management AASHTO

Login

User ID: pontis

Password: \*\*\*\*\*

Database: Utah\_Oracle ▼


Login

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Phone: (202) 624-5800 Fax: (202) 624-5806

# The New User Interface



## Bridges > View List

?



Filter: BrM - None
Layout: Default
Jump to Bridge:


Bridge ID	District	County	Facility Carried	Feature Intersected	Own	Maint	Built
<input type="checkbox"/> 001004E	Reg 4 Local	Beaver	COUNTY ROAD	BEAVER RIVER	County Hwy Agency	02 County Hwy Agency	1998
<input type="checkbox"/> 001005F	Reg 4 Local	Beaver	COUNTY ROAD	BEAVER RIVER	County Hwy Agency	02 County Hwy Agency	1985
<input type="checkbox"/> 001006V	Reg 4 Local	Beaver	HWY 129	DRY WASH	County Hwy Agency	02 County Hwy Agency	2005
<input type="checkbox"/> 001007D	Reg 4C Local	Beaver	COUNTY ROAD	BEAVER RIVER	Not Applicable (P)	NO LONGER IN SERVICE	2004
<input type="checkbox"/> 001008V	Reg 4 Local	Beaver	CO. HWY. #129	DRY WASH	County Hwy Agency	02 County Hwy Agency	2005
<input type="checkbox"/> 001009E	Reg 4 Local	Beaver	CITY ROAD	NORTH CREEK	City/Municipal Hwy Agenc	04 City/Municipal Agenc	1982
<input type="checkbox"/> 001010C	Reg 4 Local	Beaver	NAVAJO ATV TRAIL	BEAVER RIVER	County Hwy Agency	02 County Hwy Agency	1935
<input type="checkbox"/> 001011E	Reg 4 Local	Beaver	COUNTY ROAD FA#357	NORTH CREEK	County Hwy Agency	02 County Hwy Agency	1985
<input type="checkbox"/> 001012V	Reg 4 Local	Beaver	CO.-CREEK BED ROAD	NORTH CREEK	County Hwy Agency	02 County Hwy Agency	1985
<input type="checkbox"/> 001013V	Reg 4 Local	Beaver	COUNTY ROAD	DRY WASH	County Hwy Agency	02 County Hwy Agency	2005
<input type="checkbox"/> 001014V	Reg 4 Local	Beaver	COUNTY ROAD	DRY WASH	County Hwy Agency	02 County Hwy Agency	2005
<input type="checkbox"/> 003001F	Reg 1 Local	Box Elder	CO. RD., 25800 NO.	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1930
<input type="checkbox"/> 003002F	Reg 1 Local	Box Elder	COUNTY ROAD	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1991
<input type="checkbox"/> 003003V	Reg 1 Local	Box Elder	CO. RD., 20800 NO.	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1980
<input type="checkbox"/> 003004D	Reg 1 Local	Box Elder	TOWN STR.-FA. #526	DEEP CREEK	Town/Township Hwy Agency	03 Town/Township Agency	1941
<input type="checkbox"/> 003005C	Reg 1 Local	Box Elder	COUNTY ROAD	WEST CANAL	Not Applicable (P)	NO LONGER IN SERVICE	1950
<input type="checkbox"/> 003006C	Reg 1 Local	Box Elder	COUNTY ROAD	WEST CANAL	Not Applicable (P)	NO LONGER IN SERVICE	1950
<input type="checkbox"/> 003007C	Reg 1 Local	Box Elder	COUNTY ROAD	WEST CANAL	Not Applicable (P)	NO LONGER IN SERVICE	1973
<input type="checkbox"/> 003008D	Reg 1 Local	Box Elder	CITY RD-TREMONTON	HIGHLINE CANAL	City/Municipal Hwy Agenc	04 City/Municipal Agenc	1950
<input type="checkbox"/> 003009V	Reg 1 Local	Box Elder	CITY RD-TREMONTON	WEST CANAL	City/Municipal Hwy Agenc	04 City/Municipal Agenc	1980
<input type="checkbox"/> 003010V	Reg 1 Local	Box Elder	COUNTY ROAD	FAUST VALLEY WASH	County Hwy Agency	02 County Hwy Agency	1965
<input type="checkbox"/> 003011F	Reg 1 Local	Box Elder	COUNTY ROAD	WEST CANAL	County Hwy Agency	02 County Hwy Agency	1915
<input type="checkbox"/> 003012A	Reg 1 Local	Box Elder	4400 W.St.-FA#506	CORINNE CANAL	County Hwy Agency	02 County Hwy Agency	1948
<input type="checkbox"/> 003013C	Reg 1 Local	Box Elder	14400 N.St.-CO.RD	CORINNE CANAL	Not Applicable (P)	NO LONGER IN SERVICE	1950
<input type="checkbox"/> 003014F	Reg 1 Local	Box Elder	14400 N.St.-CO.RD.	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1960
<input type="checkbox"/> 003015D	Reg 1 Local	Box Elder	6000 W.St.-CO.RD.	WEST CANAL	County Hwy Agency	02 County Hwy Agency	1988
<input type="checkbox"/> 003016D	Reg 1 Local	Box Elder	3400 W.St.-CO.RD.	HAMMAND MAIN CANAL	County Hwy Agency	02 County Hwy Agency	1993
<input type="checkbox"/> 003017C	Reg 1 Local	Box Elder	15600 N.St.-CO.RD.	WEST CANAL	County Hwy Agency	02 County Hwy Agency	1950
<input type="checkbox"/> 003018D	Reg 1 Local	Box Elder	16800 N.St.-CO.RD.	WEST CANAL	County Hwy Agency	02 County Hwy Agency	1991
<input type="checkbox"/> 003019D	Reg 1 Local	Box Elder	16800 N.St.FA# 506	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1958
<input type="checkbox"/> 003020F	Reg 1 Local	Box Elder	4400 W.St.-CO.RD.	WEST CANAL	County Hwy Agency	02 County Hwy Agency	1960
<input type="checkbox"/> 003021C	Reg 1 Local	Box Elder	6800 WEST STREET	WEST CORINNE CANAL	County Hwy Agency	02 County Hwy Agency	1920
<input type="checkbox"/> 003022F	Reg 1 Local	Box Elder	10300 W. CO. RD.	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1963

Total Bridges: 4468
Matching Filter: 4468
Selected: 0

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# The New User Interface

 USER, PONTIS  
 DB: **utah\_load**  
[WEB HELP](#)  
[USER PROFILE](#)  
[LOGOUT](#)

- REPORTS ▾
- ADMIN ▾
- INSPECTION ▾
- GATEWAY ▾
- ANALYSIS ▾
- PROJECTS ▾
- PROGRAMS ▾

Click up here to get out or change your password.

Layout: **Default** Jump to Bridge:

County	Facility Carried	Feature Intersected	Own	Maint	Built
Beaver	COUNTY ROAD	BEAVER RIVER	County Hwy Agency	02 County Hwy Agency	1998
Beaver	COUNTY ROAD	BEAVER RIVER	County Hwy Agency	02 County Hwy Agency	1985
Beaver	HWY 129	DRY WASH	County Hwy Agency	02 County Hwy Agency	2005
Beaver	COUNTY ROAD	BEAVER RIVER	Not Applicable (P)	NO LONGER IN SERVICE	2004
Beaver	CO. HWY. #129	DRY WASH	County Hwy Agency	02 County Hwy Agency	2005
Beaver	CITY ROAD	NORTH CREEK	City/Municipal Hwy Agenc	04 City/Municipal Agenc	1982
Beaver	NAVAJO ATV TRAIL	BEAVER RIVER	County Hwy Agency	02 County Hwy Agency	1935
Beaver	COUNTY ROAD FA#357	NORTH CREEK	County Hwy Agency	02 County Hwy Agency	1985
Beaver	CO.-CREEK BED ROAD	NORTH CREEK	County Hwy Agency	02 County Hwy Agency	1985
Beaver	COUNTY ROAD	DRY WASH	County Hwy Agency	02 County Hwy Agency	2005
Beaver	COUNTY ROAD	DRY WASH	County Hwy Agency	02 County Hwy Agency	2005
Box Elder	CO. RD., 25800 NO.	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1930
Box Elder	COUNTY ROAD	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1991
Box Elder	CO. RD., 20800 NO.	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1980
Box Elder	TOWN STR.-FA. #526	DEEP CREEK	Town/Township Hwy Agency	03 Town/Township Agency	1941
Box Elder	COUNTY ROAD	WEST CANAL	Not Applicable (P)	NO LONGER IN SERVICE	1950
Box Elder	COUNTY ROAD	WEST CANAL	Not Applicable (P)	NO LONGER IN SERVICE	1950
Box Elder	COUNTY ROAD	WEST CANAL	Not Applicable (P)	NO LONGER IN SERVICE	1973
Box Elder	CITY RD-TREMONTON	HIGHLINE CANAL	City/Municipal Hwy Agenc	04 City/Municipal Agenc	1950
Box Elder	CITY RD-TREMONTON	WEST CANAL	City/Municipal Hwy Agenc	04 City/Municipal Agenc	1980
Box Elder	COUNTY ROAD	FAUST VALLEY WASH	County Hwy Agency	02 County Hwy Agency	1965
Box Elder	COUNTY ROAD	WEST CANAL	County Hwy Agency	02 County Hwy Agency	1915
Box Elder	4400 W.St.-FA.#506	CORINNE CANAL	County Hwy Agency	02 County Hwy Agency	1948
Box Elder	14400 N.St.-CO.RD	CORINNE CANAL	Not Applicable (P)	NO LONGER IN SERVICE	1950
Box Elder	14400 N.St.-CO.RD.	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1960
Box Elder	6000 W.St.-CO.RD.	WEST CANAL	County Hwy Agency	02 County Hwy Agency	1988
Box Elder	3400 W.St.-CO.RD.	HAMMAND MAIN CANAL	County Hwy Agency	02 County Hwy Agency	1993
Box Elder	15600 N.St.-CO.RD.	WEST CANAL	County Hwy Agency	02 County Hwy Agency	1950
Box Elder	16800 N.St.-CO.RD.	WEST CANAL	County Hwy Agency	02 County Hwy Agency	1991
Box Elder	16800 N.St.FA# 506	MALAD RIVER	County Hwy Agency	02 County Hwy Agency	1958
Box Elder	4400 W.St.-CO.RD.	WEST CANAL	County Hwy Agency	02 County Hwy Agency	1960
Box Elder	6800 WEST STREET	WEST CORINNE CANAL	County Hwy Agency	02 County Hwy Agency	1920

total Bridges: **4468** Matching Filter: **4468** Selected: **0**



## The New User Interface

USER, PONTIS

Admin > Security > Password Rules

Enable password complexity rules

Rule name	Required	Minimum
Total characters	<input type="checkbox"/>	8
Lower-case letters	<input type="checkbox"/>	1
Upper-case letters	<input type="checkbox"/>	1
Numbers	<input type="checkbox"/>	1
Special characters (!@#%&.)	<input type="checkbox"/>	1
Password may not contain user ID	<input type="checkbox"/>	
Expiration window (in days)	<input type="checkbox"/>	90

Reset the password expiration window for all users

The “Bread Crumb” heading should help you to find your way to any screen from the screenshots.

The Admin menu has been reorganized so planners can have access to modeling configurations, but admins can still secure the central configuration settings.

5.2.3 includes password policy rules, so you can enforce your agency’s password policy.





# AASHTOWare BrM 5.2.3


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Visual Forms Editor



# Visual Forms Editor

USER, PONTIS Admin > General Config > Visual Form Editor



- BRIDGES
- REPORTS
- ADMIN
- SECURITY
- GENERAL CONFIG
- PARAMETERS
- OPTIONS
- EXPORT OPTIONS
- DATA DICT.
- CHECKED OUT BRIDGES
- LOGGING
- STANDARD
- AGENCY
- VISUAL FORM EDITOR
- AGENCY GATEWAY
- EQUATION EDITOR
- SET EDITOR
- VALIDATION EDITOR
- MAPPING
- MODELING CONFIG
- TUNNELS
- INSPECTION
- GATEWAY
- ANALYSIS
- PROJECTS
- PROGRAMS

**Task Selection**

Select a Tab and Task to Begin:

Tab Name: Inspection Tasks: Clearance

[New Tab](#) [New Task](#) [Copy Task](#)

**Form Elements**

Group Box: Custom Control Dropdown List:  [Save Button](#) [Button](#)

Header Box: Text Box  Checkbox [Save & Close Button](#) [Delete Inspection Button](#)

Footer Box: Text Box (Parameter) Text Label [Cancel Button](#) [Calendar](#)

[Add Element](#)

**Toolbox**

1 (Clear 1)	6 (Clear 2)	7 (ClearLnType -7)	6 (Clear)	7 (ClearLnDir)
7 (Clear 1)	7 (Clear 2)	7 (ClearLnType -8)	7 (Clear)	8 (ClearLnDir)
8 (Clear 1)	8 (Clear 2)	8 (ClearLnType -9)	8 (Clear)	9 (ClearLnDir)
9 (Clear 1)	9 (Clear 2)	9 (ClearLnType -1)	9 (Clear)	10 (ClearLnDir)
10 (Clear 1)	10 (Clear 2)	10 (ClearLnType -1)	10 (Clear)	11 (ClearLnDir)
11 (Clear 1)	11 (Clear 2)	11 (ClearLnType -1)	11 (Clear)	12 (ClearLnDir)
12 (Clear 1)	12 (Clear 2)	12 (ClearLnType -1)	12 (Clear)	13 (ClearLnDir)
13 (Clear 1)	13 (Clear 2)	13 (ClearLnType -1)	13 (Clear)	14 (ClearLnDir)
14 (Clear 1)	14 (Clear 2)	14 (ClearLnType -1)	14 (Clear)	15 (ClearLnDir)
15 (Clear 1)	15 (Clear 2)	15 (ClearLnType -1)	15 (Clear)	16 (ClearLnDir)
16 (Clear 1)	16 (Clear 2)	16 (ClearLnType -1)	16 (Clear)	17 (ClearLnDir)
17 (Clear 1)	17 (Clear 2)	17 (ClearLnType -1)	17 (Clear)	18 (ClearLnDir)
18 (Clear 1)	18 (Clear 2)	18 (ClearLnType -1)	18 (Clear)	19 (ClearLnDir)
19 (Clear 1)	19 (Clear 2)	19 (ClearLnType -1)	19 (Clear)	20 (ClearLnDir)
20 (Clear 1)	20 (Clear 2)	20 (ClearLnType -2)	20 (Clear)	21 (ClearLnDir)
21 (Clear 1)	21 (Clear 2)	21 (ClearLnType -2)	21 (Clear)	22 (ClearLnDir)
22 (Clear 1)	22 (Clear 2)	22 (ClearLnType -2)	22 (Clear)	23 (ClearLnDir)
23 (Clear 1)	23 (Clear 2)	23 (ClearLnType -2)	23 (Clear)	24 (ClearLnDir)
24 (Clear 1)	24 (Clear 2)	24 (ClearLnType -2)	24 (Clear)	25 (ClearLnDir)
25 (Clear 1)	25 (Clear 2)	25 (ClearLnType -2)	25 (Clear)	26 (ClearLnDir)
26 (Clear 1)	26 (Clear 2)	26 (ClearLnType -2)	26 (Clear)	27 (ClearLnDir)
27 (Clear 1)	27 (Clear 2)	27 (ClearLnType -2)	27 (Clear)	28 (ClearLnDir)
28 (Clear 1)	28 (Clear 2)	28 (ClearLnType -2)	28 (Clear)	29 (ClearLnDir)
29 (Clear 1)	29 (Clear 2)	29 (ClearLnType -2)	29 (Clear)	30 (ClearLnDir)
30 (Clear 1)	30 (Clear 2)	30 (ClearLnType -3)	30 (Clear)	

**Selected Control Properties**

Name: ClearLnNum -1

Label: 1

Tooltip Label: No Caption

Table Name: userbrdg

Column Name: clearlnnum\_1

Override Table Name: None

Override Column Name: None

Order: 1

Default Value:

Postback Event ID:

Control GUI ID:

Show Label Colon:

Show NBI Code:

Visible:

Read Only:

Bold Value:

Label Color: None

Value Color: None

Field Width: 20 px

Label Width: 20 px

[Delete Control](#)

[Save](#) [Save & Close](#) [Cancel](#)

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# Visual Forms Editor

USER, PONTIS

Admin > General Config > Visual Form Editor

**Task Selection**  
Select a Tab and Task to Begin.  
Tab Name: Inspection Tasks: Clearance  
[New Tab] [New Task] [Copy Task]

**Form Elements**  
Group Box Custom Control Dropdown List Save Button Button  
Header Box Text Box Checkbox Save & Close Button Delete Inspection Button  
Footer Box Text Box (Parameter) Text Label Cancel Button Calendar  
[1] 2 [Add Element]

**Selected Control Properties**  
Name: ClearLnNum -1  
Label: 1  
Tooltip Label: No Caption  
Table Name: userbrdg  
Column Name: clearlnnum\_1  
Override Table Name: None  
Override Column Name: None  
Order: 1  
Default Value:  
Postback Event ID:  
Control GUI ID:  
Show Label Colon:   
Show NBI Code:   
Visible:   
Read Only:   
Bold Value:   
Label Color: None  
Value Color: None  
Field Width: 20 px  
Label Width: 20 px  
[Delete Control]

This toolbox is the pallette of controls you can create.

In this menu you can set the properties of the controls you add.

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# Visual Forms Editor

Admin > General Config > Visual Form Editor

**Task Selection**

Select a Tab and Task to Begin.

Tab Name: Inspection ▾ Tasks: Clearance ▾

[New Tab](#) [New Task](#) [Copy Task](#)

**Form Elements**

Group Box Custom Control Dropdown List [Save Button](#) [Button](#)

Header Box Text Box  Checkbox [Save & Close Button](#) [Delete Inspection Button](#)

Footer Box Text Box (Parameter) Text Label [Cancel Button](#) [Calendar](#)

1 2 [Add Element](#)

**Control Security**

Role	Visible	Read Only
Admin	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Advanced	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Basic	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Default	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FHWA	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Inspection Roles	<input type="checkbox"/>	<input type="checkbox"/>
Planning Role	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PreDesk Role	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ReadOnly	<input checked="" type="checkbox"/>	<input type="checkbox"/>

[Save](#)

**Toolbox**

7 (0) Clear 1	6 (0) Clear 2	7 (0) ClearLnType -7 ▾	6 (0) Clear	7 (0) ClearLnDir ▾
8 (0) Clear 1	8 (0) Clear 2	8 (0) ClearLnType -8 ▾	7 (0) Clear	8 (0) ClearLnDir ▾
9 (0) Clear 1	9 (0) Clear 2	9 (0) ClearLnType -9 ▾	8 (0) Clear	9 (0) ClearLnDir ▾
10 (0) Clear 1	10 (0) Clear 2	10 (0) ClearLnType -10 ▾	9 (0) Clear	10 (0) ClearLnDir ▾
11 (0) Clear 1	11 (0) Clear 2	11 (0) ClearLnType -11 ▾	10 (0) Clear	11 (0) ClearLnDir ▾
12 (0) Clear 1	12 (0) Clear 2	12 (0) ClearLnType -12 ▾	11 (0) Clear	12 (0) ClearLnDir ▾
13 (0) Clear 1	13 (0) Clear 2	13 (0) ClearLnType -13 ▾	12 (0) Clear	13 (0) ClearLnDir ▾
14 (0) Clear 1	14 (0) Clear 2	14 (0) ClearLnType -14 ▾	13 (0) Clear	14 (0) ClearLnDir ▾
15 (0) Clear 1	15 (0) Clear 2	15 (0) ClearLnType -15 ▾	14 (0) Clear	15 (0) ClearLnDir ▾
16 (0) Clear 1	16 (0) Clear 2	16 (0) ClearLnType -16 ▾	15 (0) Clear	16 (0) ClearLnDir ▾
17 (0) Clear 1	17 (0) Clear 2	17 (0) ClearLnType -17 ▾	16 (0) Clear	17 (0) ClearLnDir ▾
18 (0) Clear 1	18 (0) Clear 2	18 (0) ClearLnType -18 ▾	17 (0) Clear	18 (0) ClearLnDir ▾
19 (0) Clear 1	19 (0) Clear 2	19 (0) ClearLnType -19 ▾	18 (0) Clear	19 (0) ClearLnDir ▾
20 (0) Clear 1	20 (0) Clear 2	20 (0) ClearLnType -20 ▾	19 (0) Clear	20 (0) ClearLnDir ▾
21 (0) Clear 1	21 (0) Clear 2	21 (0) ClearLnType -21 ▾	20 (0) Clear	21 (0) ClearLnDir ▾
22 (0) Clear 1	22 (0) Clear 2	22 (0) ClearLnType -22 ▾	21 (0) Clear	22 (0) ClearLnDir ▾
23 (0) Clear 1	23 (0) Clear 2	23 (0) ClearLnType -23 ▾	22 (0) Clear	23 (0) ClearLnDir ▾
24 (0) Clear 1	24 (0) Clear 2	24 (0) ClearLnType -24 ▾	23 (0) Clear	24 (0) ClearLnDir ▾
25 (0) Clear 1	25 (0) Clear 2	25 (0) ClearLnType -25 ▾	24 (0) Clear	25 (0) ClearLnDir ▾
26 (0) Clear 1	26 (0) Clear 2	26 (0) ClearLnType -26 ▾	25 (0) Clear	26 (0) ClearLnDir ▾
27 (0) Clear 1	27 (0) Clear 2	27 (0) ClearLnType -27 ▾	26 (0) Clear	27 (0) ClearLnDir ▾
28 (0) Clear 1	28 (0) Clear 2	28 (0) ClearLnType -28 ▾	27 (0) Clear	28 (0) ClearLnDir ▾
29 (0) Clear 1	29 (0) Clear 2	29 (0) ClearLnType -29 ▾	28 (0) Clear	29 (0) ClearLnDir ▾
30 (0) Clear 1	30 (0) Clear 2	30 (0) ClearLnType -30 ▾	29 (0) Clear	30 (0) ClearLnDir ▾

**Under-Measures**

**Negative**

Direction (000) Direction ▾

Lane of Min (000) Lane ▾

**Positive**

Direction (000) Direction ▾

Lane of Min (000) Lane ▾

**Negative**

Max ft (00)Max F in (ft) ▾

Min ft (00)Min Ft in (ft) ▾

**Positive**

Max ft (00)Max F in (ft) ▾

Min ft (00)Min Ft in (ft) ▾

**Clearance Signs**

**Negative**

Placed (000) Placed ▾

Correct (000) Correct ▾

Legible (000) Legible ▾

Standard (000) Standard ▾

Apprch Rqrd (000) Apprch Rqr ▾

Legend (000) Legend

**Positive**

Placed (000) Placed ▾

Correct (000) Correct ▾

Legible (000) Legible ▾

Standard (000) Standard ▾

Apprch Rqrd (000) Apprch Rqr ▾

Legend (000) Legend

**Other Clearance Data**

Notes (00) Notes

Pave Type Under (0) Pave Type Under ▾

[Save](#) [Save & Close](#) [Cancel](#)

**Properties**

**Security**

**Parameters**

This menu is also a one-stop-shop for security settings.

1 1

# Visual Forms Editor

The screenshot displays the Visual Forms Editor interface. On the left is a navigation sidebar with categories like BRIDGES, REPORTS, ADMIN, SECURITY, GENERAL CONFIG, PARAMETERS, OPTIONS, EXPORT OPTIONS, DATA DICT, CHECKED OUT BRIDGES, LOGGING, STANDARD, AGENCY, VISUAL FORM EDITOR, AGENCY GATEWAY, EQUATION EDITOR, SET EDITOR, VALIDATION EDITOR, MAPPING, MODELING CONFIG, TUNNELS, INSPECTION, GATEWAY, ANALYSIS, PROJECTS, and PROGRAMS. The main area is titled 'Admin > General Config > Visual Form Editor'. It features a 'Task Selection' panel with 'Tab Name' (Inspection) and 'Tasks' (Clearance). A 'Form Elements' panel includes controls like Group Box, Custom Control, Dropdown List, Save Button, Button, Header Box, Text Box, Checkbox, Save & Close Button, Delete Inspection Button, Footer Box, Text Box (Parameter), Text Label, Cancel Button, and Calendar. Below this is a grid of 30 form elements, each with a 'Clear' button and a dropdown menu. A 'Toolbox' on the left lists various form elements. On the right, a 'Parameters' table is visible, with a yellow arrow pointing from a field in the form grid to it. The parameters table has columns for Value, Short Label, Description, and Active. A 'Save' button is located below the parameters table.

And you can quickly link to the parameters of that field.

1 2

# Visual Forms Editor

USER, PONTIS Admin > General Config > Visual Form Editor

**Task Selection**

Select a Tab and Task to Begin.

Tab Name: Inspection Tasks: Clearance

[New Tab](#) [New Task](#) [Copy Task](#)

[Save Form Changes](#) [Toggle Outlines](#)

**Form Elements**

Group Box Custom Control Dropdown List Save Button Button

Header Box Text Box Checkbox Save & Close Button Delete Inspection Button

Footer Box Text Box (Parameter) Text Label Cancel Button Calendar

1 2 [Add Element](#)

**Parameters**

Table: userbrdg Column: lane\_dir\_3

Value	Short Label	Description	Active
EBL	EBL		<input checked="" type="checkbox"/>
F1	N/A		<input checked="" type="checkbox"/>
NBL	NBL		<input checked="" type="checkbox"/>
SBL	SBL		<input checked="" type="checkbox"/>
WBL	WBL		<input checked="" type="checkbox"/>

**Add Parameter**

Value	Short Label	Description

[Save](#) [Reset](#) [Add](#)

**Toolbox**

7 (0) Clear 1	6 (0) Clear 2	7 (0) ClearLnType -7	6 (0) ClearLnType -7	7 (0) ClearLnDir	Max ft (00) Max F in (ft)	Max ft (00) Max F in (ft)
8 (0) Clear 1	7 (0) Clear 2	8 (0) ClearLnType -8	7 (0) ClearLnType -8	8 (0) ClearLnDir	Min ft (00) Min Ft in (ft)	Min ft (00) Min Ft in (ft)
9 (0) Clear 1	8 (0) Clear 2	9 (0) ClearLnType -9	8 (0) ClearLnType -9	9 (0) ClearLnDir	<b>Under Measures</b>	
10 (0) Clear 1	9 (0) Clear 2	10 (0) ClearLnType -10	9 (0) ClearLnType -10	10 (0) ClearLnDir	<b>Negative</b>	<b>Positive</b>
11 (0) Clear 1	10 (0) Clear 2	11 (0) ClearLnType -11	10 (0) ClearLnType -11	11 (0) ClearLnDir	Direction (000) Direction	Direction (000) Direction
12 (0) Clear 1	11 (0) Clear 2	12 (0) ClearLnType -12	11 (0) ClearLnType -12	12 (0) ClearLnDir	Lane of Min (000) Lane	Lane of Min (000) Lane
13 (0) Clear 1	12 (0) Clear 2	13 (0) ClearLnType -13	12 (0) ClearLnType -13	13 (0) ClearLnDir	<b>Clearance Signs</b>	
14 (0) Clear 1	13 (0) Clear 2	14 (0) ClearLnType -14	13 (0) ClearLnType -14	14 (0) ClearLnDir	<b>Negative</b>	<b>Positive</b>
15 (0) Clear 1	14 (0) Clear 2	15 (0) ClearLnType -15	14 (0) ClearLnType -15	15 (0) ClearLnDir	Placed (000) Placed	Placed (000) Placed
16 (0) Clear 1	15 (0) Clear 2	16 (0) ClearLnType -16	15 (0) ClearLnType -16	16 (0) ClearLnDir	Correct (000) Correct	Correct (000) Correct
17 (0) Clear 1	16 (0) Clear 2	17 (0) ClearLnType -17	16 (0) ClearLnType -17	17 (0) ClearLnDir	Legible (000) Legible	Legible (000) Legible
18 (0) Clear 1	17 (0) Clear 2	18 (0) ClearLnType -18	17 (0) ClearLnType -18	18 (0) ClearLnDir	Standard (000) Standard	Standard (000) Standard
19 (0) Clear 1	18 (0) Clear 2	19 (0) ClearLnType -19	18 (0) ClearLnType -19	19 (0) ClearLnDir	Approch Reqrd (000) Approch Req	Approch Reqrd (000) Approch Rec
20 (0) Clear 1	19 (0) Clear 2	20 (0) ClearLnType -20	19 (0) ClearLnType -20	20 (0) ClearLnDir	Legend (000) Legend	Legend (000) Legend
21 (0) Clear 1	20 (0) Clear 2	21 (0) ClearLnType -21	20 (0) ClearLnType -21	21 (0) ClearLnDir	<b>Other Clearance Data</b>	
22 (0) Clear 1	21 (0) Clear 2	22 (0) ClearLnType -22	21 (0) ClearLnType -22	22 (0) ClearLnDir	Notes (00) Notes	
23 (0) Clear 1	22 (0) Clear 2	23 (0) ClearLnType -23	22 (0) ClearLnType -23	23 (0) ClearLnDir	Pave Type Under (0) Pave Type Under	
24 (0) Clear 1	23 (0) Clear 2	24 (0) ClearLnType -24	23 (0) ClearLnType -24	24 (0) ClearLnDir		
25 (0) Clear 1	24 (0) Clear 2	25 (0) ClearLnType -25	24 (0) ClearLnType -25	25 (0) ClearLnDir		
26 (0) Clear 1	25 (0) Clear 2	26 (0) ClearLnType -26	25 (0) ClearLnType -26	26 (0) ClearLnDir		
27 (0) Clear 1	26 (0) Clear 2	27 (0) ClearLnType -27	26 (0) ClearLnType -27	27 (0) ClearLnDir		
28 (0) Clear 1	27 (0) Clear 2	28 (0) ClearLnType -28	27 (0) ClearLnType -28	28 (0) ClearLnDir		
29 (0) Clear 1	28 (0) Clear 2	29 (0) ClearLnType -29	28 (0) ClearLnType -29	29 (0) ClearLnDir		
30 (0) Clear 1	29 (0) Clear 2	30 (0) ClearLnType -30	29 (0) ClearLnType -30	30 (0) ClearLnDir		

[Save](#) [Save & Close](#) [Cancel](#)

**Properties**

**Security**

**Parameters**

There's always the old way.

←

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# Visual Forms Editor

The screenshot shows the Visual Forms Editor interface. On the left is a navigation menu with categories like BRIDGES, REPORTS, ADMIN, SECURITY, GENERAL CONFIG, PARAMETERS, OPTIONS, EXPORT OPTIONS, DATA DICT, CHECKED OUT BRIDGES, LOGGING, STANDARD, AGENCY, VISUAL FORM EDITOR, AGENCY GATEWAY, EQUATION EDITOR, SET EDITOR, VALIDATION EDITOR, MAPPING, MODELING CONFIG, TUNNELS, INSPECTION, GATEWAY, ANALYSIS, PROJECTS, and PROGRAMS. The main area is titled 'Admin > General Config > Visual Form Editor'. It features a 'Task Selection' panel with 'Tab Name' and 'Tasks' dropdowns, and buttons for 'New Tab', 'New Task', and 'Copy Task'. Below this are 'Save Form Changes' and 'Toggle Outlines' buttons. A 'Form Elements' panel contains various UI components like Group Box, Header Box, Footer Box, Custom Control, Text Box, Text Box (Parameter), Text Label, Dropdown List, Checkbox, Text Label, Save Button, Save & Close Button, Cancel Button, Button, Delete Inspection Button, and Calendar. The central workspace displays a grid of form elements, each with a 'Clear' button. A yellow arrow points to a 'Save' button at the bottom left, with the text 'And use this save button.' next to it. A red arrow points to a 'Save & Close' button at the bottom left, with the text 'Not this one.' next to it. On the right side, there are panels for 'Parameters' and 'Add Parameter'. The 'Parameters' panel shows a table with columns 'Value', 'Short Label', 'Description', and 'Active'. The 'Add Parameter' panel has fields for 'Value', 'Short Label', and 'Description', and an 'Add' button. At the bottom of the interface, there is a copyright notice: '© American Association of State Highway and Transportation Officials. All rights reserved. BHM Version 5.2.3.32 (Build Date: Thursday August 11, 2016) https://aashtoware.org | AASHTO Publications'. A large blue '14' is overlaid on the bottom right corner of the image.

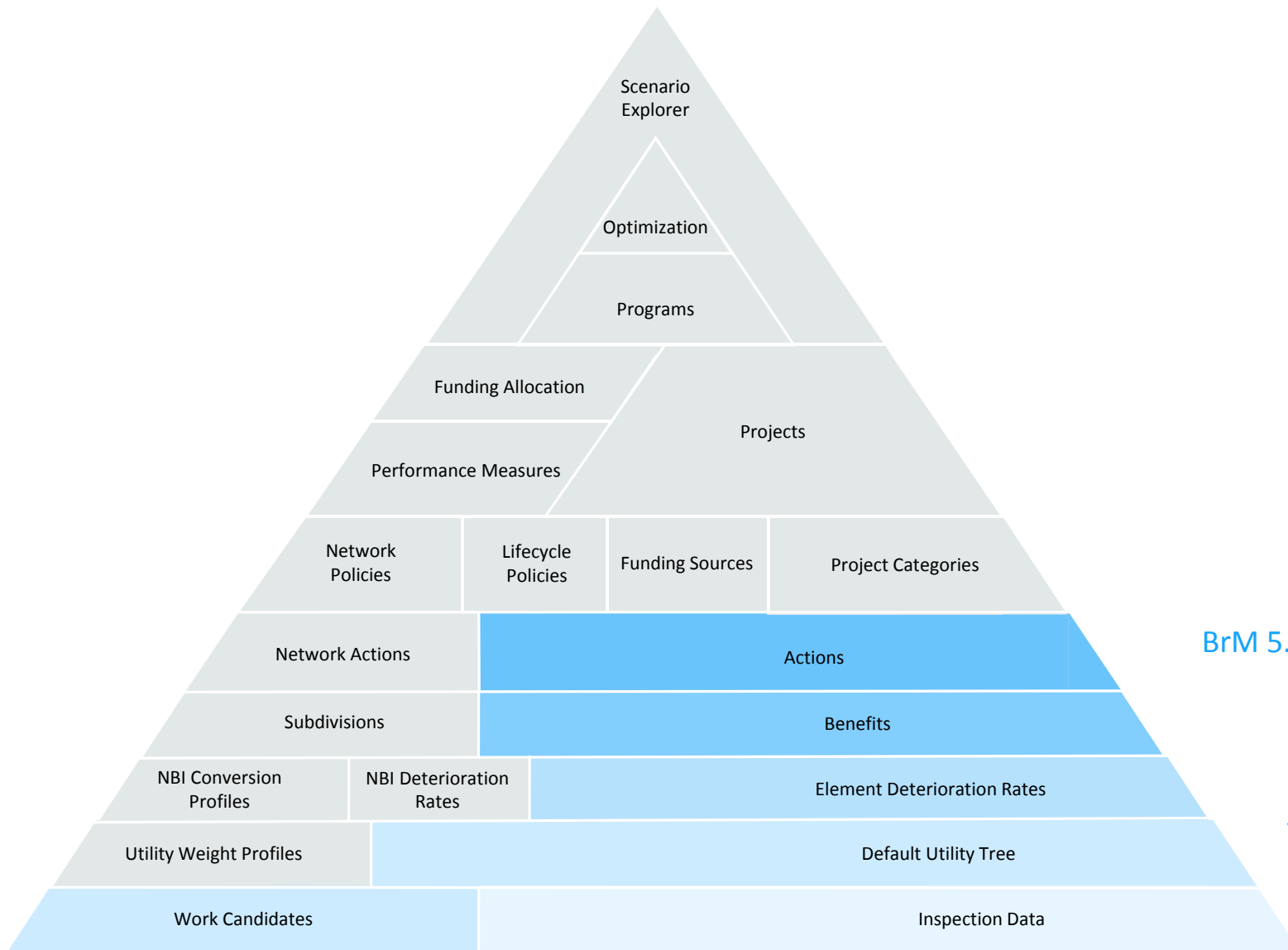


# AASHTOWare BrM 5.2.3

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Optimization Example

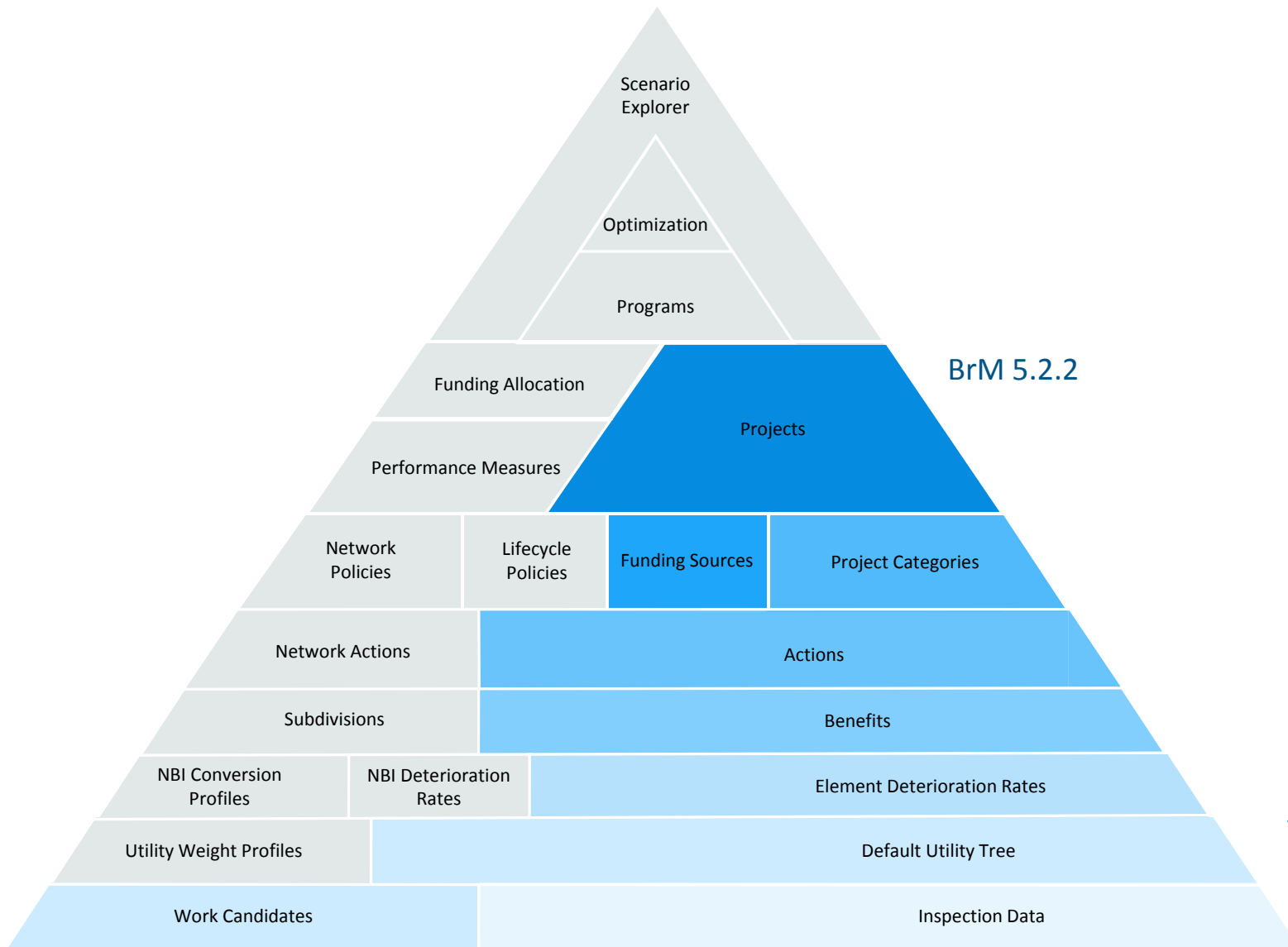
15



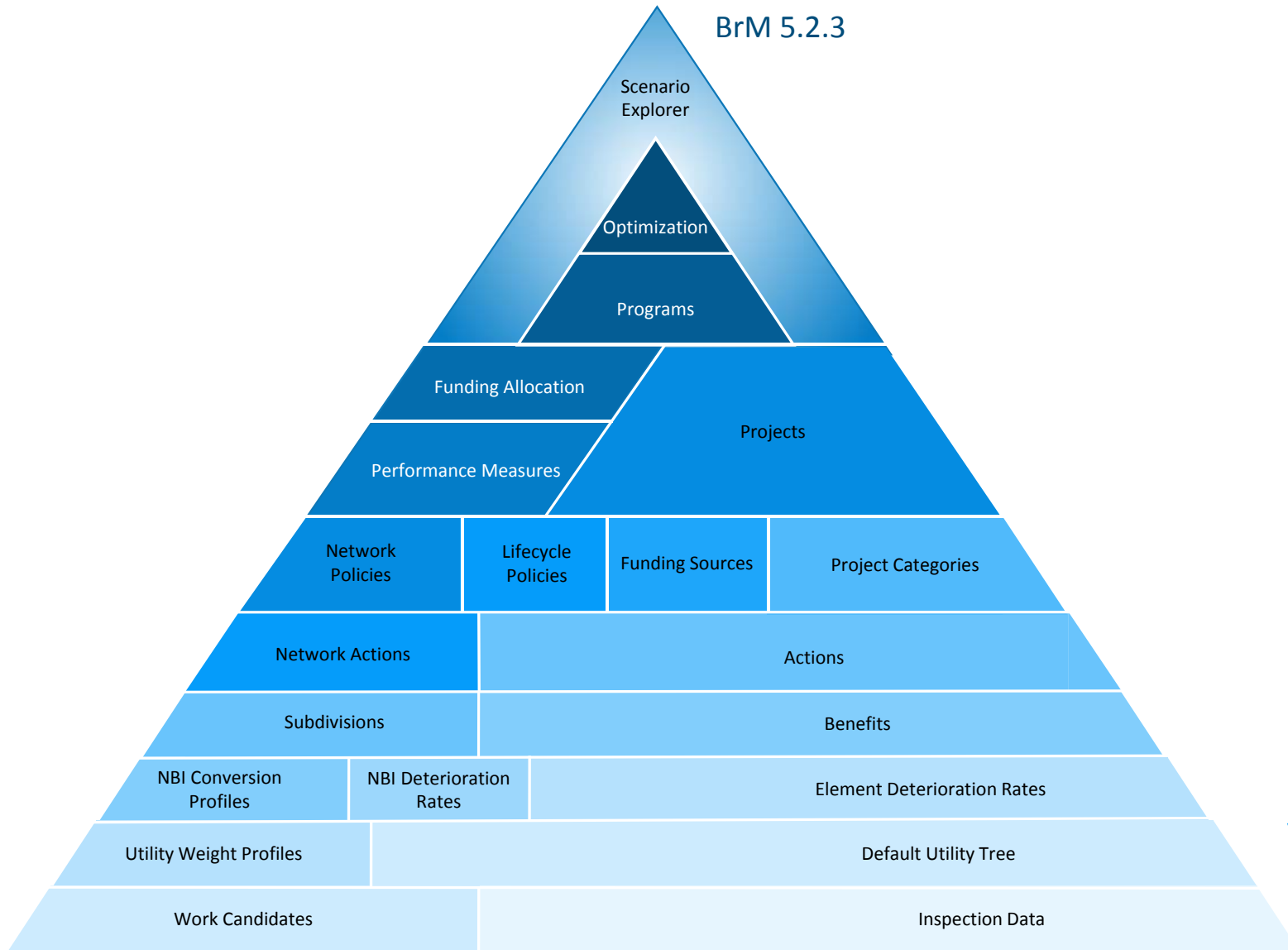
BrM 5.2.1

16

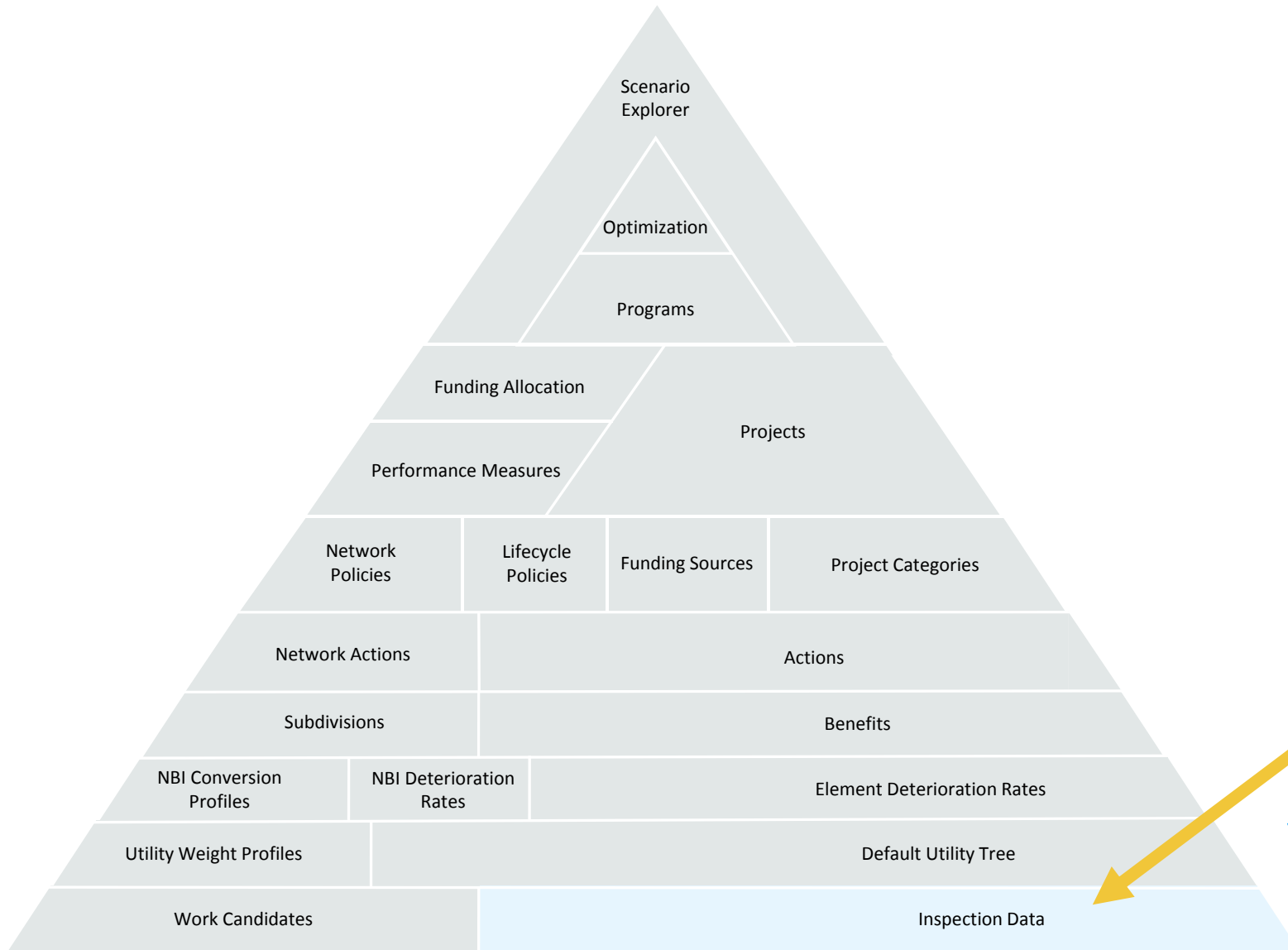




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# Inspection Data

- BRIDGES
- REPORTS
- ADMIN
- INSPECTION
- CONDITION
- APPRAISAL
- INVENTORY
- SCHEDULE
- WORK
- MULTIMEDIA
- ASSESSMENTS
- UDOT OLD BRIDGE NOTES
- CLEARANCE
- ELEMENT CONDITION RATINGS
- CROSS SECTION
- GATEWAY
- ANALYSIS
- PROJECTS
- PROGRAMS

Bridge: 2C 400
Facility Carried: (007) I-15Ramp to SR-270
Inspection: 2014-07-16 (LSHB) Type: Regular NBIS
Metric  English

### Inspection > Condition

**Condition Ratings**

Deck (058): 6 Satisfactory	Channel (061): N N/A (NBI)	Validate
Superstructure (059): 7 Good	Culvert (062): N N/A (NBI)	Calculate SR
Substructure (060): 6 Satisfactory	Waterway (071): N Not applicable	Calculate NBI
Unrepaired Spalls: <input type="text"/> (SF)		

NBI Converter Profile: BrM Default

**Element Conditions**

- All Structures - Show Last CoRe Insp

Quantity  Percent

AASHTO Bridge Elements
Add Defect
Add Protective Sys
Add New Element
Edit Element

Elem	Str. Unit	Env	Description	Quantity	Units	Qty. 1	Qty. 2	Qty. 3	Qty. 4
12	101	Sev. (4)	Re Concrete Deck	5114.999	sq.ft	5075.00	39.999	0.000	0.000
107	101	Mod. (3)	Steel Opn Girder/Beam	796.401	ft	796.401	0.000	0.000	0.000
205	101	Mod. (3)	Re Conc Column	4	each	2.000	2.000	0.000	0.000
215	101	Mod. (3)	Re Conc Abutment	69.8	ft	34.898	34.902	0.000	0.000
234	101	Mod. (3)	Re Conc Pier Cap	66.001	ft	0.000	66.001	0.000	0.000
311	101	Mod. (3)	Moveable Bearing	15	each	15.000	0.000	0.000	0.000
313	101	Mod. (3)	Fixed Bearing	15	each	15.000	0.000	0.000	0.000
321	101	Sev. (4)	Re Conc Approach Slab	1336.501	sq.ft	1336.50	0.000	0.000	0.000
331	101	Sev. (4)	Re Conc Bridge Railing	391.001	ft	0.000	391.001	0.000	0.000
5103	101	Mod. (3)	Asphalt Overlay w/ Membrane	5473.997	sq.ft	5473.99	0.000	0.000	0.000
5203	101	Low (2)	Steel Protective Coating (515)	6118.304	sq.ft	6118.30	0.000	0.000	0.000
5300	101	Low (2)	Reinforced Concrete Wingwalls	67.999	ft	0.000	67.999	0.000	0.000
5000	200	Ben. (1)	General Notes	1	each	1.000	0.000	0.000	0.000
5001	200	Ben. (1)	Roadway / Channel / Drainage	3	each	3.000	0.000	0.000	0.000
5002	200	Ben. (1)	Maintenance Recommendations	3	each	3.000	0.000	0.000	0.000

Str. Unit: 101  
Elem: 12 Re Concrete Deck  
Env: Sev. (4)



Notes: The deck is in satisfactory condition. The top surface of the deck is not visible for inspection due to the asphalt overlay. The underside of the deck is in good condition with minor transverse cracking and efflorescence.

States: No Condition SI

Status: New - modifec  Review Needed
Approved By: 
Cancel

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# Inspection Data

- BRIDGES
- REPORTS
- ADMIN
- INSPECTION
- CONDITION
- APPRAISAL
- INVENTORY
- SCHEDULE
- WORK
- MULTIMEDIA
- ASSESSMENTS
- UDOT OLD BRIDGE NOTES
- CLEARANCE
- ELEMENT CONDITION RATINGS
- CROSS SECTION
- GATEWAY
- ANALYSIS
- PROJECTS
- PROGRAMS

Bridge: 2C 400
Facility Carried: (007) I-15Ramp to SR-270
Inspection: 2014-07-16 (LSHB) Type: Regular NBIS
Metric  English

### Inspection > Condition

**Condition Ratings**

Deck (058): 6 Satisfactory	Channel (061): N N/A (NBI)	Validate
Superstructure (059): 7 Good	Culvert (062): N N/A (NBI)	Calculate SR
Substructure (060): 6 Satisfactory	Waterway (071): N Not applicable	Calculate NBI
Unrepaired Spalls: <input type="text"/> (SF)		NBI Converter Profile: BrM Default

**Element Conditions**

- All Structures - Show Last CoRe Insp

Quantity  Percent

AASHTO Bridge Elements
Add Defect
Add Protective Sys
Add New Element
Edit Element

Elem	Str. Unit	Env	Description	Quantity	Units	Qty. 1	Qty. 2	Qty. 3	Qty. 4
12	101	Sev. (4)	Re Concrete Deck	5114.999	sq.ft	5075.00	39.999	0.000	0.000
107	101	Mod. (3)	Steel Opn Girder/Beam	796.401	ft	796.401	0.000	0.000	0.000
205	101	Mod. (3)	Re Conc Column	4	each	2.000	2.000	0.000	0.000
215	101	Mod. (3)	Re Conc Abutment	69.8	ft	34.898	34.902	0.000	0.000
234	101	Mod. (3)	Re Conc Pier Cap	66.001	ft	0.000	66.001	0.000	0.000
311	101	Mod. (3)	Moveable Bearing	15	each	15.000	0.000	0.000	0.000
313	101	Mod. (3)	Fixed Bearing	15	each	15.000	0.000	0.000	0.000
321	101	Sev. (4)	Re Conc Approach Slab	1336.501	sq.ft	1336.50	0.000	0.000	0.000
331	101	Sev. (4)	Re Conc Bridge Railing	391.001	ft	0.000	391.001	0.000	0.000
5103	101	Mod. (3)	Asphalt Overlay w/ Membrane	5473.997	sq.ft	5473.99	0.000	0.000	0.000
5203	101	Low (2)	Steel Protective Coating (515)	6118.304	sq.ft	6118.30	0.000	0.000	0.000
5300	101	Low (2)	Reinforced Concrete Wingwalls	67.999	ft	0.000	67.999	0.000	0.000
5000	200	Ben. (1)	General Notes	1	each	1.000	0.000	0.000	0.000
5001	200	Ben. (1)	Roadway / Channel / Drainage	3	each	3.000	0.000	0.000	0.000
5002	200	Ben. (1)	Maintenance Recommendations	3	each	3.000	0.000	0.000	0.000

Str. Unit: 101  
Elem: 12 Re Concrete Deck  
Env: Sev. (4)

Notes: The deck is in satisfactory condition. The top surface of the deck is not visible for inspection due to the asphalt overlay. The underside of the deck is in good condition with minor transverse cracking and efflorescence.

States: No Condition SI

Status: New - modifec  Review Needed
Approved By: 
Cancel
Save
Save & Close
Delete Inspection

# 21

BRIDGES  
 REPORTS  
 ADMIN  
 INSPECTION  
 CONDITION  
 APPRAISAL  
 INVENTORY  
 SCHEDULE  
 WORK  
 MULTIMEDIA  
**ASSESSMENTS**  
 UDOT OLD  
 BRIDGE  
 NOTES  
 CLEARANCE  
 ELEMENT  
 CONDITION  
 RATINGS  
 CROSS  
 SECTION  
 GATEWAY  
 ANALYSIS  
 PROJECTS  
 PROGRAMS

Bridge 2C 400 Facility Carried (007): I-15Ramp to SR-270 Metric English

Inspection > Assessments

Identified Risks

Add New Assessment

Assessment	Date	Status	Likelihood	Conseq	Value	Next
Scour	9/7/2016	2	3	6	18	9/7/2016

1 assessments (1 active)

Selected Assessment: Delete

Risk Details

Risk Assessment Value										
Likelihood of hazard										
High	5	10	15	20	25	30	35	40	45	50
	4	8	12	16	20	24	28	32	36	40
	3	6	9	12	15	18	21	24	27	30
Low	2	4	6	8	10	12	14	16	18	20
	1	2	3	4	5	6	7	8	9	10
Low <span style="float:right">High</span>										

Consequence of hazard

Vulnerability Type: Scour Likelihood of Hazard: 3

Assessment Date: 9/7/2016 Consequences to Structure: 6

Assessment Key/Date: 2014-07-16 (LSHB) Assessment Final Value: 18

Workflow Status: Calculated Next Assessment Date: 9/7/2016

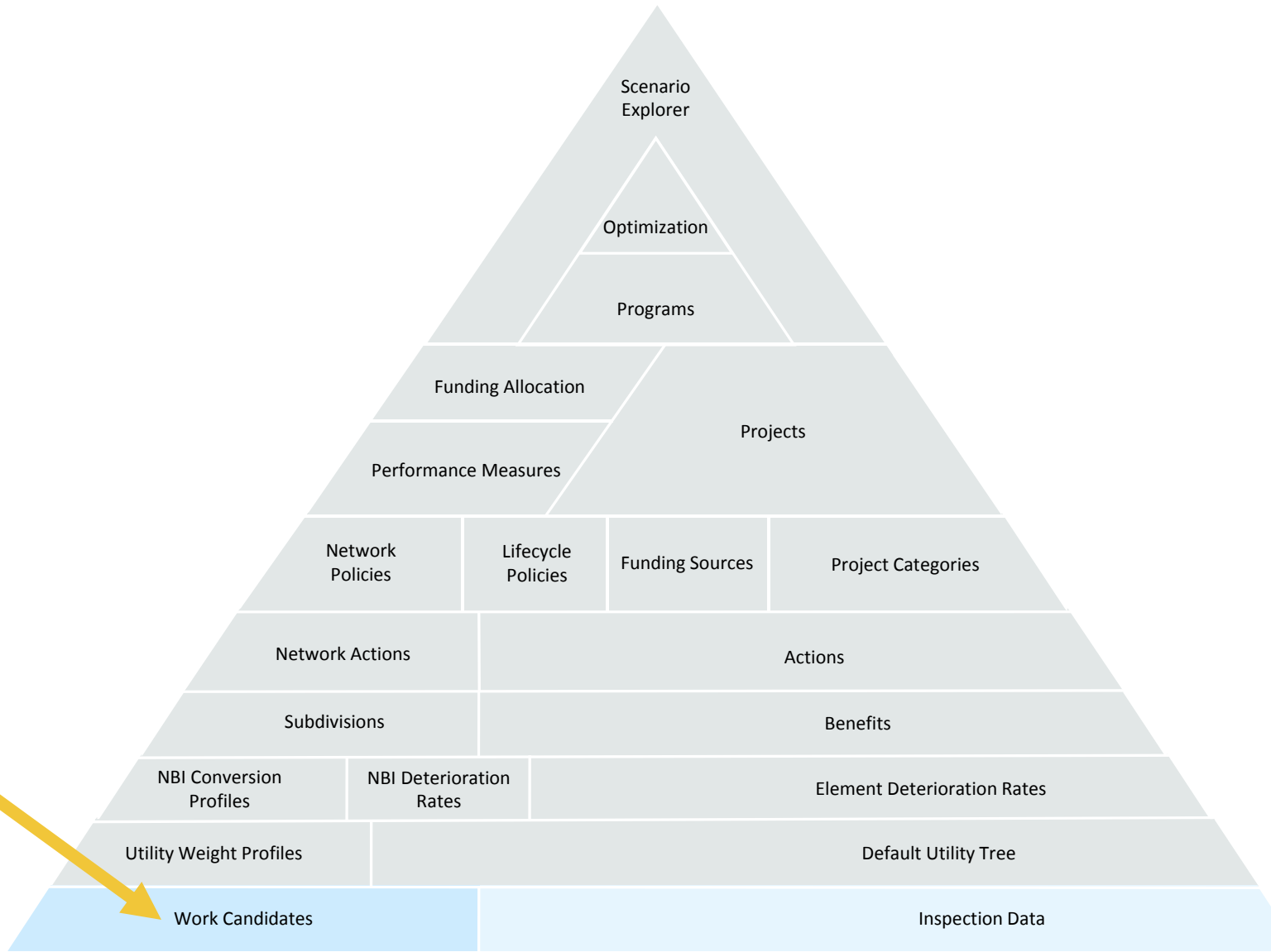
Affected Deck Area:  sq.ft

Affected AADT:

Hazard Class:

Description

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# Work Candidates

Inspection > Work > Work Candidates

**Work**

[Add New](#)  Show All  Show Open

Candidate ID	Action	Date Recommended	Target Year	Estimated Cost	Status	Work Assignment	Priority	Structure Unit	Date Completed	Description	Source
▶ 1C 700-FTXK-121514-CBB9097BF5F	----- Other -----	12/9/2014	2014		Inspector Recommended	0	Medium	2 / Type = F			
▶ 1C 700-FTXK-091515-D49D4270814	Remove Debris from Joints	12/9/2014	2015		Inspector Recommended	1	Medium	2 / Type = F		Remove Debris from Expansion Joints	
▶ WorkCandidate1385	Remove Debris from Joints	12/9/2014			Inspector Recommended	1		2 / Type = F		Remove Debris from Expansion Joints	
▶ 1C 700-FTXK-121514-72CBD366C52	Column Repair	12/9/2014	2014		Inspector Recommended	0	Medium	2 / Type = F		Column Repair	
▶ remove test	test remove deck action	8/16/2016	2016	\$10,000.00	Planned	0	Medium	2 / Type = F		action made	Inspector Recommended

**Type of Work**

Candidate ID: 1C 700-FTXK-121514-CBB9097BF5F

Structure Unit: 2 / Type = F

Action: ----- Other -----

Date Recommended: 12/9/2014

Priority: Medium - 1 to 3 Years

Date Completed:

Target Year: 2014

Assigned: No

Work Assignment: UDOT Structures

Status: Inspector Recommended

Source:

**Work Estimates**

Estimated Quantity:

Cost per unit:

[Calculate](#)

Estimated Cost (\$):

Generated by user "justin jar" on 12/15/2014  
 Clean and remove debris at strip seal expansion joints over pin and hanger total 4 locations.

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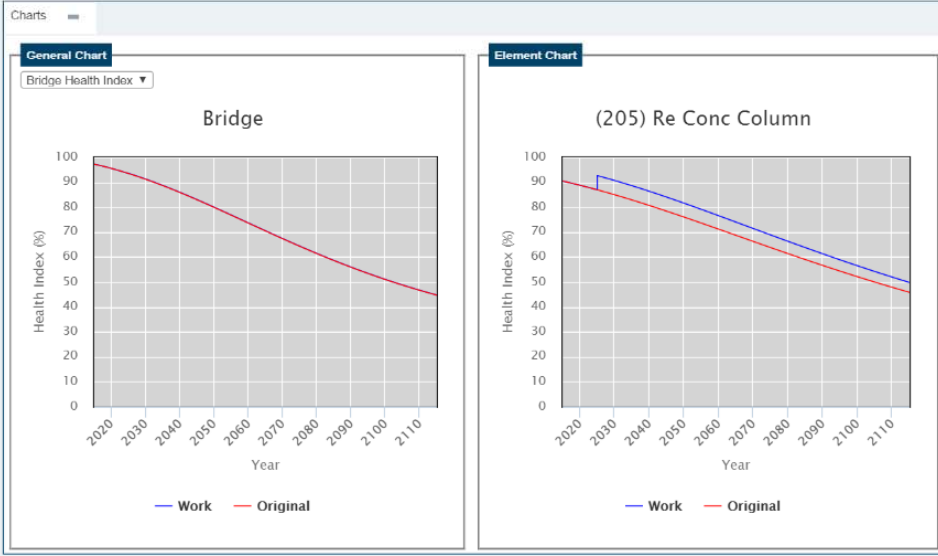


# Work Candidates

## Analysis > Work Candidates > Bridge Analysis

Sel.	Work Candidate	Action	Base Utility	Utility (Change)	Condition (Change)	LifeCycle (Change)	Mobility (Change)	Risk (Change)	Cost	Benefit / Cost (\$k)	Cost (\$k) / Benefit	Target Year	Repeat Interval
Selected Work Candidates			80.32	81.05 (0.73)	66.05 (1.82)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$40,000	.0183	\$55	2025	
<input checked="" type="checkbox"/>	1C 700-FTXK-121514-72CBD366C52	Column Repair	80.32	81.05 (0.73)	66.05 (1.82)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$40,000	.0183	\$55	2025	
<input type="checkbox"/>	WorkCandidate1385	Remove Debris from Joints	83.74	83.74 (0.00)	72.78 (0.00)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$0			2016	
<input type="checkbox"/>	1C 700-FTXK-091515-D49D4270814	Remove Debris from Joints	84.19	84.19 (0.00)	73.92 (0.00)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$0			2015	
<input type="checkbox"/>	1C 700-FTXK-121514-CBB9097BF5F	----- Other -----	83.74	83.74 (0.00)	72.78 (0.00)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$0			2016	
<input type="checkbox"/>	remove test	test remove deck action	83.74	83.74 (0.00)	72.78 (0.00)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$10,000			2016	

Page size: 10 5 items in 1 pages



### Effects on Each Element

Year: 2025 (10 years after inspection)

Show Changed:

Element	Str. Unit	Env.	Quantity	Units	Condition	Effect
(12) Re Concrete Deck	101	Sev(4)	43,129.70	sq.ft		
(107) Steel Opn Girder/Beam	101	Low(2)	5,687.30	ft		
(161) Stl Pin Pin/Han both	101	Sev(4)	16.00	each		
<b>(205) Re Conc Column</b>	<b>101</b>	<b>Mod.(3)</b>	<b>7.00</b>	<b>each</b>		
(215) Re Conc Abutment	101	Low(2)	60.00	ft		
(231) Steel Pier Cap	101	Low(2)	22.50	ft		
(234) Re Conc Pier Cap	101	Low(2)	172.00	ft		
(300) Strip Seal Exp Joint	101	Sev(4)	120.00	ft		
(311) Moveable Bearing	101	Low(2)	16.00	each		
(313) Fixed Bearing	101	Low(2)	12.00	each		
(321) Re Conc Approach Slab	101	Sev(4)	900.00	sq.ft		
(331) Re Conc Bridge Railing	101	Sev(4)	3,301.10	ft		
(5000) General Notes	200	Ben.(1)	1.00	each		
(5001) Roadway / Channel / Drainage	200	Ben.(1)	3.00	each		
(5002) Maintenance Recommendations	200	Ben.(1)	3.00	each		
(5103) Asphalt Overlay w/ Membrane	101	Sev(4)	39,382.10	sq.ft		
(5203) Steel Protective Coating (515)	101	Low(2)	96,473.10	sq.ft		
(5300) Reinforced Concrete Wingwalls	101	Low(2)	60.30	ft		

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# Work Candidates

USER: PONTIS

Analysis > Work Candidates > Needs List

Filter: BrM - None

Layout: Work Candidate Default

Apply

Work Candidates Quick Filter

Filter Results

Save As:  Save  Share

Work Candidate Characteristics:

Review Status:   
 Action Defs: 1032 - Repair Spalls / Pot  
 Cost at least (\$K):

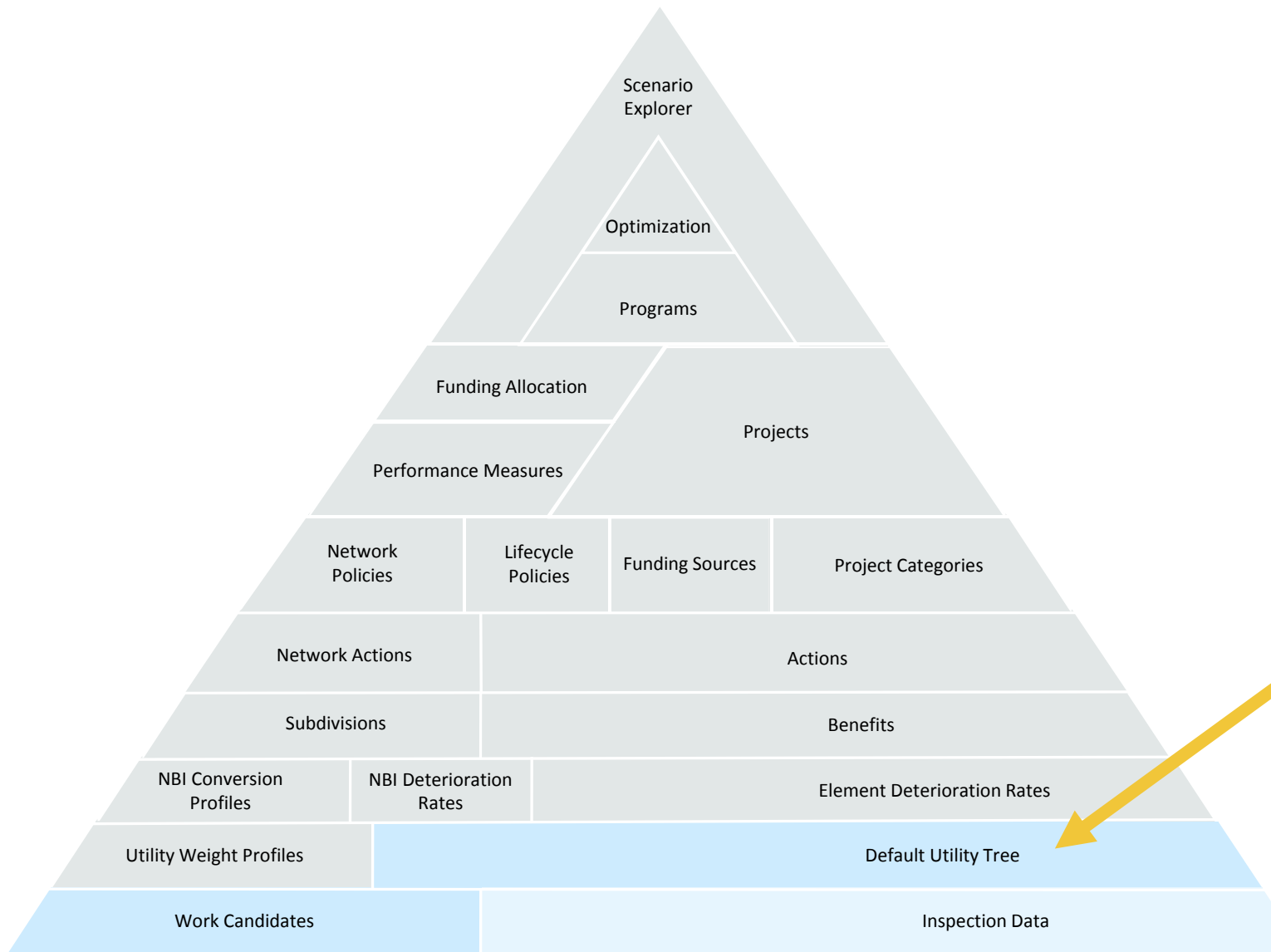
Bridge Characteristics:

District (002):   
 Admin. Area:   
 County (003):   
 Owner (022):   
 Maint. Resp. (021):   
 On/Off State System:   
 NHS Status (104):   
 Bridge Group:   
 Functional Class: (026):

Work Candidate Name	Bridge ID	Facility Carried	Action Name	Est. Cost	Year
WorkCandidate1302	0P 11	CO.RD. INT. X-ROAD	Repair Spalls / Potholes		
0C 337-RHDN-070914-E3824575072	0C 337	US-89 (SR-89)	Repair Spalls / Potholes	19350	2014
WorkCandidate341	0C 518	I-215 (SR-215)	Repair Spalls / Potholes		
WorkCandidate1022	0F 255	600 SOUTH STREET	Repair Spalls / Potholes		
WorkCandidate1899	2F 496	I-70 (SR-70) EBL	Repair Spalls / Potholes		
WorkCandidate526	0C 757	I-215 (SR-215)	Repair Spalls / Potholes		
WorkCandidate123	035106F	1000 NORTH STREET	Repair Spalls / Potholes		
049020D-ENUZ-102015-7F07801ABC	049020D	400 SOUTH STREET	Repair Spalls / Potholes	-1	2019
0C 337-RHDN-070914-7AA26E91358	0C 337	US-89 (SR-89)	Repair Spalls / Potholes	4500	2014
0C 751-EROC-080614-6FA91969078	0C 751	SR-248	Repair Spalls / Potholes	-1	2014
WorkCandidate1663	1F 747	I-215NB (SR-215)	Repair Spalls / Potholes		
WorkCandidate309	0C 472	CO. RD.NW KANARRAV	Repair Spalls / Potholes		
0D 668-MOQR-083115-E462DC7978D	0D 668	US-191 (SR-191)	Repair Spalls / Potholes		2015
0D 595-ZQY-072214-5191202CAD0	0D 595	US-40 (SR-40)	Repair Spalls / Potholes	9247	2014
WorkCandidate2379	4D 652	I-80 (SR-80) WBL	Repair Spalls / Potholes		
WorkCandidate369	0C 560	US-40 (SR-40)	Repair Spalls / Potholes		
WorkCandidate2397	4D 667	I-84 (SR-84) WBL	Repair Spalls / Potholes		

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- BRIDGES
- REPORTS
- ADMIN
- INSPECTION
- GATEWAY
- ANALYSIS
  - WORK CANDIDATES
  - BRIDGE ANALYSIS
  - REVERSE CALCULATION
  - NEEDS LIST
  - COMPARISON GROUPS
  - UTILITY VALUE
  - LCCA
  - PROJECTS
  - PROGRAMS

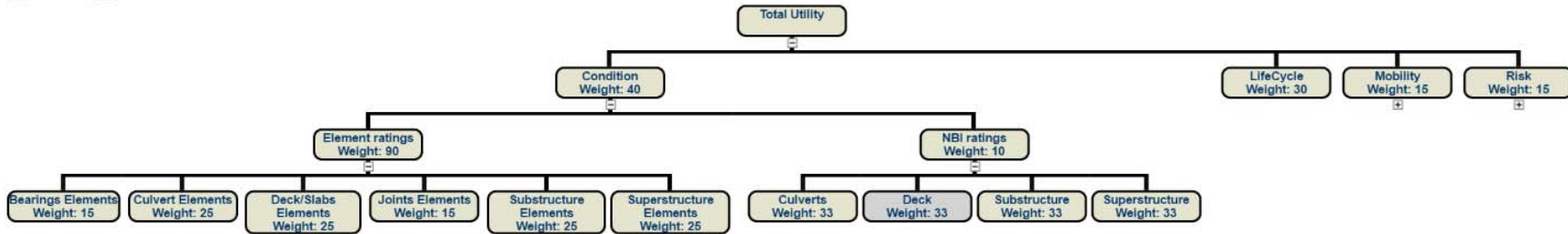


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# Utility

Admin > Modeling Config > Utility

## Components



Deck

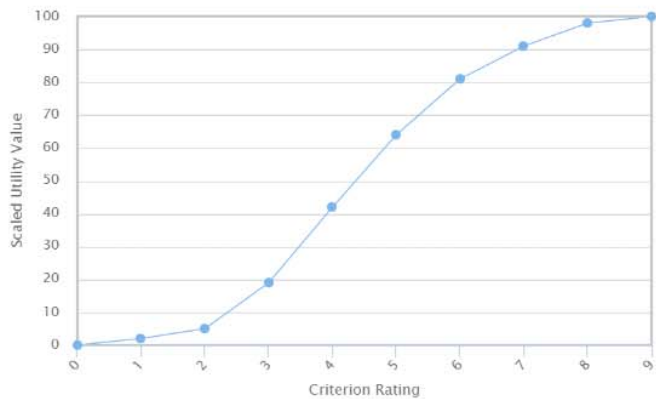
[Add New Child Criterion](#)

## Criterion Properties

Name:  Weight:   
Type:   
Table:  Column:

## Scaling

Formula:



Criterion	Scaled	Dele
0	0	Dele
1	2	Dele
2	5	Dele
3	18	Dele
4	42	Dele
5	64	Dele
6	81	Dele
7	91	Dele
8	98	Dele
9	100	Dele

Criterion Rating Range  
Min:  Max:

[New Point](#) [Calc Criterion Range](#)

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# Utility

Analysis > Utility Value

Utility Value: 77.36

Condition Value  Base Condition Value: 73.82 Scaled Value: 73.82 x Weight: 40 = Adjusted Condition Value: 2952.80

Condition Item	Base Value	Scaled Value	Weight	Adjusted Value
Element ratings	72.65	72.65	90.00	6,538.50
NBI ratings	84.33	84.33	10.00	843.30

Risk Value  Base Risk Value: 83.33 Scaled Value: 83.33 x Weight: 15 = Adjusted Risk Value: 1249.95

Risk Item	Base Value	Scaled Value	Weight	Adjusted Value
Channel and Channel Protection (NBI 61)			10.00	
Fracture Critical (NBI 92a)		100	20.00	2,000.00
Posting (NBI 70)	5.00	100	20.00	2,000.00
Scour Critical (NBI 113)			30.00	
Underclearances (NBI 69)	6.00	50	20.00	1,000.00
Waterway Adequacy (NBI 71)			10.00	

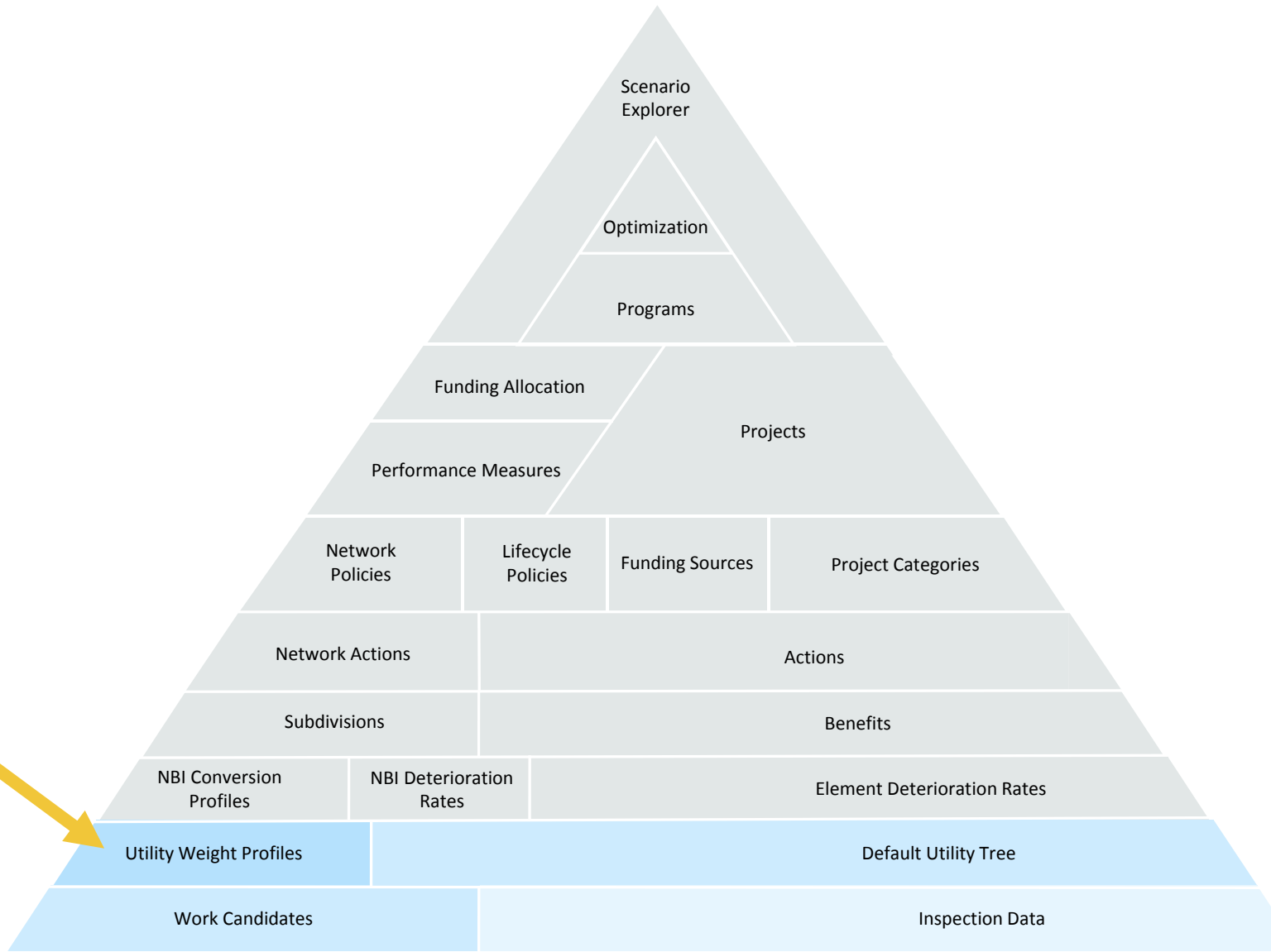
Mobility Value  Base Mobility Value: 80.84 Scaled Value: 80.84 x Weight: 15 = Adjusted Mobility Value: 1212.60

Mobility Item	Base Value	Scaled Value	Weight	Adjusted Value
Approach Roadway Alignment (NBI 72)	6.00	50	15.00	750.00
Deck Geometry (NBI 68)	9.00	100	25.00	2,500.00
Detour Length (NBI 19)	3.11	88.90	15.00	1,333.50
Posting (NBI 70)	5.00	100	25.00	2,500.00
Underclearances (NBI 69)	6.00	50	20.00	1,000.00

LifeCycle Value  Base LifeCycle Value: N/A Scaled Value: N/A x Weight: 30 = Adjusted LifeCycle Value: N/A

LifeCycle Item	Base Value	Scaled Value	Weight	Adjusted Value
No records to display.				

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## Utility Weight Profiles

Admin > Modeling Config > Weights Profile

**Profiles**

Selected Weight Profile: Scour

Name: Scour

**Utility Components**

- Total Utility
  - Condition (40->20)
  - LifeCycle (30->0)
  - Mobility (15->0)
  - Risk (15->30)**
    - Channel and Channel Protection (NBI 61) (10->10)
    - Fracture Critical (NBI 92a) (20->0)
    - Posting (NBI 70) (20->0)
    - Scour Critical (NBI 113) (30->30)
    - Underclearances (NBI 69) (20->0)
    - Waterway Adequacy (NBI 71) (10->10)

**Risk Criterion's Details**

Default Sibling Total Weight: 100

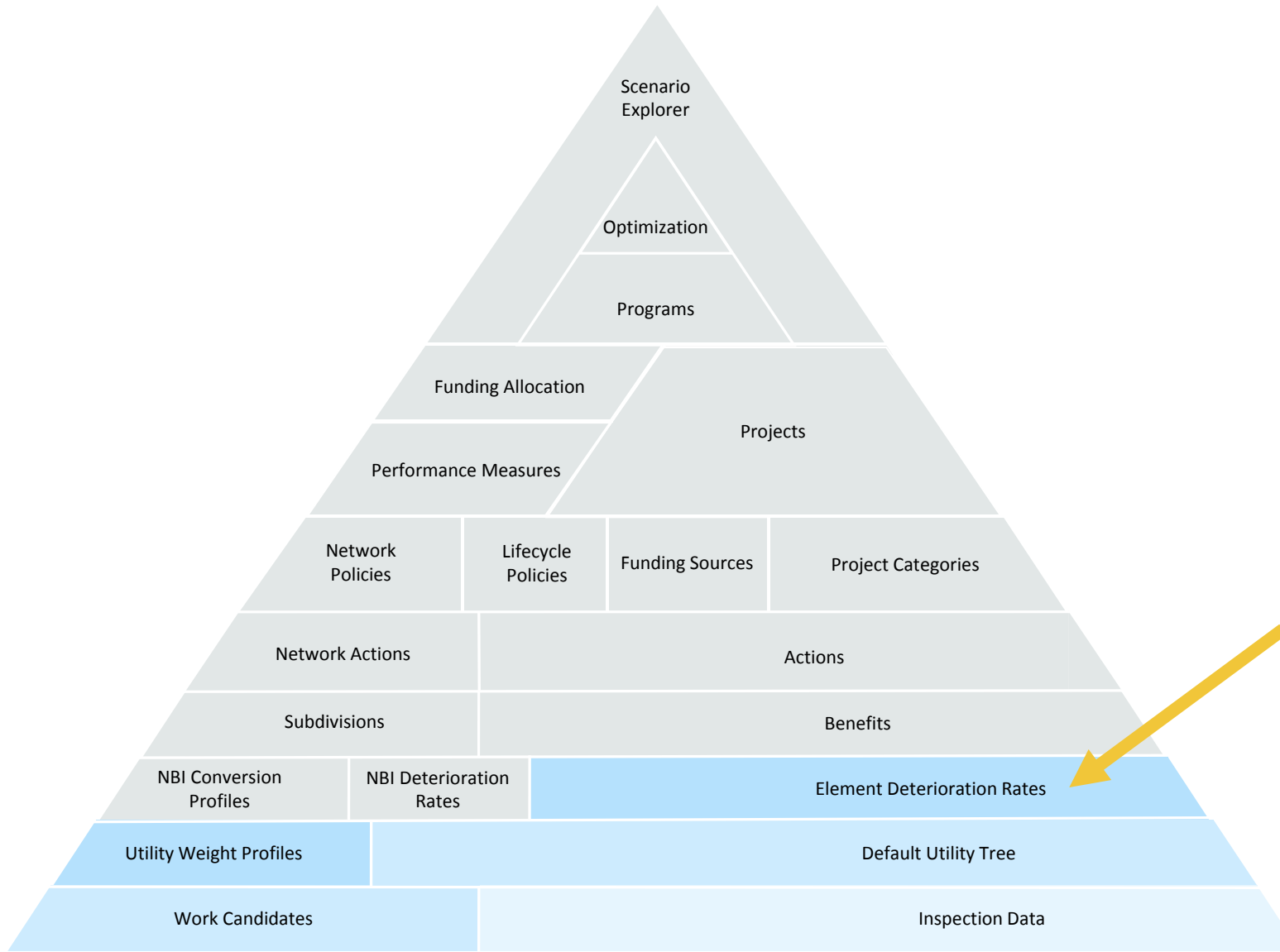
Default Weight: 15 15%

Override Sibling Total Weight: 50

Override Weight: 30 60%

[Reset to Default](#)

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# Element Deterioration Rates

Admin > Modeling Config > Element Spec

**Elements**

Element Filter  
Not Filtered

ID	Short Name
12	Re Concrete Deck
13	Pre Concrete Deck
15	Pre Concrete Top Flange
16	Re Conc Top Flange
28	Steel Deck - Open Grid
29	Steel Deck - Conc Fill Grid
30	Steel Deck - Orthotropic
31	Timber Deck
38	Re Concrete Slab
54	Timber Slab
60	Other Deck
65	Other Slab
102	Steel Clsd Box Gird
104	Pre Clsd Box Girder
105	Re Clsd Box Girder
106	Othr Clsd Web/Box Girder
107	Steel Opn Girder/Beam
109	Pre Opn Conc Girder/Beam
110	Re Conc Opn Girder/Beam
111	Timber Open Girder
112	Other Open Girder/Beam
113	Steel Stringer
115	Pre Conc Stringer

[Create Element](#) [Copy Element](#)

**Element Specifications**

Element Rollup Key:

Element Key:  NBE:

Short Name:  Long Name:

Relative Weight:  [All Relative Weights](#)

NBI Relative Weight:

Units:

Notes:

Manual:  No file chosen [Upload](#)

Defect:

Protective System/Wearing Surface:

Primary Defect:

**Health Index Coefficients**

CS1:  CS3:

CS2:  CS4:

**Deterioration Modeling**

Model:  [View Graphs](#)

**Model Parameters**

Median years in CS1:  Shaping parameter:

Median years in CS2:  Formula:

Median years in CS3:

**Classifications**

Category:

Material:

Type:

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# Element Deterioration Rates

## Element: (12) Re Concrete Deck

### Model Parameters

Median years in CS1:  Median years in CS2:  Median years in CS3:  Shaping parameter:

[Reset](#)

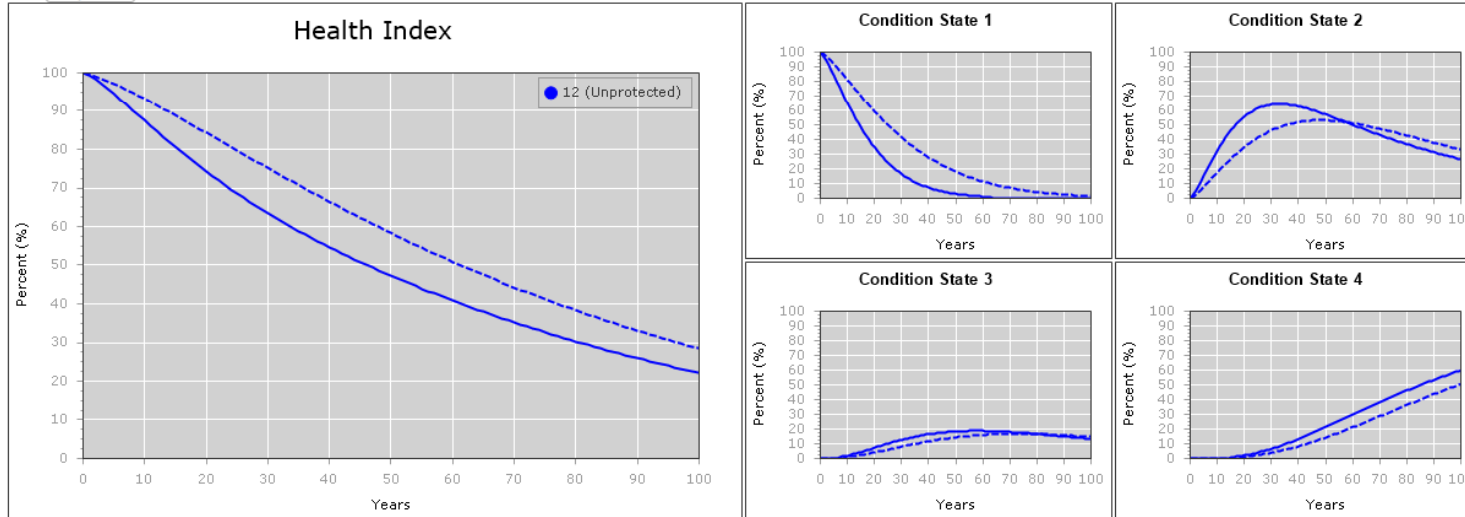
### Element Assumptions

Environment:  Protective system(s):

[Redraw](#)

### Deterioration Curves

Scale:



### Deterioration Forecasts

Year	Pct. 1	Pct. 2	Pct. 3	Pct. 4	Health Index
1	98.95	1.05	0.00	0.00	99.00
2	97.43	2.55	0.02	0.00	97.44
3	95.69	4.25	0.06	0.00	95.69

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# Element Deterioration Rates

## Element: (12) Re Concrete Deck

### Model Parameters

Median years in CS1:  Median years in CS2:  Median years in CS3:  Shaping parameter:

[Reset](#)

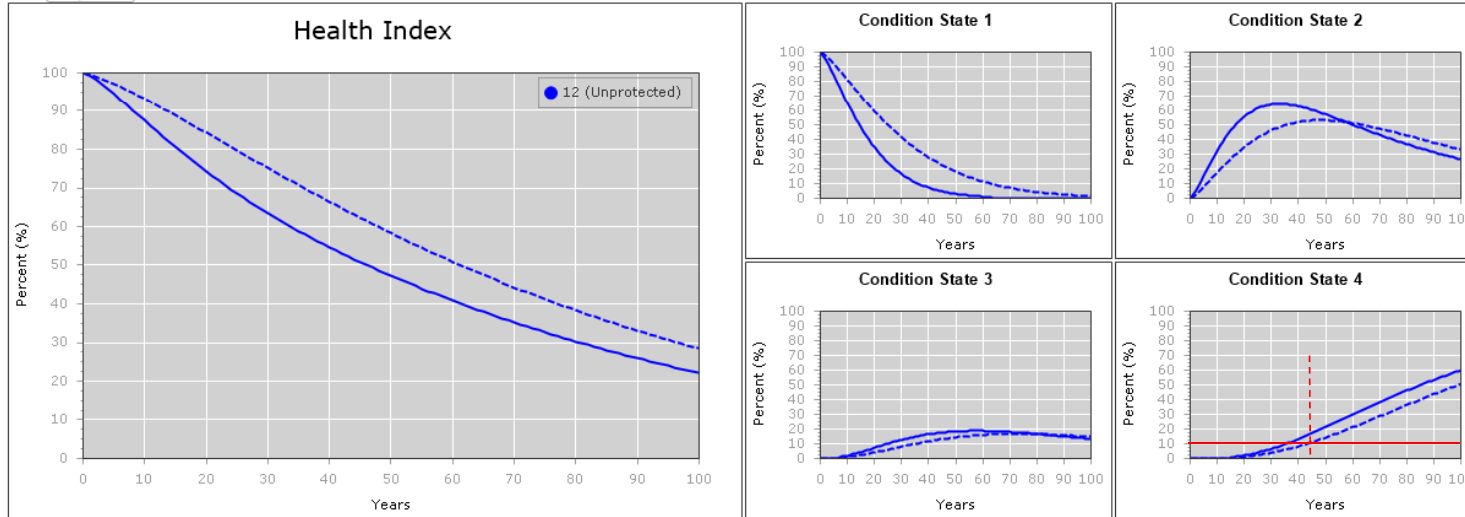
### Element Assumptions

Environment:  Protective system(s):

[Redraw](#)

### Deterioration Curves

Scale:



### Deterioration Forecasts

Year	Pct. 1	Pct. 2	Pct. 3	Pct. 4	Health Index
1	98.95	1.05	0.00	0.00	99.00
2	97.43	2.55	0.02	0.00	97.44
3	95.69	4.25	0.06	0.00	95.69

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# Element Deterioration Rates

## Element: (12) Re Concrete Deck

### Model Parameters

Median years in CS1:  Median years in CS2:  Median years in CS3:  Shaping parameter:

[Reset](#)

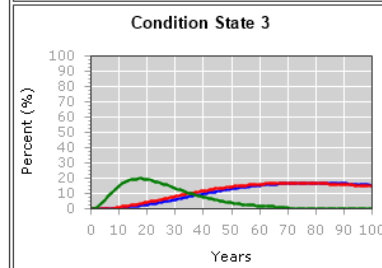
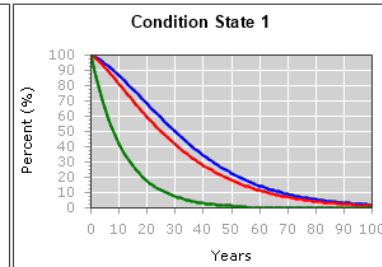
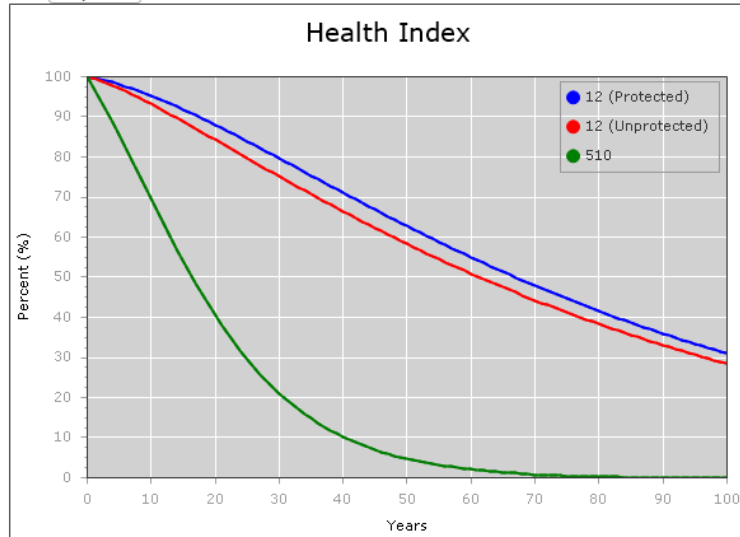
### Element Assumptions

Environment:  Protective system(s):

[Redraw](#)

### Deterioration Curves

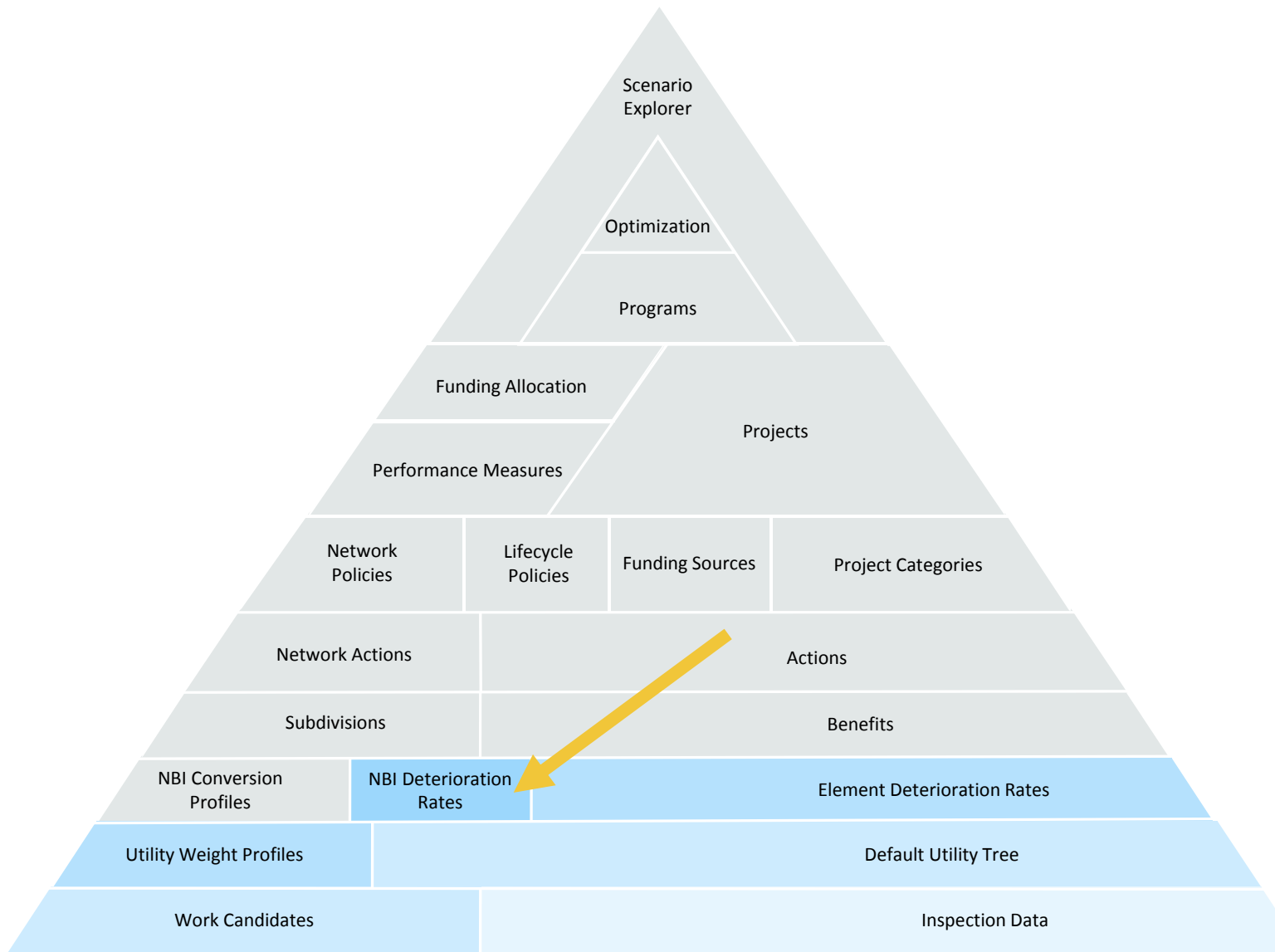
Scale:



### Deterioration Forecasts

Year	Pct. 1	Pct. 2	Pct. 3	Pct. 4	Health Index
1	99.32	0.68	0.00	0.00	99.7
2	98.32	1.67	0.01	0.00	99.44
3	97.16	2.81	0.03	0.00	99.04

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# NBI Deterioration Rates

Admin > Modeling Config > NBI Deterioration Models

### Components

Component Name
Deck
Superstructure
Substructure
Culvert

### Component Specification

Name: Deck

Description:

Category: Decks/Slabs

Table Name: inspevnt

Column Name:

Min NBI Value: 1

Max NBI Value: 9

### Component Deterioration Modeling

Model

#### Model Parameters

NBI Transition Time in Years 9 :	2
NBI Transition Time in Years 8 :	18.65
NBI Transition Time in Years 7 :	13.75
NBI Transition Time in Years 6 :	14.5
NBI Transition Time in Years 5 :	14
NBI Transition Time in Years 4 :	5
NBI Transition Time in Years 3 :	2.6
NBI Transition Time in Years 2 :	0
NBI Transition Time in Years 1 :	0

### Network NBI Rating distributions

Bridge Filter: Entire Network [Re-estimate results](#)

Component: Bridge-Level

No results exist for this filter. Please click "Re-estimate Results"

# NBI Deterioration Rates

## Admin > Modeling Config > NBI Deterioration Models

**Components**

Component Name
Deck
▶ Superstructure
▶ Substructure
▶ Culvert

**Component Specification**

Name: Deck

Description:

Category: Decks/Slabs

Table Name: inspevnt      Column Name:

Min NBI Value: 1      Max NBI Value: 9

**Component Deterioration Modeling**

Model

**Model Parameters**

NBI Transition Time in Years 9: 2

NBI Transition Time in Years 8: 18.65

NBI Transition Time in Years 7: 13.75

NBI Transition Time in Years 6: 14.5

NBI Transition Time in Years 5: 14

NBI Transition Time in Years 4: 5

NBI Transition Time in Years 3: 2.6

NBI Transition Time in Years 2: 0

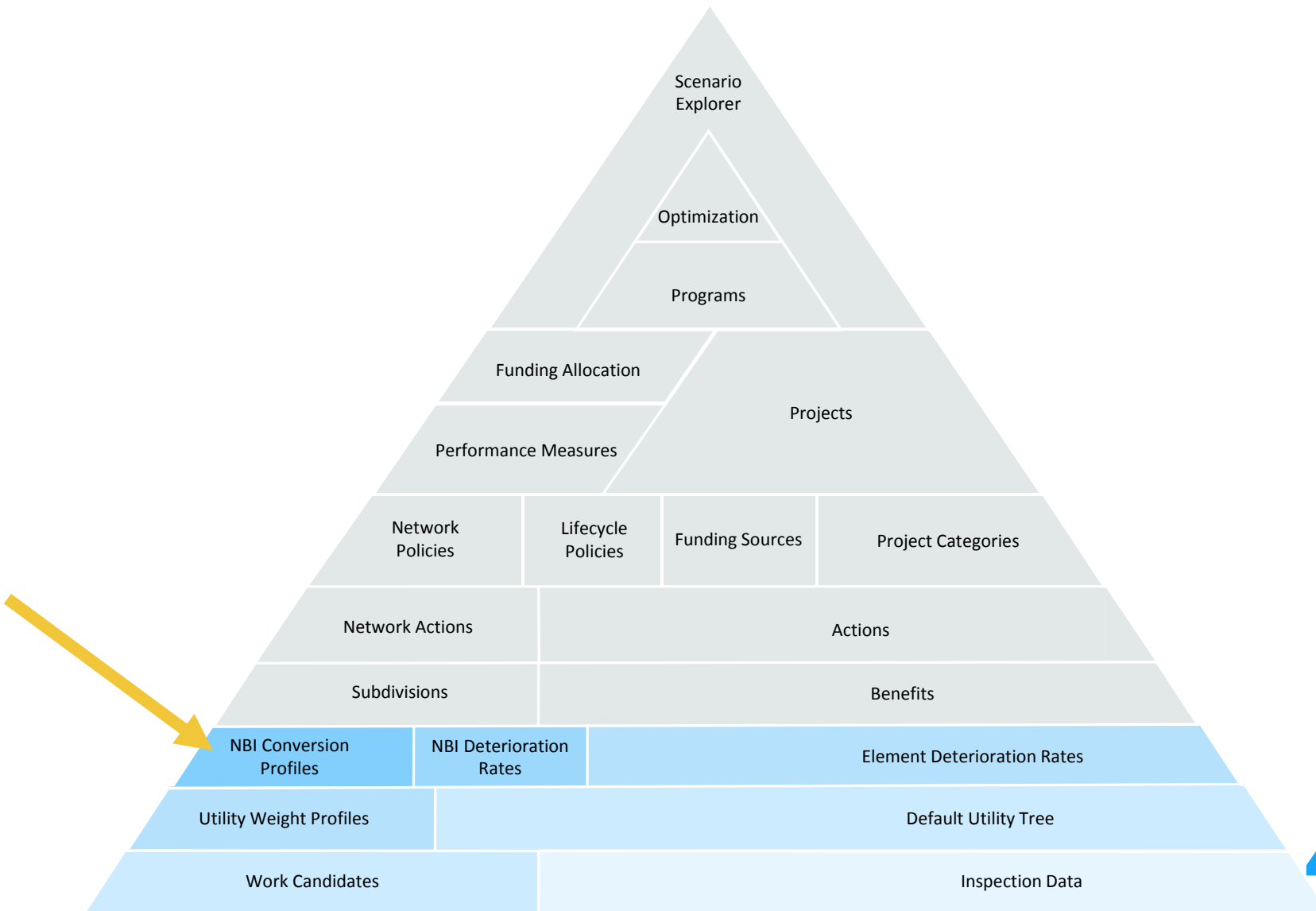
NBI Transition Time in Years 1: 0

**Network NBI Rating distributions**

Bridge Filter: BrM - Active Status [Re-estimate results](#)

Component: Deck

	Latest Inspection Reported	Current	+5 Years	+10 Years
NBI Rating 9	273	69	0	0
NBI Rating 8	1007	1006	900	727
NBI Rating 7	2193	1367	1188	928
NBI Rating 6	2299	2419	2415	2439
NBI Rating 5	1200	1695	1777	1972
NBI Rating 4	98	462	604	265
NBI Rating 3	23	64	119	225
NBI Rating 2	0	11	15	328
NBI Rating 1	1	0	52	102



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# NBI Conversion Profiles

### NBI Profiles

NBI Profile Name
FHWA Profile
BrM Default
Agency Test Profile

### Profile Details:

Name:

Profile enabled

Generic  Deck  Superstructure  Substructure  Culvert

#### Generic Upper Limits

Group enabled  
Method of CS, averaging:

NBI	Enabled	CS1 %	CS2 %	CS3 %	CS4 %
9	<input checked="" type="checkbox"/>	100	1	1	1
8	<input checked="" type="checkbox"/>		5	5	1
7	<input checked="" type="checkbox"/>		20	5	2
6	<input checked="" type="checkbox"/>			10	3
5	<input checked="" type="checkbox"/>			20	5
4	<input checked="" type="checkbox"/>				15
3	<input checked="" type="checkbox"/>				100
2	<input type="checkbox"/>				
1	<input type="checkbox"/>				

### Network NBI Rating distributions

Bridge Filter:  [Re-estimate results](#)

Component:

No results exist for this filter. Please click "Re-estimate Results"

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# NBI Conversion Profiles

## Admin > Modeling Config > NBI Conversion Profiles

### NBI Profiles

NBI Profile Name	
<input checked="" type="checkbox"/>	BrM Default - Copy
<input type="checkbox"/>	FHWA Profile
<input checked="" type="checkbox"/>	BrM Default

### Profile Details:

Name:

Profile enabled

Generic
  Deck
  Superstructure
  Substructure
  Culvert

#### Generic Upper Limits

Group enabled  
 Method of CS, averaging:

NBI	Enabled	CS1 %	CS2 %	CS3 %	CS4 %
9	<input checked="" type="checkbox"/>	100	1	1	1
8	<input checked="" type="checkbox"/>		5	5	1
7	<input checked="" type="checkbox"/>		20	5	2
6	<input checked="" type="checkbox"/>			10	3
5	<input checked="" type="checkbox"/>			20	5
4	<input checked="" type="checkbox"/>				15
3	<input checked="" type="checkbox"/>				100
2	<input type="checkbox"/>				
1	<input type="checkbox"/>				

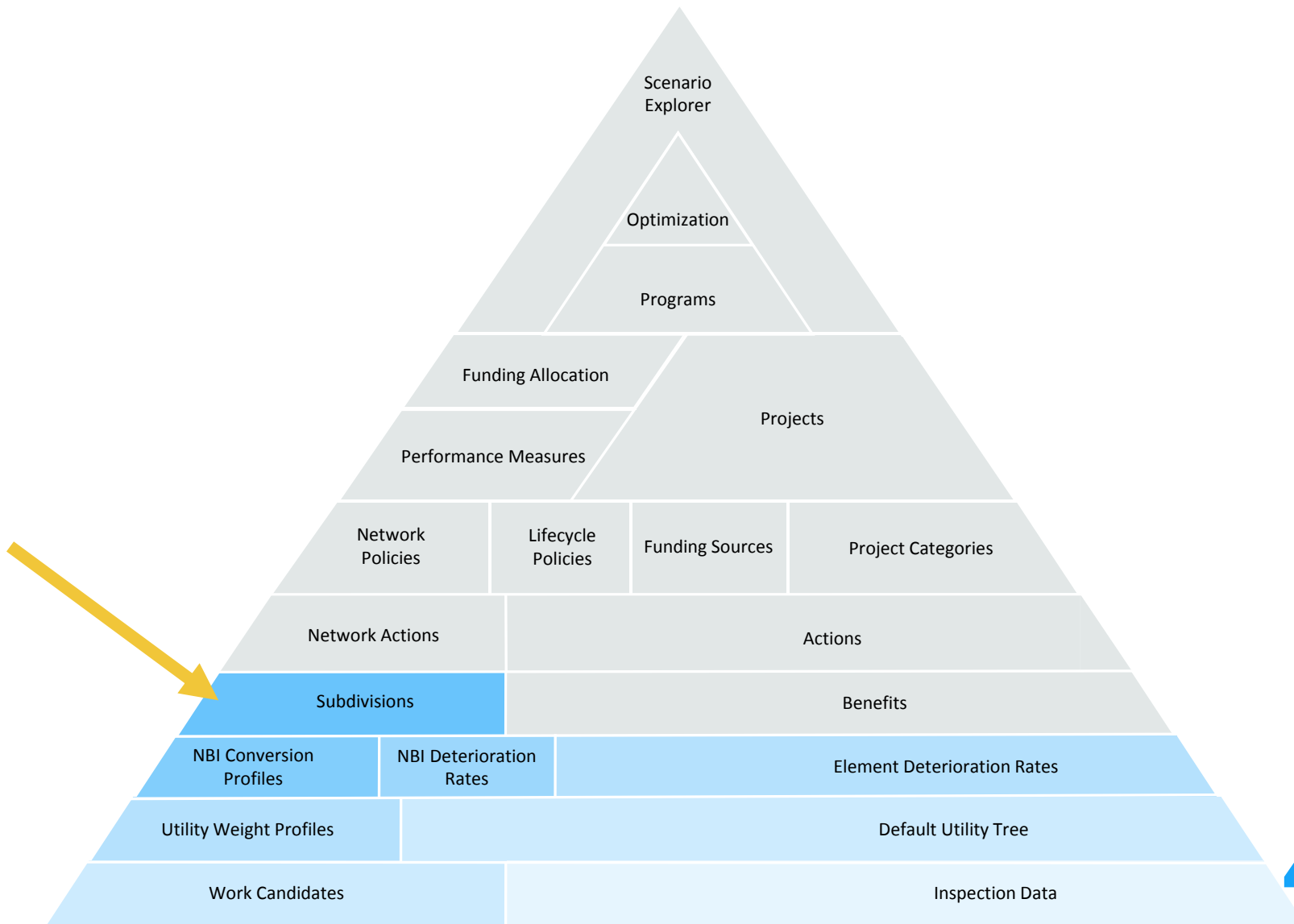
### Network NBI Rating distributions

Bridge Filter:  [Re-estimate results](#)

Component:

	Latest Inspection Reported	Latest Inspection Converted	Current	+5 Years	+10 Years
NBI Rating 9	296	2157	1091	67	0
NBI Rating 8	1066	1225	1651	963	845
NBI Rating 7	3262	1535	2044	2502	1191
NBI Rating 6	3893	3809	3872	4015	4192
NBI Rating 5	2283	678	728	1684	2071
NBI Rating 4	414	1419	1433	1262	1831
NBI Rating 3	114	131	135	461	824
NBI Rating 2	13	0	0	0	0
NBI Rating 1	1	0	0	0	0

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## Subdivisions

### Admin > Modeling Config > Subdivision Profiles

#### Subdivision Profile Editor

Subdivision Profile: NHS On Off [Create New](#)

#### Subdivision Profile Details

Name:

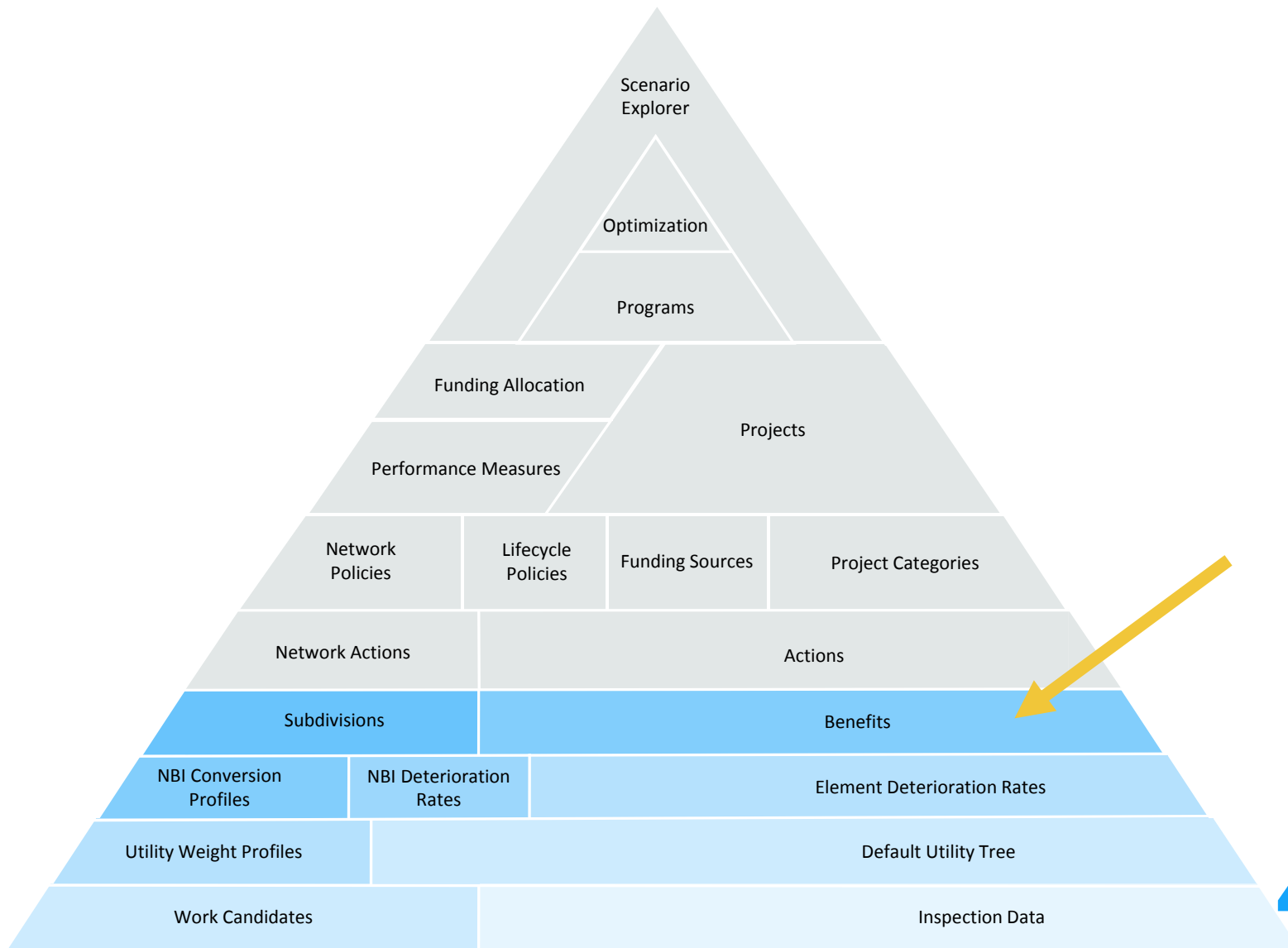
Description:

#### Mapped Fields

Table	Field	
roadway	nhs_ind	X

Table: roadway Field: nhs\_ind [Add](#)

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# Benefits

Benefit Groups +

[+ Add New Benefit Group](#)

Benefit Group Name <span>▲</span>	Description	Linked Actions	Sort Order <span>▲</span>	Child Benefit Groups
Repair Piers & Caps	Repair Pier & Cap Elements		9999	<a href="#">Link to Child Groups</a>
Repair Railings	Repair Concrete, Replace Others	Approach Slab Jacking, Rehab Culvert - Network	9999	<a href="#">Link to Child Groups</a>
Replace Approach Slabs	Replace Approach Elems	Profile Rotomilling, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Culvert	Replace Culvert	Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Deck	Replace Decks	Profile Rotomilling, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Deck Sections	Replace Steel and Timber sections	Approach Slab Jacking	9999	<a href="#">Link to Child Groups</a>
Replace Joint Seals	Replace Joint Seals	Approach Slab Jacking	9999	<a href="#">Link to Child Groups</a>
Replace Railings	Replace Railings	Profile Rotomilling, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Sub	Replace Sub Elements	Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Super	Replace Super	Replace Super - Network, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Seal Joints	Replace Joint seals	Preserve Deck - Network	9999	<a href="#">Link to Child Groups</a>
Thin Bonded Overlay	Thin Bonded Overlay - Replace / place new	Preserve Deck - Network	9999	<a href="#">Link to Child Groups</a>

⏪ 1 2 3 ⏩
Page size: 20
52 items in 3 pages

- [Approach Slab Repair - Changed Elements](#) +
- [Approach Slab Repair - Removed Elements](#) +
- [Approach Slab Repair - Replaced Elements](#) +
- [Approach Slab Repair - Created Protecting Systems](#) +
- [Approach Slab Repair - Fields](#) +
- [Approach Slab Repair - Risks- to reduce risk, use negative values](#) +

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# Benefits

Benefit Groups

+ Add New Benefit Group

Benefit Group Name	Description	Linked Actions	Sort Order	Child Benefit Groups
Repair Piers & Caps	Repair Pier & Cap Elements		9999	<a href="#">Link to Child Groups</a>
Repair Railings	Repair Concrete, Replace Others	Approach Slab Jacking, Rehab Culvert - Network	9999	<a href="#">Link to Child Groups</a>
Replace Approach Slabs	Replace Approach Elems	Profile Rotomilling, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Culvert	Replace Culvert	Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Deck	Replace Decks	Profile Rotomilling, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Deck Sections	Replace Steel and Timber sections	Approach Slab Jacking	9999	<a href="#">Link to Child Groups</a>
Replace Joint Seals	Replace Joint Seals	Approach Slab Jacking	9999	<a href="#">Link to Child Groups</a>
Replace Railings	Replace Railings	Profile Rotomilling, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Sub	Replace Sub Elements	Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Super	Replace Super	Replace Super - Network, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Seal Joints	Replace Joint seals	Preserve Deck - Network	9999	<a href="#">Link to Child Groups</a>
Thin Bonded Overlay	Thin Bonded Overlay - Replace / place new	Preserve Deck - Network	9999	<a href="#">Link to Child Groups</a>

Page size: 20 52 items in 3 pages

- Approach Slab Repair - Changed Elements
- Approach Slab Repair - Removed Elements
- Approach Slab Repair - Replaced Elements
- Approach Slab Repair - Created Protecting Systems
- Approach Slab Repair - Fields
- Approach Slab Repair - Risks- to reduce risk, use negative values

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# Benefits

- Changed Elements
- Removed Elements
- Replaced Elements
- Created Protective Sys
- Fields
- Risks

Admin > Modeling Config > Benefit Groups

Benefit Groups

+ Add New Benefit Group

Benefit Group Name	Description	Linked Actions	Sort Order	Child Benefit Groups
Repair Piers & Caps	Repair Pier & Cap Elements		9999	<a href="#">Link to Child Groups</a>
Repair Railings	Repair Concrete, Replace Others	Approach Slab Jacking, Rehab Culvert - Network	9999	<a href="#">Link to Child Groups</a>
Replace Approach Slabs	Replace Approach Elems	Profile Rotomilling, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Culvert	Replace Culvert	Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Deck	Replace Decks	Profile Rotomilling, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Deck Sections	Replace Steel and Timber sections	Approach Slab Jacking	9999	<a href="#">Link to Child Groups</a>
Replace Joint Seals	Replace Joint Seals	Approach Slab Jacking	9999	<a href="#">Link to Child Groups</a>
Replace Railings	Replace Railings	Profile Rotomilling, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Sub	Replace Sub Elements	Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Replace Super	Replace Super	Replace Super - Network, Replace Structure - Network	9999	<a href="#">Link to Child Groups</a>
Seal Joints	Replace Joint seals	Preserve Deck - Network	9999	<a href="#">Link to Child Groups</a>
Thin Bonded Overlay	Thin Bonded Overlay - Replace / place new	Preserve Deck - Network	9999	<a href="#">Link to Child Groups</a>

Page size: 20 52 items in 3 pages

Approach Slab Repair - Changed Elements

Approach Slab Repair - Removed Elements

Approach Slab Repair - Replaced Elements

Approach Slab Repair - Created Protecting Systems

Approach Slab Repair - Fields

Approach Slab Repair - Risks- to reduce risk, use negative values

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# Benefits

Changed Elements

Removed Elements

Replaced Elements

Created Protective Sys

Fields

Risks

Admin > Modeling Config > Benefit Groups

Replace Culvert	Replace Culvert	Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Deck	Replace Decks	Profile Rotomilling, Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Deck Sections	Replace Steel and Timber sections	Approach Slab Jacking	9999			<a href="#">Link to Child Groups</a>
Replace Joint Seals	Replace Joint Seals	Approach Slab Jacking	9999			<a href="#">Link to Child Groups</a>
Replace Railings	Replace Railings	Profile Rotomilling, Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Sub	Replace Sub Elements	Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Super	Replace Super	Replace Super - Network, Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Seal Joints	Replace Joint seals	Preserve Deck - Network	9999			<a href="#">Link to Child Groups</a>
Thin Bonded Overlay	Thin Bonded Overlay - Replace / place new	Preserve Deck - Network	9999			<a href="#">Link to Child Groups</a>

Page size: 20 52 items in 3 pages

Approach Slab Repair - Changed Elements

+ Add new record

Element	Parent	Grandparent	Origin State	CS1	CS2	CS3	CS4
320 Pre Conc Appr Slab							
320 Pre Conc Appr Slab	None	None	CS3	100%			
320 Pre Conc Appr Slab	None	None	CS4	100%			
321 Re Conc Approach Slab							
321 Re Conc Approach Slab	None	None	CS3	100%			
321 Re Conc Approach Slab	None	None	CS4	100%			

Page size: 20 4 items in 1 pages

Approach Slab Repair - Removed Elements

Approach Slab Repair - Replaced Elements

Approach Slab Repair - Created Protecting Systems

Approach Slab Repair - Fields

Approach Slab Repair - Risks - to reduce risk, use negative values

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## Benefits

Changed Elements

Removed Elements

Replaced Elements

Created Protective Sys

Fields

Risks

Admin > Modeling Config > Benefit Groups

Replace Approach Slabs	Replace Approach Elems	Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Culvert	Replace Culvert	Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Deck	Replace Decks	Profile Rotomilling, Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Deck Sections	Replace Steel and Timber sections	Approach Slab Jacking	9999			<a href="#">Link to Child Groups</a>
Replace Joint Seals	Replace Joint Seals	Approach Slab Jacking	9999			<a href="#">Link to Child Groups</a>
Replace Railings	Replace Railings	Profile Rotomilling, Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Sub	Replace Sub Elements	Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Super	Replace Super	Replace Super - Network, Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Seal Joints	Replace Joint seals	Preserve Deck - Network	9999			<a href="#">Link to Child Groups</a>
Thin Bonded Overlay	Thin Bonded Overlay - Replace / place new	Preserve Deck - Network	9999			<a href="#">Link to Child Groups</a>

Navigation: << 1 2 3 >> Page size: 20 52 items in 3 pages

Approach Slab Repair - Changed Elements +

Approach Slab Repair - Removed Elements -

+ Add new record

Element	Parent	Grandparent	<input type="checkbox"/>	<input type="checkbox"/>
(206) Timber Column	None	None	<input type="checkbox"/>	<input type="checkbox"/>

No records to display.

Navigation: << 1 >> Page size: 20 0 items in 1 pages

Approach Slab Repair - Replaced Elements +

Approach Slab Repair - Created Protecting Systems +

Approach Slab Repair - Fields +

Approach Slab Repair - Risks- to reduce risk, use negative values +

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# Benefits

- Changed Elements
- Removed Elements
- Replaced Elements
- Created Protective Sys
- Fields
- Risks

Admin > Modeling Config > Benefit Groups

Seal Joints	Replace Joint seals	Preserve Deck - Network	9999			<a href="#">Link to Child Groups</a>
Thin Bonded Overlay	Thin Bonded Overlay - Replace / place new	Preserve Deck - Network	9999			<a href="#">Link to Child Groups</a>

Page size: 20 52 items in 3 pages

Replace Deck - Changed Elements +

Replace Deck - Removed Elements +

Replace Deck - Replaced Elements -

+ Add new record

Orig. Element	Orig. Parent	New Element	Percent Replaced		
304 Open Expansion Joint	None	304 Open Expansion Joint	100		
302 Compressn Joint Seal	None	302 Compressn Joint Seal	100		
60 Other Deck	None	60 Other Deck	100		
31 Timber Deck	None	31 Timber Deck	100		
306 Other Joint	None	306 Other Joint	100		
38 Re Concrete Slab	None	38 Re Concrete Slab	100		
30 Steel Deck - Orthotropic	None	30 Steel Deck - Orthotropic	100		
305 Assem Jnt Wthut Seal	None	305 Assem Jnt Wthut Seal	100		
303 Assem Jnt With Seal	None	303 Assem Jnt With Seal	100		
300 Strip Seal Exp Joint	None	300 Strip Seal Exp Joint	100		
65 Other Slab	None	65 Other Slab	100		
12 Re Concrete Deck	None	12 Re Concrete Deck	100		
29 Steel Deck - Conc Fill Grid	None	29 Steel Deck - Conc Fill Grid	100		
301 Pourable Joint Seal	None	301 Pourable Joint Seal	100		
13 Pre Concrete Deck	None	13 Pre Concrete Deck	100		
54 Timber Slab	None	54 Timber Slab	100		
28 Steel Deck - Open Grid	None	28 Steel Deck - Open Grid	100		

Page size: 20 17 items in 1 pages

Replace Deck - Created Protecting Systems +

Replace Deck - Fields +

Replace Deck - Risks- to reduce risk, use negative values +

51

## Benefits

- Changed Elements
- Removed Elements
- Replaced Elements
- Created Protective Sys
- Fields
- Risks

Admin > Modeling Config > Benefit Groups

Rehab Deck Steel	Replace Steel & Timber sections	Rehab Deck - Network	9999			<a href="#">Link to Child Groups</a>
Rehab Railings	Repair Concrete, Replace Others	Rehab Deck - Network, Rehab Culvert - Network	9999			<a href="#">Link to Child Groups</a>

Navigation: << 1 2 3 >> Page size: 20 56 items in 3 pages

Create Super Paint - Changed Elements +

Create Super Paint - Removed Elements +

Create Super Paint - Replaced Elements +

Create Super Paint - Created Protecting Systems -

+ Add new record

Element	Parent	Percent Coverage		
515 Steel Protective Coating	120 Steel Truss	100		
515 Steel Protective Coating	149 Otr Secondary Cable	100		
515 Steel Protective Coating	314 Pot Bearing	100		
515 Steel Protective Coating	107 Steel Opn Girder/Beam	100		
515 Steel Protective Coating	152 Steel Floor Beam	100		
515 Steel Protective Coating	102 Steel Clsd Box Gird	100		
515 Steel Protective Coating	311 Moveable Bearing	100		
515 Steel Protective Coating	312 Enclosed Bearing	100		
515 Steel Protective Coating	113 Steel Stringer	100		
515 Steel Protective Coating	141 Stl Arch	100		
515 Steel Protective Coating	147 Stl Main Cables	100		
515 Steel Protective Coating	315 Disk Bearing	100		
515 Steel Protective Coating	161 Stl Pin Pin/Han both	100		
515 Steel Protective Coating	313 Fixed Bearing	100		
515 Steel Protective Coating	162 Stl Gus Plate	100		
515 Steel Protective Coating	148 Sec Steel Cables	100		

Navigation: << 1 >> Page size: 20 16 items in 1 pages

Create Super Paint - Fields +

Create Super Paint - Risks- to reduce risk, use negative values +

52

## Benefits

- Changed Elements
- Removed Elements
- Replaced Elements
- Created Protective Sys
- Fields
- Risks

Admin > Modeling Config > Benefit Groups

Replace Approach Slabs	Replace Approach Elems	Replace Deck - Network, Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Culvert	Replace Culvert	Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Deck	Replace Deck Elements	Replace Deck - Network, Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Joint Seals	Replace Joint Seals	Rehab Deck - Network	9999			<a href="#">Link to Child Groups</a>
Replace Paint	Replace Elem 515	Repaint Super/Sub - Network, Rehab Super - Network	9999			<a href="#">Link to Child Groups</a>
Replace Railings	Replace Railings	Replace Deck - Network, Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Sub	Replace Sub Elements	Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Super	Replace Super	Replace Super - Network, Replace Structure - Network	9999			<a href="#">Link to Child Groups</a>
Replace Wearing Surface	Replace Elem 510	Rehab Deck - Network, Replace Structure - Network, Preserve Deck - Network	9999			<a href="#">Link to Child Groups</a>
Seal Joints	Replace Joint seals	Preserve Deck - Network	9999			<a href="#">Link to Child Groups</a>

Navigation: << 1 2 3 >> Page size: 20 56 items in 3 pages

Replace Super - Changed Elements +

Replace Super - Removed Elements +

Replace Super - Replaced Elements +

Replace Super - Created Protecting Systems +

Replace Super - Fields -

+ Add new record

Table Name ▲	Column Name ▲	New Value	Increment
inspevnt	suprating	9	

Navigation: << 1 >> Page size: 20 1 items in 1 pages

Replace Super - Risks- to reduce risk, use negative values +

53

## Benefits

- Changed Elements
- Removed Elements
- Replaced Elements
- Created Protective Sys
- Fields
- Risks

Admin > Modeling Config > Benefit Groups

Benefit Group Name	Parent Group	Child Group	Value	Actions	Link to Child Groups
Superstructure-Rehab	Superstructure-Rehab	Superstructure-Rehab, Substructure-Rehab			<a href="#">Link to Child Groups</a>
Superstructure-Repair Steel	Superstructure-Repair Steel	Superstructure-Repair Steel			<a href="#">Link to Child Groups</a>
Superstructure-Replace	Superstructure-Replace	Superstructure-Replace			<a href="#">Link to Child Groups</a>
Scour Repair	Reducing Scour Risk		1		<a href="#">Link to Child Groups</a>
Concrete Overlay	Replace WS with Concrete Overlay	Rehab Deck - Network	8888		<a href="#">Link to Child Groups</a>
Rehab Sub	Repair Columns piers, abutments, piles, pier caps	Rehab Sub - Network	8888		Rehab Sub Columns & Piles, Rehab Sub Piers & Caps, Rehab Sub Abutments <a href="#">Link to Child Groups</a>
Rehab Super	Rehab Super: beams and other	Rehab Super - Network	8888		Rehab Super Beams, Rehab Super Other Elems <a href="#">Link to Child Groups</a>
Thin Bonded Overlay	Thin Bonded Overlay - Replace / place new	Preserve Deck - Network	8888		<a href="#">Link to Child Groups</a>
Create Sub Paint	Create Elem 515	Paint Sub - Network	9999		<a href="#">Link to Child Groups</a>
Create Super Paint	Create Elem 515	Paint Super - Network	9999		<a href="#">Link to Child Groups</a>
Create Wearing Surface	Create Elem 510	Place Wearing Surface - Network	9999		<a href="#">Link to Child Groups</a>
Rehab Culvert	Rehab Culvert	Rehab Culvert - Network	9999		<a href="#">Link to Child Groups</a>
Rehab Deck Conc	Concrete Deck elem to CS2	Rehab Deck - Network	9999		<a href="#">Link to Child Groups</a>
Rehab Deck Steel	Replace Steel & Timber sections	Rehab Deck - Network	9999		<a href="#">Link to Child Groups</a>

Navigation: << 1 2 3 >> Page size: 20 57 items in 3 pages

Scour Repair - Changed Elements

Scour Repair - Removed Elements

Scour Repair - Replaced Elements

Scour Repair - Created Protecting Systems

Scour Repair - Fields

Scour Repair - Risks- to reduce risk, use negative values

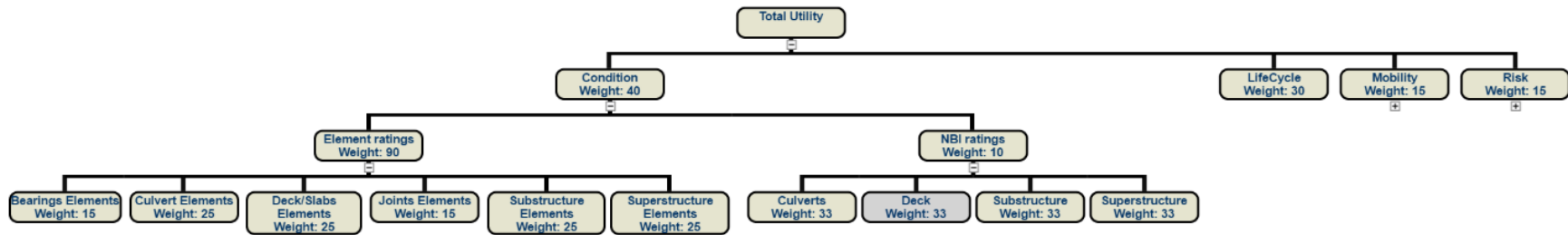
Add new record

Assessment Name	New Value	Increment	Actions
Scour		-10	

Navigation: << 1 >> Page size: 20 1 items in 1 pages

54

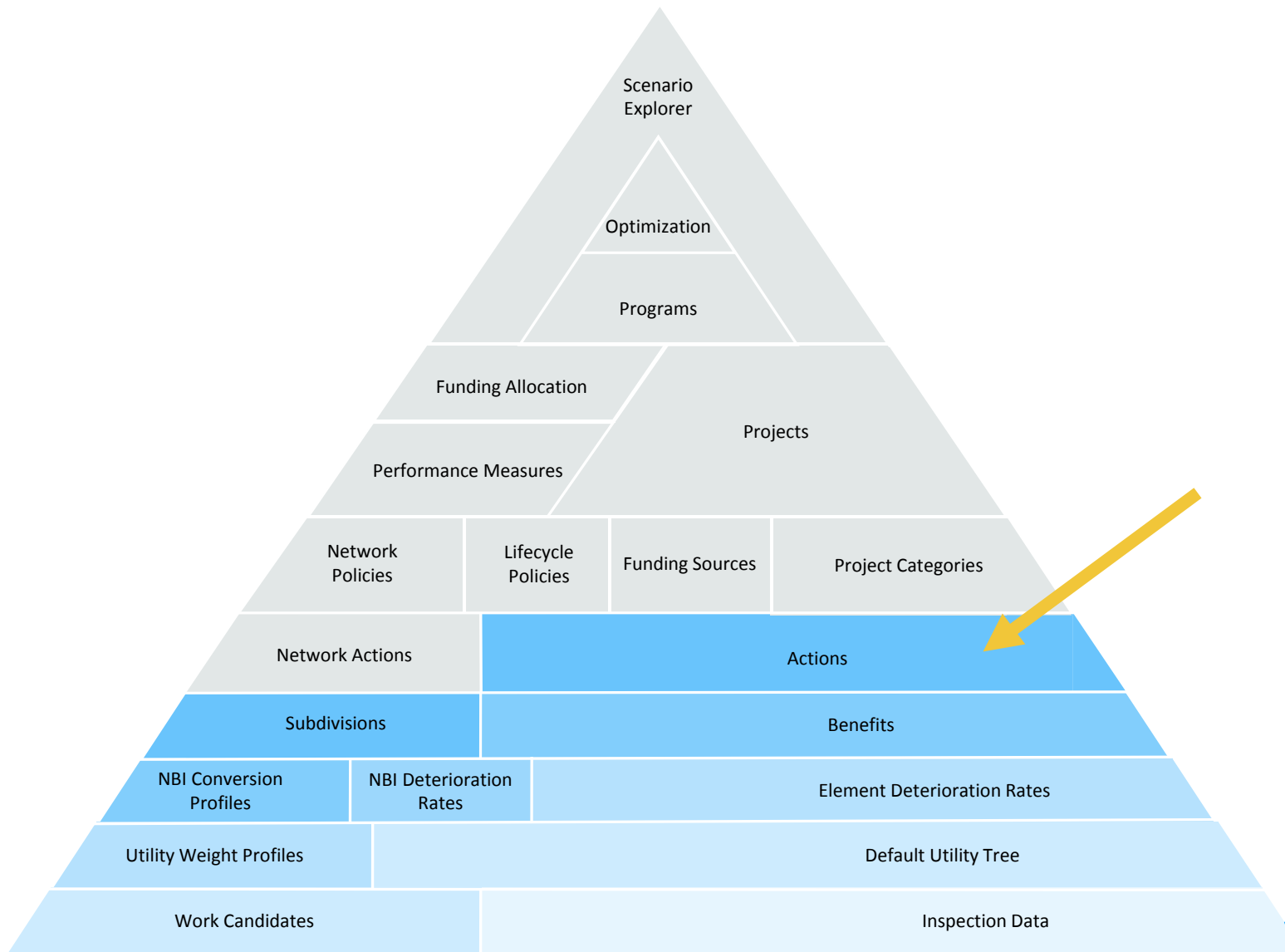
## Benefits



Remember: your benefits should affect the Utility nodes.

Approach Slab Repair - Changed Elements	+
Approach Slab Repair - Removed Elements	+
Approach Slab Repair - Replaced Elements	+
Approach Slab Repair - Created Protecting Systems	+
Approach Slab Repair - Fields	+
Approach Slab Repair - Risks- to reduce risk, use negative values	+

55



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# Actions

## Admin > Modeling Config > Action Defs

Action Name	Description	Example	Code	Enabled	Unit Cost	Unit	Category	Icon
First Wearing Surface - Network	First Wearing Surface	Example	999	<input checked="" type="checkbox"/>			Network	X
Preserve Deck - Network	Wearing Surface / Repair	Example	999	<input checked="" type="checkbox"/>	\$		Network	X
Rehab Culvert - Network	Rehab culvert, parapets, approaches	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Deck - Network	Repair deck, joints and parapets	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Sub - Network	Repair Columns, Piers, Abutments, Piles, Walls	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Super - Network	Repair beams, paint and bearings	Example	999	<input checked="" type="checkbox"/>			Network	X
Repaint Super/Sub - Network	Repair Paint	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Deck - Network	Replace Deck	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Structure - Network	Replace Structure	Example	999	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Network	X
Replace Super - Network	Replace Super Elements	Example	999	<input checked="" type="checkbox"/>			Network	X
Apprh Rdway-Mill Apprch/Shlder	Approach Roadway-Mill Approach / Shoulder	-1		<input type="checkbox"/>			Approach	X
Approach Railing	Approach Railing	-1		<input type="checkbox"/>			Approach	X
Approach Railing-Repair	Approach Railing-Repair	-1		<input type="checkbox"/>			Approach	X

First Previous **1** 2 3 4 5 6 7 8 9 10 Next Last

### Associated Benefit Groups for Action Preserve Deck - Network

Metric  English

Benefit Groups	
Please Select	Add
Replace Wearing Surface	X
Seal Joints	X
Thin Bonded Overlay	X

Overriding Direct Cost (overrides unit-costs) =

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$ 5	sq.ft

Unit Costs =

ID	Element Name	Cost Per Unit	Unit	?
300	Strip Seal Exp Joint (Replace)	\$ 18	ft	X
301	Pourable Joint Seal (Replace)	\$ 5	ft	X
302	Compressn Joint Seal (Replace)	\$ 65	ft	X
510	Wearing Surfaces (Replace)	\$ 30	sq.ft	X

Indirect Cost =

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	(Please Select)

Deferment Rules =

Action Name	Deferment Interval (Years)	Add
Please Select		Add
Preserve Deck - Network	5	X

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# Actions

## Admin > Modeling Config > Action Defs

Action Name	Description	Example	Code	Enabled	Unit Cost	Unit	Category	Icon
First Wearing Surface - Network	First Wearing Surface	Example	999	<input checked="" type="checkbox"/>			Network	✕
Preserve Deck - Network	Wearing Surface / Repair	Example	999	<input checked="" type="checkbox"/>	\$		Network	✕
Rehab Culvert - Network	Rehab culvert, parapets, approaches	Example	999	<input checked="" type="checkbox"/>			Network	✕
Rehab Deck - Network	Repair deck, joints and parapets	Example	999	<input checked="" type="checkbox"/>			Network	✕
Rehab Sub - Network	Repair Columns, Piers, Abutments, Piles, Walls	Example	999	<input checked="" type="checkbox"/>			Network	✕
Rehab Super - Network	Repair beams, paint and bearings	Example	999	<input checked="" type="checkbox"/>			Network	✕
Repaint Super/Sub - Network	Repair Paint	Example	999	<input checked="" type="checkbox"/>			Network	✕
Replace Deck - Network	Replace Deck	Example	999	<input checked="" type="checkbox"/>			Network	✕
Replace Structure - Network	Replace Structure	Example	999	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Network	✕
Replace Super - Network	Replace Super Elements	Example	999	<input checked="" type="checkbox"/>			Network	✕
Apprh Rdway-Mill Apprch/Shlder	Approach Roadway-Mill Approach / Shoulder	-1		<input type="checkbox"/>			Approach	✕
Approach Railing	Approach Railing	-1		<input type="checkbox"/>			Approach	✕
Approach Railing-Repair	Approach Railing-Repair	-1		<input type="checkbox"/>			Approach	✕

First Previous **1** 2 3 4 5 6 7 8 9 10 Next Last

### Associated Benefit Groups for Action Preserve Deck - Network

Metric  English

Benefit Groups	
Please Select	Add
Replace Wearing Surface	✕
Seal Joints	✕
Thin Bonded Overlay	✕

Overriding Direct Cost (overrides unit-costs) =

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$ 5	sq.ft

Unit Costs =

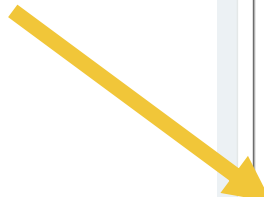
ID	Element Name	Cost Per Unit	Unit	?
300	Strip Seal Exp Joint (Replace)	\$ 18	ft	<input checked="" type="checkbox"/>
301	Pourable Joint Seal (Replace)	\$ 5	ft	<input checked="" type="checkbox"/>
302	Compressn Joint Seal (Replace)	\$ 65	ft	<input checked="" type="checkbox"/>
510	Wearing Surfaces (Replace)	\$ 30	sq.ft	<input checked="" type="checkbox"/>

Indirect Cost =

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	(Please Select)

Deferment Rules =

Action Name	Deferment Interval (Years)	Add
Please Select		Add
Preserve Deck - Network	5	✕



# 58

# Actions

## Admin > Modeling Config > Action Defs

Action Name	Description	Example	Code	Enabled	Unit Cost	Unit	Category	Icon
First Wearing Surface - Network	First Wearing Surface	Example	999	<input checked="" type="checkbox"/>			Network	X
Preserve Deck - Network	Wearing Surface / Repair	Example	999	<input checked="" type="checkbox"/>	\$		Network	X
Rehab Culvert - Network	Rehab culvert, parapets, approaches	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Deck - Network	Repair deck, joints and parapets	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Sub - Network	Repair Columns, Piers, Abutments, Piles, Walls	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Super - Network	Repair beams, paint and bearings	Example	999	<input checked="" type="checkbox"/>			Network	X
Repaint Super/Sub - Network	Repair Paint	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Deck - Network	Replace Deck	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Structure - Network	Replace Structure	Example	999	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Network	X
Replace Super - Network	Replace Super Elements	Example	999	<input checked="" type="checkbox"/>			Network	X
Apprh Rdway-Mill Apprch/Shlder	Approach Roadway-Mill Approach / Shoulder	-1		<input type="checkbox"/>			Approach	X
Approach Railing	Approach Railing	-1		<input type="checkbox"/>			Approach	X
Approach Railing-Repair	Approach Railing-Repair	-1		<input type="checkbox"/>			Approach	X

First Previous **1** 2 3 4 5 6 7 8 9 10 Next Last

### Associated Benefit Groups for Action Preserve Deck - Network

Metric  English

Benefit Groups	
Please Select	Add
Replace Wearing Surface	X
Seal Joints	X
Thin Bonded Overlay	X

Overriding Direct Cost (overrides unit-costs) =

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$ 5	sq.ft

Unit Costs =

ID	Element Name	Cost Per Unit	Unit	?
300	Strip Seal Exp Joint (Replace)	\$ 18	ft	X
301	Pourable Joint Seal (Replace)	\$ 5	ft	X
302	Compressn Joint Seal (Replace)	\$ 65	ft	X
510	Wearing Surfaces (Replace)	\$ 30	sq.ft	X

Indirect Cost =

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	(Please Select)

Deferment Rules =

Action Name	Deferment Interval (Years)	Add
Please Select		Add
Preserve Deck - Network	5	X



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# Actions

## Admin > Modeling Config > Action Defs

Action Name	Description	Example	Code	Enabled	Unit Cost	Unit	Category	Actions
First Wearing Surface - Network	First Wearing Surface	Example	999	<input checked="" type="checkbox"/>			Network	X
Preserve Deck - Network	Wearing Surface / Repair	Example	999	<input checked="" type="checkbox"/>	\$		Network	X
Rehab Culvert - Network	Rehab culvert, parapets, approaches	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Deck - Network	Repair deck, joints and parapets	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Sub - Network	Repair Columns, Piers, Abutments, Piles, Walls	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Super - Network	Repair beams, paint and bearings	Example	999	<input checked="" type="checkbox"/>			Network	X
Repaint Super/Sub - Network	Repair Paint	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Deck - Network	Replace Deck	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Structure - Network	Replace Structure	Example	999	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Network	X
Replace Super - Network	Replace Super Elements	Example	999	<input checked="" type="checkbox"/>			Network	X
Apprh Rdway-Mill Apprch/Shlder	Approach Roadway-Mill Approach / Shoulder	-1		<input type="checkbox"/>			Approach	X
Approach Railing	Approach Railing	-1		<input type="checkbox"/>			Approach	X
Approach Railing-Repair	Approach Railing-Repair	-1		<input type="checkbox"/>			Approach	X

First Previous **1** 2 3 4 5 6 7 8 9 10 Next Last

### Associated Benefit Groups for Action Preserve Deck - Network

Metric  English

Benefit Groups	
Please Select	Add
Replace Wearing Surface	X
Seal Joints	X
Thin Bonded Overlay	X

Overriding Direct Cost (overrides unit-costs) =

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$ 5	sq.ft

Unit Costs =

ID	Element Name	Cost Per Unit	Unit	?
300	Strip Seal Exp Joint (Replace)	\$ 18	ft	<input checked="" type="checkbox"/>
301	Pourable Joint Seal (Replace)	\$ 5	ft	<input checked="" type="checkbox"/>
302	Compressn Joint Seal (Replace)	\$ 65	ft	<input checked="" type="checkbox"/>
510	Wearing Surfaces (Replace)	\$ 30	sq.ft	<input checked="" type="checkbox"/>

Indirect Cost =

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	(Please Select)

Deferment Rules =

Action Name	Deferment Interval (Years)	Add
Please Select		Add
Preserve Deck - Network	5	X



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# Actions

## Admin > Modeling Config > Action Defs

Action Name	Description	Example	Code	Enabled	Unit Cost	Unit	Category	Actions
First Wearing Surface - Network	First Wearing Surface	Example	999	<input checked="" type="checkbox"/>			Network	X
Preserve Deck - Network	Wearing Surface / Repair	Example	999	<input checked="" type="checkbox"/>	\$		Network	X
Rehab Culvert - Network	Rehab culvert, parapets, approaches	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Deck - Network	Repair deck, joints and parapets	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Sub - Network	Repair Columns, Piers, Abutments, Piles, Walls	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Super - Network	Repair beams, paint and bearings	Example	999	<input checked="" type="checkbox"/>			Network	X
Repaint Super/Sub - Network	Repair Paint	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Deck - Network	Replace Deck	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Structure - Network	Replace Structure	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Super - Network	Replace Super Elements	Example	999	<input checked="" type="checkbox"/>			Network	X
Apprh Rdway-Mill Apprch/Shlder	Approach Roadway-Mill Approach / Shoulder	-1		<input type="checkbox"/>			Approach	X
Approach Railing	Approach Railing	-1		<input type="checkbox"/>			Approach	X
Approach Railing-Repair	Approach Railing-Repair	-1		<input type="checkbox"/>			Approach	X

First Previous **1** 2 3 4 5 6 7 8 9 10 Next Last

### Associated Benefit Groups for Action Preserve Deck - Network

Metric  English

Benefit Groups	
Please Select	<input type="button" value="Add"/>
Replace Wearing Surface	<input checked="" type="checkbox"/>
Seal Joints	<input checked="" type="checkbox"/>
Thin Bonded Overlay	<input checked="" type="checkbox"/>

Overriding Direct Cost (overrides unit-costs) =			
Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$ 5	sq.ft

Unit Costs =				
ID	Element Name	Cost Per Unit	Unit	?
300	Strip Seal Exp Joint (Replace)	\$ 18	ft	<input checked="" type="checkbox"/>
301	Pourable Joint Seal (Replace)	\$ 5	ft	<input checked="" type="checkbox"/>
302	Compressn Joint Seal (Replace)	\$ 65	ft	<input checked="" type="checkbox"/>
510	Wearing Surfaces (Replace)	\$ 30	sq.ft	<input checked="" type="checkbox"/>

Indirect Cost =		
Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	(Please Select)

Deferment Rules =		
Action Name	Deferment Interval (Years)	
Please Select		<input type="button" value="Add"/>
Preserve Deck - Network	5	<input checked="" type="checkbox"/>



# 61

# Actions

## Admin > Modeling Config > Action Defs

Action Name	Description	Example	Code	Enabled	Unit Cost	Unit	Category	Actions
First Wearing Surface - Network	First Wearing Surface	Example	999	<input checked="" type="checkbox"/>			Network	X
Preserve Deck - Network	Wearing Surface / Repair	Example	999	<input checked="" type="checkbox"/>	\$		Network	X
Rehab Culvert - Network	Rehab culvert, parapets, approaches	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Deck - Network	Repair deck, joints and parapets	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Sub - Network	Repair Columns, Piers, Abutments, Piles, Walls	Example	999	<input checked="" type="checkbox"/>			Network	X
Rehab Super - Network	Repair beams, paint and bearings	Example	999	<input checked="" type="checkbox"/>			Network	X
Repaint Super/Sub - Network	Repair Paint	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Deck - Network	Replace Deck	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Structure - Network	Replace Structure	Example	999	<input checked="" type="checkbox"/>			Network	X
Replace Super - Network	Replace Super Elements	Example	999	<input checked="" type="checkbox"/>			Network	X
Apprh Rdway-Mill Apprch/Shlder	Approach Roadway-Mill Approach / Shoulder	-1		<input type="checkbox"/>			Approach	X
Approach Railing	Approach Railing	-1		<input type="checkbox"/>			Approach	X
Approach Railing-Repair	Approach Railing-Repair	-1		<input type="checkbox"/>			Approach	X

First Previous **1** 2 3 4 5 6 7 8 9 10 Next Last

### Associated Benefit Groups for Action Preserve Deck - Network

Metric  English

Benefit Groups	
Please Select	Add
Replace Wearing Surface	X
Seal Joints	X
Thin Bonded Overlay	X

Overriding Direct Cost (overrides unit-costs) =

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$ 5	sq.ft

Unit Costs =

ID	Element Name	Cost Per Unit	Unit	?
300	Strip Seal Exp Joint (Replace)	\$ 18	ft	X
301	Pourable Joint Seal (Replace)	\$ 5	ft	X
302	Compressn Joint Seal (Replace)	\$ 65	ft	X
510	Wearing Surfaces (Replace)	\$ 30	sq.ft	X

Indirect Cost =

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	(Please Select)

Deferment Rules =

Action Name	Deferment Interval (Years)	Add
Please Select		Add
Preserve Deck - Network	5	X



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# Actions

**Action Defs**

Search

Name	Description	Notes	Order	Network Level	Bridge Replace	Required Minimum Cost	Action Type
				<input type="checkbox"/>	<input type="checkbox"/>	\$	Network <input type="button" value="Add"/>
Paint Sub - Network	First Painting	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network <input type="button" value="X"/>
Paint Super - Network	First Painting	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network <input type="button" value="X"/>
Place Wearing Surface - Network	First Wearing Surface	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network <input type="button" value="X"/>
Preserve Deck - Network	Wearing Surface / Repair	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>	\$	Network <input type="button" value="X"/>
Rehab Culvert - Network	Rehab culvert, parapets, approaches	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network <input type="button" value="X"/>
Rehab Deck - Network	Repair deck, joints and parapets	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network <input type="button" value="X"/>
Rehab Sub - Network	Repair Columns, Piers, Abutments, Piles, Walls	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network <input type="button" value="X"/>
Rehab Super - Network	Repair beams, paint and bearings	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network <input type="button" value="X"/>
Repaint Super/Sub - Network	Repair Paint	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network <input type="button" value="X"/>
Replace Deck - Network	Replace Deck	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network <input type="button" value="X"/>
Replace Structure - Network	Replace Structure	Example	999	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Network <input type="button" value="X"/>
Replace Super - Network	Replace Super Elements	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network <input type="button" value="X"/>
Apprh Rdway-Mill Approach/Shlder	Approach Roadway-Mill Approach / Shoulder	-1		<input type="checkbox"/>	<input type="checkbox"/>		Approach <input type="button" value="X"/>
Approach Railing	Approach Railing	-1		<input type="checkbox"/>	<input type="checkbox"/>		Approach <input type="button" value="X"/>
Approach Railing-Repair	Approach Railing-Repair	-1		<input type="checkbox"/>	<input type="checkbox"/>		Approach <input type="button" value="X"/>

First Previous **1** 2 3 4 5 6 7 8 9 10 Next Last

**Associated Benefit Groups for Action Preserve Deck - Network**

Metric  English

Benefit Groups	
Please Select	<input type="button" value="Add"/>
Replace Wearing Surface	<input type="button" value="X"/>
Seal Joints	<input type="button" value="X"/>
Thin Bonded Overlay	<input type="button" value="X"/>

Overriding Direct Cost (overrides unit-costs) =

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$	sq.ft

Unit Costs =

ID	Element Name	Cost Per Unit	Unit	?
300	Strip Seal Exp Joint (Replace)	\$ 18	ft	<input type="button" value="X"/>
301	Pourable Joint Seal (Replace)	\$ 5	ft	<input type="button" value="X"/>
302	Compressn Joint Seal (Replace)	\$ 65	ft	<input type="button" value="X"/>
510	Wearing Surfaces (Replace)	\$ 30	sq.ft	<input type="button" value="X"/>

Indirect Cost =

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	Please Select

Deferment Rules =

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# Actions

**Action Defs**

Search  [Search](#)

Name	Description	Notes	Order	Network Level	Bridge Replace	Required Minimum Cost	Action Type	
				<input type="checkbox"/>	<input type="checkbox"/>	\$ <input type="text"/>	<input type="text"/>	<a href="#">Add</a>
Paint Sub - Network	First Painting	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<input type="checkbox"/>
Paint Super - Network	First Painting	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<input type="checkbox"/>
Place Wearing Surface - Network	First Wearing Surface	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<input type="checkbox"/>
Preserve Deck - Network	Wearing Surface / Repair	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>	\$ <input type="text"/>	Network	<input type="checkbox"/>
Rehab Culvert - Network	Rehab culvert, parapets, approaches	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<input type="checkbox"/>
Rehab Deck - Network	Repair deck, joints and parapets	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<input type="checkbox"/>
Rehab Sub - Network	Repair Columns, Piers, Abutments, Piles, Walls	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<input type="checkbox"/>
Rehab Super - Network	Repair beams, paint and bearings	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<input type="checkbox"/>
Repaint Super/Sub - Network	Repair Paint	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<input type="checkbox"/>
Replace Deck - Network	Replace Deck	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<input type="checkbox"/>
Replace Structure - Network	Replace Structure	Example	999	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Network	<input type="checkbox"/>
Replace Super - Network	Replace Super Elements	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<input type="checkbox"/>
Apprh Rdway-Mill Approach/Shlder	Approach Roadway-Mill Approach / Shoulder	-1		<input type="checkbox"/>	<input type="checkbox"/>		Approach	<input type="checkbox"/>
Approach Railing	Approach Railing	-1		<input type="checkbox"/>	<input type="checkbox"/>		Approach	<input type="checkbox"/>
Approach Railing-Repair	Approach Railing-Repair	-1		<input type="checkbox"/>	<input type="checkbox"/>		Approach	<input type="checkbox"/>

First Previous **1** 2 3 4 5 6 7 8 9 10 Next Last

**Associated Benefit Groups for Action Preserve Deck - Network**

Metric  English

Benefit Groups	
Please Select	<a href="#">Add</a>
Replace Wearing Surface	<input type="checkbox"/>
Seal Joints	<input type="checkbox"/>
Thin Bonded Overlay	<input type="checkbox"/>

Overriding Direct Cost (overrides unit-costs) =

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$ <input type="text"/>	sq.ft

Unit Costs =

ID	Element Name	Cost Per Unit	Unit	?
300	Strip Seal Exp Joint (Replace)	\$ <input type="text"/>	ft	<input type="checkbox"/>
301	Pourable Joint Seal (Replace)	\$ <input type="text"/>	ft	<input type="checkbox"/>
302	Compressn Joint Seal (Replace)	\$ <input type="text"/>	ft	<input type="checkbox"/>
510	Wearing Surfaces (Replace)	\$ <input type="text"/>	sq.ft	<input type="checkbox"/>

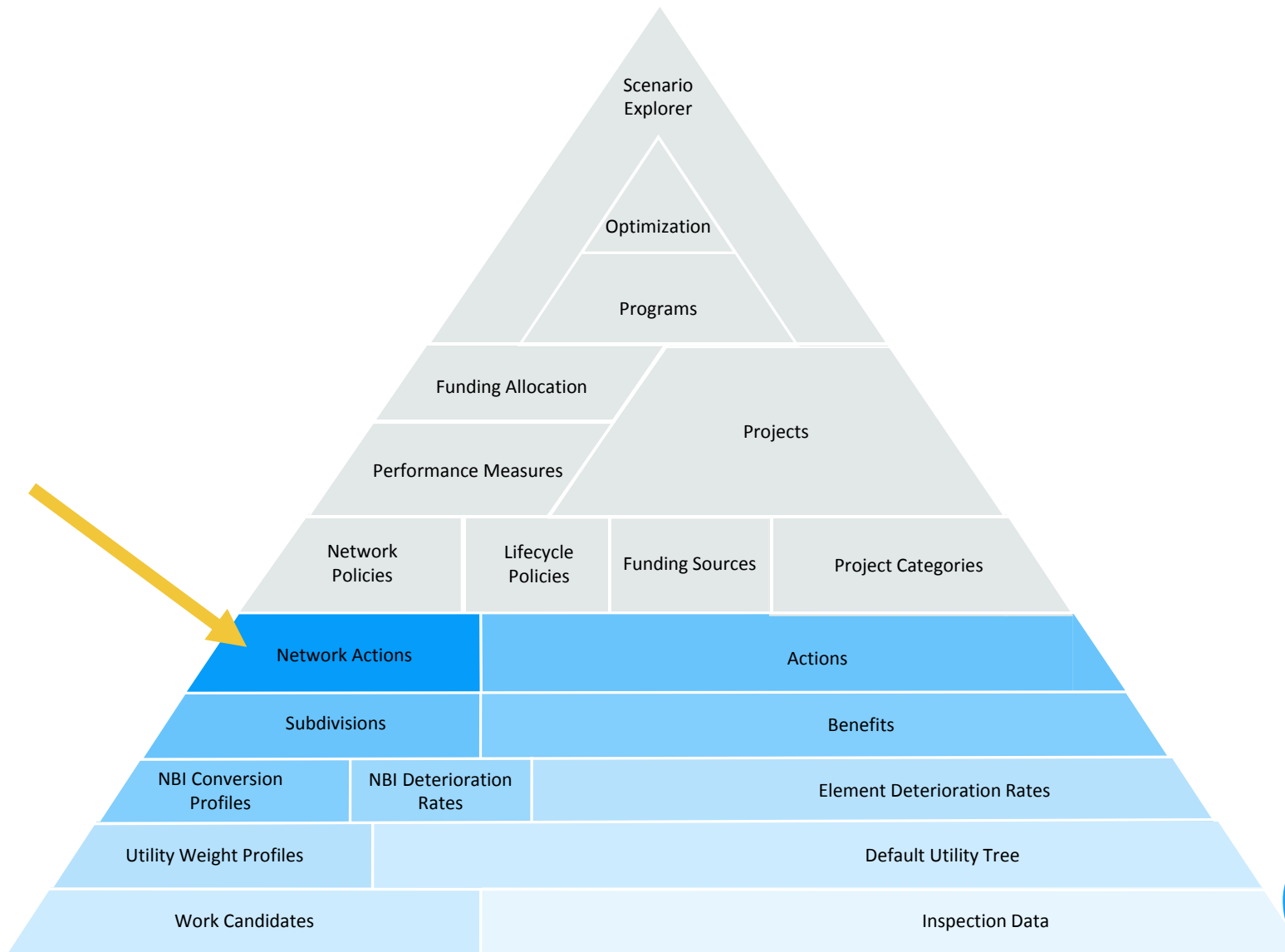
Indirect Cost =

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	Please Select

Deferment Rules =

64





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## Network Actions

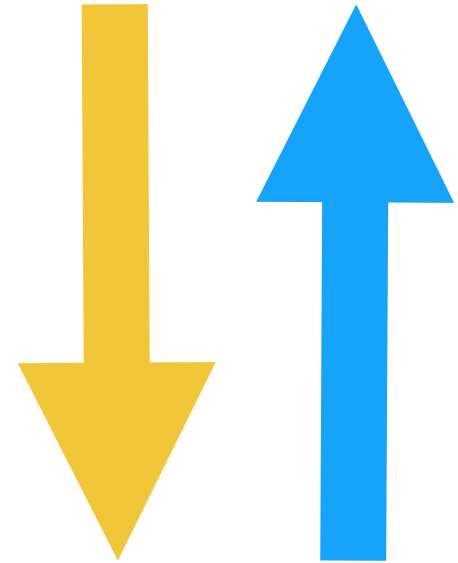
### Crash Course in Modeling

#### Top Down Approach:

Use an average project and apply it to all bridges in the network.

#### Bottom Up Approach:

Find the optimal approach for each bridge individually, then add up to a network program.



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## Network Actions

### Crash Course in Modeling

#### Bottom Up Approach:

Find the optimal approach for each bridge individually, then add up to a network program.

#### Wearing Surface

- Do Nothing
- Healer Sealer
- Thin Bonded Polymer Overlay
- Asphalt Overlay w/ Membrane
- Polyester Concrete Overlay

#### Deck

- Do Nothing
- Pothole Patching
- Hydro-Demo
- Deck Replacement

#### Ancillary

- Do Nothing
- Parapet Seal
- Parapet Repair
- Replace parapets
- Clean joints
- Seal Joints
- Replace Joint Seal
- Close Joint

#### Superstructure

- Do Nothing
- Spot Paint Repair
- Clean & Overcoat
- Repaint Beams
- Beam Repair
- Bearing Replacement

#### Substructure

- Do Nothing
- Backwall repair
- Column repair
- Column Wrap
- Bent Repair
- Bent Wrap

$$2^{29} = 536,870,912 \text{ combinations/bridge}$$

For a network of 5,000 bridges it was estimated this would take about 4,256 years to calculate.

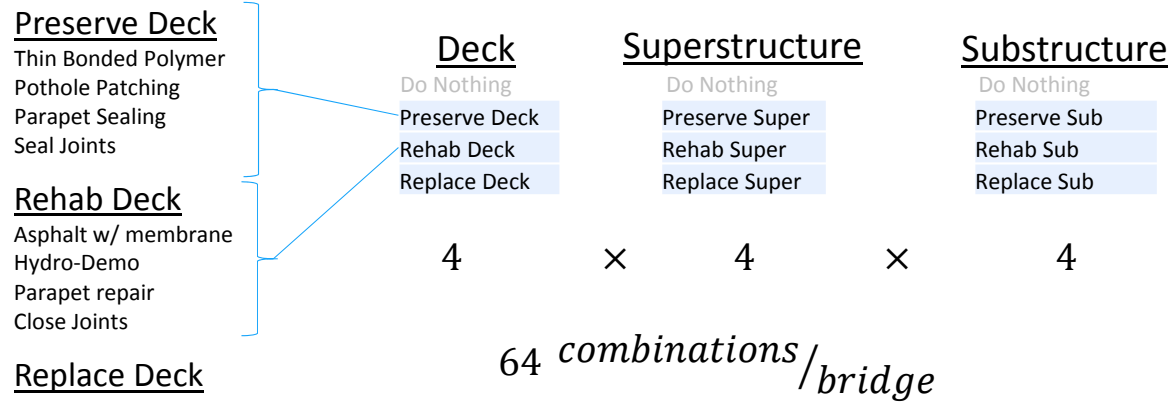
# 67

## Network Actions

### Crash Course in Modeling

#### Top Down Approach:

Use an average project and apply it to all bridges in the network.



# 68

# Network Actions

**Action Defs**

Search  [Search](#)

Name	Description	Notes	Order	Network Level	Bridge Replace	Required Minimum Cost	Action Type	
				<input type="checkbox"/>	<input type="checkbox"/>	\$		<a href="#">Add</a>
Paint Sub - Network	First Painting	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<a href="#">X</a>
Paint Super - Network	First Painting	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<a href="#">X</a>
Place Wearing Surface - Network	First Wearing Surface	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<a href="#">X</a>
Preserve Deck - Network	Wearing Surface / Repair	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>	\$	Network	<a href="#">X</a>
Rehab Culvert - Network	Rehab culvert, parapets, approaches	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<a href="#">X</a>
Rehab Deck - Network	Repair deck, joints and parapets	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<a href="#">X</a>
Rehab Sub - Network	Repair Columns, Piers, Abutments, Piles, Walls	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<a href="#">X</a>
Rehab Super - Network	Repair beams, paint and bearings	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<a href="#">X</a>
Repaint Super/Sub - Network	Repair Paint	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<a href="#">X</a>
Replace Deck - Network	Replace Deck	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<a href="#">X</a>
Replace Structure - Network	Replace Structure	Example	999	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Network	<a href="#">X</a>
Replace Super - Network	Replace Super Elements	Example	999	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Network	<a href="#">X</a>
Apprh Rdway-Mill Approach/Shlder	Approach Roadway-Mill Approach / Shoulder	-1		<input type="checkbox"/>	<input type="checkbox"/>		Approach	<a href="#">X</a>
Approach Railing	Approach Railing	-1		<input type="checkbox"/>	<input type="checkbox"/>		Approach	<a href="#">X</a>
Approach Railing-Repair	Approach Railing-Repair	-1		<input type="checkbox"/>	<input type="checkbox"/>		Approach	<a href="#">X</a>

First Previous **1** 2 3 4 5 6 7 8 9 10 Next Last

**Associated Benefit Groups for Action Preserve Deck - Network**

Metric  English

Benefit Groups	
Please Select	<a href="#">Add</a>
Replace Wearing Surface	<a href="#">X</a>
Seal Joints	<a href="#">X</a>
Thin Bonded Overlay	<a href="#">X</a>

Overriding Direct Cost (overrides unit-costs) =

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$	sq.ft

Unit Costs =

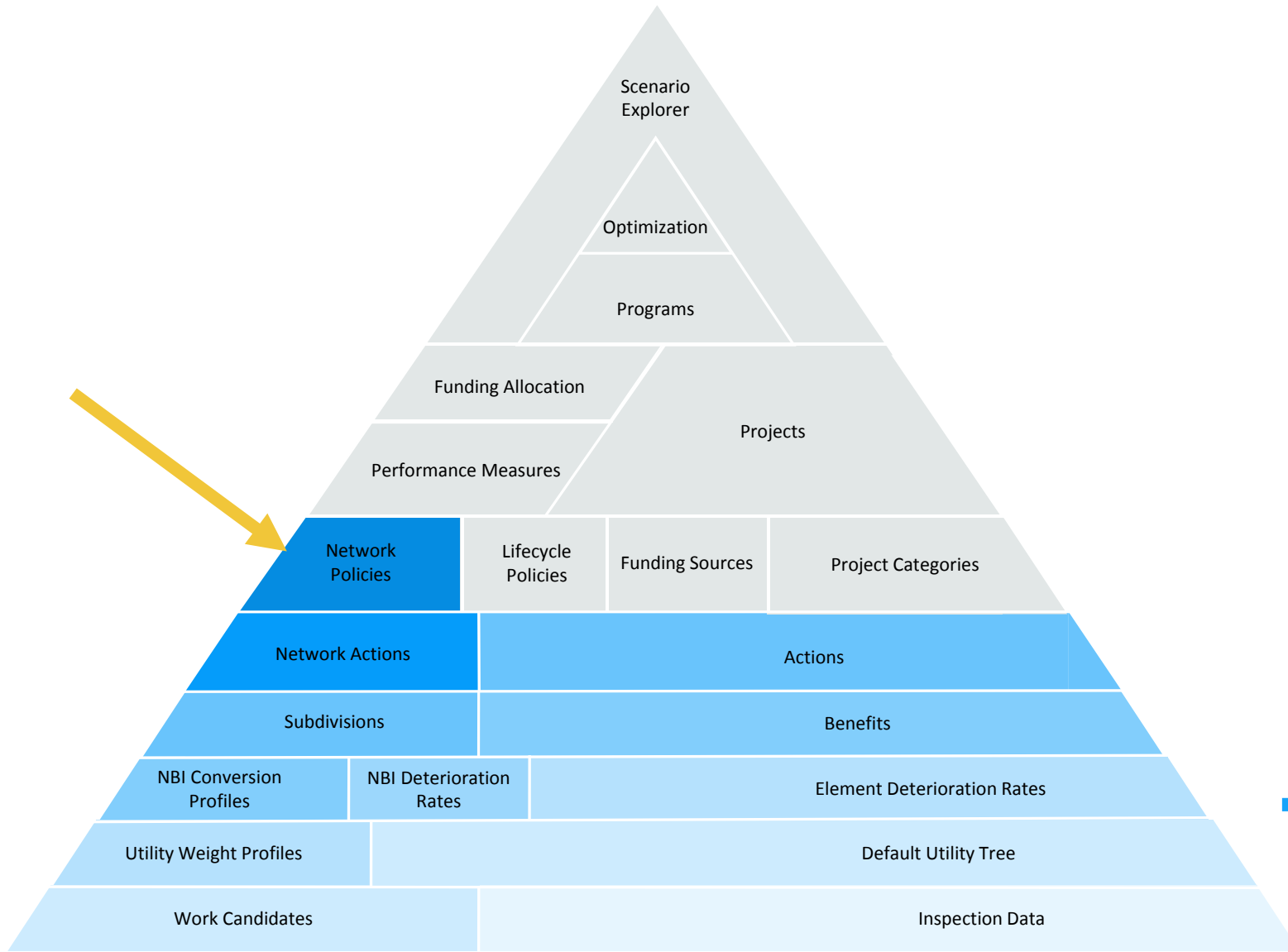
ID	Element Name	Cost Per Unit	Unit	?
300	Strip Seal Exp Joint (Replace)	\$ 18	ft	<input checked="" type="checkbox"/>
301	Pourable Joint Seal (Replace)	\$ 5	ft	<input checked="" type="checkbox"/>
302	Compressn Joint Seal (Replace)	\$ 65	ft	<input checked="" type="checkbox"/>
510	Wearing Surfaces (Replace)	\$ 30	sq.ft	<input checked="" type="checkbox"/>

Indirect Cost =

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	Please Select

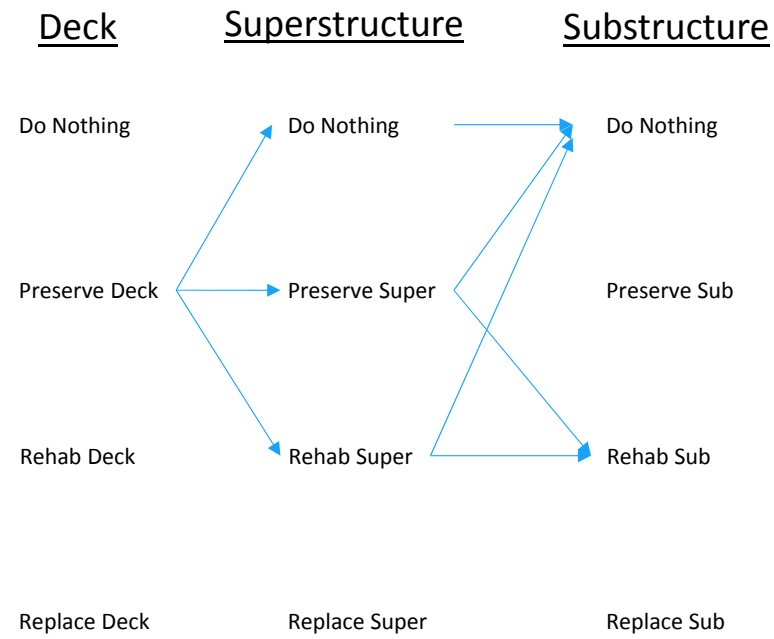
Deferment Rules =

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## Network Policies



# Network Policies

**Network Policy Editor**

Network Policy: Preserve Deck Create New

**Network Policy Details**

Network Policy Name:

**Actions**

- Preserve Deck - Network
  - Do Nothing
- Rehab Super - Network
  - Do Nothing
- Rehab Sub - Network
- Repaint Super/Sub - Network
- Paint Super - Network
  - Do Nothing
- Paint Sub - Network

**Details**

Action: Preserve Deck - Network Project Category: Select a project category

**Action Conditional Rule**

**Summary**

(Column 'dkrating' of Table 'inspevnt' Is In Set '6 Satisfactory, 7 Good, 8 Very Good, 9 Excellent')

**Rule Builder**

Add Condition Add Group

Type: Column Value In Param Set Remove Condition

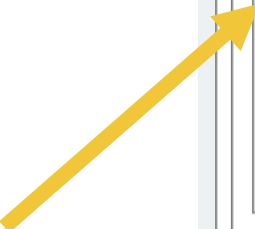
Table: inspevnt Column: dkrating Value Is: In Set:

- 0 Failed
- 1 Imminent failure
- 2 Critical
- 3 Serious
- 4 Poor
- 5 Fair
- 6 Satisfactory
- 7 Good
- 8 Very Good
- 9 Excellent
- N/A (NBI)

**Follow-up Actions**

- Rehab Super - Network X
- Repaint Super/Sub - Netv X
- Paint Super - Network X
- Select an action Add Action

\*\*Indicates an action is no longer a network level action. These actions can be can be changed, selected, or deleted, but once saved cannot be re-added.



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# Network Policies

**Network Policy Editor**

Network Policy: Preserve Deck Create New

**Network Policy Details**

Network Policy Name:

**Actions**

- Preserve Deck - Network
  - Do Nothing
- Rehab Super - Network
  - Do Nothing
  - Rehab Sub - Network
- Repaint Super/Sub - Network
- Paint Super - Network
  - Do Nothing
  - Paint Sub - Network

**Details**

Action: Preserve Deck - Network Project Category: Select a project category

**Action Conditional Rule**

**Summary**

(Column 'dkrating' of Table 'inspevnt' Is In Set '6 Satisfactory, 7 Good, 8 Very Good, 9 Excellent')

**Rule Builder**

Add Condition Add Group

Type: Column Value In Param Set Remove Condition

Table: inspevnt Column: dkrating Value Is: In Set:

- 0 Failed
- 1 Imminent failure
- 2 Critical
- 3 Serious
- 4 Poor
- 5 Fair
- 6 Satisfactory
- 7 Good
- 8 Very Good
- 9 Excellent
- N/A (NBI)

**Follow-up Actions**

- Rehab Super - Network X
- Repaint Super/Sub - Netv X
- Paint Super - Network X
- Select an action Add Action

\*\*Indicates an action is no longer a network level action. These actions can be can be changed, selected, or deleted, but once saved cannot be re-added.



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# Network Policies

Admin > Modeling Config > Network Policies

**Network Policy Editor**

Network Policy: Preserve Deck [Create New](#)

**Network Policy Details**

Network Policy Name:

**Actions**

- Preserve Deck - Network
  - Do Nothing
- Rehab Super - Network
  - Do Nothing
- Rehab Sub - Network
- Repaint Super/Sub - Network
- Paint Super - Network
  - Do Nothing
- Paint Sub - Network

**Details**

Action: Preserve Deck - Network Project Category: Preservation Work

**Action Conditional Rule**

**Summary**

(Column 'dkrating' of Table 'inspevnt' Is In Set of Satisfactory, 7 Good, 8 Very Good, 9 Excellent)

**Rule Builder**

[Add Condition](#) [Add Group](#)

Type: Column Value In Param Set [Remove Condition](#)

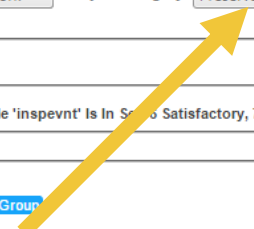
Table: inspevnt Column: dkrating Value Is: In Set

- Unknown (NBI)
- 0 Failed
- 1 Imminent failure
- 2 Critical
- 3 Serious
- 4 Poor
- 5 Fair
- 6 Satisfactory
- 7 Good
- 8 Very Good

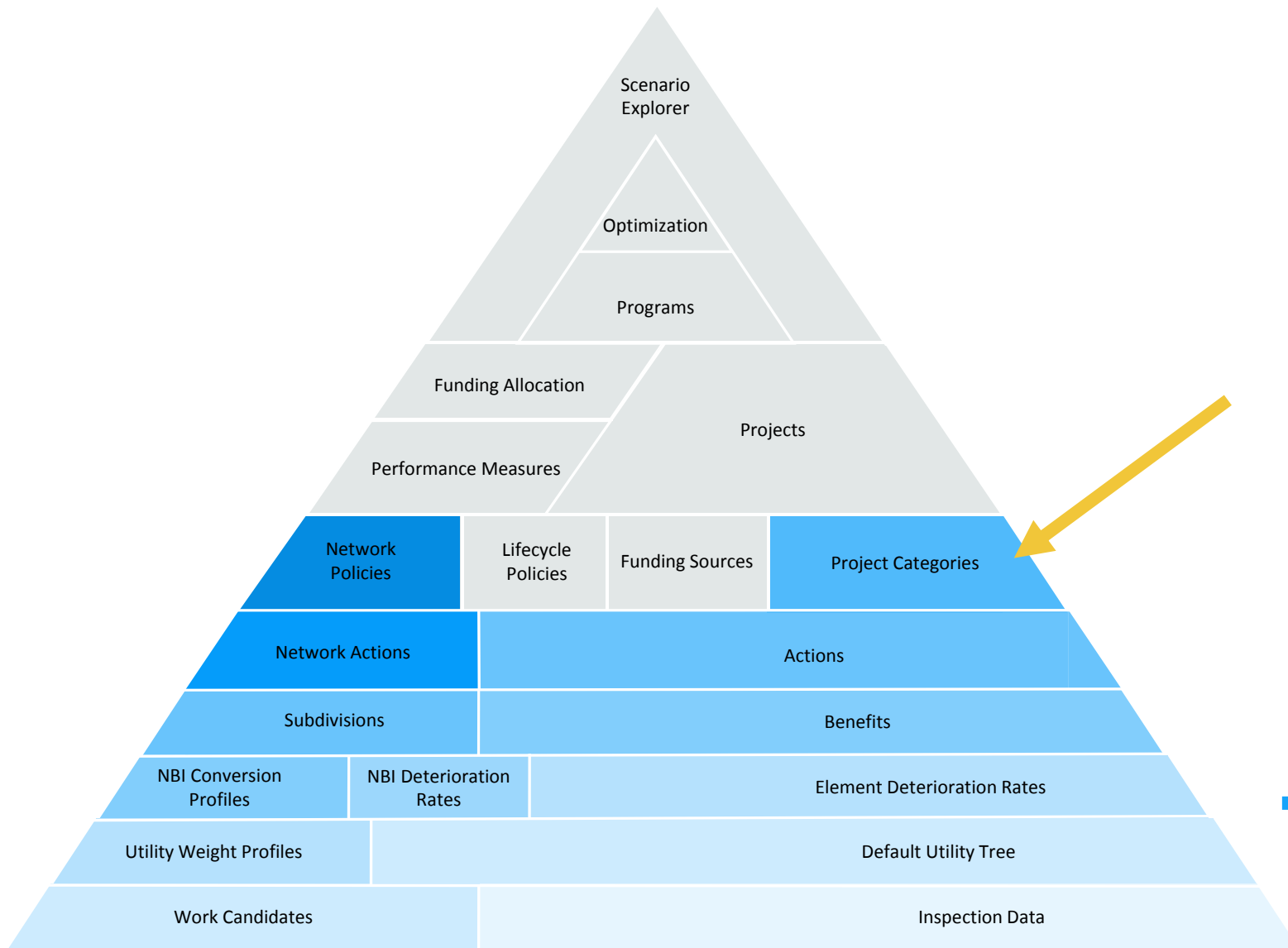
**Follow-up Actions**

- Rehab Super - Network [X](#)
- Repaint Super/Sub - Netv [X](#)
- Paint Super - Network [X](#)
- Select an action [Add Action](#)

\*\*Indicates an action is no longer a network level action. These actions can be can be changed, selected, or deleted, but once saved cannot be re-added.



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# Project Categories

[Add New Project Category](#)

**Project Category**

- Bridge Rail
- Deck Work
- Joint Seals
- Major Rehab Work
- Minor Rehab Work
- Paint
- Preservation Work**
- Replacement
- Scour Work

Total Categories: 11

[Delete](#)

Project Category:   Set as Default Category

Description:

Default Filter:

Default Layout:

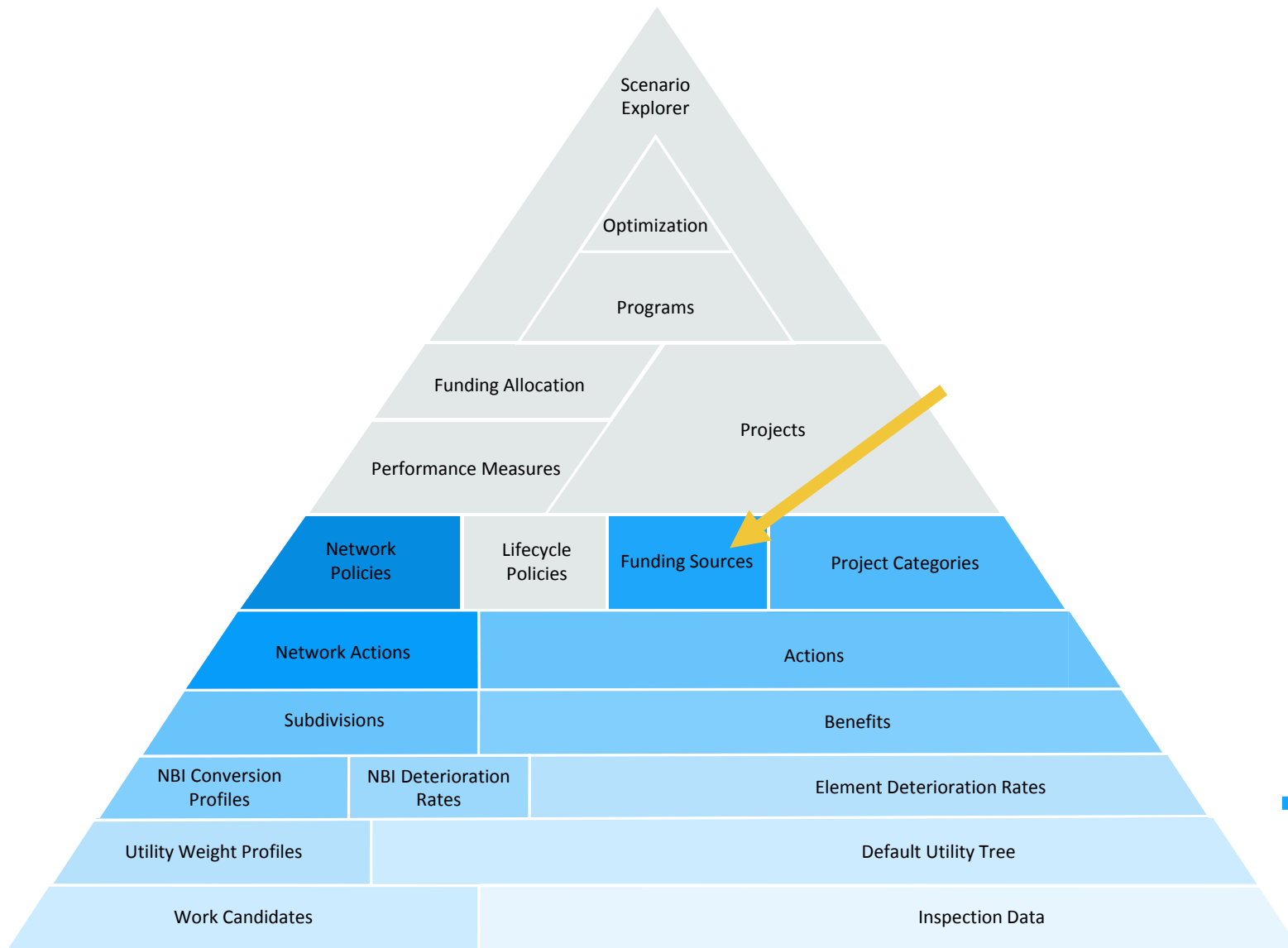
Related Actions:

	Name	Description
<input checked="" type="checkbox"/>	Paint Sub - Network	First Painting
<input checked="" type="checkbox"/>	Paint Super - Network	First Painting
<input checked="" type="checkbox"/>	Place Wearing Surface - Network	First Wearing Surface
<input checked="" type="checkbox"/>	Preserve Deck - Network	Wearing Surface / Repair Joints
<input type="checkbox"/>	Rehab Culvert - Network	Rehab culvert, parapets, approaches
<input type="checkbox"/>	Rehab Deck - Network	Repair deck, joints and parapets
<input type="checkbox"/>	Rehab Sub - Network	Repair Columns, Piers, Abutments, Piles, Walls
<input type="checkbox"/>	Rehab Super - Network	Repair beams, paint and bearings
<input checked="" type="checkbox"/>	Repaint Super/Sub - Network	Repair Paint
<input type="checkbox"/>	Replace Deck - Network	Replace Deck
<input type="checkbox"/>	Replace Structure - Network	Replace Structure
<input type="checkbox"/>	Replace Super - Network	Replace Super Elements

1 2 3 143 items in 3 pages

Total Actions: 143





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# Funding Sources

Projects > Manage Funding > Create/Edit Funding Sources

**Funding Source Details**

Funding Source Status:  Funding Source URL:  Funding Source Name:

Funding Source Type:

Funding Source Description:

**Funding Source Notes**

**Funding Source Targets**

	Target Date	Target Amount	Current Plan	Remaining	Notes
X	<input type="text" value="01/01/2016"/>	<input type="text" value="2500000"/>	\$0.00	\$2,500,000.00	<input type="text"/>
X	<input type="text" value="01/01/2015"/>	<input type="text" value="2500000"/>	\$10,000.00	\$2,490,000.00	<input type="text"/>

Total Funding Source Amount: \$5,000,000.00 [Add New](#)

**Associated Programs and Projects**

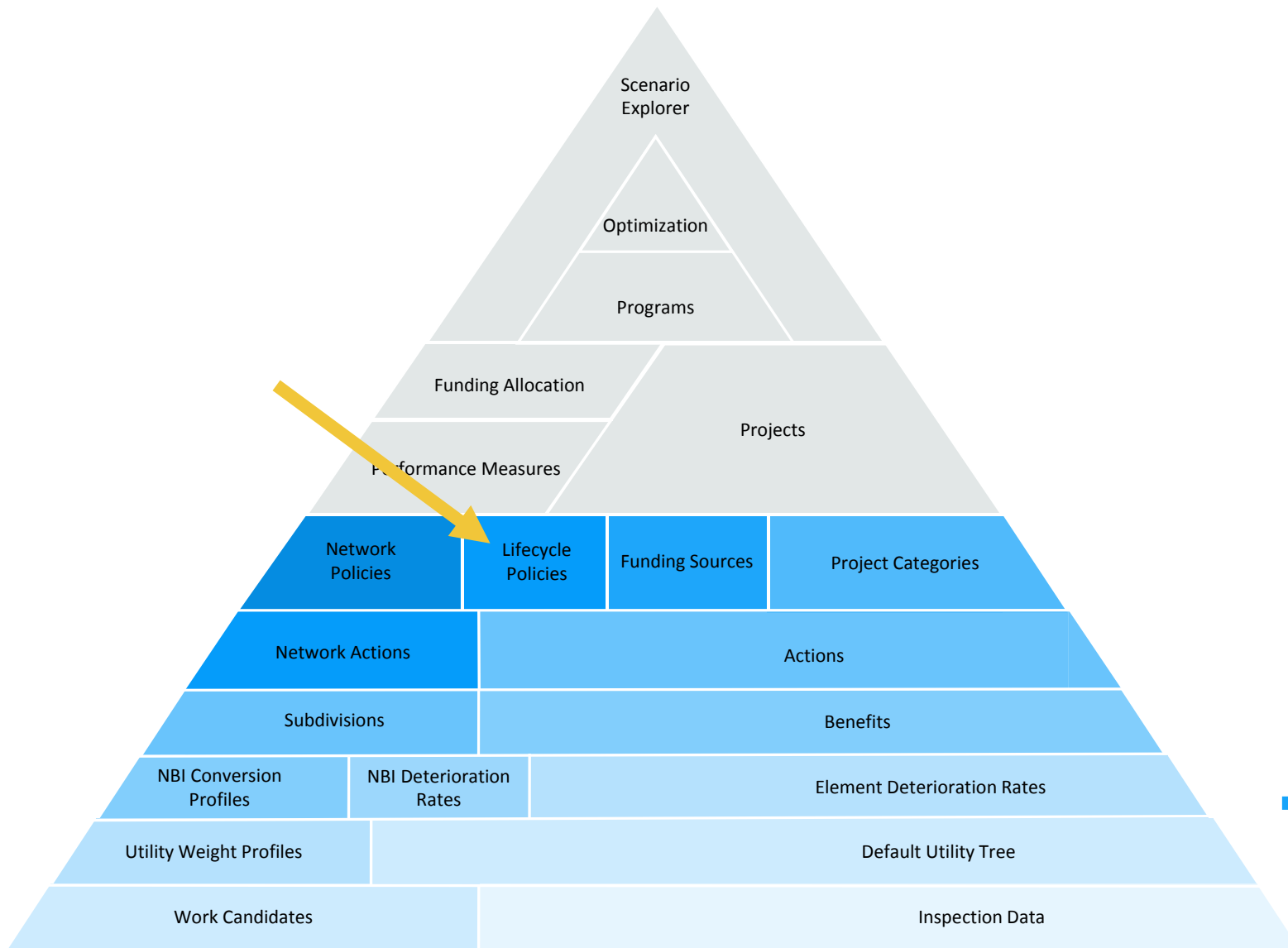
**Target Year Programs**

Program Name	Program ID	Alternate ID	Description	Start Date	End Date	Status	Funding Amount
No Programs Associated To The Funding Source							

**Target Year Projects**

Project Name	Project ID	Category	Cost	Date	Project Status
No Projects Associated To The Funding Source					

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# Lifecycle Policies

Admin > Modeling Config > LCCA Policy Rules

## Rule Editor

Policy: Deck Policy Rule: Preserve Deck [Create New](#)

## Rule Details

Name: Preserve Deck Resulting Action: Preserve Deck - Network

## Summary

((Health Index of Category 'Decks/Slabs' Must Be Greater Than Or Equal To Number Value 50 AND Health Index of Category 'Decks/Slabs' Must Be Less Than Or Equal To Number Value 90) AND (Health Index of Element '510 - Wearing Surfaces' Must Be Less Than Or Equal To Number Value 30))

## Rule Builder

[Add Condition](#) [Add Group](#)

### Group

[Add Condition](#) [Add Group](#) [Remove Group](#)

Type: Category Health Index Type: Number Value  
Field: Decks/Slabs As Number Must Be: Greater Than or Equal To Number Value: 50 [Remove Condition](#)

AND

Type: Category Health Index Type: Number Value  
Field: Decks/Slabs As Number Must Be: Less Than or Equal To Number Value: 90 [Remove Condition](#)

AND

### Group

[Add Condition](#) [Add Group](#) [Remove Group](#)

Type: Element Health Index Type: Number Value  
Field: 510 - Wearing Surfaces As Number Must Be: Less Than or Equal To Number Value: 30 [Remove Condition](#)

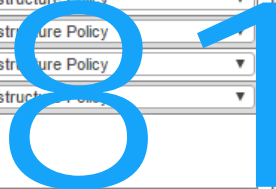
80

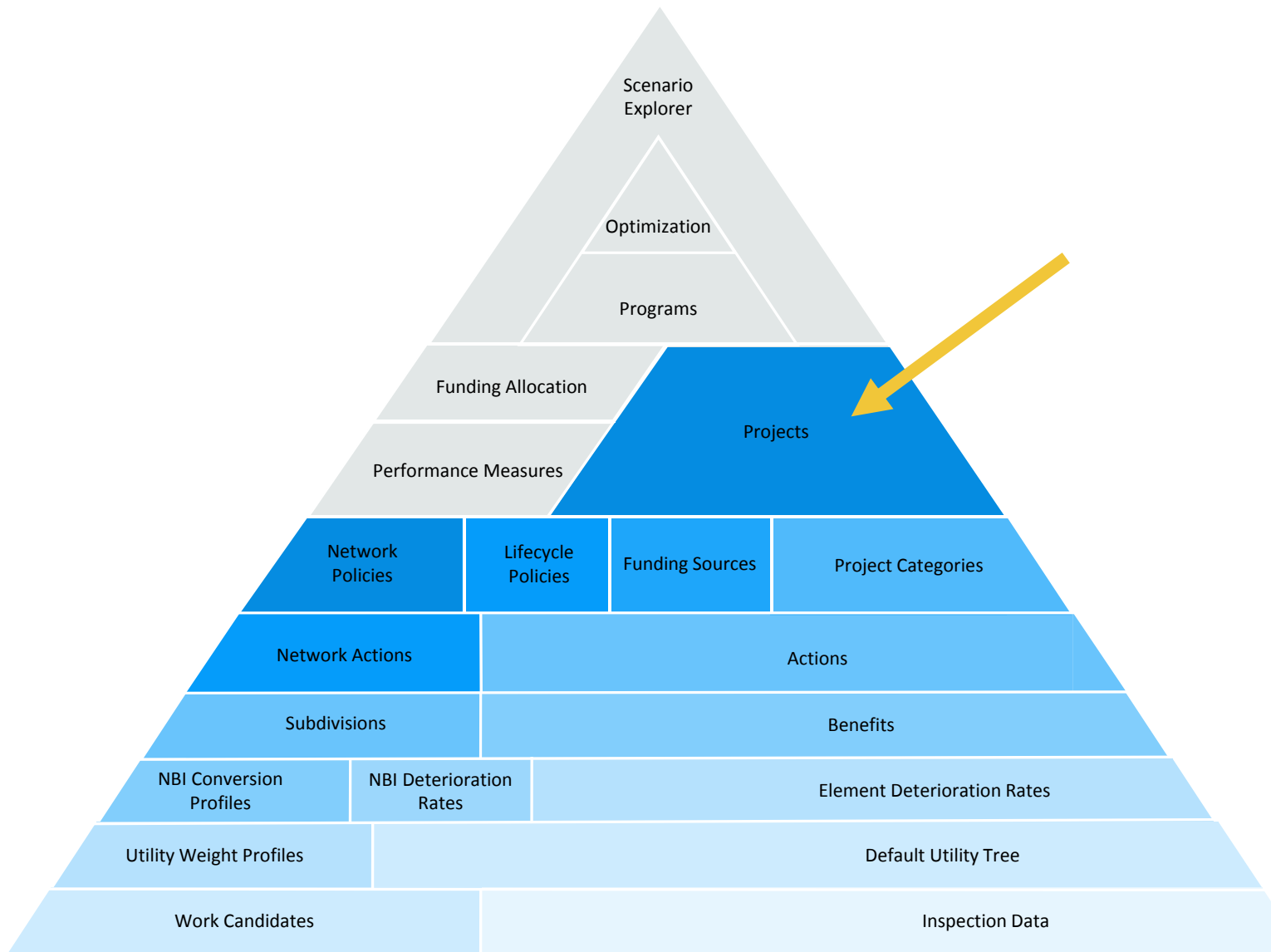


# Lifecycle Policies

Admin > Modeling Config > LCCA Assign Policies

Bridge List				Bridge Policy	Culvert Policy	Deck Policy	Substructure Policy	Superstructure Policy
■	Bridge ID	District	County	No Policy Selected	No Policy Selected	No Policy Selected	No Policy Selected	No Policy Selected
				Assign To Selected	Assign To All	Assign To Selected	Assign To All	Assign To Selected
<input type="checkbox"/>	000002	Division 10	Walker	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000003	Division 10	Walker	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000004	Division 10	Walker	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000005	Division 10	Lamar	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000006	Division 6	Lee	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000007	Division 1	Dekalb	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000008	Division 5	Bibb	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000009	Division 2	Morgan	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000010	Division 5	Sumter	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000011	Division 6	Autauga	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000012	Division 1	Jackson	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000013	Division 1	Jackson	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000014	Division 1	Madison	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000015	Division 1	Jackson	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000016	Division 1	Madison	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000017	Division 3	Jefferson	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000018	Division 1	Madison	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000019	Division 1	Madison	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000020	Division 1	Dekalb	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000021	Division 1	Dekalb	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000022	Division 1	Dekalb	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000023	Division 1	Dekalb	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000024	Division 3	Shelby	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000025	Division 3	Shelby	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy
<input type="checkbox"/>	000026	Division 3	Jefferson	Structure Overall	Culvert policy	Deck Policy	Substructure Policy	Superstructure Policy





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# Projects

## LCCA Reverse Calculation Bridge Analysis Needs List

Bridge: 1C 700 Name: I-215 Fly over Ramp Br Facility Carried (007): RP:I215NB TO I80WB Feature Intersected (006A): I-215,I-80 & 4 INT.RAMF Metric English

### Analysis > LCCA

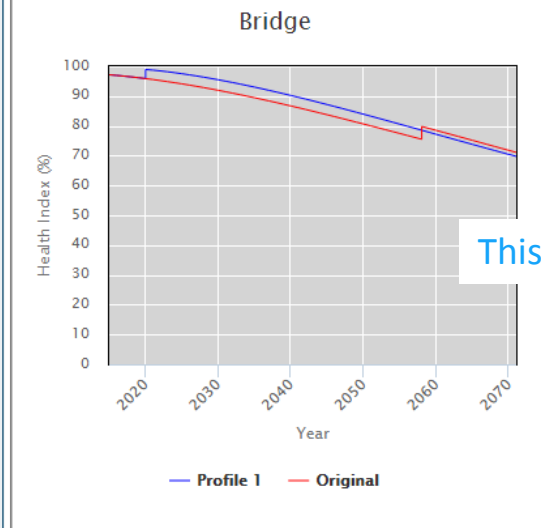
Current Policy: Current policy

Index	Date	Year	Action Name	Orig. Cost	NPV Cost	Prior Action H.I.
1	2020	5	Column Repair, Profile Rotomilling	\$40,000	\$34,192	95.87
Residual:				\$9,027,183	\$1,044,043	
Agency Life-Cycle Cost:					\$34,192	
User Life-Cycle Cost:					\$0	
Total Life-Cycle Cost:					(\$1,009,851)	

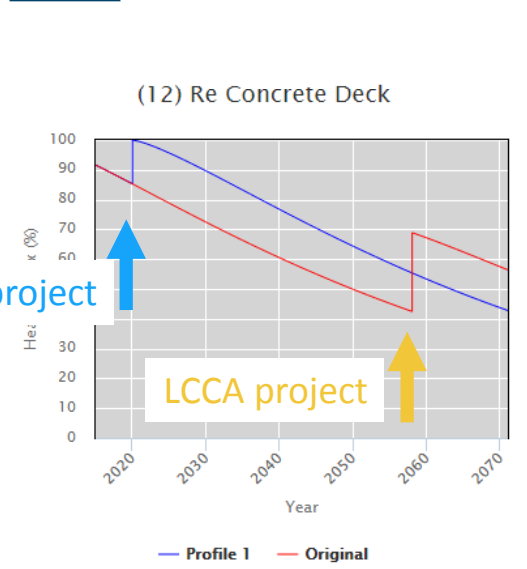
#### Charts

##### General Chart

Bridge Health Index



##### Element Chart



#### Effects on Each Element

Year: 2016

Element	Str. Unit	Env.	Quantity	Units
(12) Re Concrete Deck	101	Sev.(4)	43,129.70	sq.ft
(107) Steel Opn Girder/Beam	101	Low(2)	5,687.30	ft
(161) Stl Pin Pin/Han both	101	Sev.(4)	16.00	each
(205) Re Conc Column	101	Mod.(3)	7.00	each
(215) Re Conc Abutment	101	Low(2)	60.00	ft
(231) Steel Pier Cap	101	Low(2)	22.50	ft
(234) Re Conc Pier Cap	101	Low(2)	172.00	ft
(300) Strip Seal Exp Joint	101	Sev.(4)	120.00	ft
(311) Moveable Bearing	101	Low(2)	16.00	each
(313) Fixed Bearing	101	Low(2)	12.00	each
(321) Re Conc Approach Slab	101	Sev.(4)	900.00	sq.ft
(331) Re Conc Bridge Railing	101	Sev.(4)	3,301.10	ft
(5000) General Notes	200	Ben.(1)	1.00	each
(5001) Roadway / Channel / Drainage	200	Ben.(1)	3.00	each
(5002) Maintenance Recommendations	200	Ben.(1)	1.00	each
(5103) Asphalt Overlay w/ Membrane	101	Sev.(4)	39,382.10	sq.ft
(5203) Steel Protective Coating (515)	101	Low(2)	96,477.00	sq.ft
(5300) Reinforced Concrete Wingwalls	101	Low(2)	60.30	ft

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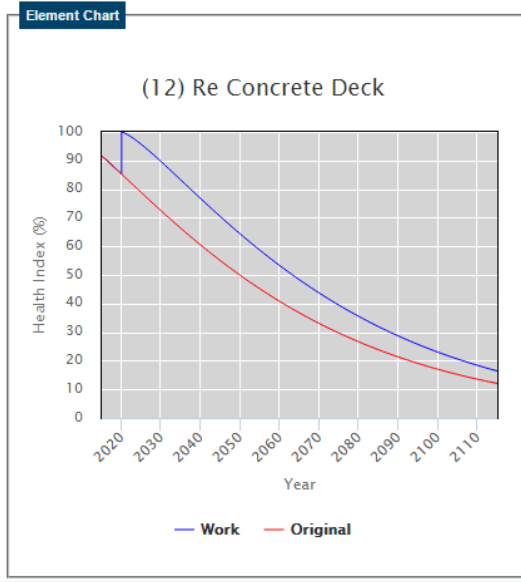
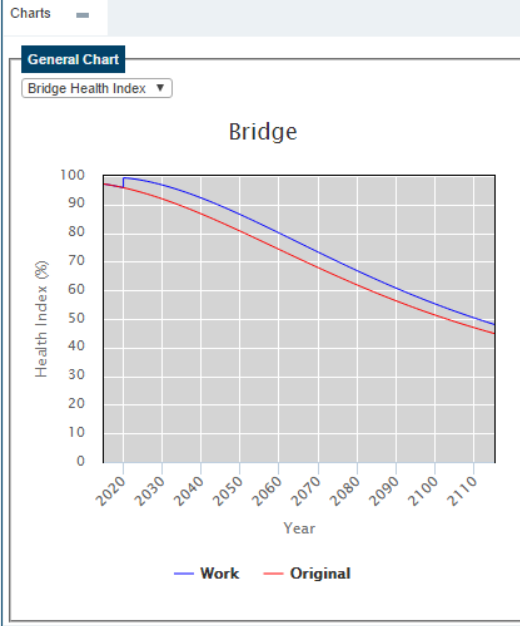
# Projects

LCCA  
 Reverse Calculation  
 Bridge Analysis  
 Needs List

## Analysis > Work Candidates > Reverse Calculation

Sel.	Action	Base Utility	Utility (Change)	Condition (Change)	LifeCycle (Change)	Mobility (Change)	Risk (Change)	Cost	Benefit / Cost (\$k)	Cost (\$)
	Selected Actions	82.42	92.29 (9.87)	94.16 (24.67)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$12,938,909	.0008	
<input type="checkbox"/>	test remove deck action	83.84	83.84 (0.00)	73.04 (0.00)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$0		
<input checked="" type="checkbox"/>	Replace Structure - Network	82.42	92.29 (9.87)	94.16 (24.67)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$12,938,909	.0008	\$1,311

[Add to New Project](#)



Effects on Each Element

Year: 2020 (5 years after inspection)

Show Changed:

Element	Str. Unit	Env.	Quantity	U
(12) Re Concrete Deck	101	Sev.(4)	43,129.70	s
(107) Steel Opn Girder/Beam	101	Low(2)	5,687.30	f
(161) Stl Pin Pin/Han both	101	Sev.(4)	16.00	e
(205) Re Conc Column	101	Mod.(3)	7.00	e
(215) Re Conc Abutment	101	Low(2)	60.00	f
(231) Steel Pier Cap	101	Low(2)	22.50	f
(234) Re Conc Pier Cap	101	Low(2)	172.00	f
(300) Strip Seal Exp Joint	101	Sev.(4)	120.00	f
(311) Moveable Bearing	101	Low(2)	16.00	e
(313) Fixed Bearing	101	Low(2)	12.00	e
(321) Re Conc Approach Slab	101	Sev.(4)	900.00	s
(331) Re Conc Bridge Railing	101	Sev.(4)	3,301.10	f
(5000) General Notes	200	Ben.(1)	1.00	e
(5001) Roadway / Channel / Drainage	200	Ben.(1)	3.00	e
(5002) Maintenance Recommendations	200	Ben.(1)	0.00	e
(5103) Asphalt Overlay w/ Membrane	101	Sev.(4)	9,382.10	s
(5203) Steel Protective Coating (515)	101	Low(2)	6,473.10	s
(5300) Reinforced Concrete Wingwalls	101	Low(2)	0.30	f

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# Projects

LCCA  
Reverse Calculation  
Bridge Analysis  
Needs List

Analysis > Work Candidates > Bridge Analysis

Sel.	Work Candidate	Action	Base Utility	Utility (Change)	Condition (Change)	LifeCycle (Change)	Mobility (Change)	Risk (Change)	Cost	Benefit / Cost (\$k)	Cost (\$k) / Benefit	Target Year	Repeat Interval
Selected Work Candidates			80.32	81.05 (0.73)	66.05 (1.82)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$40,000	.0183	\$55	2025	
<input checked="" type="checkbox"/>	1C 700-FTXK-121514-72CBD366C52	Column Repair	80.32	81.05 (0.73)	66.05 (1.82)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$40,000	.0183	\$55	2025	<input type="checkbox"/>
<input type="checkbox"/>	WorkCandidate1385	Remove Debris from Joints	83.74	83.74 (0.00)	72.78 (0.00)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$0			2016	<input type="checkbox"/>
<input type="checkbox"/>	1C 700-FTXK-091515-D49D4270814	Remove Debris from Joints	84.19	84.19 (0.00)	73.92 (0.00)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$0			2015	<input type="checkbox"/>
<input type="checkbox"/>	1C 700-FTXK-121514-CBB9097BF5F	----- Other -----	83.74	83.74 (0.00)	72.78 (0.00)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$0			2016	<input type="checkbox"/>
<input type="checkbox"/>	remove test	test remove deck action	83.74	83.74 (0.00)	72.78 (0.00)	100.00 (0.00)	80.84 (0.00)	83.33 (0.00)	\$10,000			2016	<input type="checkbox"/>

Page size: 10 | 5 items in 1 pages

[Add to New Project](#) [Add New Group](#)

Charts

General Chart

Bridge Health Index

Bridge

Health Index (%) vs Year

— Work — Original

Element Chart

(205) Re Conc Column

(205) Re Conc Column

Health Index (%) vs Year

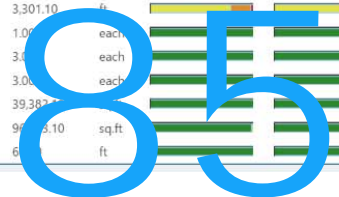
— Work — Original

Effects on Each Element

Year: 2025 (10 years after inspection)

Show Changed:

Element	Str. Unit	Env.	Quantity	Units	Condition	Effect
(12) Re Concrete Deck	101	Sev.(4)	43,129.70	sq.ft	Green	Green
(107) Steel Opn Girder/Beam	101	Low(2)	5,687.30	ft	Green	Green
(161) Stl Pin Pin/Han both	101	Sev.(4)	16.00	each	Green	Green
(205) Re Conc Column	101	Med.(3)	7.00	each	Green	Green
(215) Re Conc Abutment	101	Low(2)	60.00	ft	Green	Green
(231) Steel Pier Cap	101	Low(2)	22.50	ft	Green	Green
(234) Re Conc Pier Cap	101	Low(2)	172.00	ft	Green	Green
(300) Strip Seal Exp Joint	101	Sev.(4)	120.00	ft	Green	Green
(311) Moveable Bearing	101	Low(2)	16.00	each	Green	Green
(313) Fixed Bearing	101	Low(2)	12.00	each	Green	Green
(321) Re Conc Approach Slab	101	Sev.(4)	900.00	sq.ft	Green	Green
(331) Re Conc Bridge Railing	101	Sev.(4)	3,301.10	ft	Green	Green
(5000) General Notes	200	Ben.(1)	1.00	each	Green	Green
(5001) Roadway / Channel / Drainage	200	Ben.(1)	3.00	each	Green	Green
(5002) Maintenance Recommendations	200	Ben.(1)	3.00	each	Green	Green
(5103) Asphalt Overlay w/ Membrane	101	Sev.(4)	39,383.00	sq.ft	Green	Green
(5203) Steel Protective Coating (515)	101	Low(2)	96,033.10	sq.ft	Green	Green
(5300) Reinforced Concrete Wingwalls	101	Low(2)	6.00	ft	Green	Green



# Projects

LCCA  
Reverse Calculation  
Bridge Analysis  
Needs List

Analysis > Work Candidates > Needs List

Filter: **BrM - None** Layout: **Work Candidate Default** Apply

Work Candidates Quick Filter

**Filter Results** Save As:  Save Share

Work Candidate Name	Bridge ID	Facility Carried	Action Name	Est. Cost	Year
WorkCandidate1302	0P 11	CO.RD. INT. X-ROAD	Repair Spalls / Potholes		
0C 337-RHDN-070914-E3824575072	0C 337	US-89 (SR-89)	Repair Spalls / Potholes	19350	2014
WorkCandidate341	0C 518	I-215 (SR-215)	Repair Spalls / Potholes		
WorkCandidate1022	0F 255	600 SOUTH STREET	Repair Spalls / Potholes		
WorkCandidate1899	2F 496	I-70 (SR-70) EBL	Repair Spalls / Potholes		
WorkCandidate526	0C 757	I-215 (SR-215)	Repair Spalls / Potholes		
WorkCandidate123	035106F	1000 NORTH STREET	Repair Spalls / Potholes		
049020D-ENUZ-102015-7F07801ABC	049020D	400 SOUTH STREET	Repair Spalls / Potholes	-1	2019
0C 337-RHDN-070914-7AA26E91358	0C 337	US-89 (SR-89)	Repair Spalls / Potholes	4500	2014
0C 751-EROC-080614-6FA91969078	0C 751	SR-248	Repair Spalls / Potholes	-1	2014
WorkCandidate1663	1F 747	i-215NB (SR-215)	Repair Spalls / Potholes		
WorkCandidate309	0C 472	CO. RD.NW KANARRAV	Repair Spalls / Potholes		
0D 668-MOOR-083115-E462DC7978D	0D 668	US-191 (SR-191)	Repair Spalls / Potholes		2015
0D 595-ZQOY-072214-5191202CAD0	0D 595	US-40 (SR-40)	Repair Spalls / Potholes		2014
WorkCandidate2379	4D 652	I-80 (SR-80) WBL	Repair Spalls / Potholes		
WorkCandidate369	0C 560	US-40 (SR-40)	Repair Spalls / Potholes		
WorkCandidate2397	4D 667	I-84 (SR-84) WBL	Repair Spalls / Potholes		

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# Projects

Projects > Create / Edit Project > Query

## Bridges

Project Category: No Category Filter: BrM - None Bridge Group:

Bridge View Bridge Map View

Bridge ID	District	County	Facility Carried	Feature Intersected	Owner	On/Off System	Hwy System	Funct Class	Admin Area	Bridge Grp	Deck	Super	Sub
1C 700	Region 2	Salt Lake	RP.I215NB TO I80WB	I-215,I-80 & 4 INT.RAMPS	State Highway Agency	On System	1 Interstate Hwy	11 Urban Interstate	2430	R2: I80 215 Interchange	6 Satisfactory	7 Good	6 Satisfactory

## Bridge Needs

Layout: Project Bridge Needs Default  Display Category Actions Only  Display Work Candidates Only  Display Zero Cost Recommendations  Display

Bridge ID	Action	Work Candidate	Unit Label	Kind Hwy	B District	Base Utility	Utility	Utility Change	Estimated Cost	Benefit/Cost(\$k)	Cost(\$k)/B
<input checked="" type="checkbox"/> 1C 700	Column Repair	1C 700-FTXK-121514-72CBD366C52	2	1 Interstate Hwy	Region 2	72.39	81.27	8.88	\$40,000	0.222	\$5
<input type="checkbox"/> 1C 700	Replace Structure - Network	Generated 09/12/2016	2	1 Interstate Hwy	Region 2	76.92	92.39	15.47	\$12,938,909	0.0012	\$836
<input type="checkbox"/> 1C 700	test remove deck action	remove test	2	1 Interstate Hwy	Region 2	76.92	83.84	6.92	\$10,000	0.692	\$1

Add to Project

## Selected Bridges and Work

Bridge ID	District	County	Facility Carried	Feature Intersected	Deck	Superstructure	Substructure	Culvert
1C 700	02	035	RP.I215NB TO I80WB	I-215,I-80 & 4 INT.RAMPS	6 Satisfactory	7 Good	6 Satisfactory	N N/A (NB)
Action	Work Item	Base Utility	Utility	Utility Change	Estimated Cost	Benefit/Cost(\$k)	Cost(\$k)/Be	
Column Repair	1C 700-FTXK-121514-72CBD366C52	72.39	81.27	8.88	\$40,000	0.222	\$5	

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# Projects

## Programs > Assign Projects

### Assign Projects

#### Projects List

Filter:  Program:

<input checked="" type="checkbox"/>	Alt ID	Name	Start Date	Add Cost	Create Date	Status	First Name	Project Category
<input checked="" type="checkbox"/>	94100	Test Project	8/1/2016 12:00:00 AM	0	8/29/2016 11:54:29 AM	Planned	Pontis	No Category

Items per page:

Total Projects: 1

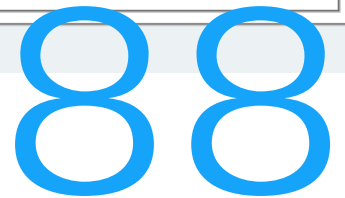
Selected Projects: 1

Projects Matching Search: 1

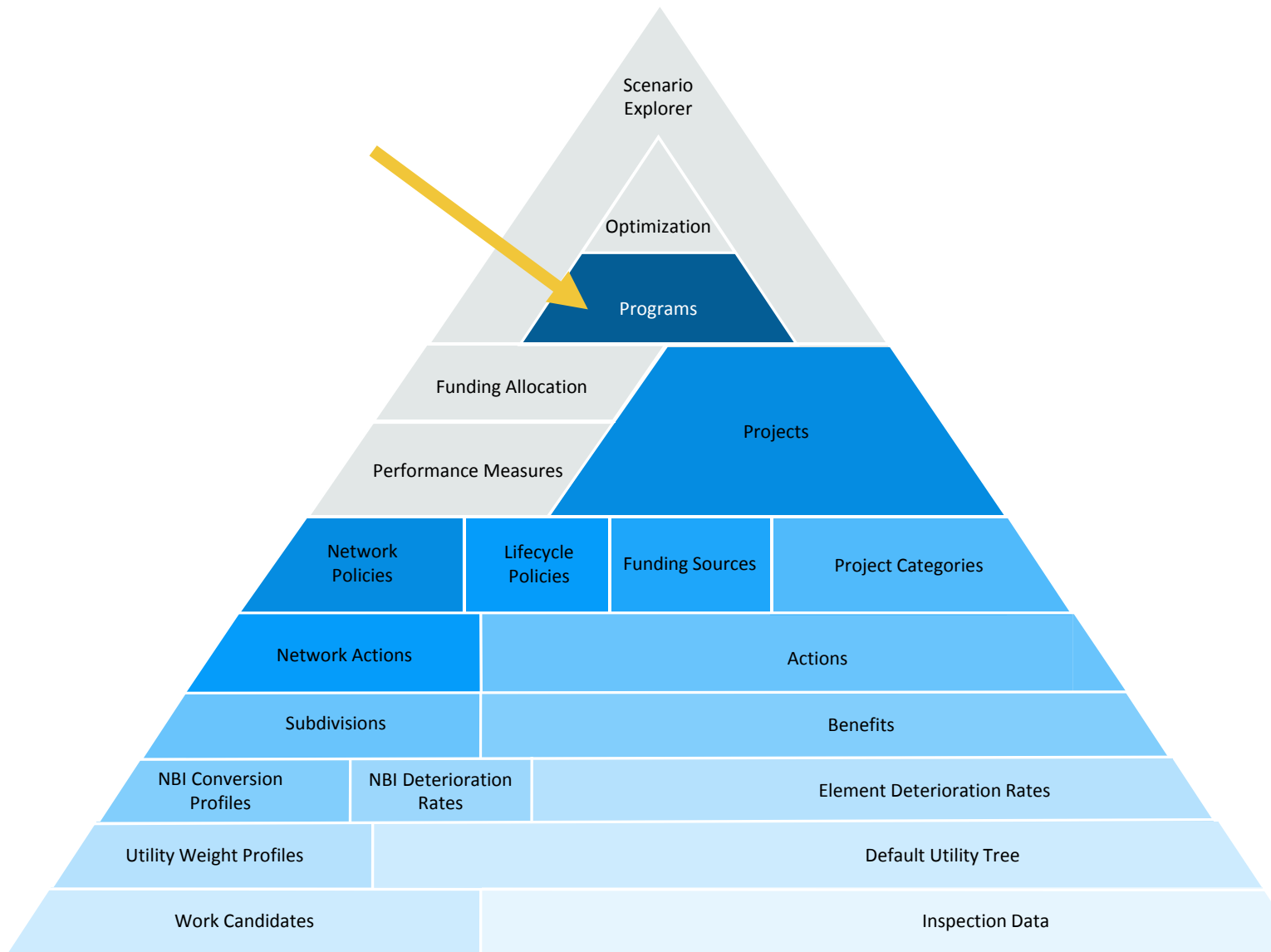
#### Choose an Action

to program(s):  and  to selected program(s)

- Replacement
- Preservation
- Test







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# Programs

USER, PONTIS

BrM Bridge Management

BRIDGES

REPORTS

ADMIN

INSPECTION

GATEWAY

ANALYSIS

PROJECTS

PROGRAMS

PROGRAM LIST

CREATE/EDIT PROGRAMS

ASSIGN PROJECTS

PERFORMANCE MEASURES

FUNDING ALLOCATION

PROGRAM PLANNING

PROGRAM RESULTS

EXECUTIVE SUMMARY

CREATE/EDIT SCENARIOS

SCENARIO EXPLORER

## Programs > Create/Edit Programs

### Program Editor

Program: Example 5-year Rehab & Replace [Create New](#) [Copy >>](#)

#### Program Details

Program Alternate ID: Test 5-year R&R Program Status: Active Program Start Year: 2017

Program Name: Example 5-year Rehab & Replace Program URL: Program End Year: 2021

Program Objectives: Undefined Structure Weights Formula: Undefined Required Minimum Cost:

Bridge Filter: Active Major Structures

Program Description:

Program Notes:

#### Configuration Data

NBI Deterioration Method: NbiConverter NBI Converter Profile: BrM Default  Residual HIX Approximation

Long-Term Analysis Period: 50 Discount Rate: 4

Inflation Estimation Method: None

#### Network Policies

Unassigned Network Policies: Preserve Deck

Assigned Network Policies: Replace Bridge, Rehab Deck, Rehab Culvert, Replace Culvert, Rehab Super, Replace Deck, Rehab Sub

[Assign All](#) [Unassign All](#)

#### Utility Weights Profile

Utility Profile: Sample [Create/Edit Utility Profile](#)

Utility Profile's Weights

- Total Utility
  - Condition (40->40)
  - LifeCycle (30->30)
  - Mobility (15->15)

90

# Programs

USER, PONTIS

Programs > Create/Edit Programs

**BrM** Bridge Management

- BRIDGES
- REPORTS
- ADMIN
- INSPECTION
- GATEWAY
- ANALYSIS
- PROJECTS
- PROGRAMS
- PROGRAM LIST
- CREATE/EDIT PROGRAMS**
- ASSIGN PROJECTS
- PERFORMANCE MEASURES
- FUNDING ALLOCATION
- PROGRAM PLANNING
- PROGRAM RESULTS
- EXECUTIVE SUMMARY
- CREATE/EDIT SCENARIOS
- SCENARIO EXPLORER

**Program Editor**

Program: Example 5-year Rehab & Replace [Create New](#) [Copy >>](#)

**Program Details**

Program Alternate ID: Test 5-year R&R Program Status: Active Program Start Year: 2017  
Program Name: Example 5-year Rehab & Replace Program URL: Program End Year: 2021  
Program Objectives: Undefined Structure Weights Formula: Undefined Required Minimum Cost:  
Bridge Filter: Active Major Structures

Program Description:  
Program Notes:

**Configuration Data**

NBI Deterioration Method: NbiConverter NBI Converter Profile: BrM Default  Residual HIX Approximation  
Long-Term Analysis Period: 50 Discount Rate: 4  
Inflation Estimation Method: None

**Network Policies**

Unassigned Network Policies: Preserve Deck  
Assigned Network Policies: Replace Bridge, Rehab Deck, Rehab Culvert, Replace Culvert, Rehab Super, Replace Deck, Rehab Sub

**Utility Weights Profile**

Utility Profile: Sample [Create/Edit Utility Profile](#)

Utility Profile's Weights

- Total Utility
  - Condition (40->40)
  - LifeCycle (30->30)
  - Mobility (15->15)

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# Programs

USER, PONTIS

Programs > Create/Edit Programs

**Program Editor**

Program: Example 5-year Rehab & Replace [Create New](#) [Copy >>](#)

**Program Details**

Program Alternate ID: Test 5-year R&R Program Status: Active Program Start Year: 2017  
Program Name: Example 5-year Rehab & Replace Program URL: Program End Year: 2021  
Program Objectives: Undefined Structure Weights Formula: Undefined Required Minimum Cost:  
Bridge Filter: Active Major Structures

Program Description:  
Program Notes:

**Configuration Data**

NBI Deterioration Method: NbiConverter NBI Converter Profile: BrM Default  Residual HIX Approximation  
Long-Term Analysis Period: 50 Discount Rate: 4  
Inflation Estimation Method: None

**Network Policies**

Unassigned Network Policies: Preserve Deck  
Assigned Network Policies: Replace Bridge, Rehab Deck, Rehab Culvert, Replace Culvert, Rehab Super, Replace Deck, Rehab Sub

[Assign All](#) [Unassign All](#)

**Utility Weights Profile**

Utility Profile: Sample [Create/Edit Utility Profile](#)

Utility Profile's Weights

- Total Utility
  - Condition (40->40)
  - LifeCycle (30->30)
  - Mobility (15->15)

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# Programs

USER, PONTIS

Programs > Create/Edit Programs

Long-Term Analysis Period: 50      Discount Rate: 4  
Inflation Estimation Method: None

### Network Policies

Unassigned Network Policies: Preserve Deck

Assigned Network Policies: Replace Bridge, Rehab Deck, Rehab Culvert, Replace Culvert, Rehab Super, Replace Deck, Rehab Sub

Assign All      Unassign All

### Utility Weights Profile

Utility Profile: Sample      Create/Edit Utility Profile

Utility Profile's Weights

- Total Utility
  - Condition (40->40)
  - LifeCycle (30->30)
  - Mobility (15->15)
  - Risk (15->15)

←

### Subdivision Profile

Subdivision Profile: NHS On Off      Create/Edit Subdivision Profile

Subdivision Profile Segments

Table Name	Field Name
roadway	nhs_ind

### Filter Segments

Add Filter Segments: roadway.nhs\_ind

Please Select      Add

Filter Segments:

Index	Combinations	# of Bridges	
1	1 On the NHS	1416	X
2	0 Not on NHS	1568	X
Total:		2984	

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# Programs

USER, PONTIS

Programs > Create/Edit Programs

Long-Term Analysis Period: 50      Discount Rate: 4  
Inflation Estimation Method: None

### Network Policies

Unassigned Network Policies: Preserve Deck

Assigned Network Policies: Replace Bridge, Rehab Deck, Rehab Culvert, Replace Culvert, Rehab Super, Replace Deck, Rehab Sub

[Assign All](#)      [Unassign All](#)

### Utility Weights Profile

Utility Profile: Sample      [Create/Edit Utility Profile](#)

#### Utility Profile's Weights

- Total Utility
  - Condition (40->40)
  - LifeCycle (30->30)
  - Mobility (15->15)
  - Risk (15->15)

### Subdivision Profile

Subdivision Profile: NHS On Off      [Create/Edit Subdivision Profile](#)

#### Subdivision Profile Segments

Table Name	Field Name
roadway	nhs_ind


### Filter Segments

Add Filter Segments: roadway.nhs\_ind

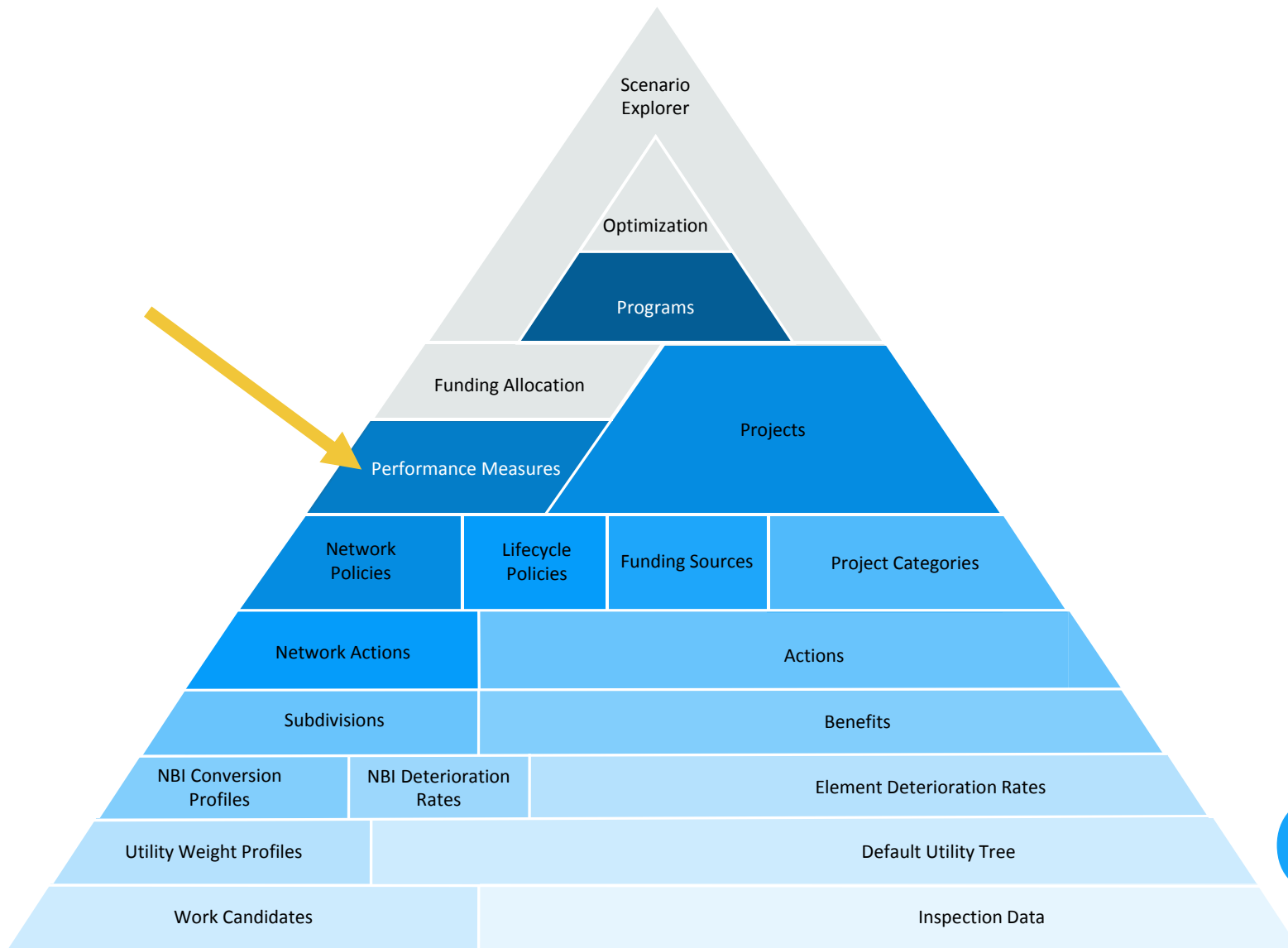
Please Select      [Add](#)

Filter Segments:

Index	Combinations	# of Bridges	
1	1 On the NHS	1416	X
2	0 Not on NHS	1568	X
Total:		2984	



94



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# Performance Measures

## Programs > Performance Measures

### Performance Measures

Program:  Scenario:

### Select Performance Measures

Performance Measures	Best Value	Worst Value		
Utility (Sample)	100.00	0.00		
Health Index	100.00	0.00		
Pct. Deficient (Surface-Based)	0.00	100.00		

### Performance Constraints by Segment

Segment	Utility (Sample)	Health Index	Pct. Deficient (Surface-Based)
0 Not on NHS	Min: <input type="text"/> Target: <input type="text"/>	Min: <input type="text"/> Target: <input type="text"/>	Target: <input type="text"/>
1 On the NHS	Min: <input type="text"/> Target: <input type="text"/>	Min: <input type="text"/> Target: <input type="text"/>	Target: <input type="text"/>



# Performance Measures

## Programs > Performance Measures

### Performance Measures

Program: Example 5-year Rehab & Replace ▾ Scenario: Default ▾

**Select Performance Measures**

Performance Measures	Best Value	Worst Value		
Utility (Sample)	100.00	0.00		
Health Index	100.00	0.00		
Pct. Deficient (Surface-Based)	0.00	100.00		

Deck NBI Rating ▾

- Deck NBI Rating
- Superstructure NBI Rating
- Substructure NBI Rating
- Culvert NBI Rating
- Pct. Good/Fair (Surface-Based)
- Pct. Good/Fair (Count-Based)
- Pct. Deficient (Count-Based)
- Database Field Performance

	Utility (Sample)	Health Index	Pct. Deficient (Surface-Based)
	Min: <input type="text"/> Target: <input type="text"/>	Min: <input type="text"/> Target: <input type="text"/>	Target: <input type="text"/>
1 On the NHS	Min: <input type="text"/> Target: <input type="text"/>	Min: <input type="text"/> Target: <input type="text"/>	Target: <input type="text"/>

# Performance Measures

Programs > Performance Measures

**Performance Measures**


Program:  Scenario:

**Select Performance Measures**

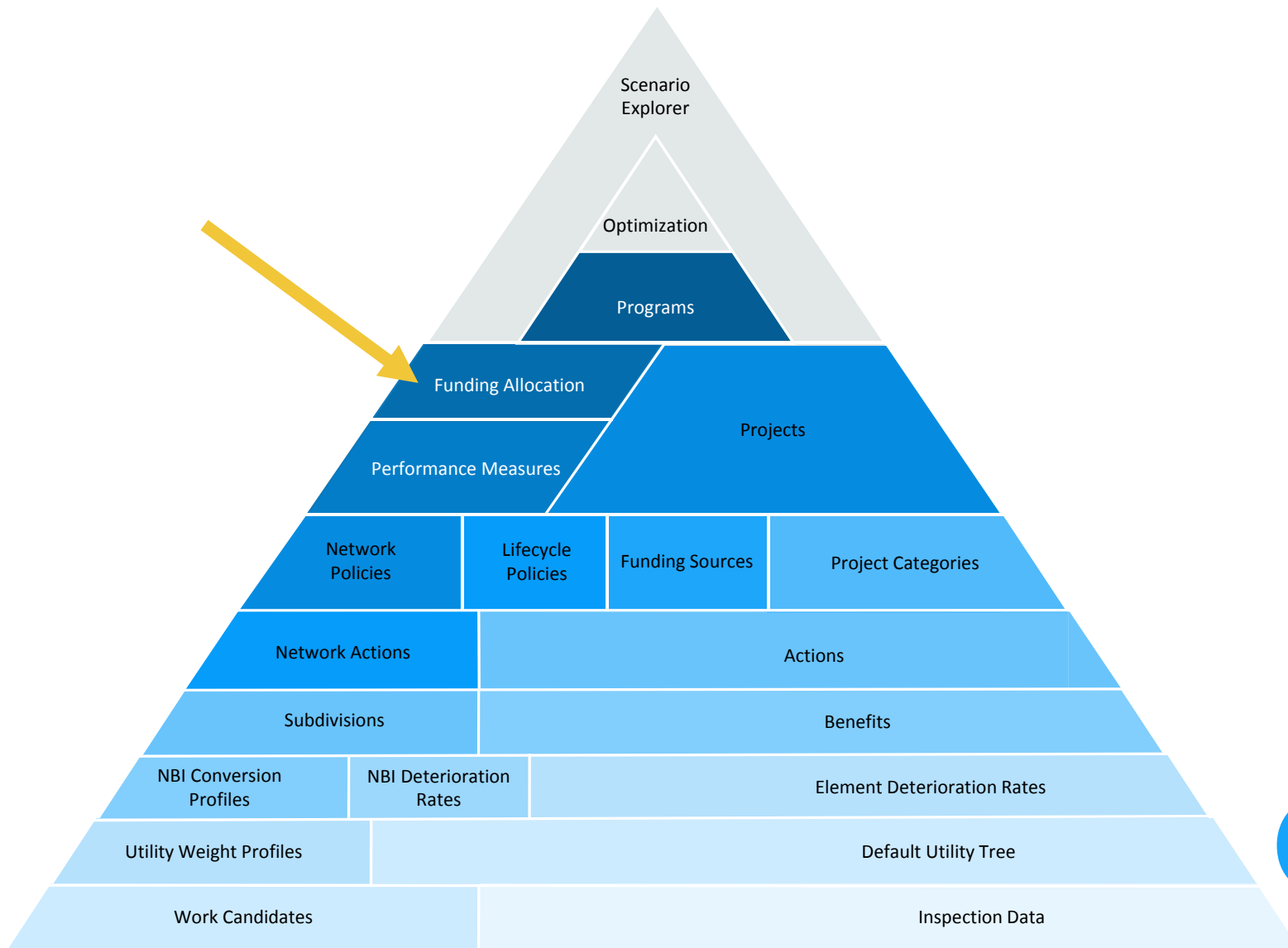
Performance Measures	Best Value	Worst Value		
Utility (Sample)	100.00	0.00		
Pct. Deficient (Surface-Based)	0.00	100.00		
Health Index	100.00	0.00		

**Performance Constraints by Segment**

Segment	Utility (Sample)	Pct. Deficient (Surface-Based)	Health Index
0 Not on NHS	Min: <input type="text"/> Target: <input type="text"/>	Target: <input type="text" value="10"/>	Min: <input type="text"/> Target: <input type="text"/>
1 On the NHS	Min: <input type="text"/> Target: <input type="text"/>	Target: <input type="text" value="4"/>	Min: <input type="text"/> Target: <input type="text"/>



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# Funding Allocation



## Programs > Funding Allocation

Program: Example 5-year Rehab & Replace Scenario: Default

**Funding Allocation**

A new Funding Source Target in Projects > Funding Sources may be created for new Funding Allocations  
No Funding Sources  
[Add New](#)

**Budget Distribution**

**Quick Distribution**

Override budget

[Distribute Evenly](#)

Total budget: \$0  
Total allocated funds: \$0

	2017	2018	2019	2020	2021
Identified annual funds:	\$0	\$0	\$0	\$0	\$0
Additional funds:	<input type="text" value="\$0"/>	<input type="text" value="\$0"/>	<input type="text" value="\$0"/>	<input type="text" value="\$0"/>	<input type="text" value="\$0"/>
Total annual budget:	\$0	\$0	\$0	\$0	\$0
Allocated funds:	\$0	\$0	\$0	\$0	\$0
Available Funds:	\$0	\$0	\$0	\$0	\$0

[Distribute](#) [Get Performances](#)

Budget distribution by program's segments: Input method:  Actual Budget Value  Percentage of Annual Budget

Segment	Utility	Pct. Deficient (Surface-Based)	Health Index	Total Budget per segment	Pct. overall budget	2017	2018	2019	2020	2021
0 Not on NHS	0	0	0	\$0	0%	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
1 On the NHS	0	0	0	\$0	0%	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
<b>Total</b>				\$0		\$0	\$0	\$0	\$0	\$0

1000

# Funding Allocation

## Programs > Funding Allocation

Program: Example 5-year Rehab & Replace Scenario: Default

### Funding Allocation

A new Funding Source Target in Projects > Funding Sources may be created for new Funding Allocations  
No Funding Sources

[Add New](#)

### Budget Distribution

#### Quick Distribution

Override budget

[Distribute Evenly](#)

Total budget: \$0

Total allocated funds: \$0

	2017	2018	2019	2020	2021
Identified annual funds:	\$0	\$0	\$0	\$0	\$0
Additional funds:	<input type="text" value="\$0"/>	<input type="text" value="\$0"/>	<input type="text" value="\$0"/>	<input type="text" value="\$0"/>	<input type="text" value="\$0"/>
Total annual budget:	\$0	\$0	\$0	\$0	\$0
Allocated funds:	\$0	\$0	\$0	\$0	\$0
Available Funds:	\$0	\$0	\$0	\$0	\$0

[Distribute](#)

[Get Performances](#)

Budget distribution by program's segments:

Input method:  Actual Budget Value  Percentage of Annual Budget

Segment	Utility	Pct. Deficient (Surface-Based)	Health Index	Total Budget per segment	Pct. overall budget	2017	2018	2019	2020	2021
0 Not on NHS	0	0	0	\$0	0%	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
1 On the NHS	0	0	0	\$0	0%	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
<b>Total</b>				\$0		\$0	\$0	\$0	\$0	\$0



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# Funding Allocation

## Programs > Funding Allocation

Program: Example 5-year Rehab & Replace Scenario: Default

### Funding Allocation

A new Funding Source Target in Projects > Funding Sources may be created for new Funding Allocations  
No Funding Sources

[Add New](#)

### Budget Distribution

#### Quick Distribution

Override budget

[Distribute Evenly](#)

Total budget: \$10,000,000

Total allocated funds: \$0

	2017	2018	2019	2020	2021
Identified annual funds:	\$0	\$0	\$0	\$0	\$0
Additional funds:	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000
Total annual budget:	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000
Allocated funds:	\$0	\$0	\$0	\$0	\$0
Available Funds:	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000

[Distribute](#) [Get Performances](#)

Budget distribution by program's segments:

Input method:  Actual Budget Value  Percentage of Annual Budget

Segment	Utility	Pct. Deficient (Surface-Based)	Health Index	Total Budget per segment	Pct. overall budget	2017	2018	2019	2020	2021
0 Not on NHS	0	0	0	\$0	0%	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
1 On the NHS	0	0	0	\$0	0%	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
<b>Total</b>				\$0		\$0	\$0	\$0	\$0	\$0



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# Funding Allocation

## Programs > Funding Allocation

Program: Example 5-year Rehab & Replace Scenario: Default

### Funding Allocation

A new Funding Source Target in Projects > Funding Sources may be created for new Funding Allocations  
No Funding Sources

[Add New](#)

### Budget Distribution

#### Quick Distribution

Override budget

[Distribute Evenly](#)

Total budget: \$10,000,000

Total allocated funds: \$0

	2017	2018	2019	2020	2021
Identified annual funds:	\$0	\$0	\$0	\$0	\$0
Additional funds:	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000
Total annual budget:	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000
Allocated funds:	\$0	\$0	\$0	\$0	\$0
Available Funds:	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000

[Distribute](#)

[Get Performances](#)

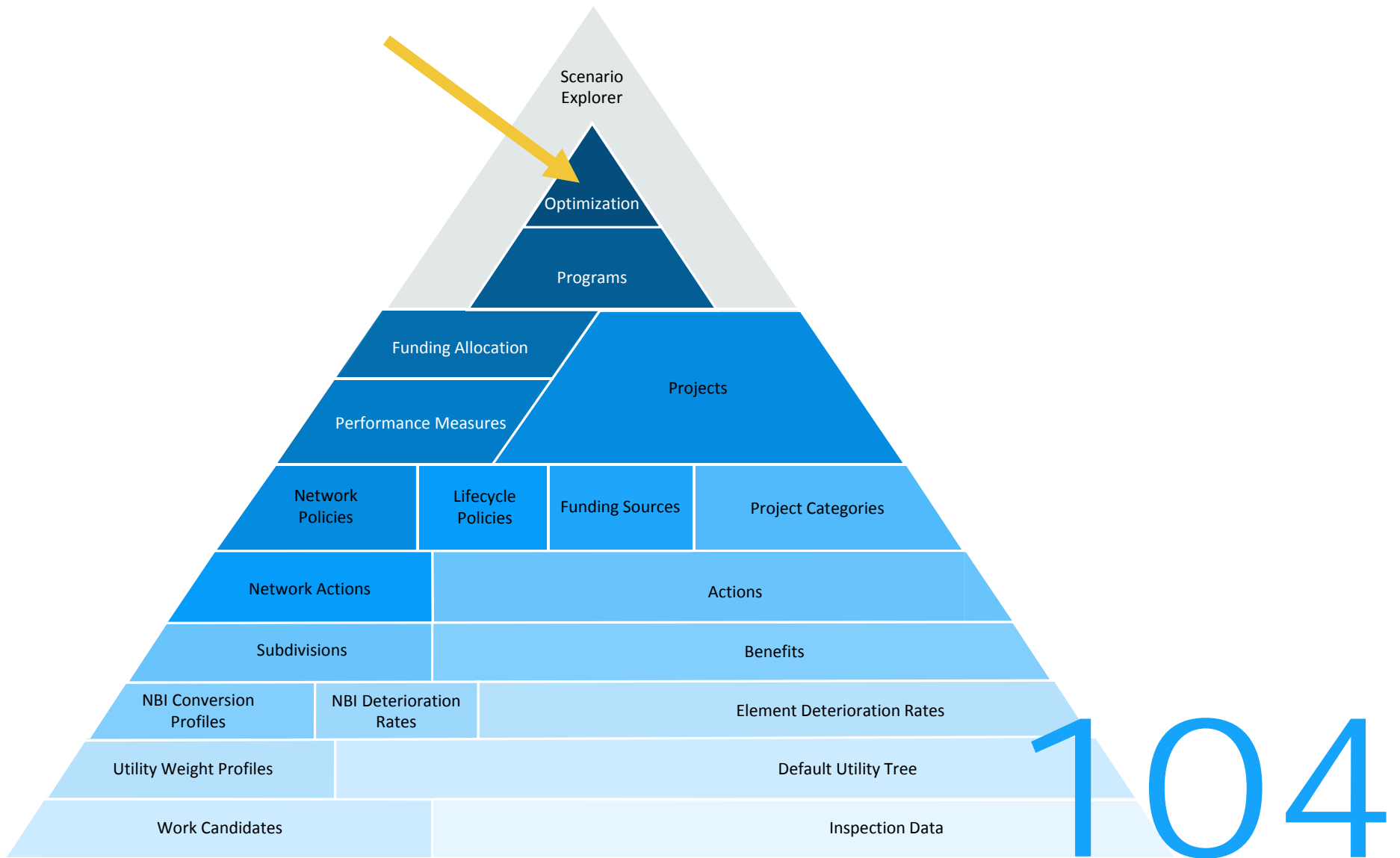
Budget distribution by program's segments:

Input method:  Actual Budget Value  Percentage of Annual Budget

Segment	Utility	Pct. Deficient (Surface-Based)	Health Index	Total Budget per segment	Pct. overall budget	2017	2018	2019	2020	2021
0 Not on NHS	0	0	0	\$0	0%	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
1 On the NHS	0	0	0	\$0	0%	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
<b>Total</b>				\$0		\$0	\$0	\$0	\$0	\$0



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# Funding Allocation

## Programs > Program Planning

**Optimize Program**

Program:  [Run Optimization](#)

Scenario:

Optimization Method:

Keep assigned projects:

Run on all scenarios:

Respect external frozen projects:

**Program Information**

Start Year: 2017  
End Year: 2021  
Utility Weight Profile: Sample

Assigned Network Policies:

- Rehab Culvert
- Replace Bridge
- Replace Culvert
- Rehab Super
- Replace Deck
- Rehab Sub
- Rehab Deck

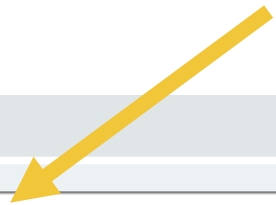
Subdivision Profile: NHS status  
NBI Deterioration Method: NbiConverter  
NBI Converter Profile: BrM Default

**Assigned Projects**

Segment:  Year:

Project Name	Category	Automatic	Cost	Utility	Utility Benefit	Benefit/Cost (\$k)	Cost (\$k) / Benefit	Year	Frozen	Status
No records										

Items per page: 15



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# Funding Allocation

## Programs > Program Planning

### Optimize Program

Program:

Scenario:

Optimization Method:

Keep assigned projects:

Run on all scenarios:

Respect external frozen projects:

### Program Information

Start Year: 2017  
End Year: 2021  
Utility Weight Profile: Sample

Assigned Network Policies:  
Rehab Culvert  
Replace Bridge  
Replace Culvert  
Rehab Super  
Replace Deck  
Rehab Sub  
Rehab Deck

Subdivision Profile: NHS status  
NBI Deterioration Method: NbiConverter  
NBI Converter Profile: BrM Default

### Optimization Progress

Optimizing Program...



### Progress Messages

Initializing Program Optimization...  
Processing Scenario '\$40m Funding'.  
Getting Action Sequences  
Getting Utility Tree  
Processing Segments...  
Retrieving Budgets  
Estimating initial conditions of all segments  
Estimated initial performance of 4.845 percent of bridges for 0 Not on NHS  
Estimated initial performance of 9.690 percent of bridges for 0 Not on NHS  
Estimated initial performance of 14.535 percent of bridges for 0 Not on NHS  
Estimated initial performance of 19.380 percent of bridges for 0 Not on NHS  
Estimated initial performance of 24.225 percent of bridges for 0 Not on NHS  
Estimated initial performance of 28.070 percent of bridges for 0 Not on NHS

9/14/2016 8:46:23 AM  
9/14/2016 8:51:07 AM  
9/14/2016 8:51:07 AM  
9/14/2016 8:51:54 AM  
9/14/2016 8:51:56 AM  
9/14/2016 8:51:56 AM  
9/14/2016 8:51:56 AM  
9/14/2016 8:51:56 AM  
9/14/2016 8:52:51 AM  
9/14/2016 8:53:11 AM  
9/14/2016 8:53:34 AM  
9/14/2016 8:53:55 AM  
9/14/2016 8:54:14 AM

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# Funding Allocation

## Programs > Program Planning

### Optimize Program

Program:  The Program "Example 5-year Rehab & Replace" is currently being optimized.

Scenario:

Optimization Method:

Keep assigned projects:

Run on all scenarios:

Respect external frozen projects:

### Program Information

Start Year: Undefined      Subdivision Profile: Undefined  
End Year: Undefined      NBI Deterioration Method: Undefined  
Utility Weight Profile: Undefined  
Assigned Network Policies:

### Assigned Projects

Segment:  Year:

Project Name	Category	Automatic	Cost	Utility	Utility Benefit	Benefit/Cost (\$k)	Cost (\$k) / Benefit	Year	Frozen	Status
No records										

Items per page:

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# Funding Allocation

## Programs > Program Planning

Keep assigned projects:    
 Run on all scenarios:    
 Respect external frozen projects:

### Program Information

Start Year: 2017  
 End Year: 2021  
 Utility Weight Profile: Sample  
 Assigned Network Policies: 

- Rehab Culvert
- Replace Bridge
- Replace Culvert
- Rehab Super
- Replace Deck
- Rehab Sub
- Rehab Deck

Subdivision Profile: NHS status  
 NBI Deterioration Method: NbiConverter  
 NBI Converter Profile: BrM Default

### Optimization Progress

Complete!

### Progress Messages

Finalizing segment 2 of 4	9/14/2016 11:31:04 AM
Get Project Alternatives	9/14/2016 11:31:04 AM
Getting work candidates	9/14/2016 11:31:04 AM
Processing Segment 2	9/14/2016 11:31:05 AM
Persisting Segment 2's Results	9/14/2016 11:38:34 AM
Year: 2017 Project Count: 170	9/14/2016 11:39:17 AM
Year: 2018 Project Count: 53	9/14/2016 11:39:42 AM
Year: 2019 Project Count: 22	9/14/2016 11:40:04 AM
Year: 2020 Project Count: 15	9/14/2016 11:40:18 AM
Year: 2021 Project Count: 9	9/14/2016 11:40:36 AM
Processing Segments Completed	9/14/2016 11:40:40 AM
Finalizing Data	9/14/2016 11:40:40 AM
Program Optimization Complete	9/14/2016 11:40:40 AM

### Assigned Projects

Segment:  Year:

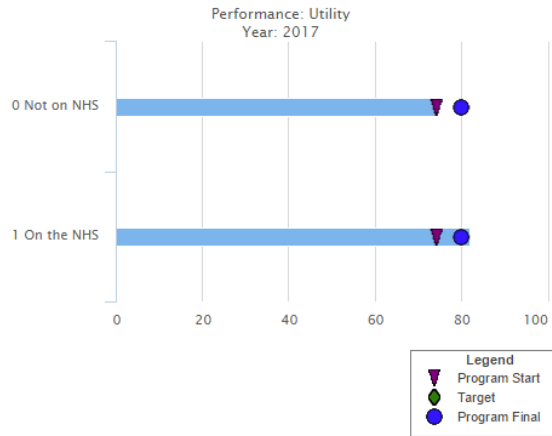
Project Name	Category	Automatic	Cost	Utility	Utility Benefit	Benefit/Cost (\$k)	Cost (\$k) / Benefit	Year	Frozen	Status
031000(Replace Deck)	No Category	Yes	\$70,000	88.05	10.46	0.1494	\$6.69	2017	No	Proposed
021206(Rehab Culvert)	No Category	Yes	\$29	91.14	0.03	1.0509	\$0.95	2021	No	Proposed
020956(Rehab Culvert)	No Category	Yes	\$168	90.51	0.02	0.1194	\$8.38	2021	No	Proposed
020955(Rehab Culvert)	No Category	Yes	\$187	89.81	0.03	0.1601	\$6.25	2021	No	Proposed
020786(Rehab Deck)	No Category	Yes	\$1,452	88.88	0.71	0.489	\$2.05	2017	No	Proposed
020783(Rehab Culvert)	No Category	Yes	\$2,734	82.12	0.14	0.0512	\$19.53	2020	No	Proposed
020774(Replace Deck, Replace Super)	No Category	Yes	\$75,566	57.34	17.03	0.2254	\$4.44	2017	No	Proposed
020774(Rehab Sub)	No Category	Yes	\$343,981	70.7	16.49	0.0479	\$20.86	2021	No	Proposed
020762(Replace Deck, Replace Super)	No Category	Yes	\$396,800	84.53	24.72	0.0623	\$16.05	2020	No	Proposed
020762(Rehab Deck)	No Category	Yes	\$62	65.53	0.03	0.4841	\$2.07	2017	No	Proposed
020738(Rehab Culvert)	No Category	Yes	\$121	89.46	0.25	2.0619	\$0.49	2021	No	Proposed
020726(Replace Deck, Replace Super)	No Category	Yes	\$148,436	77.83	19.06	0.1284	\$7.79	2018	No	Proposed
020714(Replace Deck)	No Category	Yes	\$42,400	85.03	5.72	0.1349	\$7.41	2018	No	Proposed
020712(Rehab Culvert)	No Category	Yes	\$5,380	85.36	0.29	0.0539	\$18.55	2020	No	Proposed
020702(Replace Deck, Replace Super)	No Category	Yes	\$128,800	71.83	31.49	0.2445	\$4.09	2017	No	Proposed

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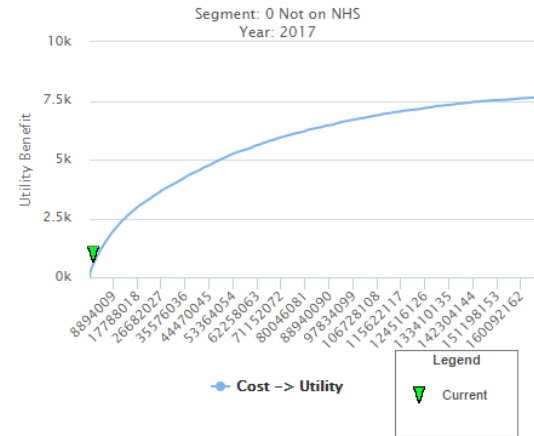
# Funding Allocation

## Programs > Program Results

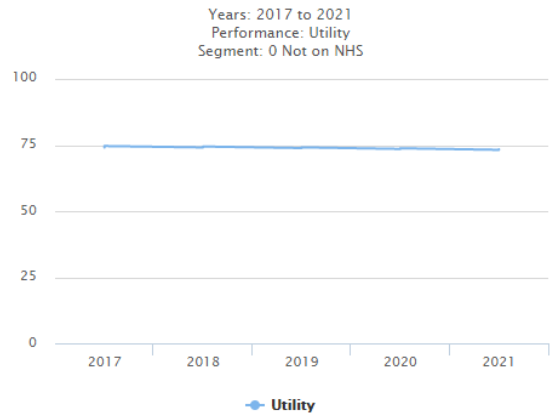
### Future Performance by Segment



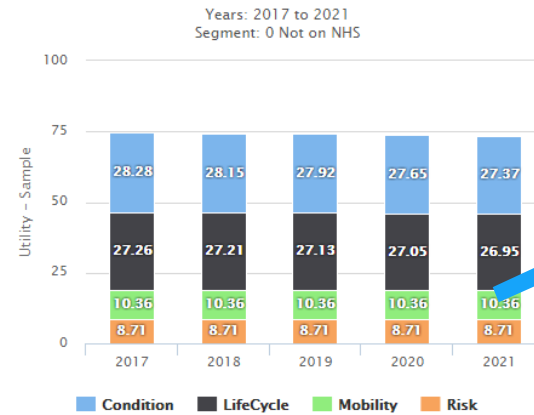
### Benefit Cost Frontier



### Future Performance by Year



### Effects on Utility Criteria



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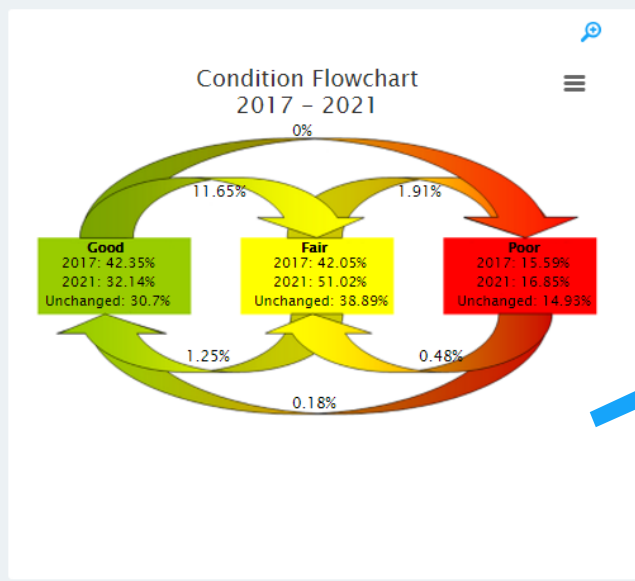
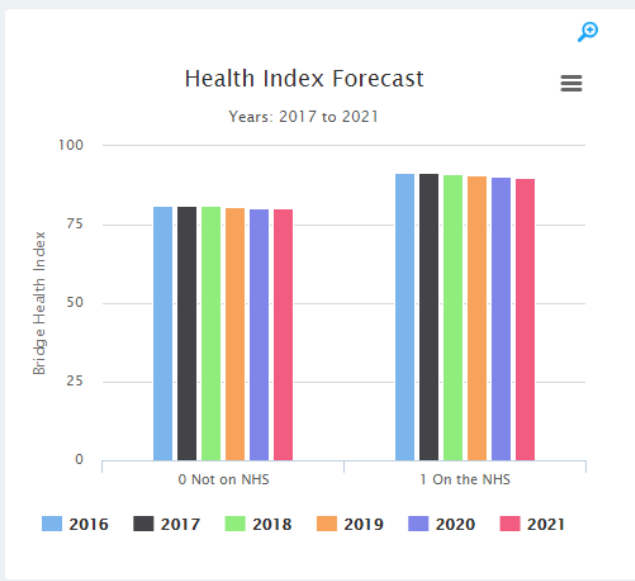
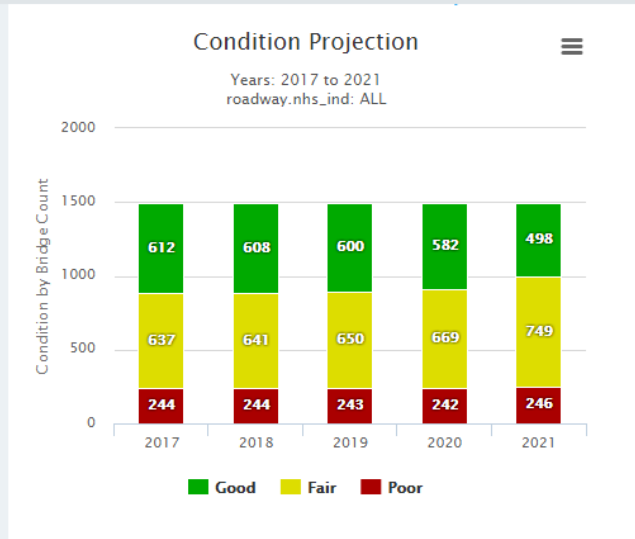
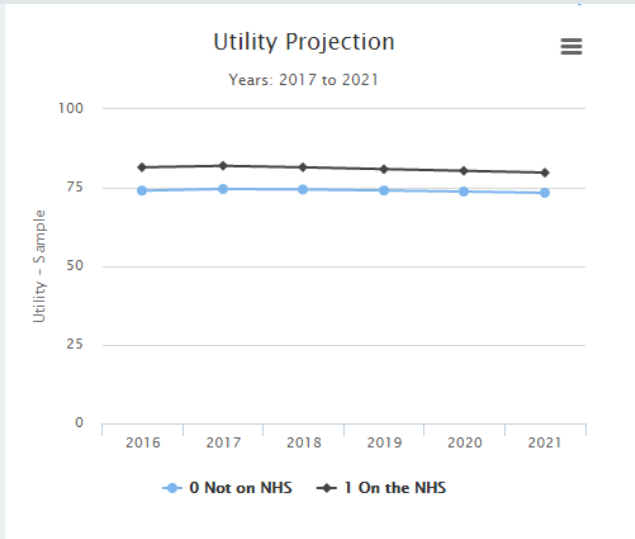
# Funding Allocation



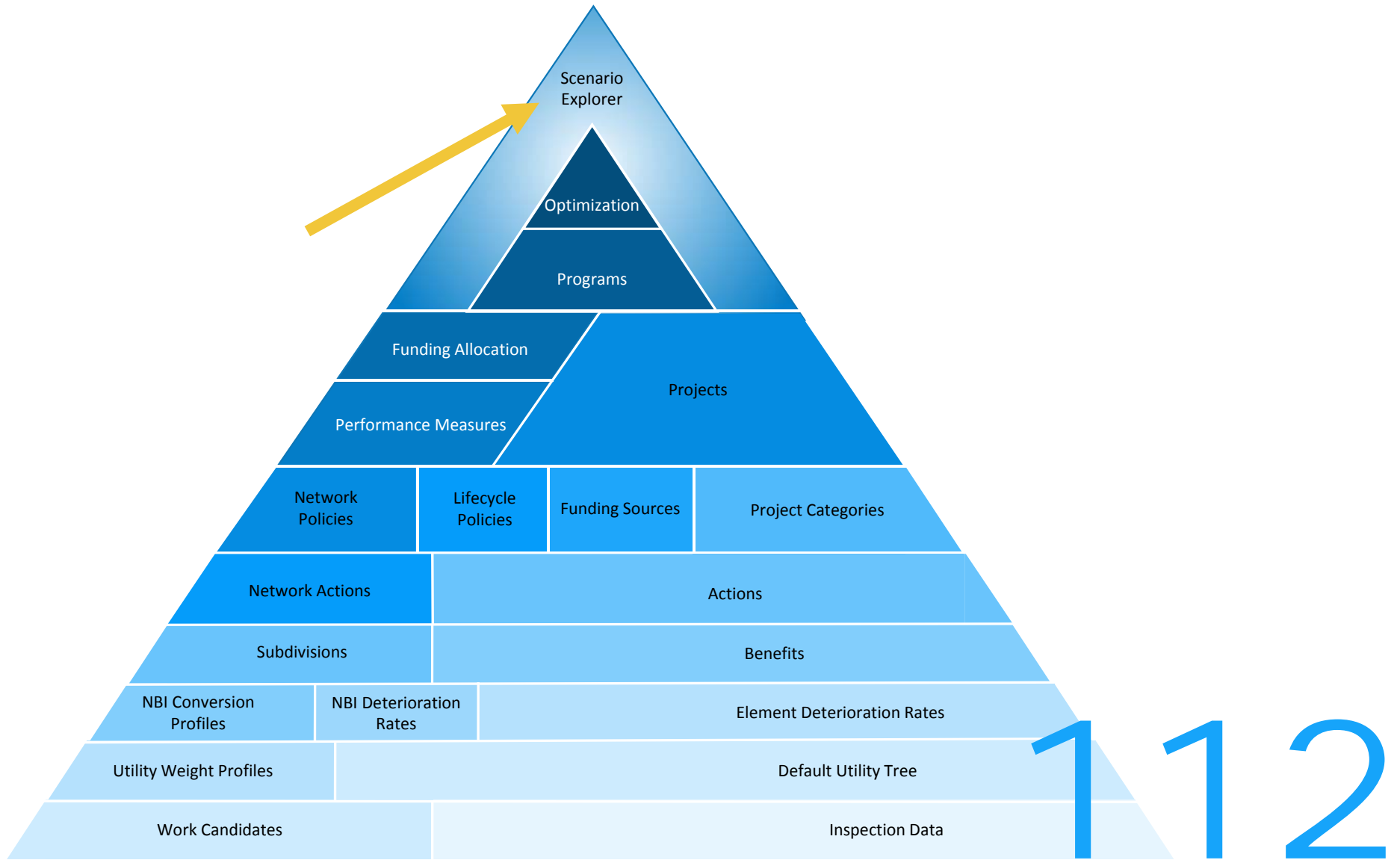
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# Funding Allocation

## Programs > Executive Summary



1 1 1





Funding Allocation

Programs > Create/Edit Scenarios

**Scenarios**

Scenario Name	
<input type="checkbox"/>	\$40m Funding
<input type="checkbox"/>	Default
<input checked="" type="checkbox"/>	\$20m Funding
<input type="checkbox"/>	\$60m Funding

**Scenarios Details:**

Name:

Program:

Deterioration Profile:

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# Funding Allocation

## Programs > Funding Allocation

Program: Example 5-year Rehab & Replace Scenario: Default

### Funding Allocation

A new Funding Source Target in Projects > Funding Sources may be created for new Funding Allocations  
No Funding Sources

[Add New](#)

### Budget Distribution

#### Quick Distribution

Override budget

[Distribute Evenly](#)

Total budget: \$10,000,000

Total allocated funds: \$0

	2017	2018	2019	2020	2021
Identified annual funds:	\$0	\$0	\$0	\$0	\$0
Additional funds:	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000
Total annual budget:	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000
Allocated funds:	\$0	\$0	\$0	\$0	\$0
Available Funds:	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000

[Distribute](#) [Get Performances](#)

Budget distribution by program's segments:

Input method:  Actual Budget Value  Percentage of Annual Budget


Segment	Utility	Pct. Deficient (Surface-Based)	Health Index	Total Budget per segment	Pct. overall budget	2017	2018	2019	2020	2021
0 Not on NHS	0	0	0	\$0	0%	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
1 On the NHS	0	0	0	\$0	0%	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
<b>Total</b>				\$0		\$0	\$0	\$0	\$0	\$0

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# Funding Allocation

## Programs > Program Planning

### Optimize Program

Program:    
 Scenario:   
 Optimization Method:   
 Keep assigned projects:    
 Run on all scenarios:   
 Respect external frozen projects:

### Program Information

Start Year: 2017  
 End Year: 2021  
 Utility Weight Profile: Sample  
 Assigned Network Policies:   
                                     
                                     
                                     
                                     
                                     
                                     
 Subdivision Profile: NHS status  
 NBI Deterioration Method: NbiConverter  
 NBI Converter Profile: BrM Default

### Optimization Progress

Complete!

### Progress Messages

Processing Segment 1	9/14/2016 11:31:04 AM
Get Project Alternatives	9/14/2016 11:31:04 AM
Getting work candidates	9/14/2016 11:31:04 AM
Processing Segment 2	9/14/2016 11:31:05 AM
Persisting Segment 2's Results	9/14/2016 11:38:34 AM
Year: 2017 Project Count: 170	9/14/2016 11:39:17 AM
Year: 2018 Project Count: 53	9/14/2016 11:39:42 AM
Year: 2019 Project Count: 22	9/14/2016 11:40:01 AM
Year: 2020 Project Count: 15	9/14/2016 11:40:18 AM
Year: 2021 Project Count: 9	9/14/2016 11:40:36 AM
Processing Segments Completed	9/14/2016 11:40:40 AM
Finalizing Data	9/14/2016 11:40:40 AM
Program Optimization Complete	9/14/2016 11:40:40 AM

### Assigned Projects

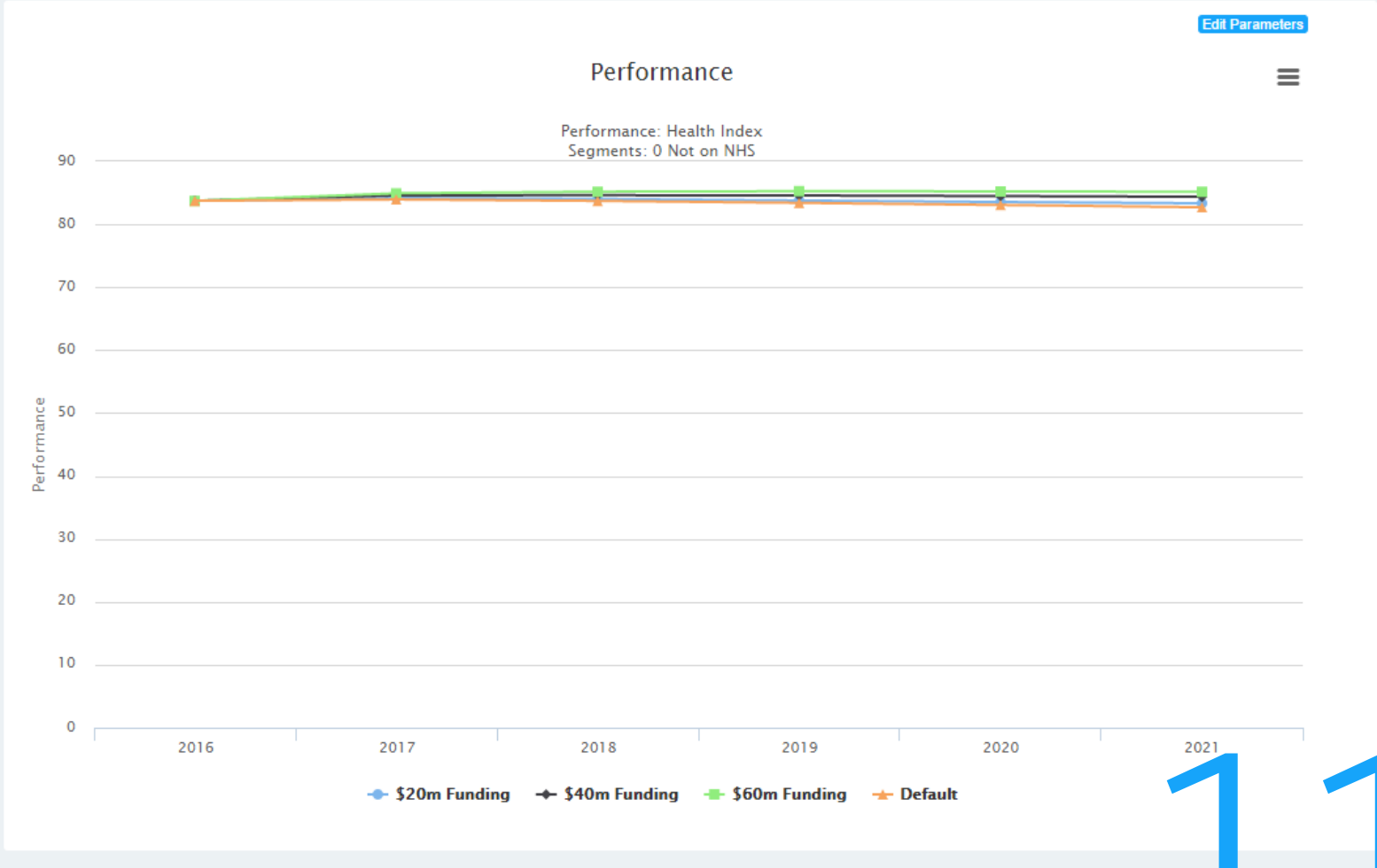
Segment:  Year:

Project Name	Category	Automatic	Cost	Utility	Utility Benefit	Benefit/Cost (\$k)	Cost (\$k) / Benefit	Year	Frozen	Status
021206(Rehab Culvert)	No Category	Yes	\$29	91.14	0.03	1.0509	\$0.95	2021	No	Proposed
020956(Rehab Culvert)	No Category	Yes	\$168	90.51	0.02	0.1194	\$8.38	2021	No	Proposed
020955(Rehab Culvert)	No Category	Yes	\$187	89.81	0.03	0.1601	\$6.25	2021	No	Proposed
020786(Rehab Deck)	No Category	Yes	\$1,452	88.88	0.71	0.489	\$2.05	2017	No	Proposed
020774(Replace Deck, Replace Super)	No Category	Yes	\$75,566	57.04	14.75	0.1952	\$5.12	2018	No	Proposed
020762(Rehab Deck)	No Category	Yes	\$62	65.53	0.03	0.4841	\$2.07	2017	No	Proposed
020738(Rehab Culvert)	No Category	Yes	\$121	89.46	0.25	2.0619	\$0.49	2021	No	Proposed
020726(Replace Deck, Replace Super)	No Category	Yes	\$148,436	77.57	20.62	0.1389	\$7.20	2020	No	Proposed
020714(Replace Deck)	No Category	Yes	\$42,400	84.9	6.54	0.1542	\$6.48	2020	No	Proposed
020702(Replace Deck, Replace Super)	No Category	Yes	\$128,800	71.73	31.96	0.2481	\$4.03	2018	No	Proposed
020620(Rehab Deck)	No Category	Yes	\$2,705	90.7	1.93	0.7135	\$1.40	2017	No	Proposed
020553(Rehab Culvert)	No Category	Yes	\$66	85.37	0.03	0.4536	\$2.20	2021	No	Proposed
020492(Rehab Deck)	No Category	Yes	\$9,442	86.38	1.26	0.1334	\$7.49	2020	No	Proposed
020473(Rehab Deck)	No Category	Yes	\$44	70.9	0.02	0.4576	\$2.19	2018	No	Proposed

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# Funding Allocation

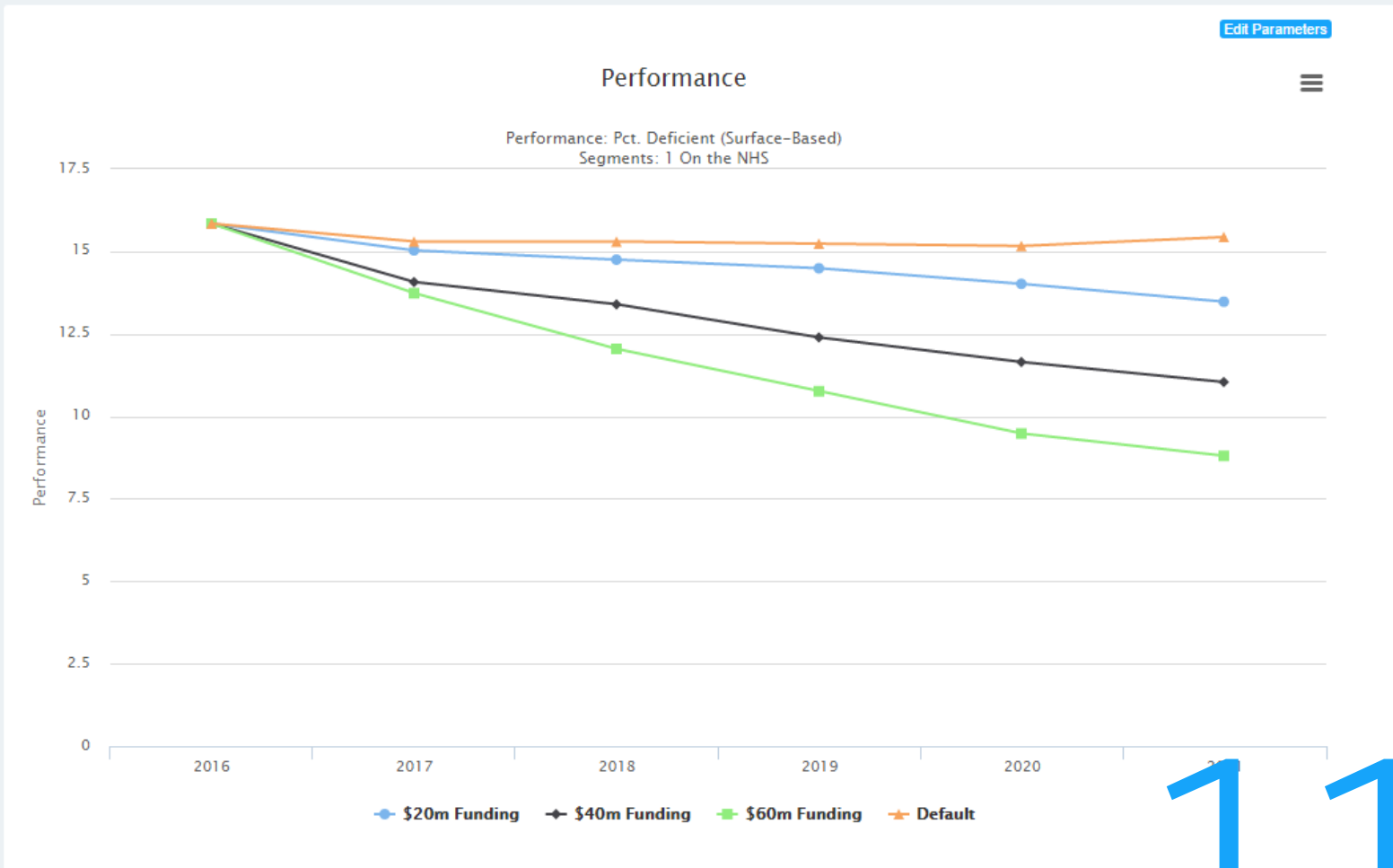
Programs > Scenario Explorer



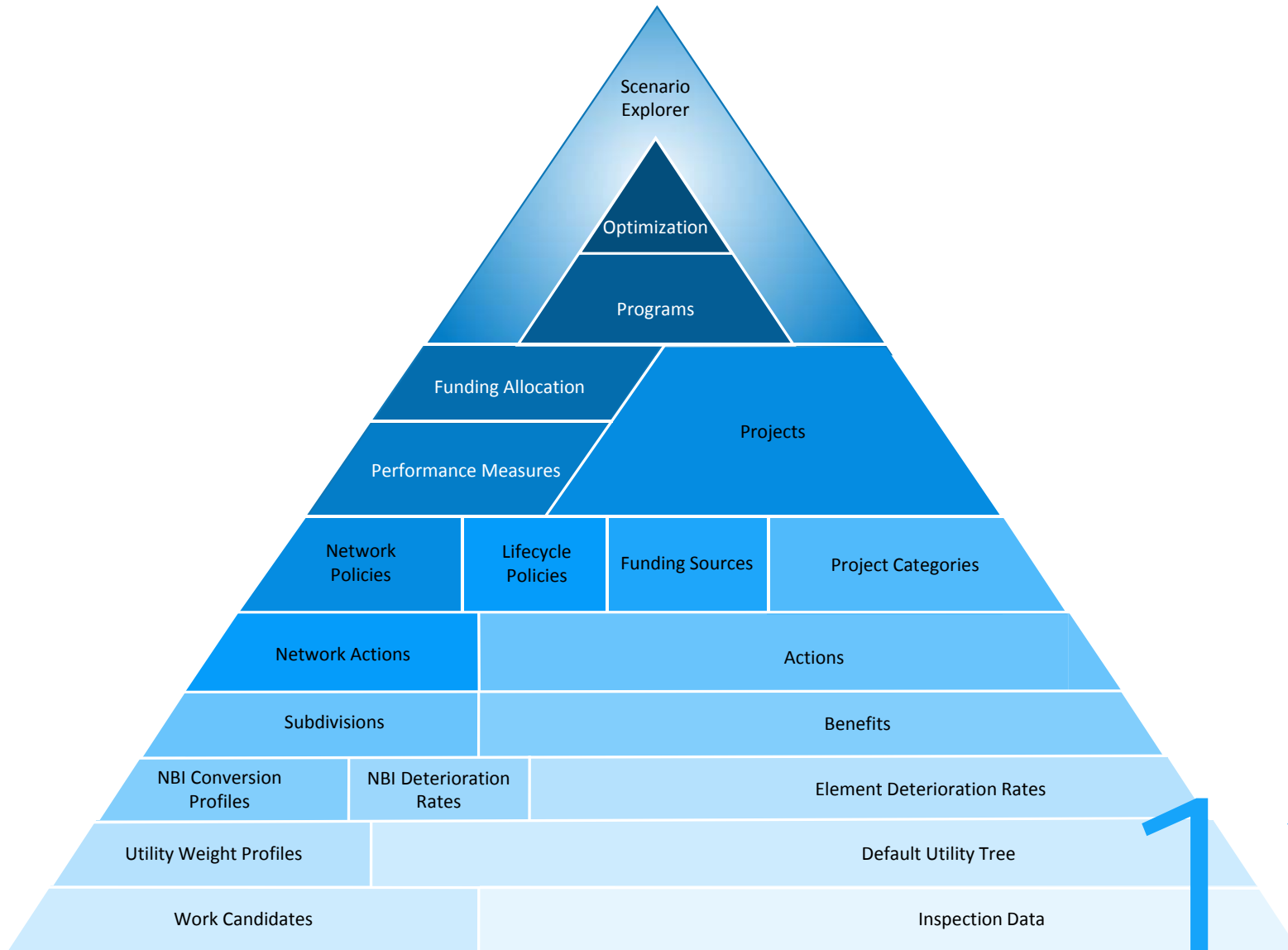
116

# Funding Allocation

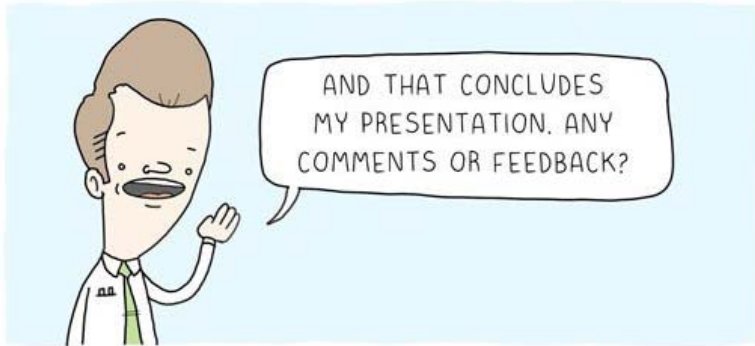
Programs > Scenario Explorer



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BASICALLY, I'M ONLY TALKING TO HEAR MYSELF SPEAK. HOPEFULLY, THIS COMMENT WILL IMPROVE MY REPUTATION WITH UPPER MANAGEMENT.





BrM Help Desk

[AASHTOWareBridge.com](http://AASHTOWareBridge.com)

BrM@Bentley.com

JIRA tickets: [bridgeware.atlassian.net](https://bridgeware.atlassian.net)

Zachary Boyle, PE

BrM Solutions Consultant

Zac.Boyle@Bentley.com

Or add '@ZacBoyle' to your JIRA tickets

Additional BrM Resources

- Demo Site: [AASHTOWareBridge.com/BrM523](http://AASHTOWareBridge.com/BrM523)
- Training Videos: [AASHTOWareBridge.com](http://AASHTOWareBridge.com) > Click on "Training" in Menu Bar
- User Manual Appendices

Joshua Johnson, PE

TAM Lead Engineer

Joshua.Johnson@Bentley.com

Or add '@JoshuaJohnson' to your JIRA tickets

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