OHIO DEPARTMENT OF TRANSPORTATION

Taking Care of What We Have.

50th Mid-Atlantic Quality Assurance Workshop 2017

Andrew Williams, Ohio DOT

Transportation Asset Management

A Systematic Business Approach

- Use performance data to guide decisions
- Foster more consistency across Districts
- Ensure statewide performance goals are met
- Reduce annual lifecycle costs
- Remove artificial distinctions between Capital and Maintenance
- Coordinate preservation through planning

Ohio's Transportation Assets

Taking Care of What We Have.

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Ohio's Transportation Assets

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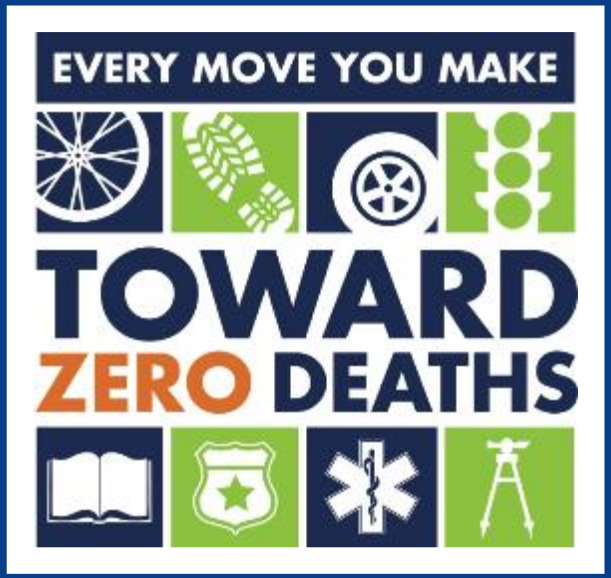
Ohio's Transportation Assets

We spend 93% of our time and resources taking care of what we have

Safety is ODOT's Top Priority

- 282,368 crashes in 2014
- 69,917 injuries
- 919 deaths
- Well maintained roads are safer roads



Knowledge Transfer is Critical

IMMEDIATE
15%

1 YEAR
4%

5 YEARS
16%

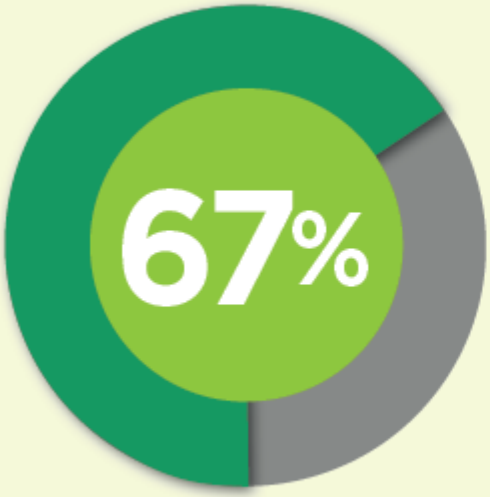
BY 2021
35%
WILL RETIRE

Keeping Ohio Economically Competitive

5.5 million

jobs in Ohio (all of them!) are supported by our transportation infrastructure

We Move Freight



of the state's freight traffic moves on ODOT-maintained roads and bridges – including top exports like crops, vehicles, plastics and machinery.

Your Safety Rides on Us

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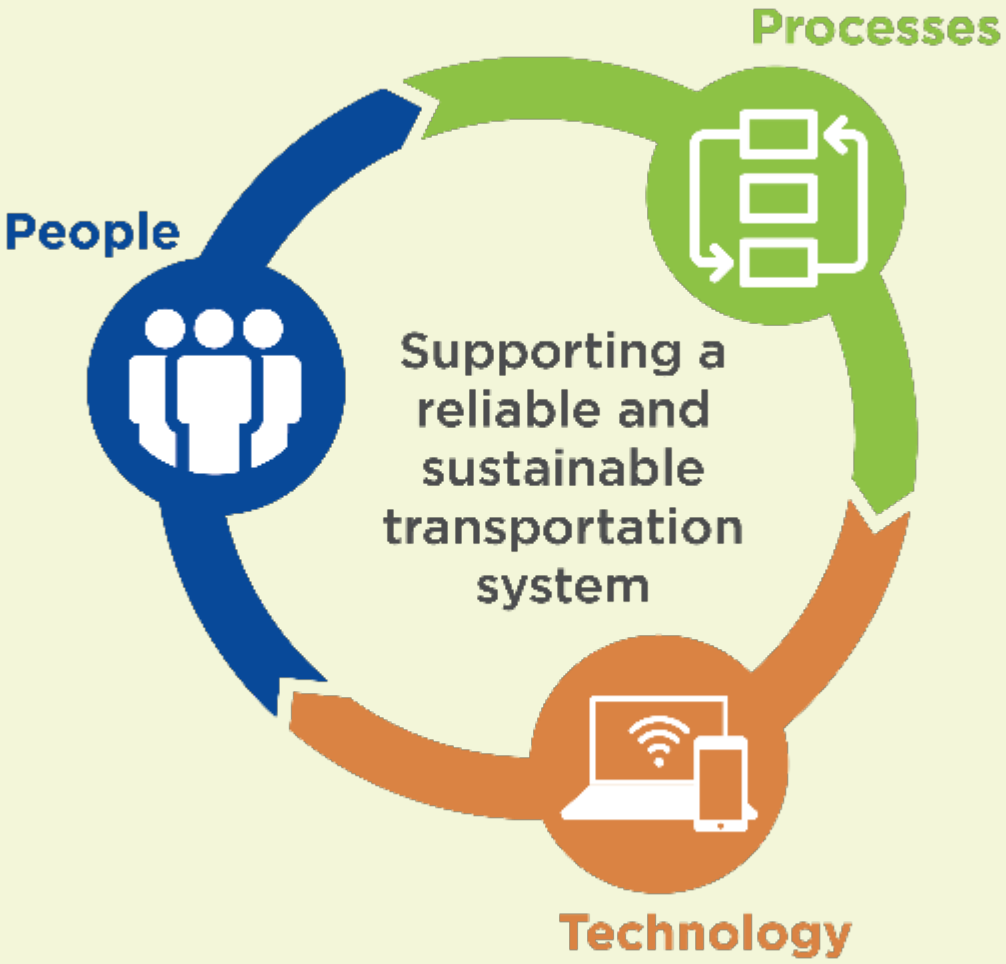
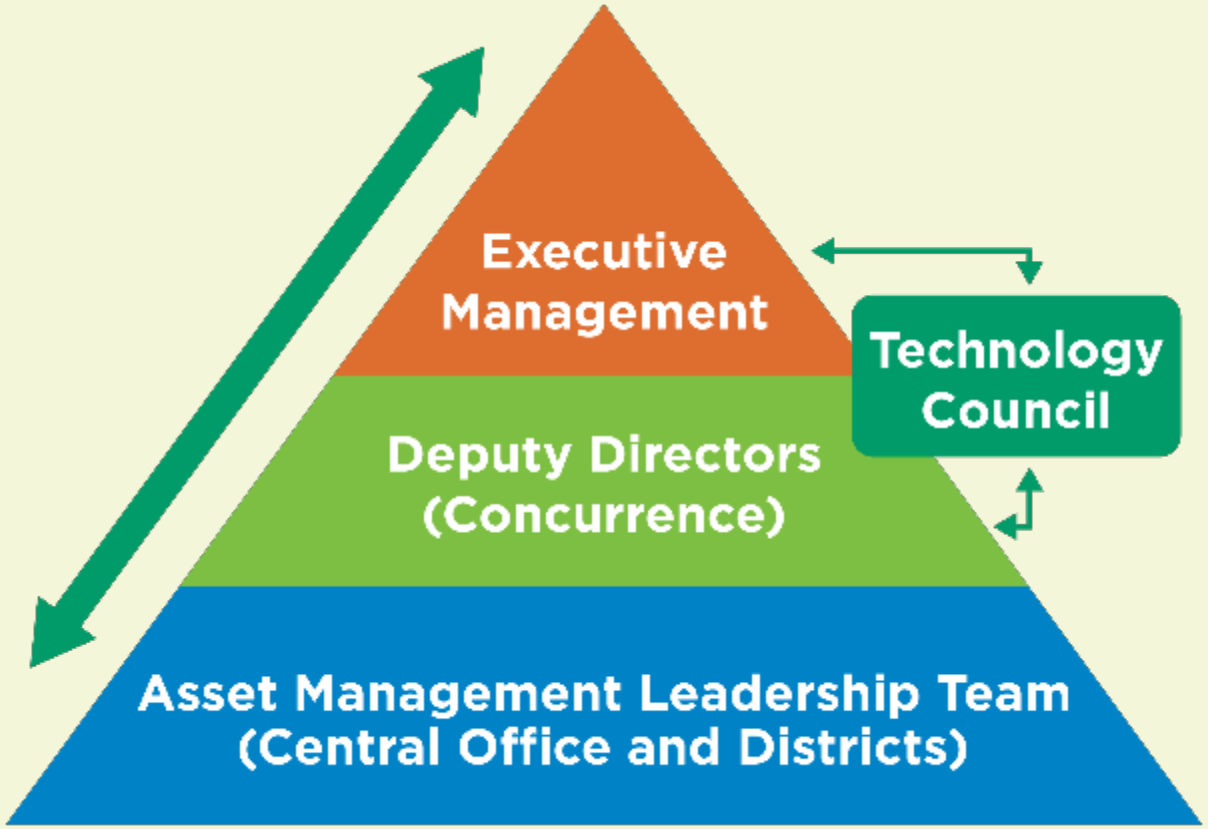
Measure to Manage

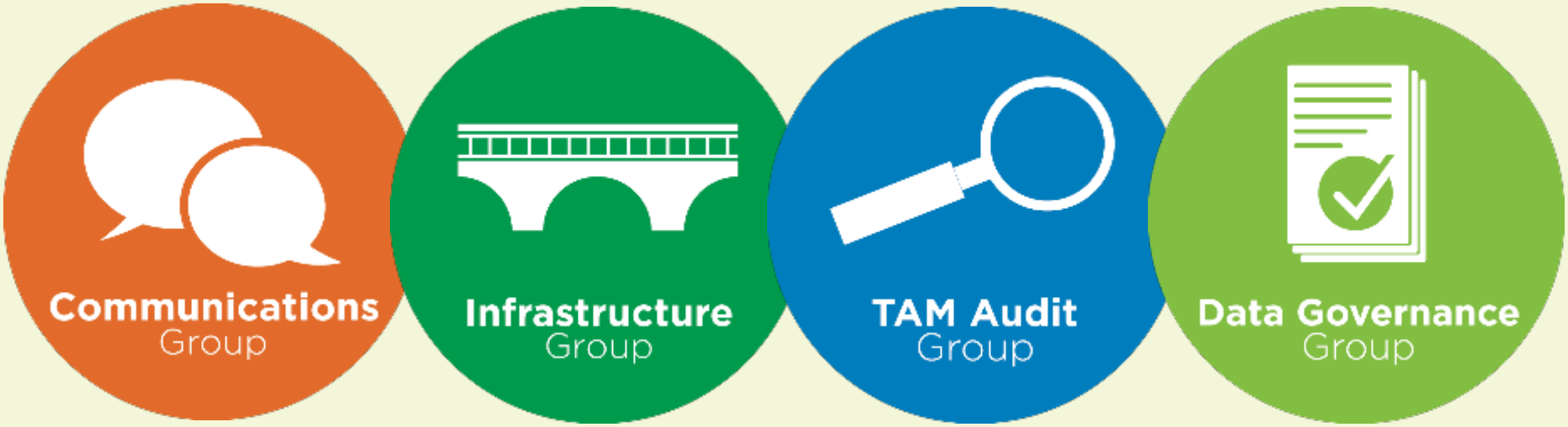
Three Critical Elements to Success



People: Multi-Level Buy-In



People: Leadership Team



Multi-disciplinary business owners and stakeholders from ODOT Central and District offices

Example: Horizontal Curve Speed Advisory Signs

30K CURVES & **5K+** RAMPS

Old Way:
Collection + Plan Design
$9.8 MILLION

New Way:
TAM Audit Process
$2.2 MILLION

SAVINGS: $7.7 MILLION

Systematic Process: Optimize Investments

State-of-the-Art Technology

- Esri Roads & Highways
- Esri Collector
- Traffic Monitoring Management System (MS2)
- Transportation Information Mapping Systems (TIMS)
- Pavement Management System (dTIMS)
- Business Intelligence (TAM_DST)

Smart Implementation.

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Three-Pronged Approach

1

State-of-the-Art Technology

2

Aggressive Preservation Treatments

3

More Collaboration

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State-of-the-Art Technology

- Objective data analysis
- Identifies when and how to treat roadways
- Prioritizes highest benefit at lowest cost

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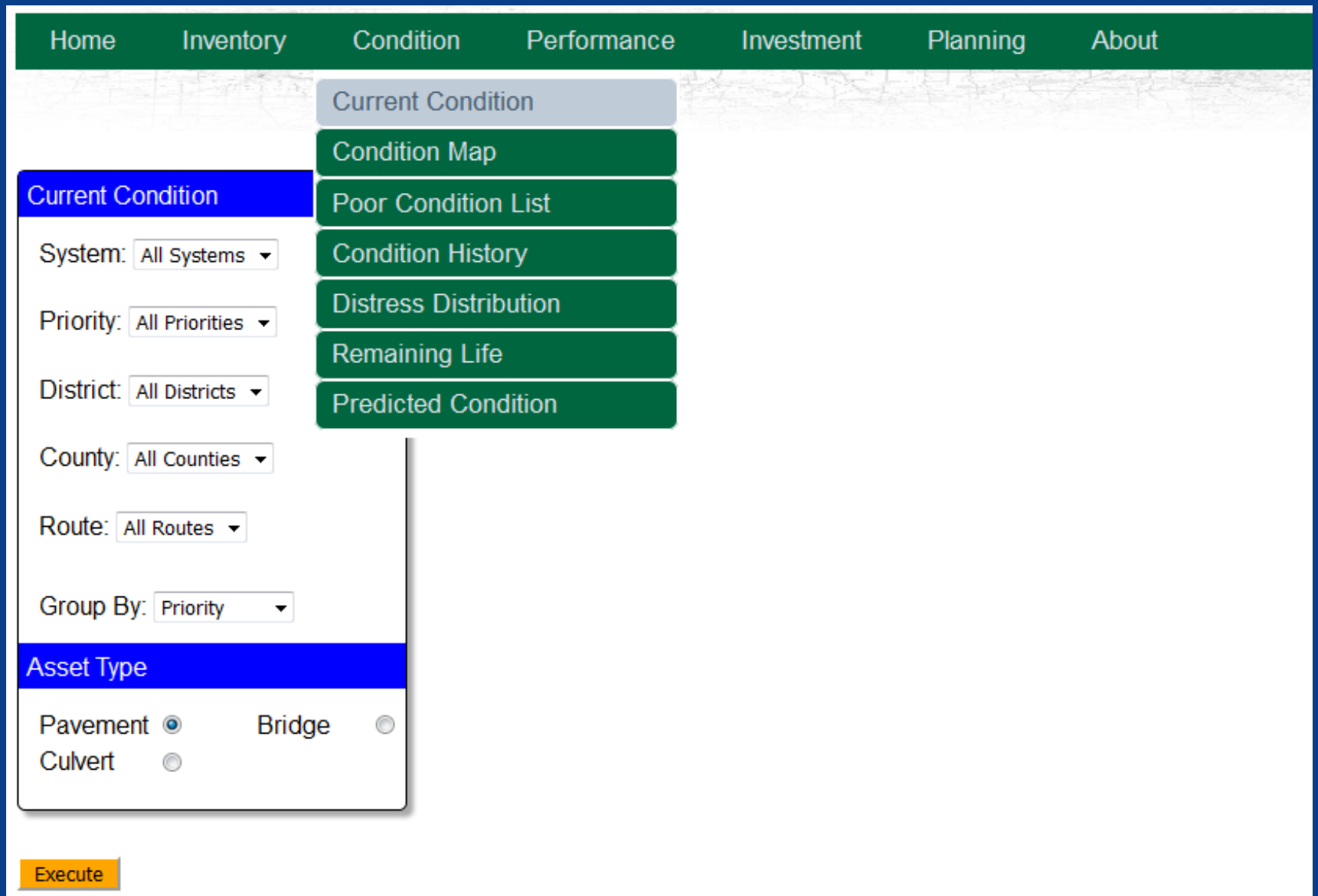
Transportation Asset Management Decision Support Tool Prototype

Home | Inventory | Condition | Performance | Investment | Planning | About

Welcome to ODOT Transportation Asset Management Decision Support Tool Prototype

This tool includes a transportation asset database and a set of reporting tools to extract relevant information for assisting transportation asset management decisions.



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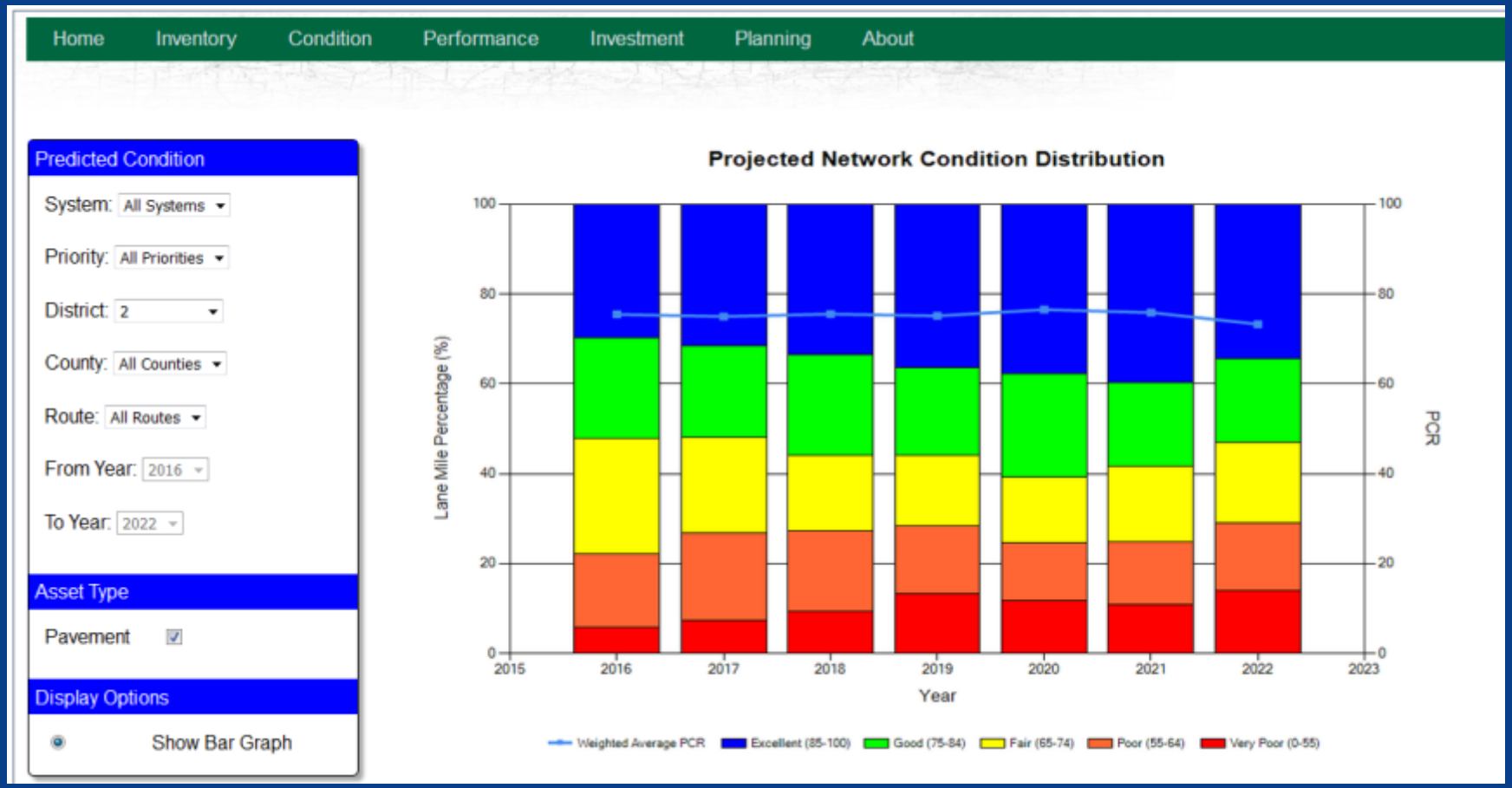
Predicted Condition



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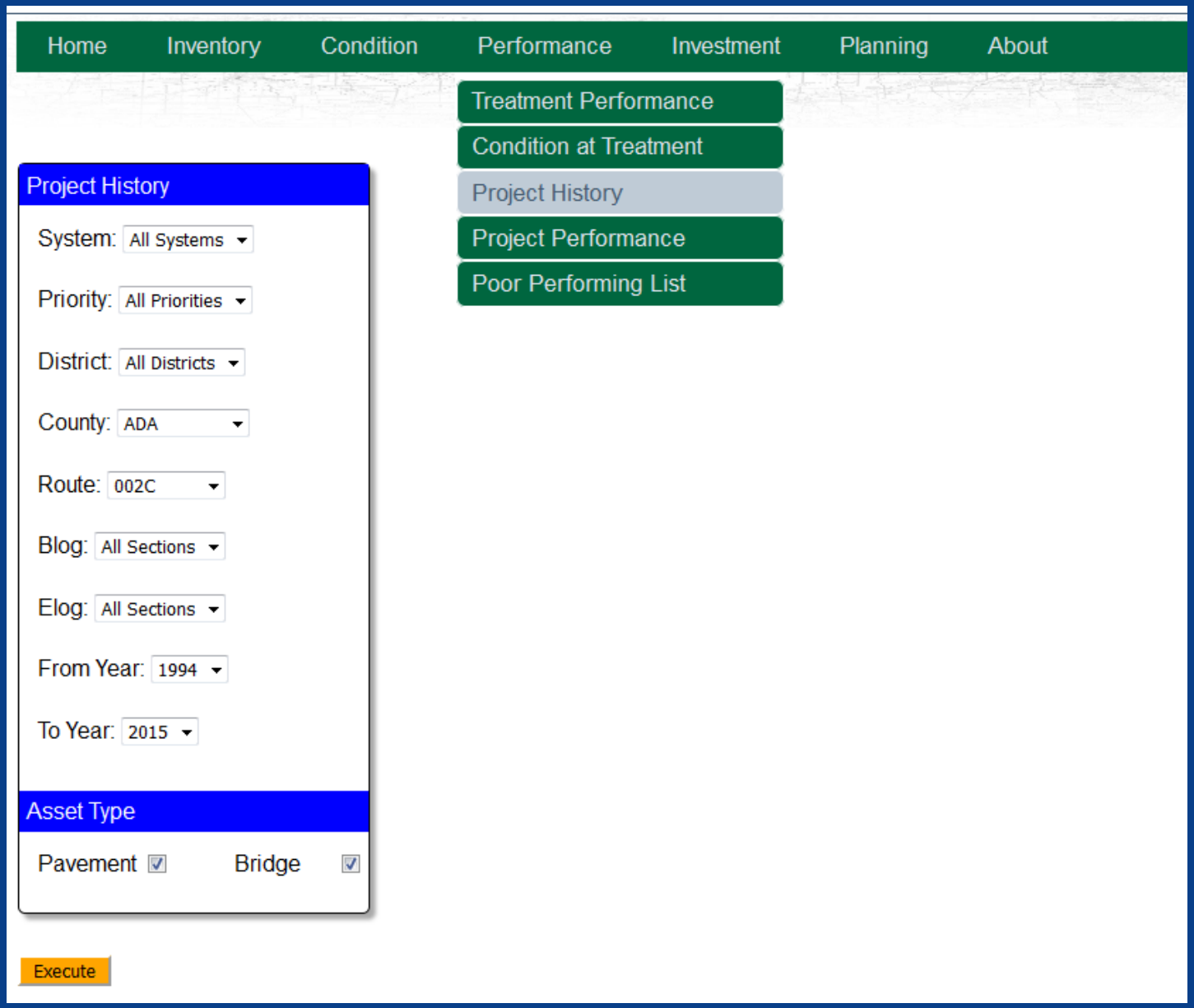
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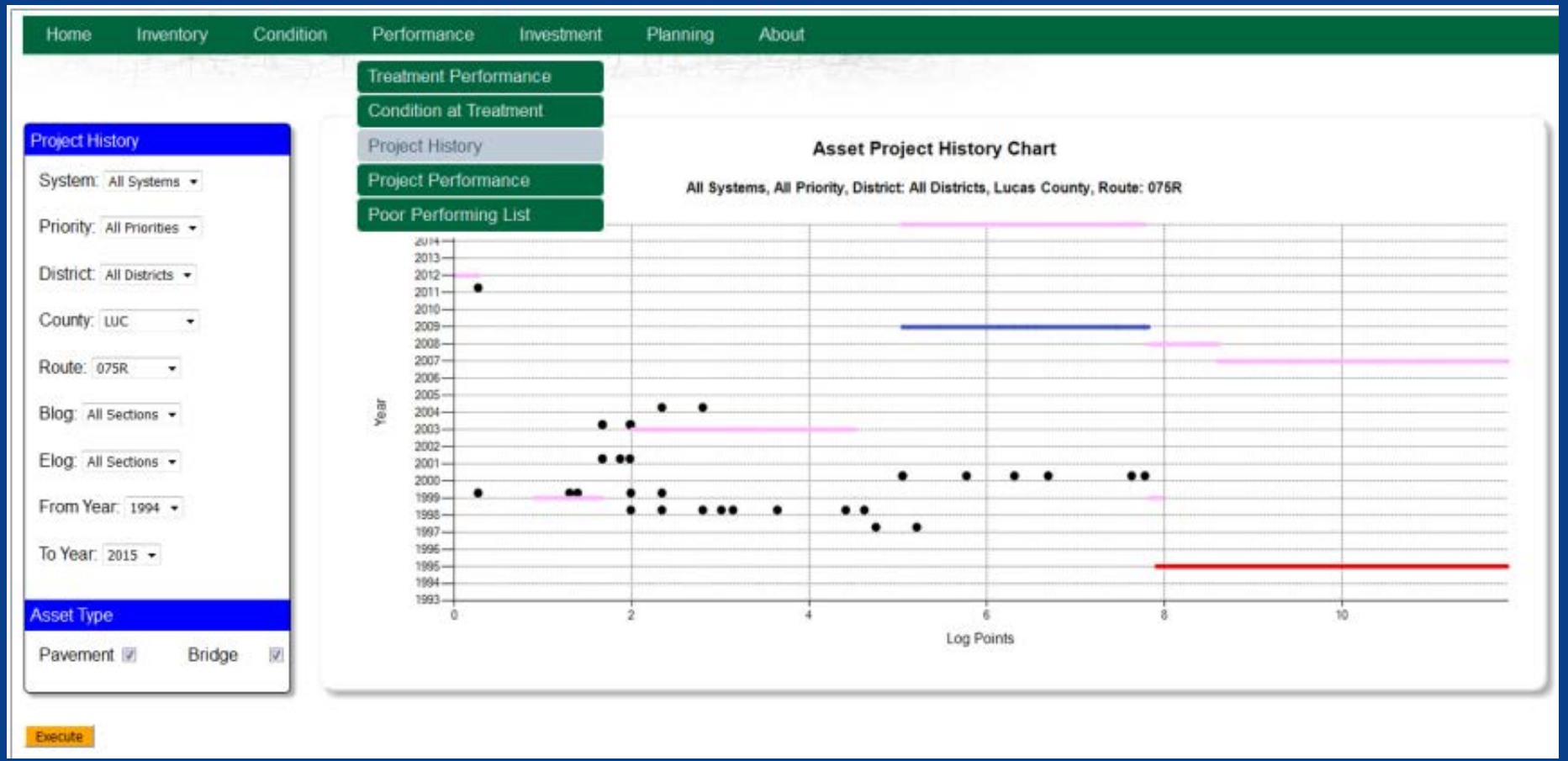
Treatment Performance
Condition at Treatment
Project History
Project Performance
Poor Performing List
Project History
System: All Systems
Priority: All Priorities
District: All Districts
County: ADA
Route: 002C
Blog: All Sections
Elog: All Sections
From Year: 1994
To Year: 2015
Asset Type
Pavement
Bridge
Execute

Project History Plot



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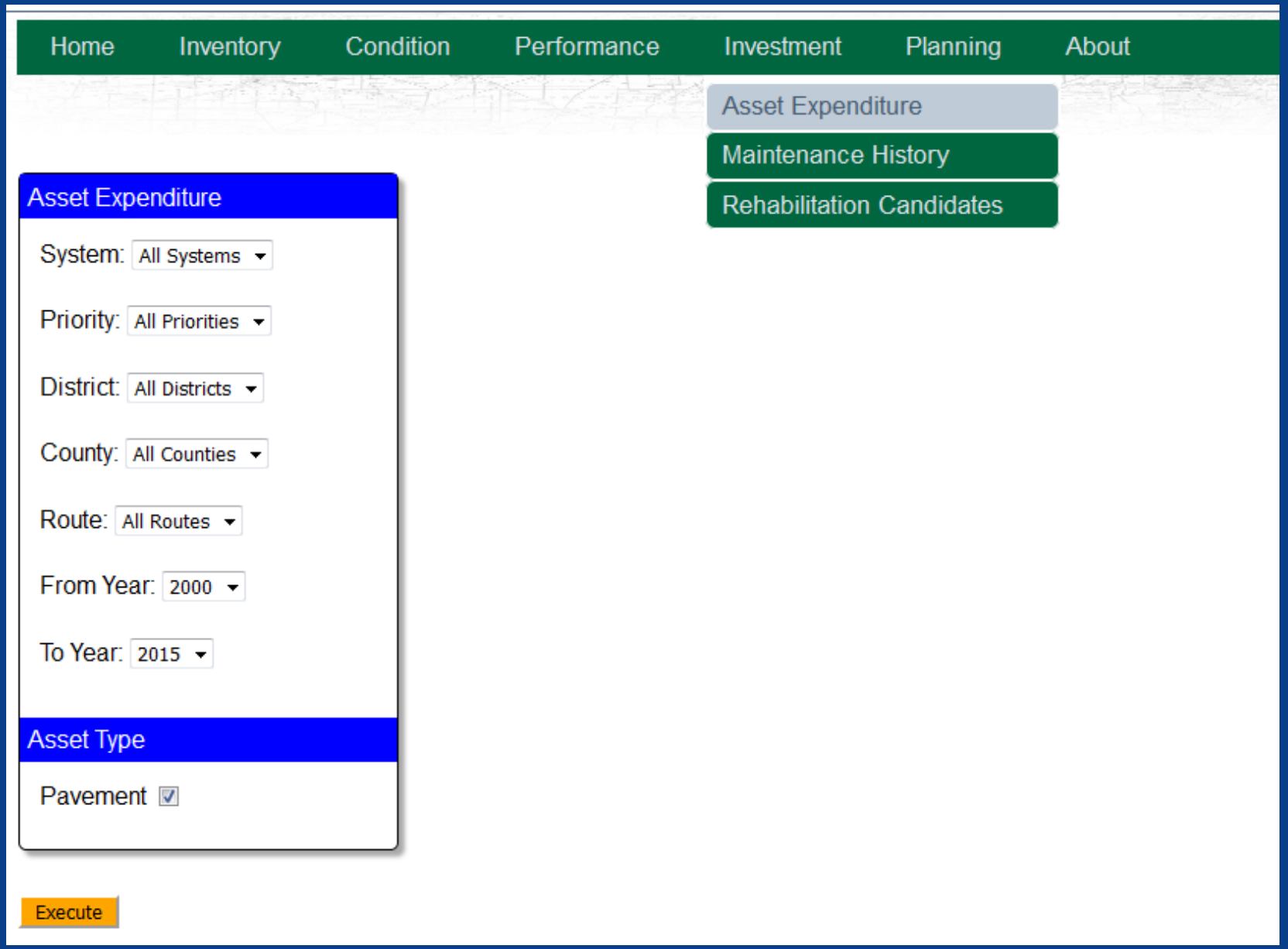
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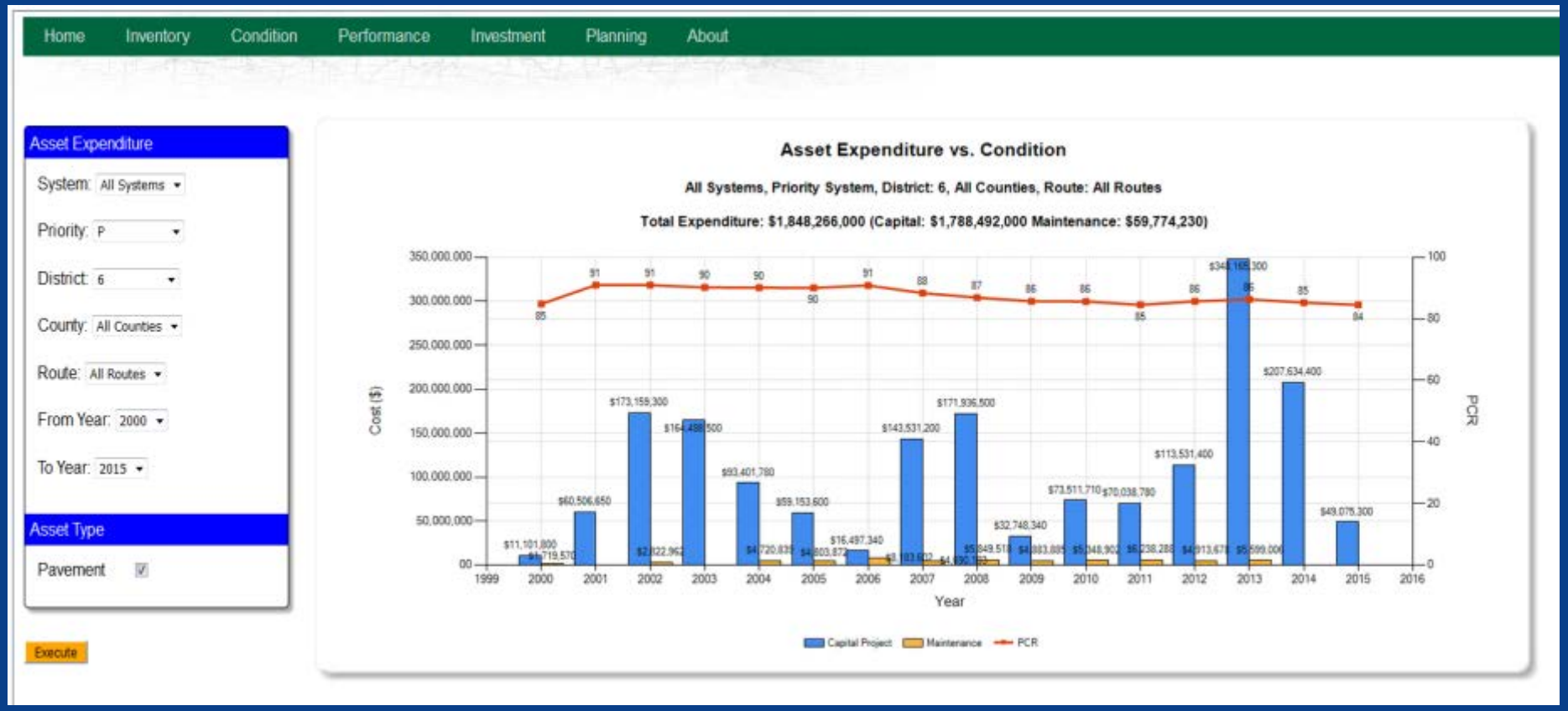
Rehabilitation Candidates
Asset Expenditure
System: All Systems
Priority: All Priorities
District: All Districts
County: All Counties
Route: All Routes
From Year: 2000
To Year: 2015
Asset Type
Pavement
Execute

Asset Expenditures



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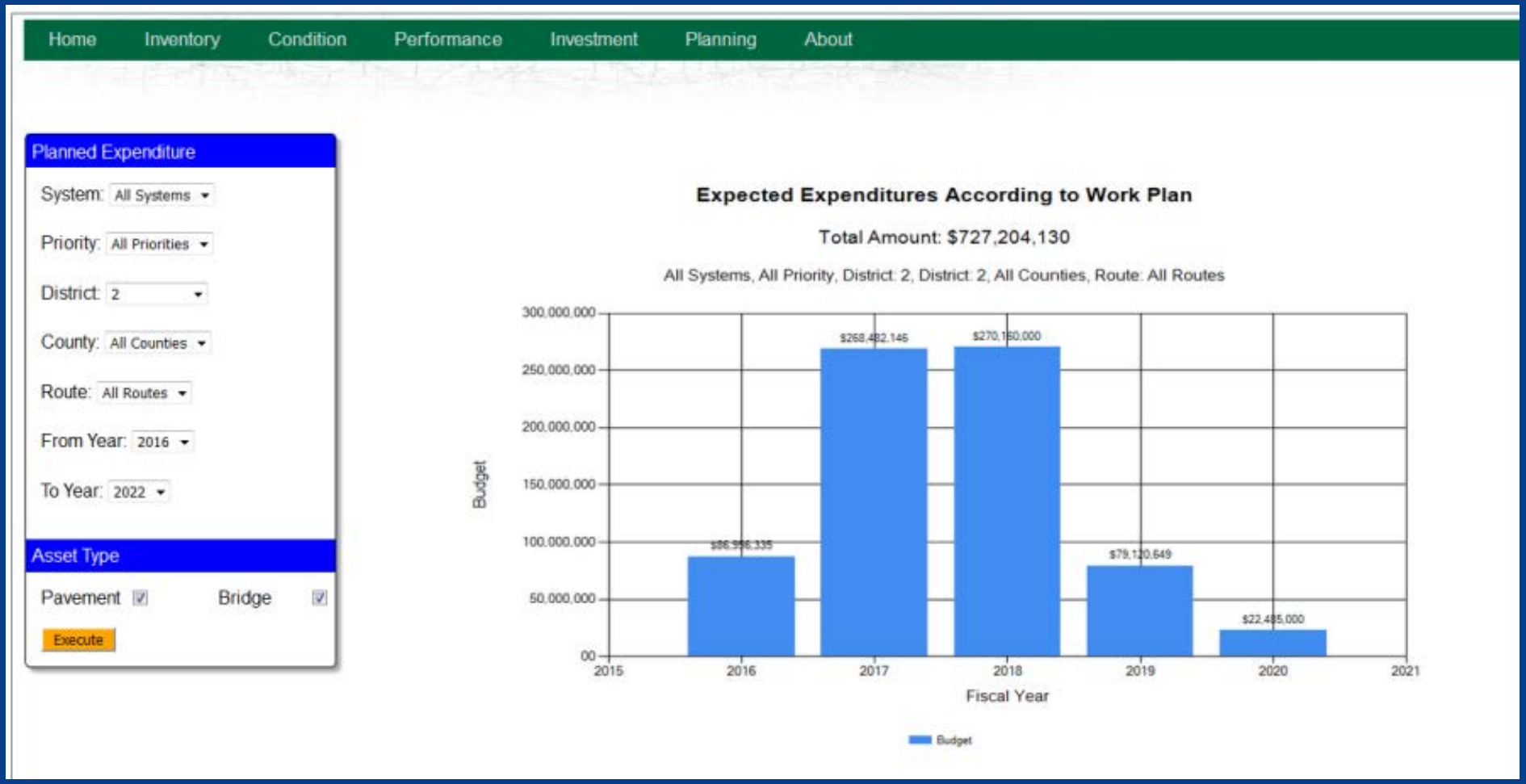
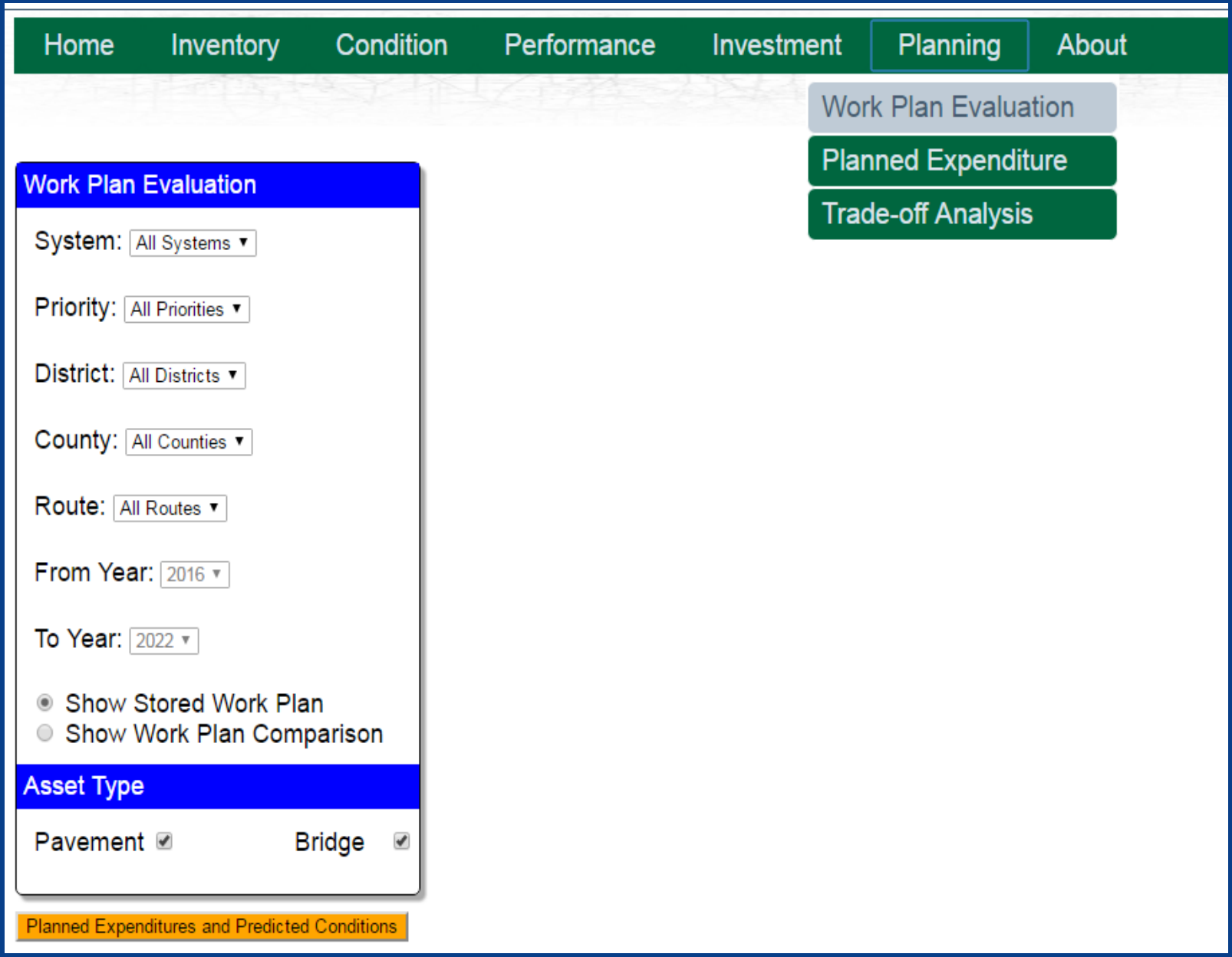
Planned Expenditures

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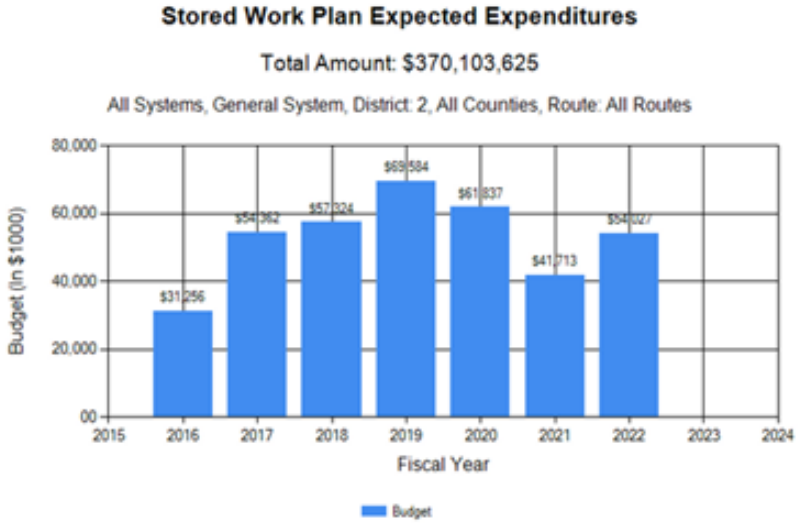
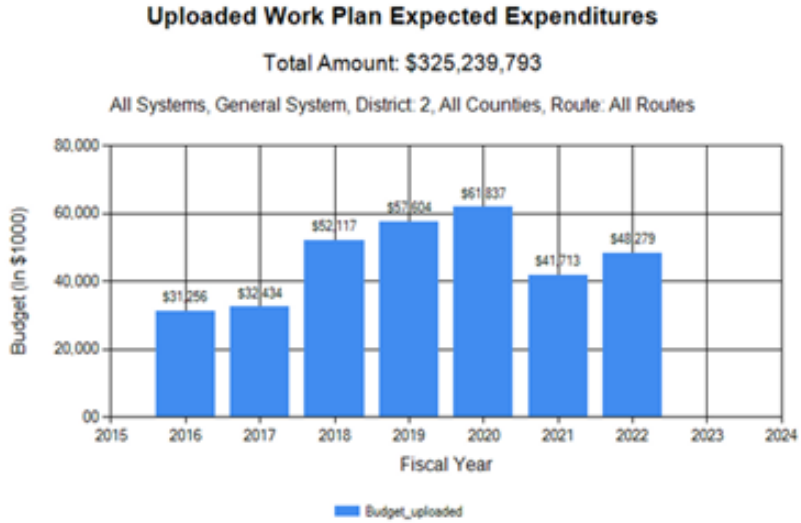
Work Plan Evaluation
Planned Expenditure
Trade-off Analysis
Work Plan Evaluation
System: All Systems
Priority: All Priorities
District: All Districts
County: All Counties
Route: All Routes
From Year: 2016
To Year: 2022
Show Stored Work Plan
Show Work Plan Comparison
Asset Type
Pavement
Bridge
Planned Expenditures and Predicted Conditions

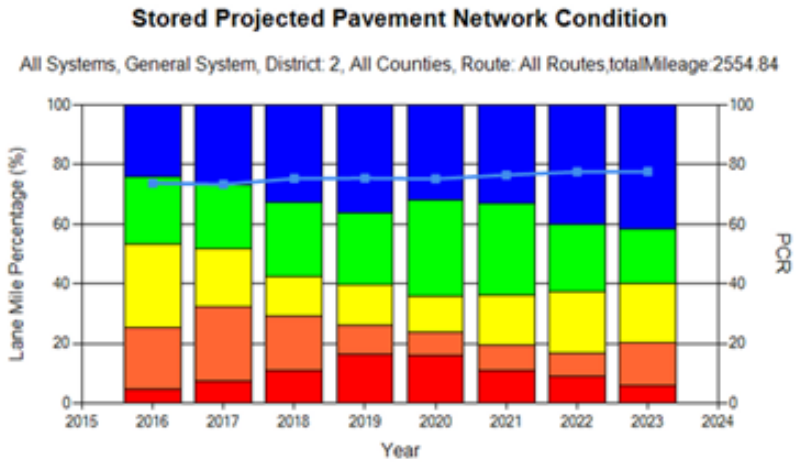
Work Plan Spreadsheet

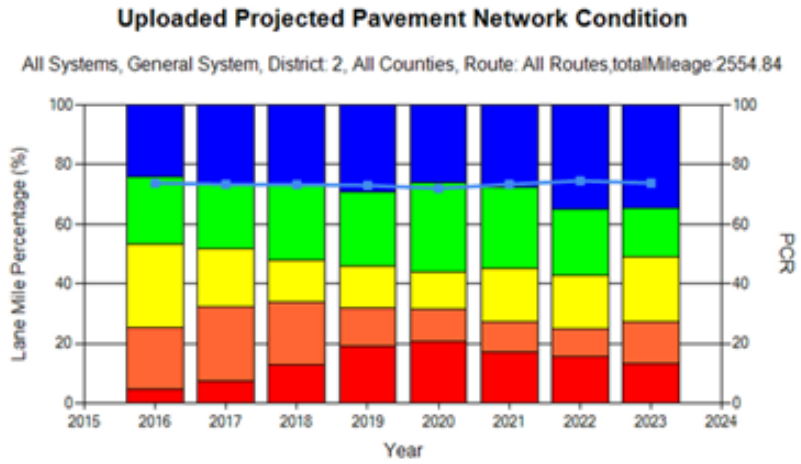
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	District	Award Date	FiscalYear	PID	Estimate	Sale Amou	NLFID	Blog	Elog	MAX Pvmt	Pvmt Trea	SFN	MAX Brdg	Imp PCR	System	Priority
2	1	11/12/2015	2016	84584	$562,119.86	########	SPAUSR00	7.2				6300278	New Construction		SR	G
3	1	10/23/2015	2016	85090	$1,519,699.26	########	SHARSR00	16.93	25.91	Preventiv	60 - AC Overlay with Repairs			98	SR	G
4	1	6/25/2015	2016	88831	$4,117,324.33	########	SHANIR00	8.66	14.09	Minor Reh	60 - AC Overlay with Repairs			98	IR	P
5	1	4/18/2016	2016	88840	$1,226,890.00		SALLSR00(	7.17	7.37	Preventiv	50 - AC Overlay without Repair			98	SR	U
6	1	4/18/2016	2016	88840	$1,226,890.00		SALLSR00(	15.81	16.65	Preventiv	50 - AC Overlay without Repair			98	SR	U
7	1	4/18/2016	2016	88840	$1,226,890.00		SALLSR00(	16.85	17.01	Preventiv	50 - AC Overlay without Repair			98	SR	U
8	1	4/18/2016	2016	88840	$1,226,890.00		SALLSR001	12.73	15.34	Preventiv	60 - AC Overlay with Repairs			98	SR	G
9	1	4/18/2016	2016	88840	$1,226,890.00		SALLSR001	18.75	19.14	Preventiv	60 - AC Overlay with Repairs			98	SR	G
10	1	4/18/2016	2016	88840	$1,226,890.00		SALLSR003	10.98	11.8	Preventiv	50 - AC Overlay without Repair			98	SR	P
11	1	4/5/2016	2016	90849	$8,002,102.26	########	SALLSR003	0	5.77	Preventiv	60 - AC Overlay with Repairs			98	SR	G
12	1	4/5/2016	2016	90849	$8,002,102.26	########	SALLSR003	5.77	8.48	Preventiv	52 - AC Inlay			98	SR	G
13	1	3/31/2016	2016	91942	$1,984,513.40	########	SPUTSR00	3.41	4.85	Preventiv	50 - AC Overlay without Repair			98	SR	G
14	1	3/31/2016	2016	91942	$1,984,513.40	########	SPUTSR00	1.45	7.86	Preventiv	50 - AC Overlay without Repair			98	SR	G
15	1	3/31/2016	2016	91942	$1,984,513.40	########	SPUTSR00	9.58	15.58	Preventiv	50 - AC Overlay without Repair			98	SR	G
16	1	2/2/2016	2016	92830	$1,896,620.22	########	SDEFSR00	5.89	6.24	Preventiv	50 - AC Overlay without Repair			98	SR	U
17	1	10/29/2015	2016	92936	$1,436,123.75	########	SALLSR003	16.74				0201146	New Construction		SR	G

Comparison of Work Plans









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Aggressive Preservation

- Deck sealing
- Bridge cleaning/sweeping
- Crack sealing
- Chip/micro/smooth sealing
- Underdrain clean-outs

Collaboration

- Capital and maintenance under one plan
- Continuous interaction between planning and construction engineers, front line crews and contractors
- Capturing, analyzing and replicating success statewide

Communication

- Fact card
- Website
- Animated video
- Presentation
- District meetings
- 2016 Construction kick-off event
- Communication Plan

ODOT. Taking Care of What We Have.

Most people notice when ODOT builds something new. We actually spend 93% of our time and resources taking care of what we already have. While repair costs have gone up, funding has not. So we must constantly do more with less (what cost ODOT $1 in 2006 now costs $1.56 in 2015). We continue to implement new, smarter ways to improve safety and protect the huge investment in the more than 43,000 miles of roads and 14,000 bridges that ODOT maintains.

Innovators. Again.

ODOT has spent the last 10 years moving to a more data-focused approach to managing and improving our transportation system. Now we are taking another major step forward with little or no additional funding. Our **innovative, three-pronged approach** will allow us to redirect an estimated $300 million toward more preservation over the next six years.

1 **State-of-the-Art Technology for Improved Decision-Making**

- Our Pavement Management System software conducts in-depth analysis of road conditions to determine road resurfacing priorities with the highest benefit at the lowest cost.
- The Transportation Information Mapping System (TIMS) is a robust data source with the latest on ODOT facilities, roads and bridges, airports, ports, transit systems, culverts, safety barriers, railroads, intermodal facilities and much more.

2 **Aggressive Preservation Treatments**

- More chip seal and microsurfacing of roads to extend surface life – at fractions of the cost of conventional overlays.
- Proactively clean and seal bridges to keep the joints, side structures, surfaces and drains in good repair and extend surface life.

3 **More Collaboration**

- Coordinate capital and maintenance work under one plan.
- Continuously interact with our front line crews, contractors and local governments to share information and benefit from their first-hand, practical knowledge.
- Capture, analyze and replicate successes across the state.

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Better Data.
Better Decisions.

Taking Care of What We Have.

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Avoiding This

And that's our innovative approach to

Taking Care of What We Have.

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