Bridge Preservation Performance

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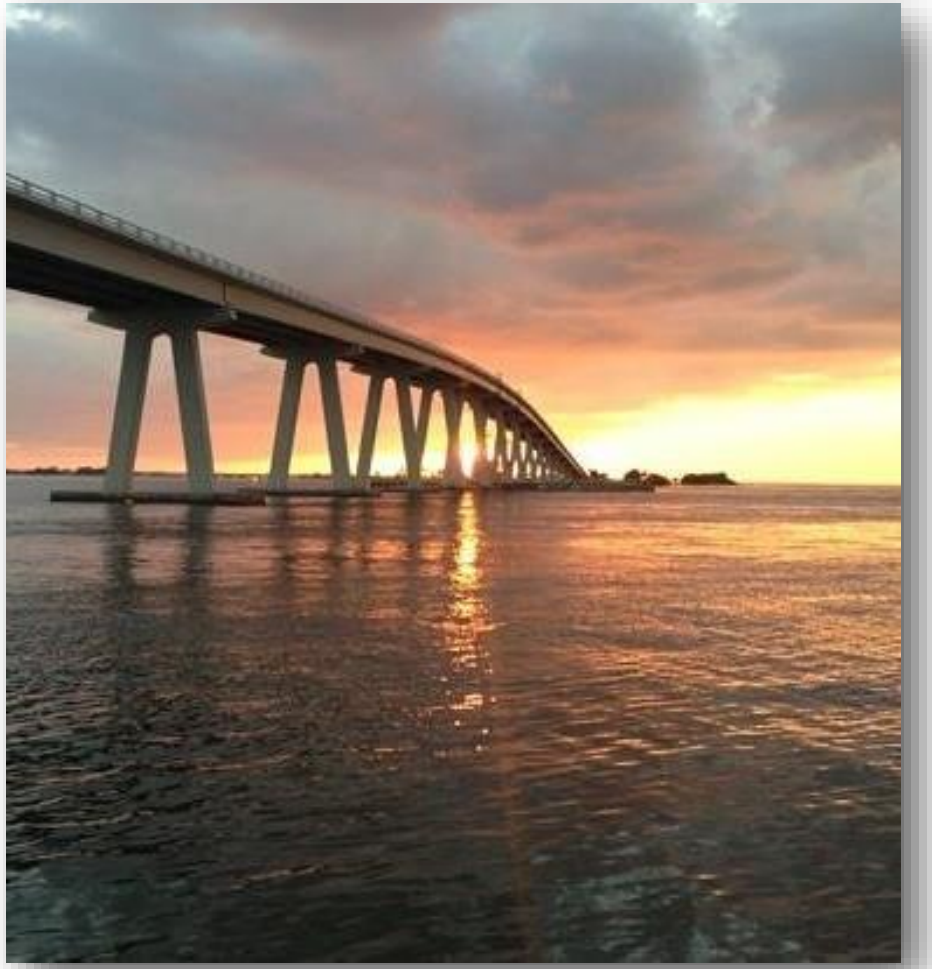
Florida's Turnpike Enterprise

Bridge Performance

- Introduction
- Performance-Based Bridge Preservation
- Preservation Strategy
- Performance Objectives
- Summary

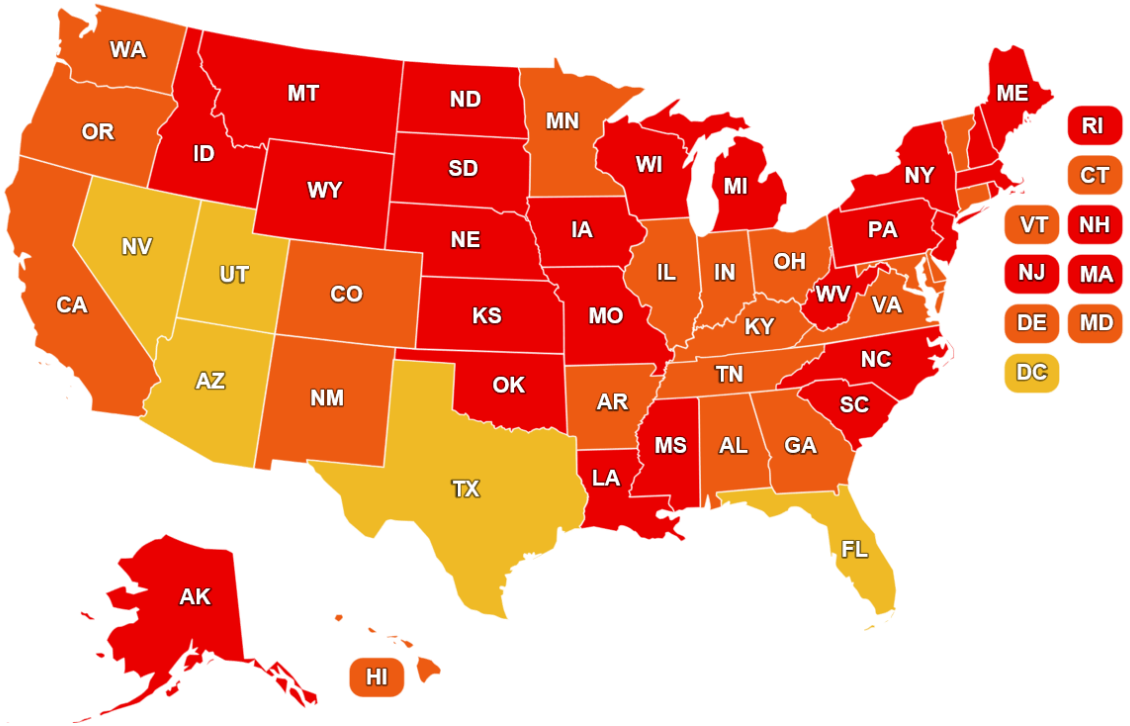


Introduction

- **"There are 174 million daily crossings on 54,259 Structurally Deficient (SD) U.S. bridges"**
  - (American Road & Transportation Builders Association)

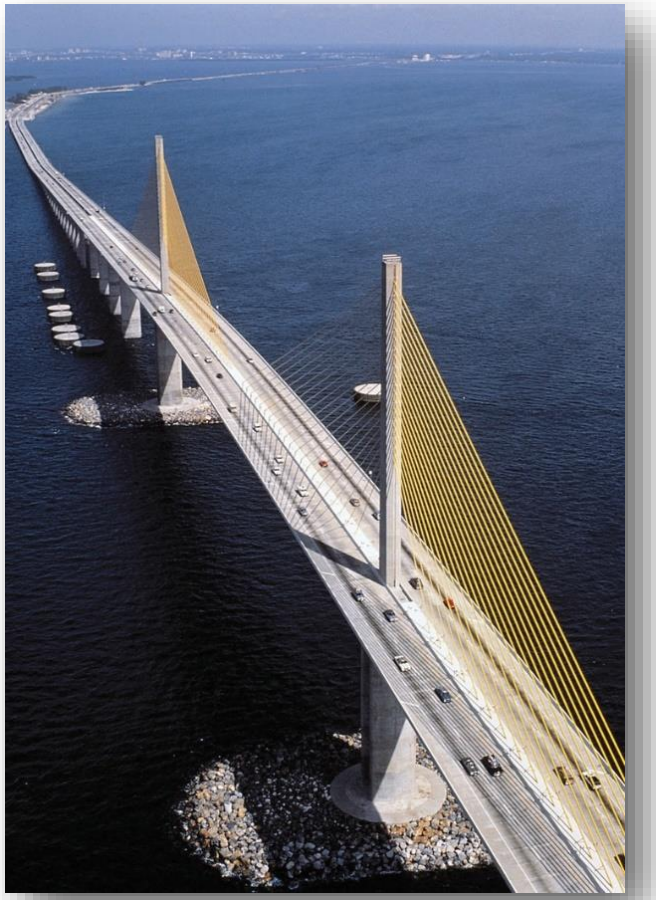
- **"… America's Infrastructure Scores a D+…"**
  - (American Society of Civil Engineers)

- **U.S. – 9.1% SD**

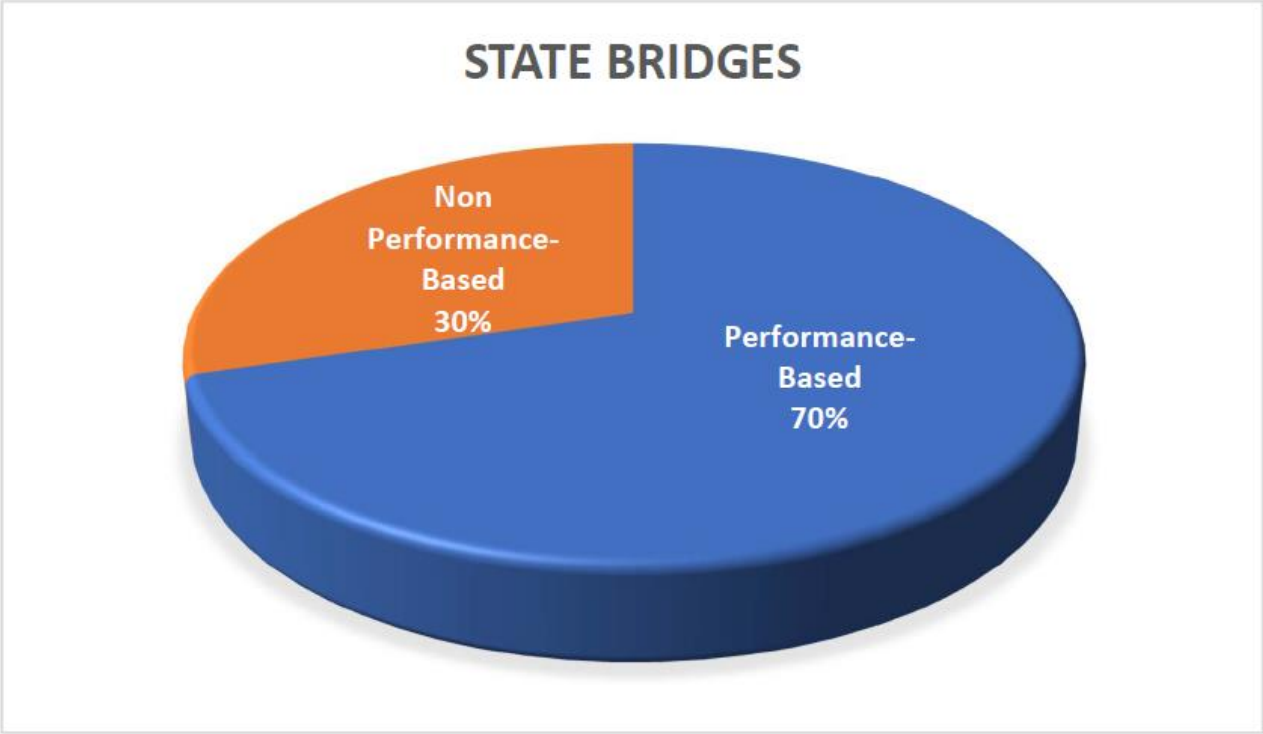


Florida Bridge Preservation

- Performance-Based bridge preservation

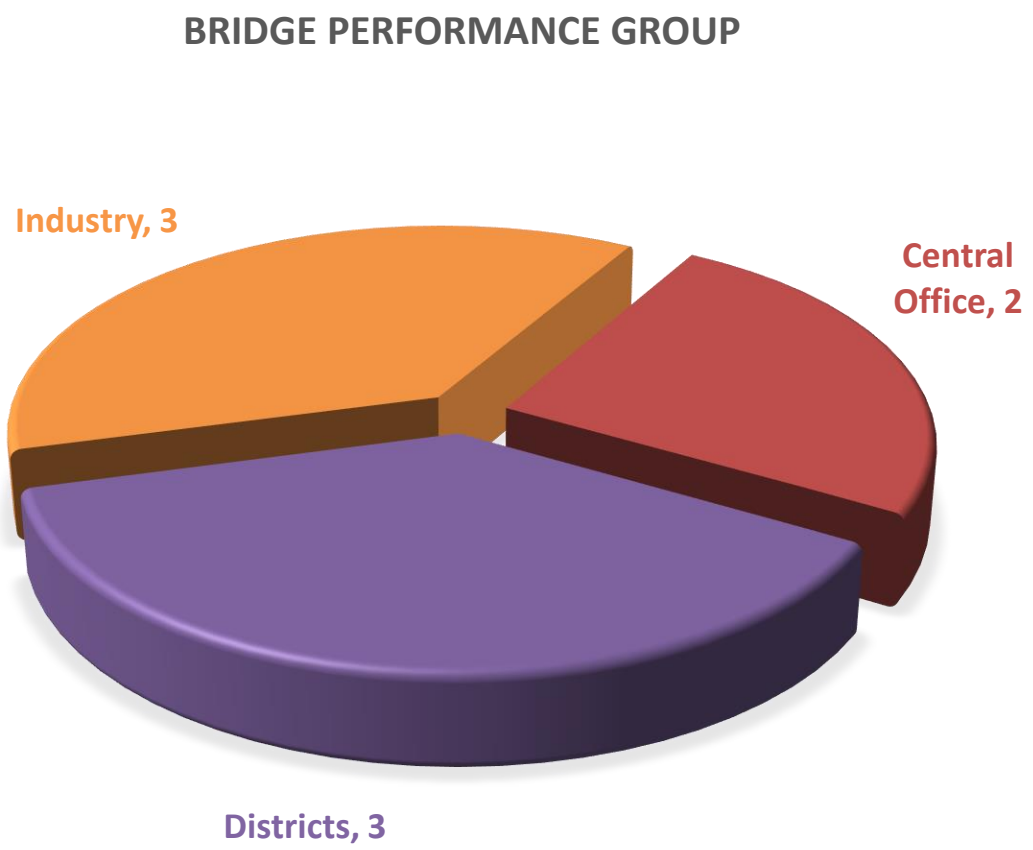


	State Bridges	%
Performance-Based	**4917**	**70%**
Non Performance-Based	2076	30%
Total	6993	100%



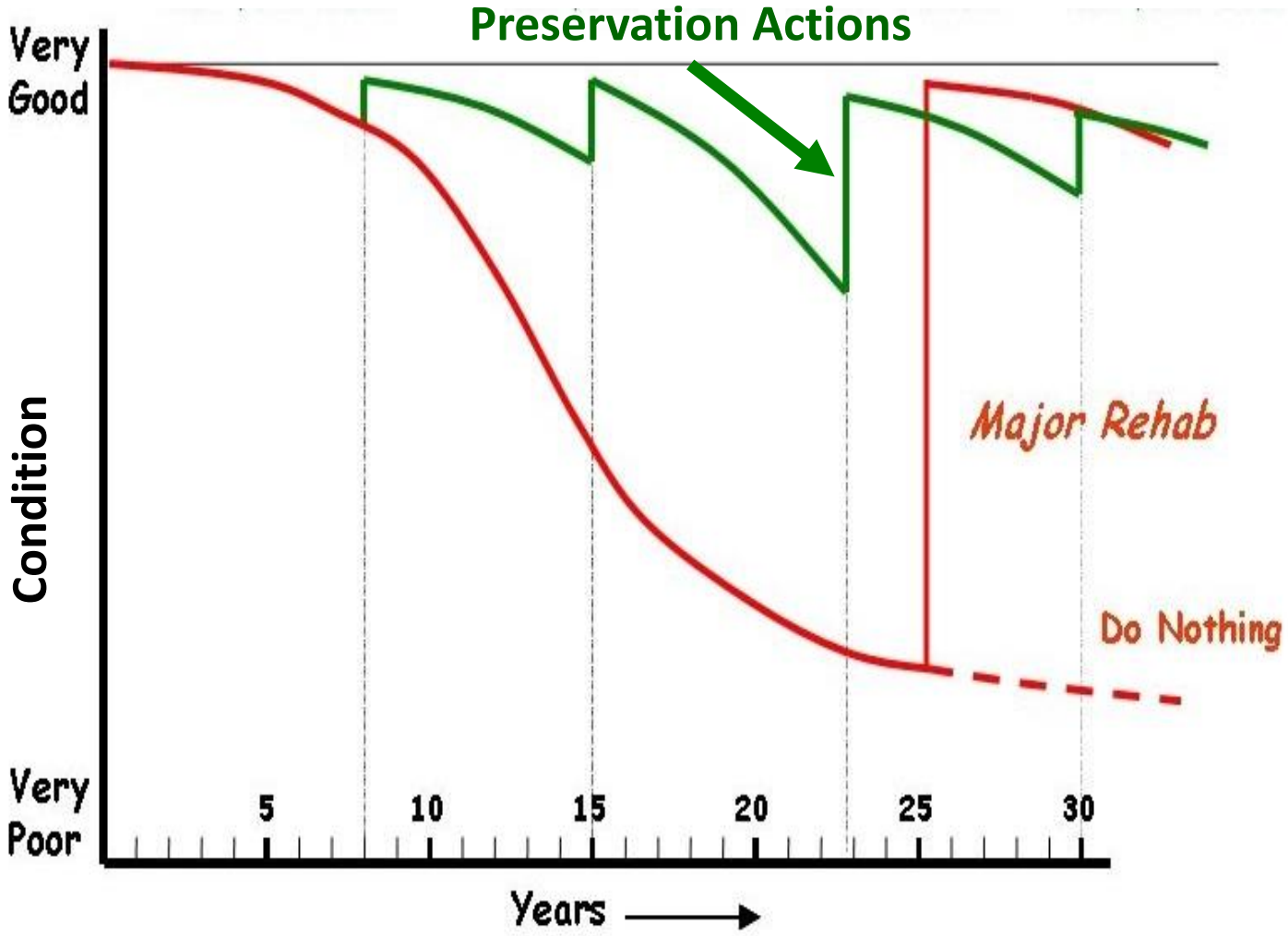
Florida Bridge Preservation

- Representation from CO/Districts/Industry
- Review, research, analyze, and discuss items related to Performance-Based contracting as it relates to bridge performance and condition.
- Provide recommendations for improvement or change



Preservation Strategy

- Do the **Right Things** at the **Right Time**
- Consistently
- Effectively
- Entire Life cycle



Preservation Strategy

Protective Systems:

- Seals (Exp. Joints, etc)
- Coatings
- Wearing Surface
- Bridge Deck
- Others…

Preservation Strategy

Bridge Preservation Strategy:

- Ensure the ***functionality of "Protection Elements"*** over the long term…
- Ensure ***Preservation of "Core/Structural" elements*** throughout entire life of the bridge.

Bridge Inspection – Preservation Performance

Condition States			
1	2	3	4
GOOD	FAIR	POOR	SEVERE

Bridge Inspections:

- Report on Condition (1 to 4 Scale)
- Evaluate Effectiveness of Repairs

Performance Criteria:

- **Condition-Based / Outcome-Driven / Provides Value**
- Incentivize Performance
- Promote Innovation

Performance Objectives

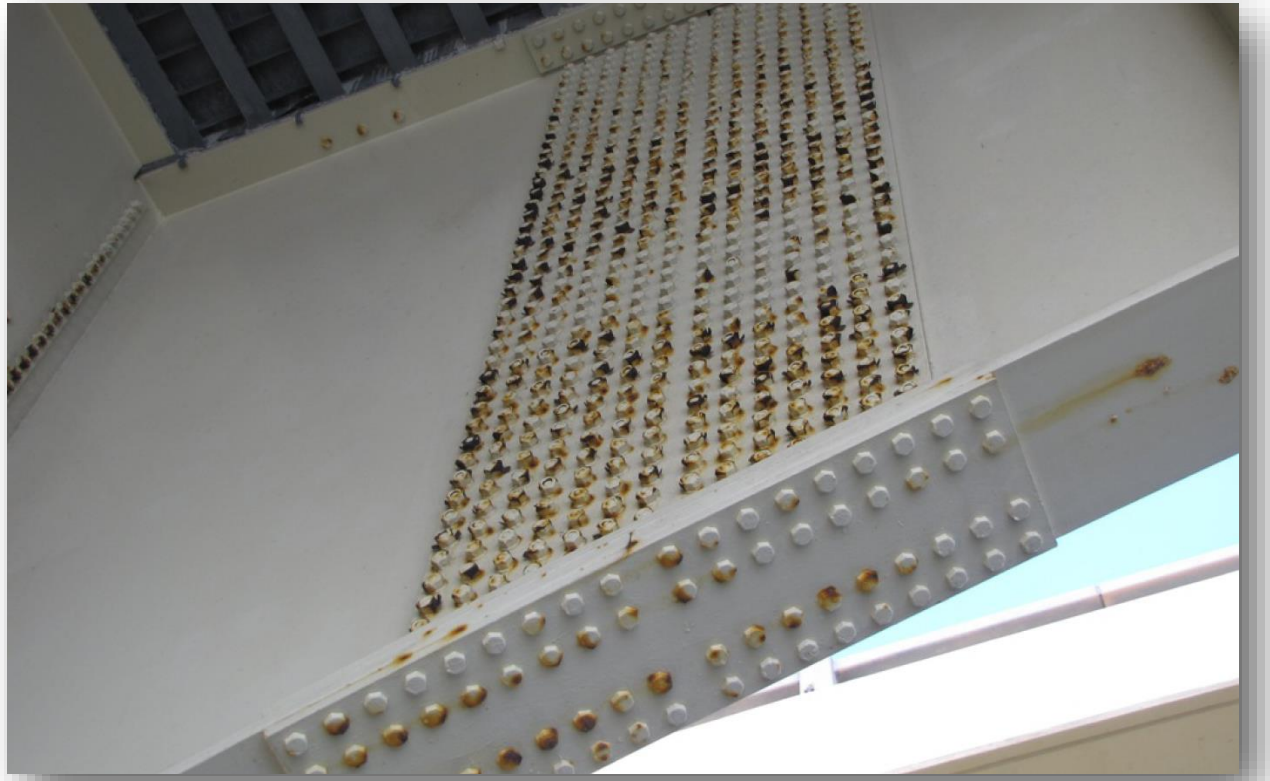
Preservation Performance:

- **Minimize Leakage in Deck Joints:**

Performance Objectives

Preservation Performance:

- **Maximize Effectiveness of Coating Systems:**



Performance Objectives

- **Condition-Based** : Based on Element Condition Data
  - Condition State Information

Condition States			
1	2	3	4
GOOD	FAIR	POOR	SEVERE

  - Defect Criteria

Defect	Condition State 1	Condition State 2	Condition State 3	Condition State 4
	GOOD	**FAIR**	**POOR**	**SEVERE**
Leakage (2310)	None	Minimal, Minor dripping through the joint.	Moderate, More than a drip and less than free flow of water.	Free flow of water through the joint.
Seal Adhesion (2320)	Fully Adhered	Adhered for more than 50% of the joint height.	Adhered 50% or less of joint height but still adhesion.	Complete loss of adhesion.

Performance Objectives

- Bridge Condition Data:
  - Condition State Information – **Ensure Good Quantity**

Performance Objectives

At Least 95% of Deck Area in CS1:

DECK	Defect	Condition State 1	Condition State 2	Condition State 3	Condition State 4	DECK
		GOOD	**FAIR**	**POOR**	**SEVERE**	
	Delamination / Spall / Patched Area (1080)	None	Delaminated. Spall 1 in. or less deep or less than 6 in. diameter. Patched area that is sound.	Spall greater than 1 in. deep or greater than 6 in. diameter. Patched area that is unsound or showing distress. Does not warrant structural review.	The condition warrants a structural review to determine the effect on strength or serviceability of the element or bridge; OR a structural review has been completed and the defects impact strength or serviceability of the element or bridge.	
	Exposed Rebar (1090)	None	Present without measurable section loss.	Present with measurable section loss that does not warrant structural review.		
	Efflorescence / Rust Staining (1120)	None	Surface white without build-up or leaching without rust staining.	Heavy build-up with rust staining		
	Cracking (RC and Other) (1130)	Insignificant cracks or moderate width cracks that have been sealed	Unsealed moderate width cracks or unsealed moderate pattern or map cracking.	Wide cracks or heavy pattern or map cracking.		
	Abrasion / Wear (PSC / RC) (1190)	No abrasion or wearing.	Abrasion or wearing has exposed coarse aggregate but the aggregate remains secure in the concrete	Coarse aggregate is loose or has popped out of the concrete matrix due to abrasion or wear.		

Performance Objectives

At Least 95% of Deck Area in CS1:

(Before Repair)

(After Repair)

- **Outcome-Driven** : Acknowledges Benefits of Repair Activity

Performance Objectives

At Least 95% of Deck Area in CS1/CS2 :

DECK	Defect	Condition State 1	Condition State 2	Condition State 3	Condition State 4	DECK
		GOOD	**FAIR**	**POOR**	**SEVERE**	
	Delamination / Spall / Patched Area (1080)	None	Delaminated. Spall 1 in. or less deep or less than 6 in. diameter. Patched area that is sound.	Spall greater than 1 in. deep or greater than 6 in. diameter. Patched area that is unsound or showing distress. Does not warrant structural review.	The condition warrants a structural review to determine the effect on strength or serviceability of the element or bridge; OR a structural review has been completed and the defects impact strength or serviceability of the element or bridge.	
	Exposed Rebar (1090)	None	Present without measurable section loss.	Present with measurable section loss that does not warrant structural review.		
	Efflorescence / Rust Staining (1120)	None	Surface white without build-up or leaching without rust staining.	Heavy build-up with rust staining		
	Cracking (RC and Other) (1130)	Insignificant cracks or moderate width cracks that have been sealed	Unsealed moderate width cracks or unsealed moderate pattern or map cracking.	Wide cracks or heavy pattern or map cracking.		
	Abrasion / Wear (PSC / RC) (1190)	No abrasion or wearing.	Abrasion or wearing has exposed coarse aggregate but the aggregate remains secure in the concrete	Coarse aggregate is loose or has popped out of the concrete matrix due to abrasion or wear.		

Performance Objectives

At Least 95% of Deck Area in CS1/CS2 :

Performance Objectives

- **Provides Value :** Preserve Bridge / Realize Asset Value Potential
  - Condition State Criteria – **Ensure Good Quantity**

At Least 95% of Deck Area is in CS1/CS2…

  - Defect Criteria – **Minimize Undesirable Defect Scenarios**

… with Less than 1% of Area

including Cracking & Exposed Rebar

Performance Objectives

Reinforced Concrete Deck & Slab Elements:

PM : **At least 95% of Deck Area is in CS1/CS2 with less than 1% of area including Exposed Rebar (1090) and Cracking (1130) defects.**

DECK

Defect	Condition State 1	Condition State 2	Condition State 3	Condition State 4
	GOOD	FAIR	POOR	SEVERE
Delamination / Spall / Patched Area (1080)	None	Delaminated. Spall 1 in. or less deep or less than 6 in. diameter. Patched area that is sound.	Spall greater than 1 in. deep or greater than 6 in. diameter. Patched area that is unsound or showing distress. Does not warrant structural review.	The condition warrants a structural review to determine the effect on strength or serviceability of the element or bridge; OR a structural review has been completed and the defects impact strength or serviceability of the element or bridge.
Exposed Rebar (1090)	None	Present without measurable section loss.	Present with measurable section loss that does not warrant structural review.	
Efflorescence / Rust Staining (1120)	None	Surface white without build-up or leaching without rust staining.	Heavy build-up with rust staining	
Cracking (RC and Other) (1130)	Insignificant cracks or moderate width cracks that have been sealed	Unsealed moderate width cracks or unsealed moderate pattern or map cracking.	Wide cracks or heavy pattern or map cracking.	
Abrasion / Wear (PSC / RC) (1190)	No abrasion or wearing.	Abrasion or wearing has exposed coarse aggregate but the aggregate remains secure in the concrete	Coarse aggregate is loose or has popped out of the concrete matrix due to abrasion or wear.	

DECK

Performance Objectives

Bridge Deck:

Reinforced Concrete Deck & Slab Elements:

PM : At least 95% of Deck Area is in CS1/CS2 with less than 1% of area including Exposed Rebar (1090) and Cracking (1130) defects.

Prestressed Concrete Deck & Slab Elements:

PM : At least 95% of Deck Area is in CS1/CS2 with less than 1% of area including Exposed Rebar (1090), Exposed Prestressing (1100) and Cracking (1110) defects.

Steel Deck Elements:

PM : At least 95% of Deck Area is in CS1/CS2 with less than 1% of area including Corrosion (1000) and Connection (1020) defects.

Timber Deck & Slab Elements:

PM : At least 95% of Deck Area is in CS1/CS2 with less than 1% of area including Connection (1020) defects.

Other Material Deck & Slab Elements:

PM : At least 95% of Deck Area is in CS1/CS2 with less than 1% of area including Corrosion (1000), Connection (1020) or Cracking (1130) defects.

Performance Objectives

Deck Joints:

Deck Joint Elements (Steel Bridges):

PM : At least 95% of Deck Joint length is in CS1/CS2 with less than 1% of length including conditions allowing Leakage (multiple defect types)[1] and Metal Damage (2370) defects.

Deck Joint Elements (All Bridges):

PM : At least 90% of Deck Joint length is in CS1/CS2 with less than 5% of length including Metal Damage (2370) defects.

Steel Protective Coating Systems:

Steel Protective System Elements:

PM : At least 95% of steel protective system area is in CS1/CS2 with less than 1% of area including Peeling / Bubbling / Cracking (3420) and significant Effectiveness (3440)[2] defects.

Performance Objectives

District : 08 Bridge Group : Mult. Excl. Migr? N Data Date: 1/29/2018

Area : Mult.

Reinforced Concrete Deck & Slab Elements:

PM : At least 95% of deck area is in CS1 or CS2 with less than 1% of area including Exposed Rebar (1090) and Cracking (1130) defects.

Elements							Defects					
No.	Description	Quantity	CS1 Good	CS2 Good/Fair	CS3 Poor	CS4 Severe		1080 Spall / Ptch	1090 Exp. Rebar	1120 Effl / Rust	1130 Cracking	1190 Abrasion
								3,054	28	4,975	59,809	67,074
								-	-	-	-	-
								29	-	632	2,644	400
								7	-	-	320	150
								3,090	28	5,607	62,773	67,624
								2%	0.00%	0.06%	0.70%	0.76%

CS1 + CS2 : 8,894,719 99.78% 1090 + 1130 : 62,801 0.70%

District : 08 Bridge Group : Mult.

Area : Mult.

Prestressed Concrete Deck & Slab Elements:

PM : At least 95% of deck area is in CS1 or CS2 with less than 1% of area including Exp. Rebar (1090), Exp. Prestr (1100) and Crckng (1110) defects.

Elements							Defects					
No.	Description	Quantity	CS1 Good	CS2 Good/Fair	CS3 Poor	CS4 Severe	1080 Spall / Ptch	1090 Exp. Rebar	1100 Exp. Prestr.	1110 Cracking	1120 Effl / Rust	1190 Abrasion
13	Pre Concrete Deck	-	-	-	-	-	-	-	-	-	-	-
15	Pre Concrete Top Flange	-	-	-	-	-	-	-	-	-	-	-
8097	PS Conc Slab (Hybrid)	-	-	-	-	-	-	-	-	-	-	-
8099	PS Conc Slab (Sonovoid)	178,644	153,610	24,444	590	-	804	-	-	306	212	1,920
	Totals:	178,644	153,610	24,444	590	-	804	-	-	306	212	1,920
	% of Total Quanty:		85.99%	13.68%	0.33%	0.00%	0.45%	0.00%	0.00%	0.17%	0.12%	1.07%

CS1 + CS2 : 178,054 99.67% 1090 + 1100 + 1110 : 306 0.17%

Steel Deck Elements:

PM : At least 95% of deck area is in CS1 or CS2 with less than 1% of area including Corrosion (1000) and Connection (1020) defects.

Elements							Defects					
No.	Description	Quantity	CS1 Good	CS2 Good/Fair	CS3 Poor	CS4 Severe				1000 Corrosion	1010 Cracking	1020 Connections
28	Steel Deck - Open Grid	-	-	-	-	-				-	-	-
29	Steel Deck - Conc Fill Grid	-	-	-	-	-				-	-	-
30	Steel Deck - Orthotropic	-	-	-	-	-				-	-	-
	Totals:	-	-	-	-	-				-	-	-
	% of Total Quanty:		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				#DIV/0!	#DIV/0!	#DIV/0!

CS1 + CS2 : - #DIV/0! 1000 + 1020 : - #DIV/0!

Performance Objectives

District : 08 | Bridge Group : Mult. | Excl. Migr? N | Data Date: 1/29/2018

Area : Mult.

Reinforced Concrete

Reinforced Concrete Deck & Slab Elements:

PM : At least 95% of deck area is in CS1 or CS2 with less than 1% of area including Exposed Rebar (1090) and Cracking (1130) defects.

Elements							Defects					
No.	Description	Quantity	CS1	CS2	CS3	CS4		1080	1090	1120	1130	1190
			Good	Good/Fair	Poor	Severe		Spall / Ptch	Exp. Rebar	Effl / Rust	Cracking	Abrasion
12	Re Concrete Deck	8,608,757	8,454,888	134,196	19,673	-		2,054	28	4,975	59,809	67,074
16	Re Conc Top Flange	17,068	17,068	-	-	-		-	-	-	-	-
38	Re Concrete Slab	225,400	218,836	6,541	23	-		29	-	632	2,644	400
8098	Conc Deck on PC Panel	63,196	62,719	471	6	-		7	-	-	320	150
	Totals:	8,914,421	8,753,512	141,208	19,702	-		2,090	28	5,607	62,773	67,624
	% of Total Quanty:		98.19%	1.58%	0.22%	0.00%		0.02%	0.00%	0.06%	0.70%	0.76%
		CS1 + CS2 :	8,894,719	99.78%				1090 + 1130 :		62,801	0.70%	

Prestressed Concrete

Prestressed Concrete Deck & Slab Elements:

PM : At least 95% of deck area is in CS1 or CS2 with less than 1% of area including Exp. Rebar (1090), Exp. Prestr (1100) and Crckng (1110) defects.

Elements							Defects					
No.	Description	Quantity	CS1	CS2	CS3	CS4	1080	1090	1100	1110	1120	1190
			Good	Good/Fair	Poor	Severe	Spall / Ptch	Exp. Rebar	Exp. Prestr.	Cracking	Effl / Rust	Abrasion
13	Pre Concrete Deck	-	-	-	-	-	-	-	-	-	-	-
15	Pre Concrete Top Flange	-	-	-	-	-	-	-	-	-	-	-
8097	PS Conc Slab (Hybrid)	-	-	-	-	-	-	-	-	-	-	-
8099	PS Conc Slab (Sonovoid)	178,644	153,610	24,444	590	-	804	-	-	306	212	1,920
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	% of Total Quanty:		85.99%	13.68%	0.33%	0.00%	0.45%	0.00%	0.00%	0.17%	0.12%	1.07%
		CS1 + CS2 :	178,054	99.67%				1090 + 1100 + 1110 :		306	0.17%	

Steel

Steel Deck Elements:

PM : At least 95% of deck area is in CS1 or CS2 with less than 1% of area including Corrosion (1000) and Connection (1020) defects.

Elements							Defects					
No.	Description	Quantity	CS1	CS2	CS3	CS4				1000	1010	1020
			Good	Good/Fair	Poor	Severe				Corrosion	Cracking	Connections
28	Steel Deck - Open Grid	-	-	-	-	-				-	-	-
29	Steel Deck - Conc Fill Grid	-	-	-	-	-				-	-	-
30	Steel Deck - Orthotropic	-	-	-	-	-				-	-	-
	Totals:	-	-	-	-	-				-	-	-
	% of Total Quanty:		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				#DIV/0!	#DIV/0!	#DIV/0!
		CS1 + CS2 :	-	#DIV/0!				1000 + 1020 :		-	#DIV/0!	

Timber

Performance Objectives

District : 08 Bridge Group : Mult. Excl. Migr? N Data Date: 1/29/2018

Area : Mult

Reinforced Concrete Deck & Slab Elements:

PM : At least 95% of deck area is in CS1 or CS2 with less than 1% of area including Exposed Rebar (1090) and Cracking (1130) defects.

Elements							Defects				
No.	Description	Quantity	CS1 Good	CS2 Good/Fair	CS3 Poor	CS4 Severe	1080 Spall / Ptch	1090 Exp. Rebar	1120 Effl / Rust	1130 Cracking	1190 Abrasion
12	Re Concrete Deck	8,608,757	8,454,888	134,196	19,673	-	2,054	28	4,975	59,809	67,074
16	Re Conc Top Flange	17,068	17,068	-	-	-	-	-	-	-	-
38	Re Concrete Slab	225,400	218,836	6,541	23	-	29	-	632	2,644	400
8098	Conc Deck on PC Panel	63,196	62,719	471	6	-	7	-	-	320	150
	Totals:	8,914,421	8,753,512	141,208	19,702	-	2,090	28	5,607	62,773	67,624
	% of Total Quanty:		98.19%	1.58%	0.22%	0.00%	0.02%	0.00%	0.06%	0.70%	0.76%
		CS1 + CS2 :	8,894,719	99.78%				1090 + 1130 :	62,801	0.70%	

Prestressed Concrete Deck & Slab Elements:

of area including Exp. Rebar (1100) and Crckng (1110) defects.

Defects			
	1110 Cracking	1120 Effl / Rust	1190 Abrasion
	-	-	-
	-	-	-
	-	-	-
	306	212	1,920
	306	212	1,920
%	0.17%	0.12%	1.07%
10 :	306	0.17%	

of area including Corrosion (1020) defects.

Defects		
	1000 Corrosion	1010 Cracking	1020 Connections
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	#DIV/0!	#DIV/0!	#DIV/0!
1000 + 1020 :	-	#DIV/0!	

Reinforced Concrete Deck & Slab Elements:

PM : At least 95% of deck area is in CS1 or CS2 with

Elements						
No.	Description	Quantity	CS1 Good	CS2 Good/Fair	CS3 Poor	CS4 Severe
12	Re Concrete Deck	8,608,757	8,454,888	134,196	19,673	-
16	Re Conc Top Flange	17,068	17,068	-	-	-
38	Re Concrete Slab	225,400	218,836	6,541	23	-
8098	Conc Deck on PC Panel	63,196	62,719	471	6	-
	Totals:	8,914,421	8,753,512	141,208	19,702	-
	% of Total Quanty:		98.19%	1.58%	0.22%	0.00%
		CS1 + CS2 :	8,894,719	99.78%		

Performance Objectives

District : 08 Bridge Group : Mult. Excl. Migr? N Data Date: 1/29/2018

Area : Mult.

Reinforced Concrete Deck & Slab Elements:

PM : At least 95% of deck area is in CS1 or CS2 with less than 1% of area including Exposed Rebar (1090) and Cracking (1130) defects.

Elements							Defects				
No.	Description	Quantity	CS1	CS2	CS3	CS4	1080	1090	1120	1130	1190
			Good	Good/Fair	Poor	Severe	Spall / Ptch	Exp. Rebar	Effl / Rust	Cracking	Abrasion
12	Re Concrete Deck	8,608,757	8,454,888	134,196	19,673	-	2,054	28	4,975	59,809	67,074
16	Re Conc Top Flange	17,068	17,068	-	-	-	-	-	-	-	-
38	Re Concrete Slab	225,400	218,836	6,541	23	-	29	-	632	2,644	400
8098	Conc Deck on PC Panel	63,196	62,719	471	6	-	7	-	-	320	150
	Totals:	8,914,421	8,753,512	141,208	19,702	-	2,090	28	5,607	62,773	67,624
	% of Total Quanty:		98.19%	1.58%	0.22%	0.00%	0.02%	0.00%	0.06%	0.70%	0.76%
		CS1 + CS2 :	8,894,719	99.78%			1090 + 1130 :		62,801	0.70%	

Prestressed Concrete Deck & Slab Elements:

PM : At least 95% of deck area is

Elements			
No.	Description	Quantity	CS1
			Good
13	Pre Concrete Deck	-	-
15	Pre Concrete Top Flange	-	-
8097	PS Conc Slab (Hybrid)	-	-
8099	PS Conc Slab (Sonovoid)	178,644	153,610
	Totals:	178,644	153,610
	% of Total Quanty:		85.99%
		CS1 + CS2 :	178,054

Steel Deck Elements:

PM : At least 95% of deck area is

Elements											
No.	Description	Quantity	CS1								
			Good								
28	Steel Deck - Open Grid	-	-								
29	Steel Deck - Conc Fill Grid	-	-								
30	Steel Deck - Orthotropic	-	-								
	Totals:	-	-	-	-	-			-	-	-
	% of Total Quanty:		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			#DIV/0!	#DIV/0!	#DIV/0!
		CS1 + CS2 :	-	#DIV/0!			1000 + 1020 :		-	#DIV/0!	

with less than 1% of area including Exposed Rebar (1090) and Cracking (1130) defects.

Defects				
1080	1090	1120	1130	1190
Spall / Ptch	Exp. Rebar	Effl / Rust	Cracking	Abrasion
2,054	28	4,975	59,809	67,074
-	-	-	-	-
29	-	632	2,644	400
7	-	-	320	150
2,090	28	5,607	62,773	67,624
0.02%	0.00%	0.06%	0.70%	0.76%
1090 + 1130 :		62,801	0.70%	

Performance Objectives

District : 08 **Bridge Group :** Mult. Excl. Migr? N **Data Date :** 1/29/2018

Area : Mult.

General Conditon Information :

	(FDOT)			(FHWA)			
	Min. NBI	# Brdgs	%	Min. NBI	# Brdgs	Deck Area:	%
Excellent	8 to 9	60	9%				
Good	6 to 7	629	91%	7 to 9	575	7,460,279	80%
Fair	5	5	1%	5 to 6	119	1,831,320	20%
Poor	4 or less	0	0%	4 or less	0	-	0%

99% Good / Excellent 80% Good 0% Poor

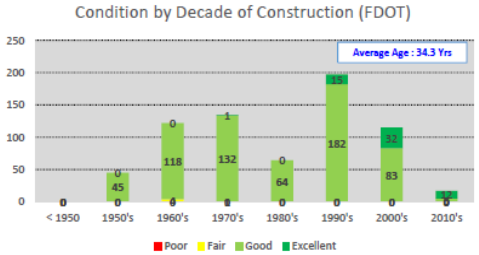
-- ALL BRIDGES --

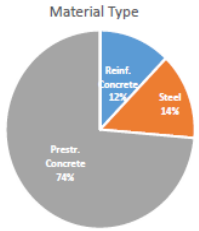
- **Bridges in Selection:**
  - Bridges : 694 (100%)
  - Dk Area : 9,291,599 (100%)
- **SD / FO Bridge Counts:**
  - SD Brdgs: 0 (0%)
  - FO Brdgs: 71 (10%)

Element Conditon Information :

Component	Condition State Criteria			Defect Criteria			Goal Achieved?
	Begin	Current	Goal	Begin	Current	Goal	
		1/29/2018			1/29/2018		
Deck - R/C		99.78%	95%		0.70%	1%	Y
Deck - P/S		99.67%	95%		0.17%	1%	Y
Deck - Steel		N/A	95%		N/A	1%	N/A
Deck - Timber		N/A	95%		N/A	1%	N/A
Deck - Other		N/A	95%		N/A	1%	N/A
Joints (Steel)		97.55%	95%		0.27%	1%	Y
Joints (All)		97.89%	90%		0.01%	5%	Y
Steel Coatings		99.87%	95%		0.13%	1%	Y
(Other)							
(Other)							

Bridge Group Details :





Slab	64	(9%)	Suspension	0	(0%)
Beam / Girder	565	(81%)	Cable-Stayed	0	(0%)
Box Bm	6	(1%)	Movable	0	(0%)
Frame / Ortho	0	(0%)	Tunnel	0	(0%)
Truss	0	(0%)	Culvert	59	(9%)
Arch	0	(0%)	Sgmntal Box	0	(0%)

Performance Exemptions :

Deck	8
Joints (Stl)	8
Joints (All)	8
Coatings	9
Other	8

Performance Objectives

District : 08 Bridge Group : Mult.
Area : Mult.

District : 08 Bridge Group : Mult.
Area : Mult.

Excl. Migr? N Data Date : 1/29/2018

General Conditon Information :

	(FDOT)			(FHWA)			
	Min. NBI	# Brdgs	%	Min. NBI	# Brdgs	Deck Area:	%
Excellent	8 to 9	60	9%				
Good	6 to 7	629	91%	7 to 9	575	7,460,279	80%
Fair	5	5	1%	5 to 6	119	1,831,320	20%
Poor	4 or less	0	0%	4 or less	0	-	0%

80% Good 0% Poor

-- ALL BRIDGES --

- **Bridges in Selection:**
  - Bridges : 694 (100%)
  - Dk Area : 9,291,599 (100%)
- **SD / FO Bridge Counts:**
  - SD Brdgs: 0 (0%)
  - FO Brdgs: 71 (10%)

				Defect Criteria			
				Begin	Current 1/29/2018	Goal	Goal Achieved?
Deck - R/C		99.78%	95%		0.70%	1%	Y
Deck - P/S		99.67%	95%		0.17%	1%	Y
Deck - Steel		N/A	95%		N/A	1%	N/A
Deck - Timber		N/A	95%		N/A	1%	N/A
Deck - Other		N/A	95%		N/A	1%	N/A
Joints (Steel)		97.55%	95%		0.27%	1%	Y
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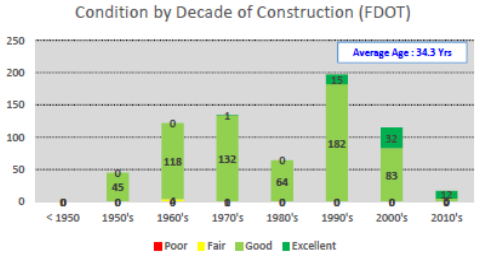
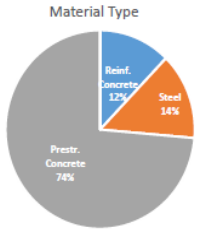
Steel Coatings		99.87%	95%		0.13%	1%	Y
(Other)							
(Other)							

Bridge Group Details :





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Beam / Girder	565	(81%)	Cable-Stayed	0	(0%)
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Truss	0	(0%)	Culvert	59	(9%)
Arch	0	(0%)	Sgmntal Box	0	(0%)

Performance Exemptions :

Deck	8
Joints (Stl)	8
Joints (All)	8
Coatings	9
Other	8

Performance Objectives

District : 08 | Bridge Group : Mult. | Area : Mult. | Excl. Migr? N | Data Date : 1/29/2018

General Conditon Information :

	(FDOT)			(FHWA)			
	Min. NBI	# Brdgs	%	Min. NBI	# Brdgs	Deck Area:	%
Excellent	8 to 9	60	9%				
Good	6 to 7	629	91%	7 to 9	575	7,460,279	80%
Fair	5	5	1%	5 to 6	119	1,831,320	20%
Poor	4 or less	0	0%	4 or less	0	-	0%

99% Good / Excellent 80% Good 0% Poor

-- ALL BRIDGES --

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  - Bridges : 694 (100%)
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- **SD / FO Bridge Counts:**
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Element Conditon Information :

Component	Condition State Criteria			Defect Criteria			Goal Achieved?
	Begin	Current	Goal	Begin	Current	Goal	
		1/29/2018			1/29/2018		
Deck - R/C		99.78%	95%		0.70%	1%	Y
Deck - P/S		99.67%	95%		0.17%	1%	Y
Deck - Steel		N/A	95%		N/A	1%	N/A
Deck - Timber		N/A	95%		N/A	1%	N/A
Deck - Other		N/A	95%		N/A	1%	N/A
Joints (Steel)		97.55%	95%		0.27%	1%	Y

General Conditon Information :

	(FDOT)			(FHWA)			
	Min. NBI	# Brdgs	%	Min. NBI	# Brdgs	Deck Area:	%
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Poor Fair Good Excellent

Slab	64	(9%)	Suspension	0	(0%)
Beam / Girder	565	(81%)	Cable-Stayed	0	(0%)
Box Bm	6	(1%)	Movable	0	(0%)
Frame / Ortho	0	(0%)	Tunnel	0	(0%)
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Arch	0	(0%)	Sgmntal Box	0	(0%)

Performance Exemptions :

Deck	8
Joints (Stl)	8
Joints (All)	8
Coatings	9
Other	8

Performance Objectives

District : 08 Bridge Group : Mult. Excl. Migr? N Data Date : 1/29/2018

Area : Mult.

General Conditon Information : -- ALL BRIDGES --

(FDOT) (FHWA) • Bridges in Selection:

Element Conditon Information :

Component	Condition State Criteria			Defect Criteria			Goal Achieved?
	Begin	Current	Goal	Begin	Current	Goal	
		1/29/2018			1/29/2018		
Deck - R/C		99.78%	95%		0.70%	1%	Y
Deck - P/S		99.67%	95%		0.17%	1%	Y
Deck - Steel		N/A	95%		N/A	1%	N/A
Deck - Timber		N/A	95%		N/A	1%	N/A
Deck - Other		N/A	95%		N/A	1%	N/A
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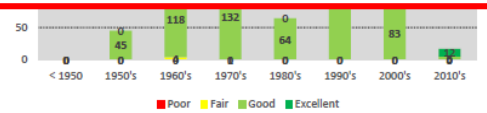

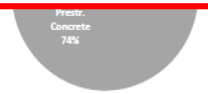

Slab	64	(9%)	Suspension	0	(0%)		
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District : 08 | Bridge Group : Mult. | Area : Mult. | Excl. Migr? N | Data Date : 1/29/2018

General Conditon Information :

	(FDOT)		(FHWA)		
	Min. NBI	# Brdgs	Deck Area:	%	
	7 to 9	575	7,460,279	80%	
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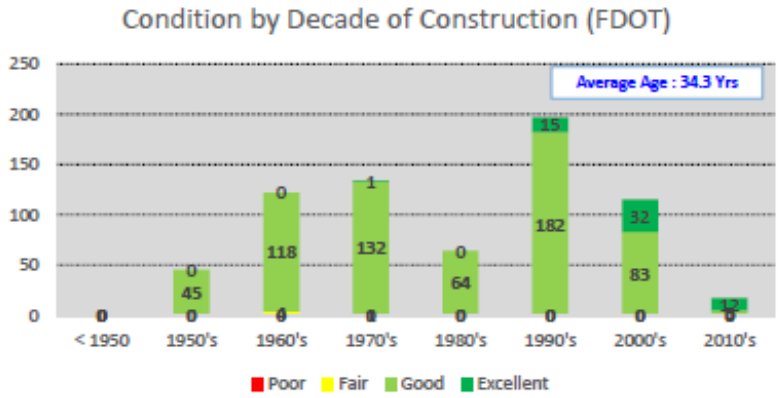
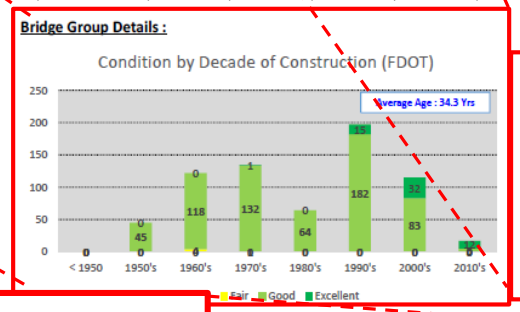
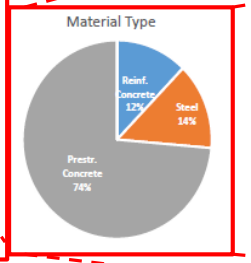
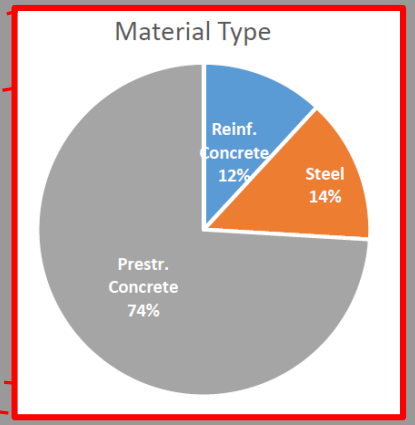
Criteria		Defect Criteria			
	Goal	Begin	Current	Goal	Goal Achieved?
8			1/29/2018		
	95%		0.70%	1%	Y
	95%		0.17%	1%	Y
	95%		N/A	1%	N/A
	95%		N/A	1%	N/A
	95%		N/A	1%	N/A
	95%		0.27%	1%	Y
	90%		0.01%	5%	Y
	95%		0.13%	1%	Y
(Other)					

Bridge Group Details :









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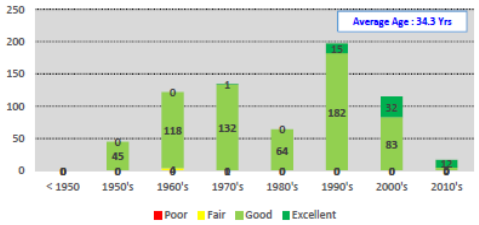
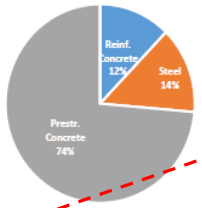
Steel Coatings		99.87%	95%		0.13%	1%	Y
(Other)							
(Other)							

Bridge Group Details :

Condition by Decade of Construction (FDOT)



Material Type



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Performance-Based Bridge Preservation

Condition-Based / Outcome-Driven / Provides Value

- Deck Systems
- Expansion Joints
- Steel Coatings
- Others…

Performance Measures…

- Incentivize Preservation Performance
- Competition Promotes Innovation

Aran Lessard, PE

Structures Maintenance Engineer

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(954) 934-1234