



MAINTENANCE AND OPERATIONS COMPREHENSIVE REVIEW INTERIM BRIEFING

 Kevin Gregg, Chief of Maintenance and Operations

July 19, 2022

Maintenance and Operations Program Comprehensive Review

Why?

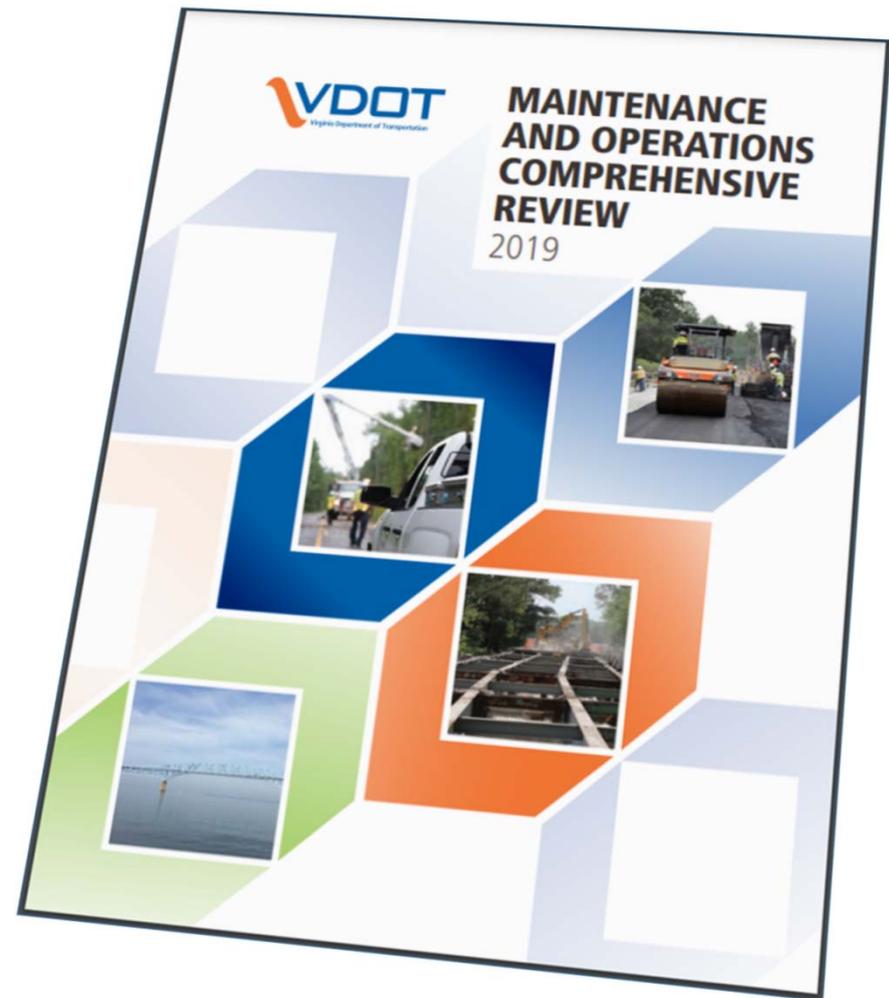
Commissioner of Highways – business focus
Impact on future generations
Back to basics

Investment Strategy – Long-Term Sustainable Performance of Assets

Pavements (20 Year)
Bridges (50 Year)
Special Structures
Routine Maintenance

Investments

Maintenance and Operations Program
State of Good Repair Program



Structures

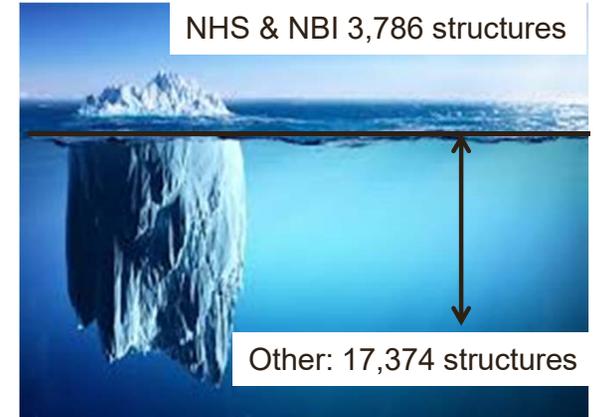
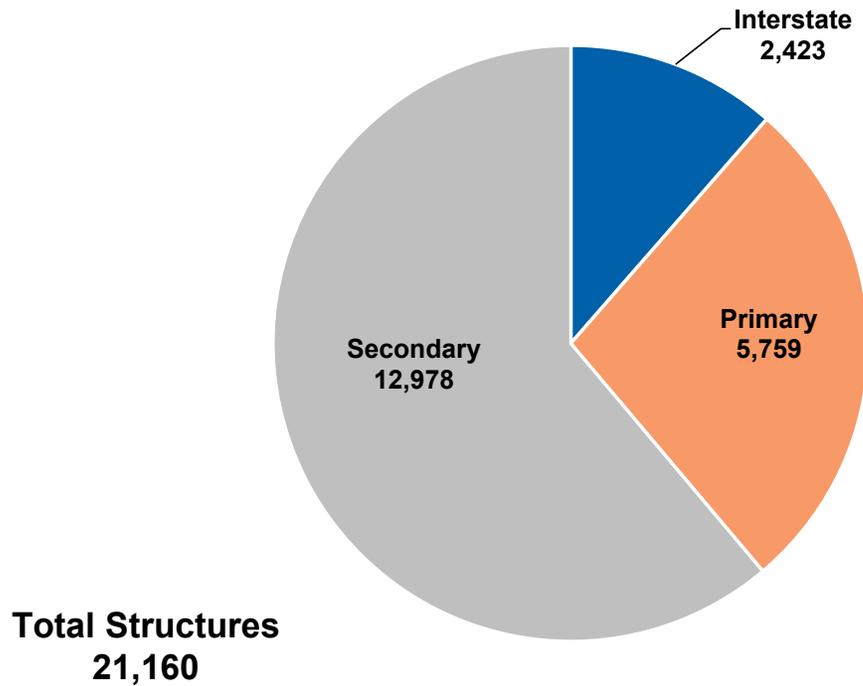


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Bridge Inventory

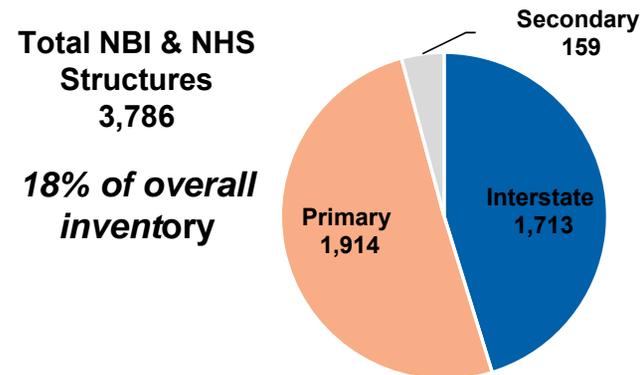
Virginia: 3rd Largest State-Maintained Bridge Inventory

All Virginia Structures by Highway System



- NBI = Bridges on National Bridge Inventory (>20')
- NHS= National Highway System

Count of Structures Associated with Federal Performance Measures (NBI Bridges on the NHS)



Structure Inspection & Assessment Process

FRAZER, BRETT

Bridge: [5416270-000000000] Facility Carried (007): RAMBLE ROAD Inspection: 2016-07-06 (MHS) Type: Regular NBI Metric English

Inspection > Condition

Condition Ratings

Deck (058): N N/A (NBI) Channel (061): 7 Minor Damage Validate NBI Converter Profile: B/M Default
 Superstructure (059): N N/A (NBI) Culvert (062): 8 No Major Problem Calculate SR
 Substructure (060): N N/A (NBI) Waterway (071): 8 Equal Desirable Calculate NBI
 Unrepaired Spalls: (SF)

Element Conditions

Hide Elem Inspection Details Arrow Key Grid Navigation Help

Element: Elem # or Elem Desc, Struct. Unit.: All Env.: All Clear Filters Quantity Percent Add Element

Elem.	Str. Unit.	Env.	Element Description	Tot. Qty.	Units	Qty1	Qty2	Qty3	Qty4			
241	1	Low (2)	Re Conc Culvert	76	ft	79,000	0	0	0	🟢	🔪	✖
824	1	Low (2)	RC Wingwall	4	(EA)	4,000	0	0	0	🟢	🔪	✖
831	1	Low (2)	Culvert End/Headwall	2	(EA)	2,000	0	0	0	🟢	🔪	✖
833	1	Low (2)	Roadway Ov. Culv.	1	(EA)	1,000	0	0	0	🟢	🔪	✖
854	1	Low (2)	Channel	1	(EA)	1,000	0	0	0	🟢	🔪	✖

2 year cycle

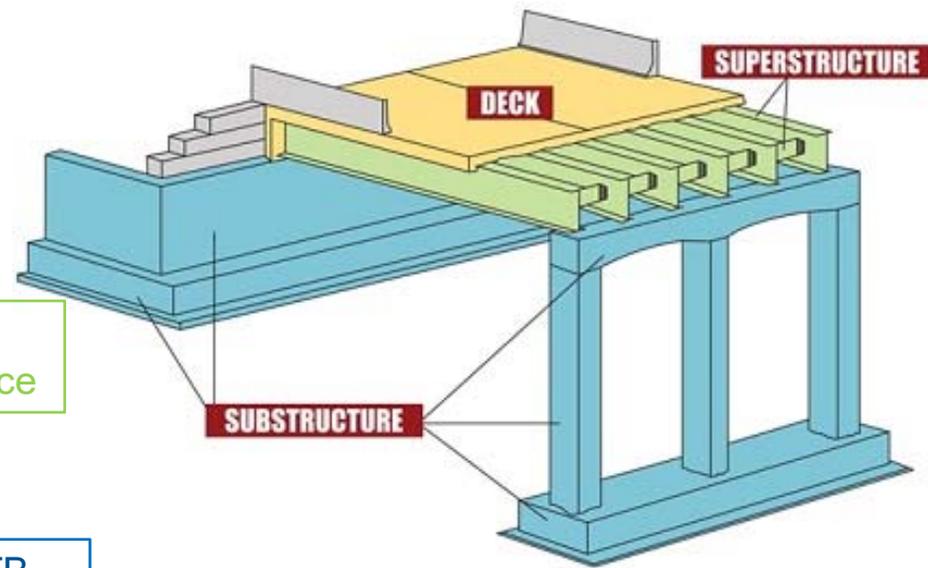


Bridge Rating – General Condition Ratings (GCRs)

Condition Category	General Condition Rating (GCR)	Description
Good	9	Excellent
	8	Very Good
	7	Good
Fair	6	Satisfactory
	5	Fair
Poor (Structurally Deficient)	4	Poor
	3	Serious
	2	Critical
	1	Imminent Failure
	0	Failed

Average 6.25 = Current Performance

Average 5.6 = CTB Approved Target



Components of a Bridge

Examples of Good, Fair, and Poor Bridges

Good



Fair on the "CUSP" of Poor



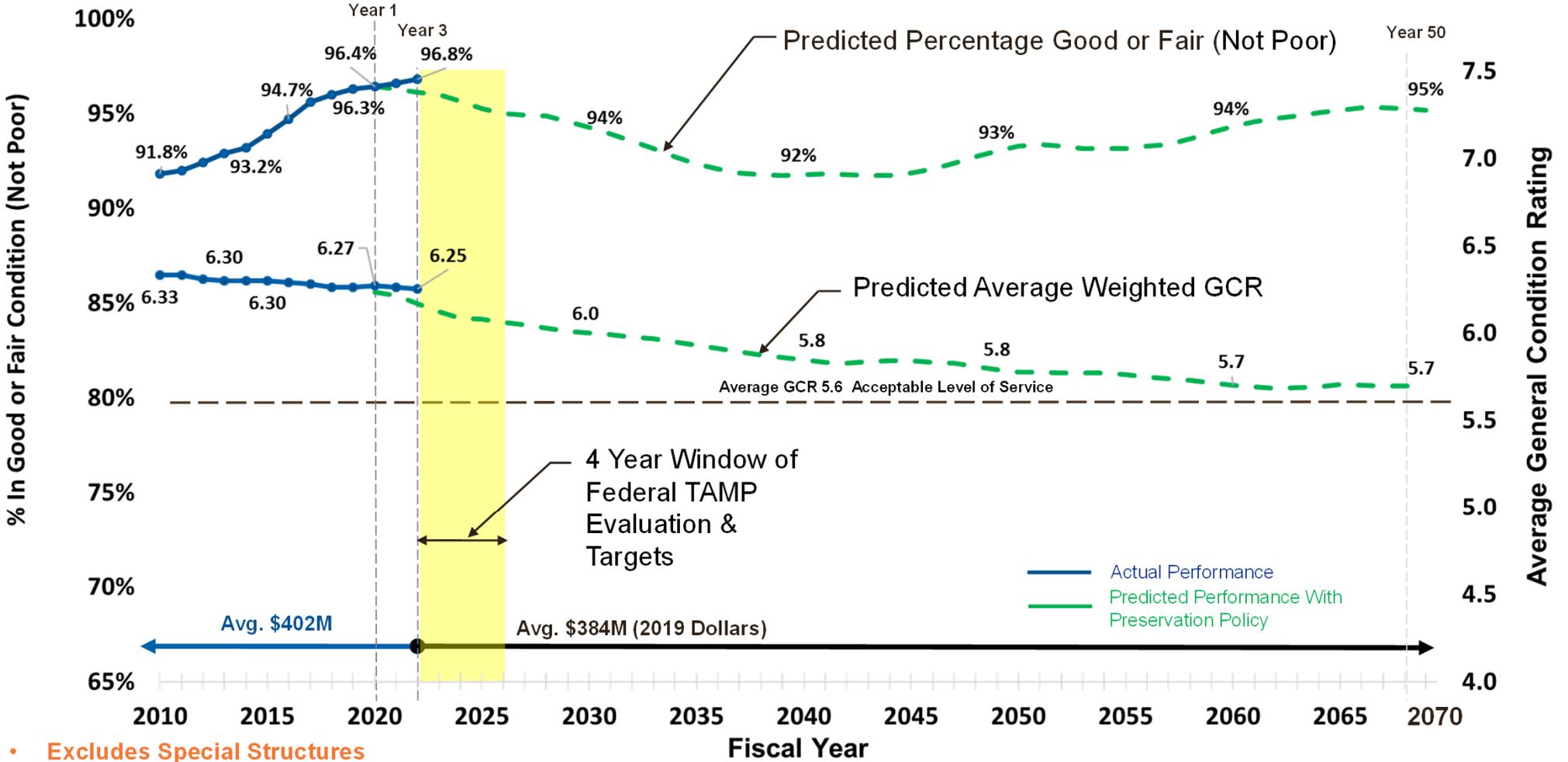
Poor (Structurally Deficient)



Structures - Performance Measures

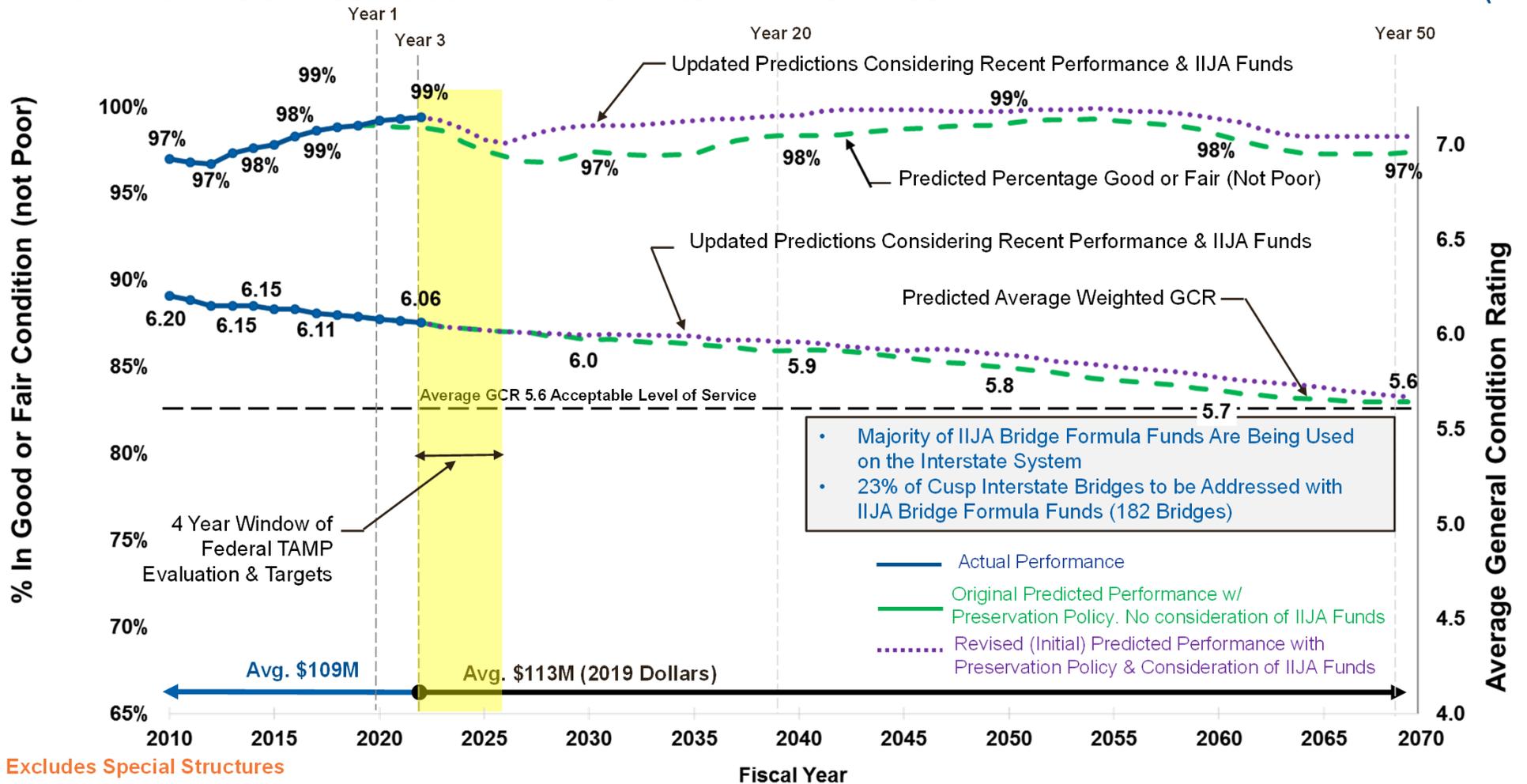
Performance Measure Description	CTB Approved December 2019 Average GCR/(% Not-SD)	
All Systems	N/A	
Interstate	97% No Posted Restrictions	
Primary	93%	
Secondary	90%	

All Networks Combined – 50 Year Outlook



Interstate Network – 50 Year Outlook

2,423 Structures (12%)
31M SF Deck Area (30%)

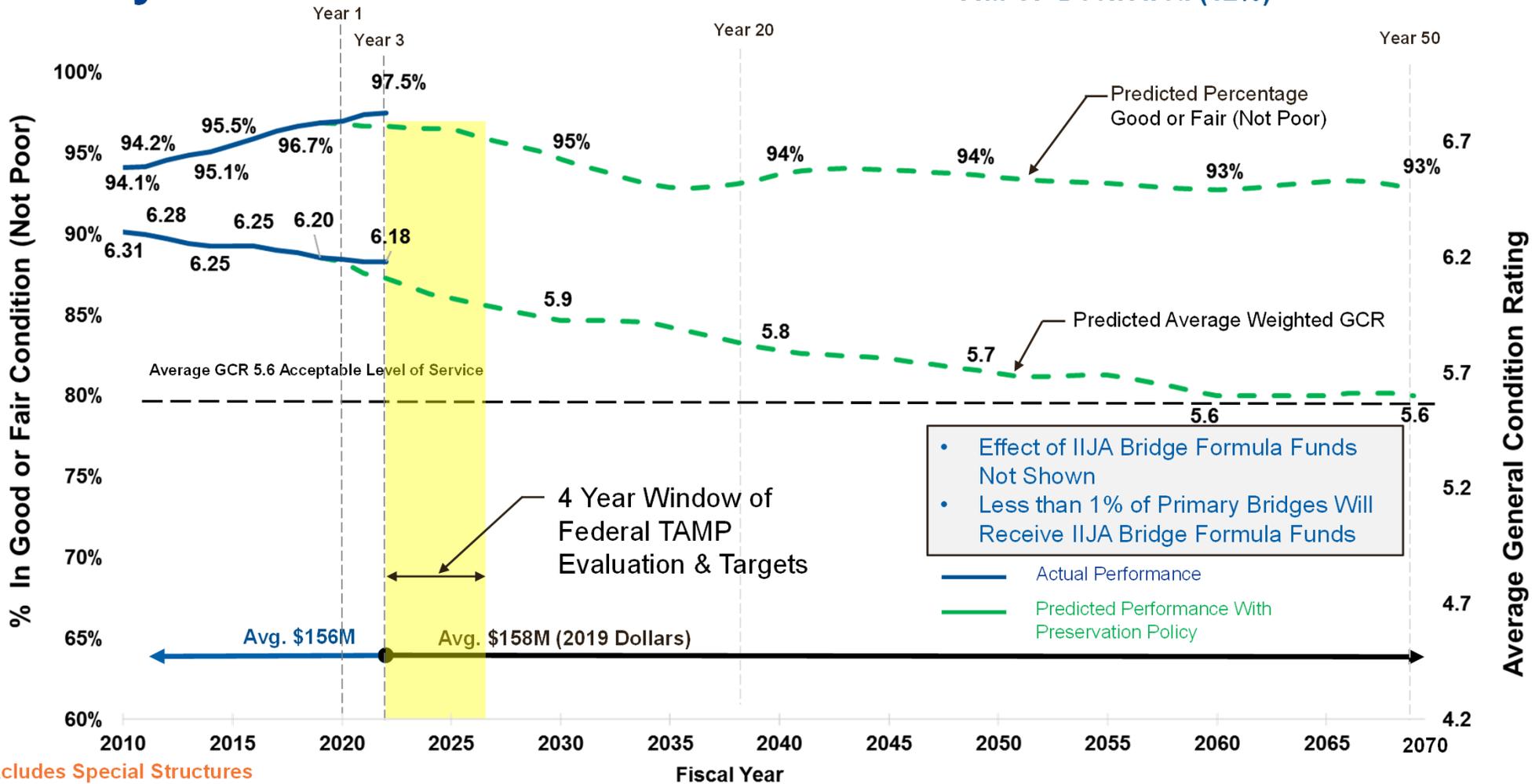


• Excludes Special Structures



Primary Network – 50 Year Outlook

5,759 Structures (27%)
44M SF Deck Area (42%)



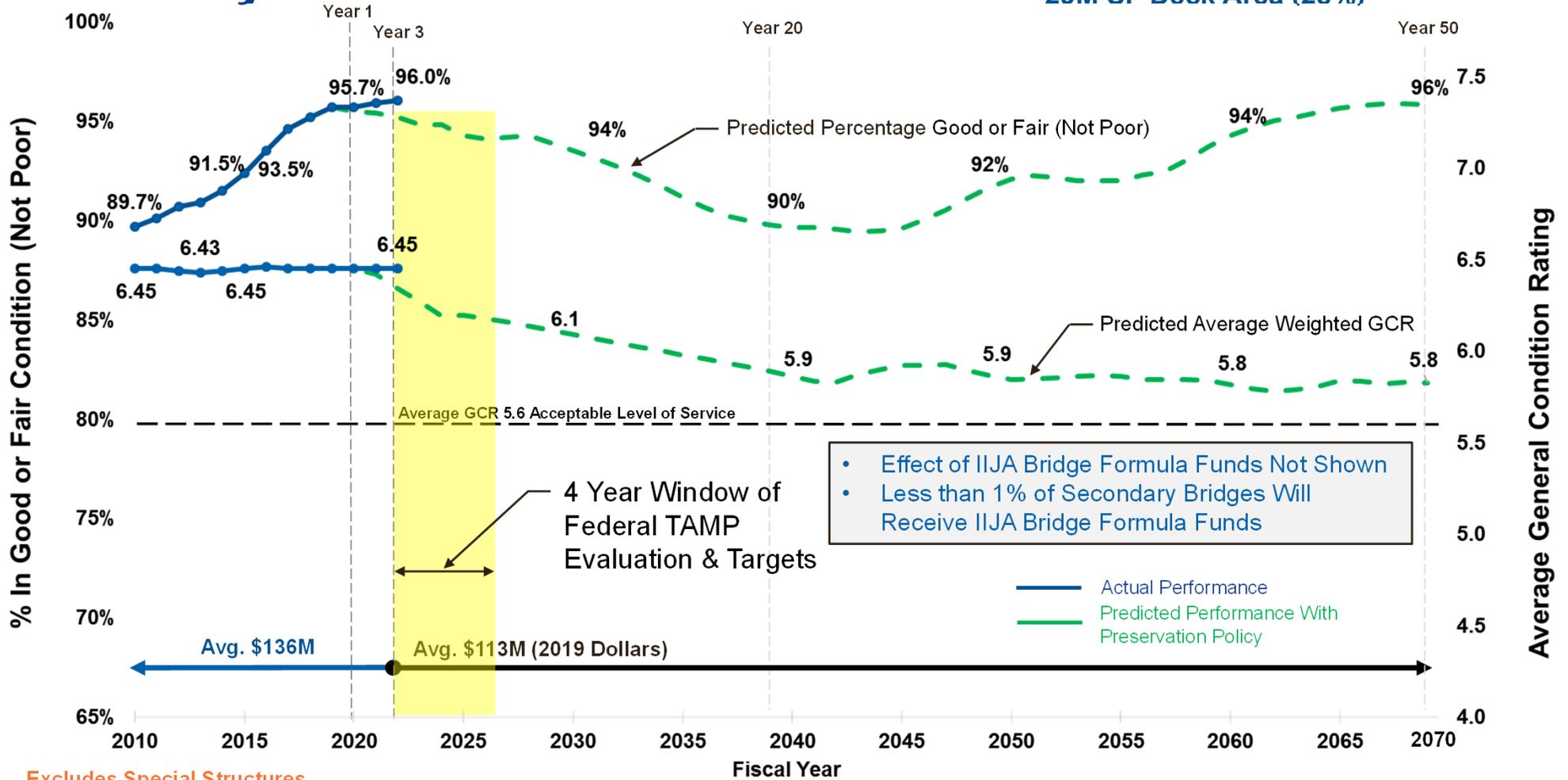
• Excludes Special Structures



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Secondary Network – 50 Year Outlook

12,978 Structures (61%)
29M SF Deck Area (28%)



• Excludes Special Structures



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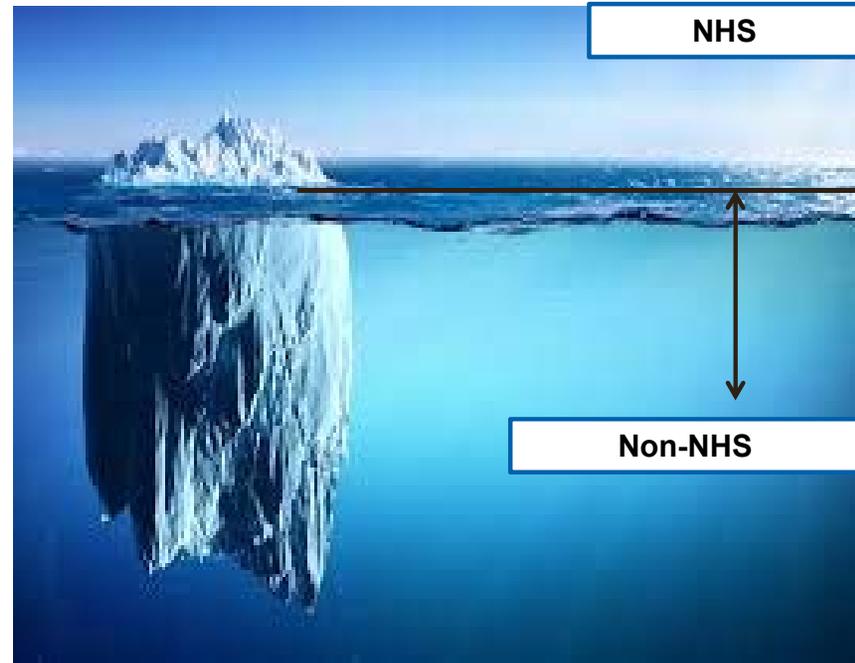
Pavements



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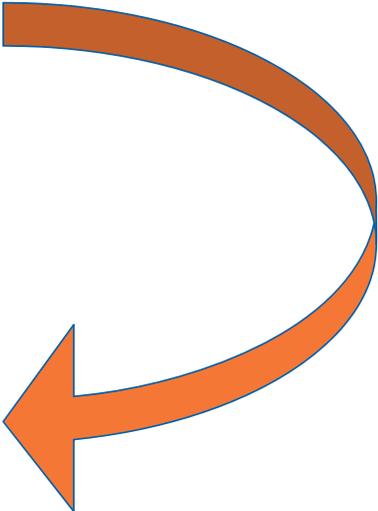
Pavement Inventory (2021)

- **VDOT Maintained inventory 129,500 lane miles**
 - Interstate – 5,600 lane miles
 - Primary – 22,500 lane miles
 - Secondary – 101,400 lane miles
- **Federal Focus – 13% of inventory**
 - NHS Inventory 18,854 lane miles
 - All Interstates
 - Approx. half of all Primaries
 - Few Secondaries
 - NHS Inventory Maintenance
 - VDOT 15,971 lane miles
 - Locality 2,883 lane miles

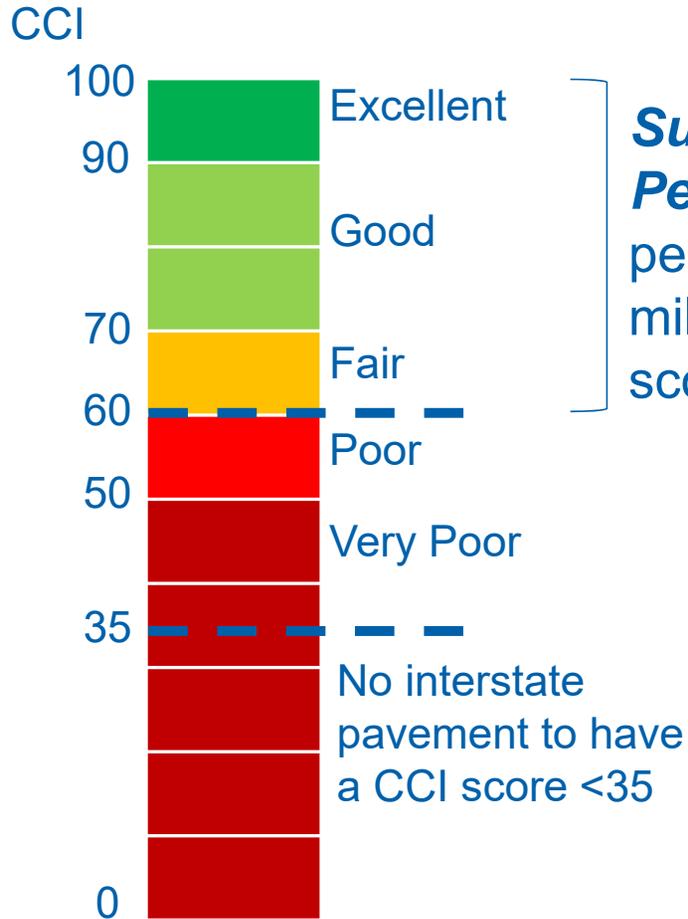


Pavement Assessment Process

Interstate and Primary – annual
Secondary – 20% annually



Pavement Rating – Critical Condition Index



Sufficiency Percentage is the percentage of lane miles with a CCI score ≥ 60

What does CCI look like?



**CCI 90-100
(Excellent)**



**CCI 50-59
(Poor)**



**CCI <49
(Very Poor)**

Image shows approximately CCI 35

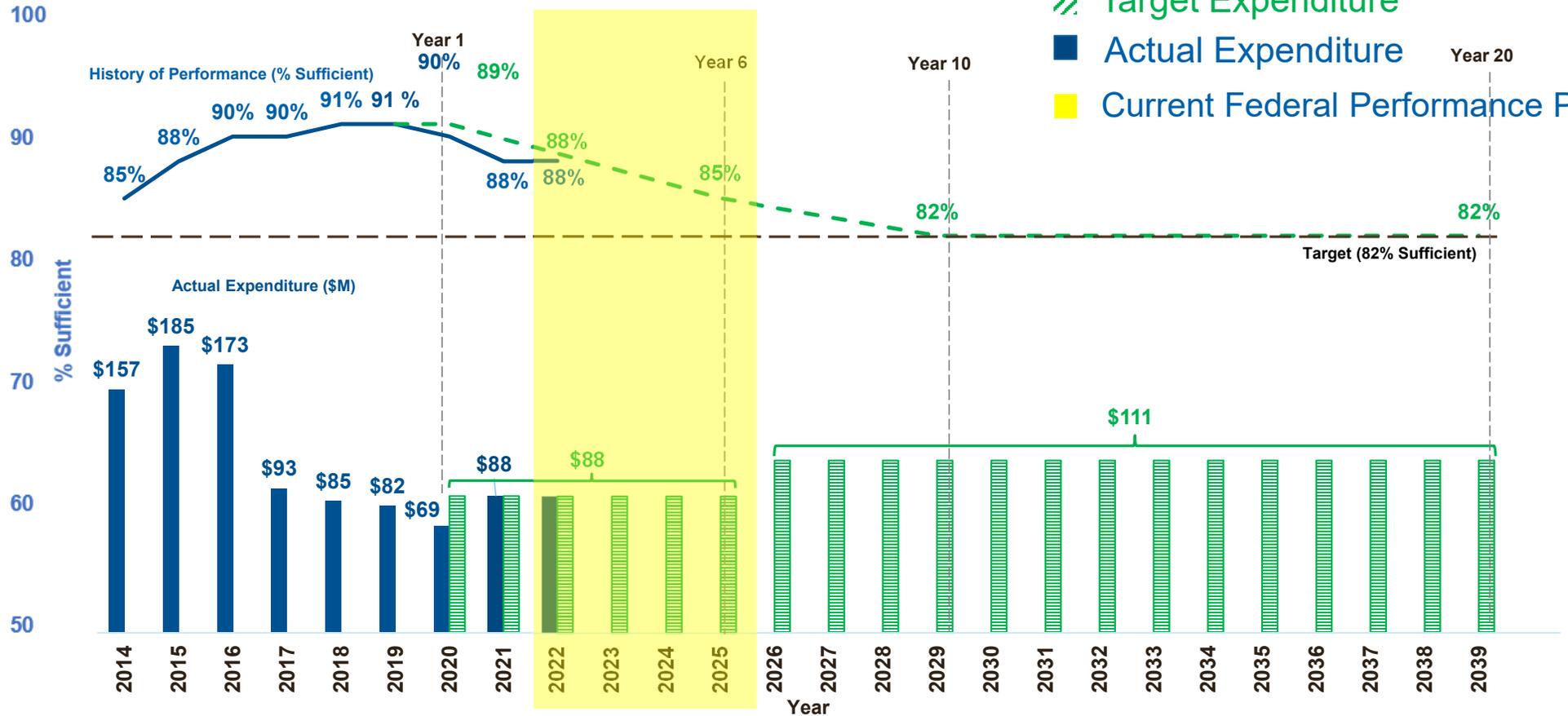
Pavements - Performance Measures

Performance Measure	CTB Approved December 2019 % Sufficiency
Interstate	<p align="center">82% No Section CCI less than 35</p>
Primary	<p align="center">82% for \geq AADT 3,500 75% for $<$ AADT 3,500</p>
Secondary	<p align="center">82% for \geq AADT 3,500 60% for $<$ AADT 3,500</p>

Interstate Network – 20 Year Outlook

(*Predicted & Actual Performance*)

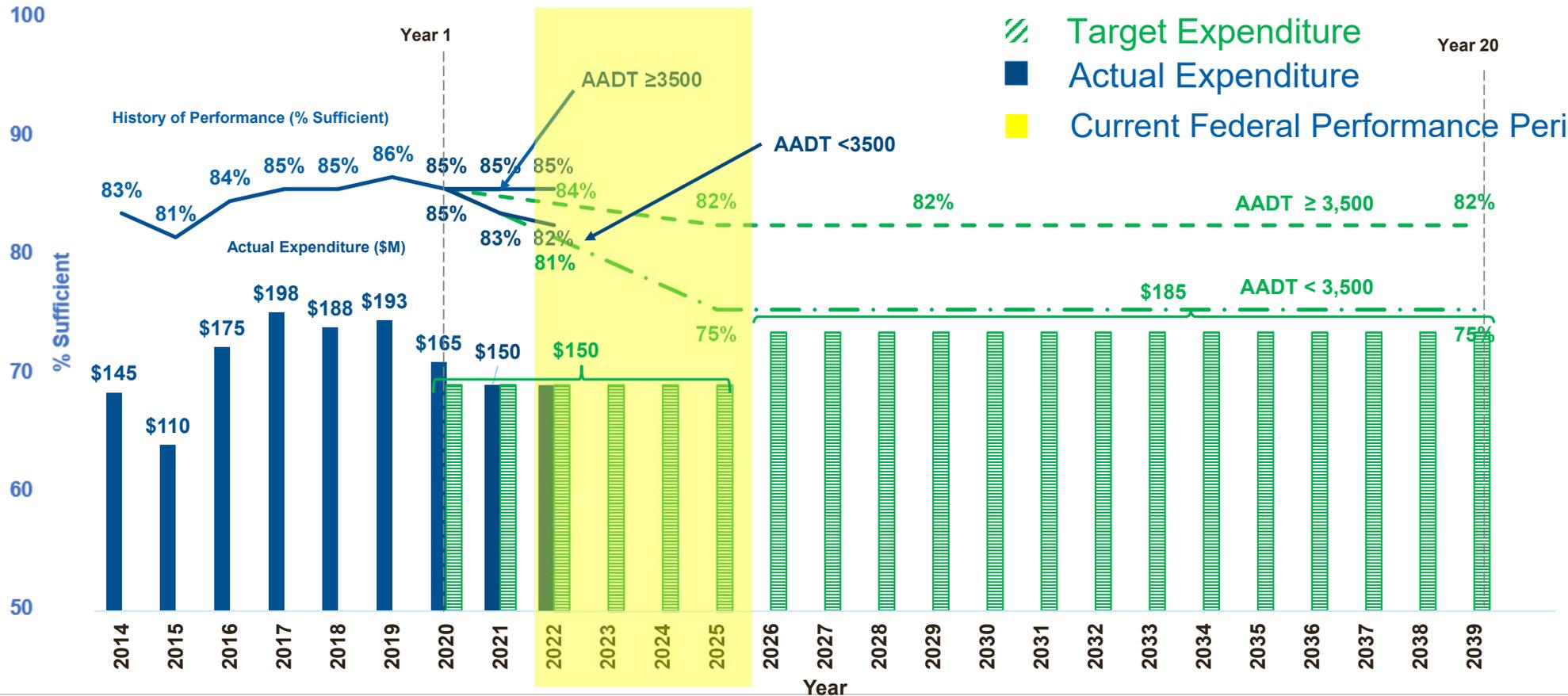
- - - Target Performance: 82%
- Actual Performance
- ▨ Target Expenditure
- Actual Expenditure
- Current Federal Performance Period



Primary Network – 20 Year Outlook

(Predicted & Actual Performance)

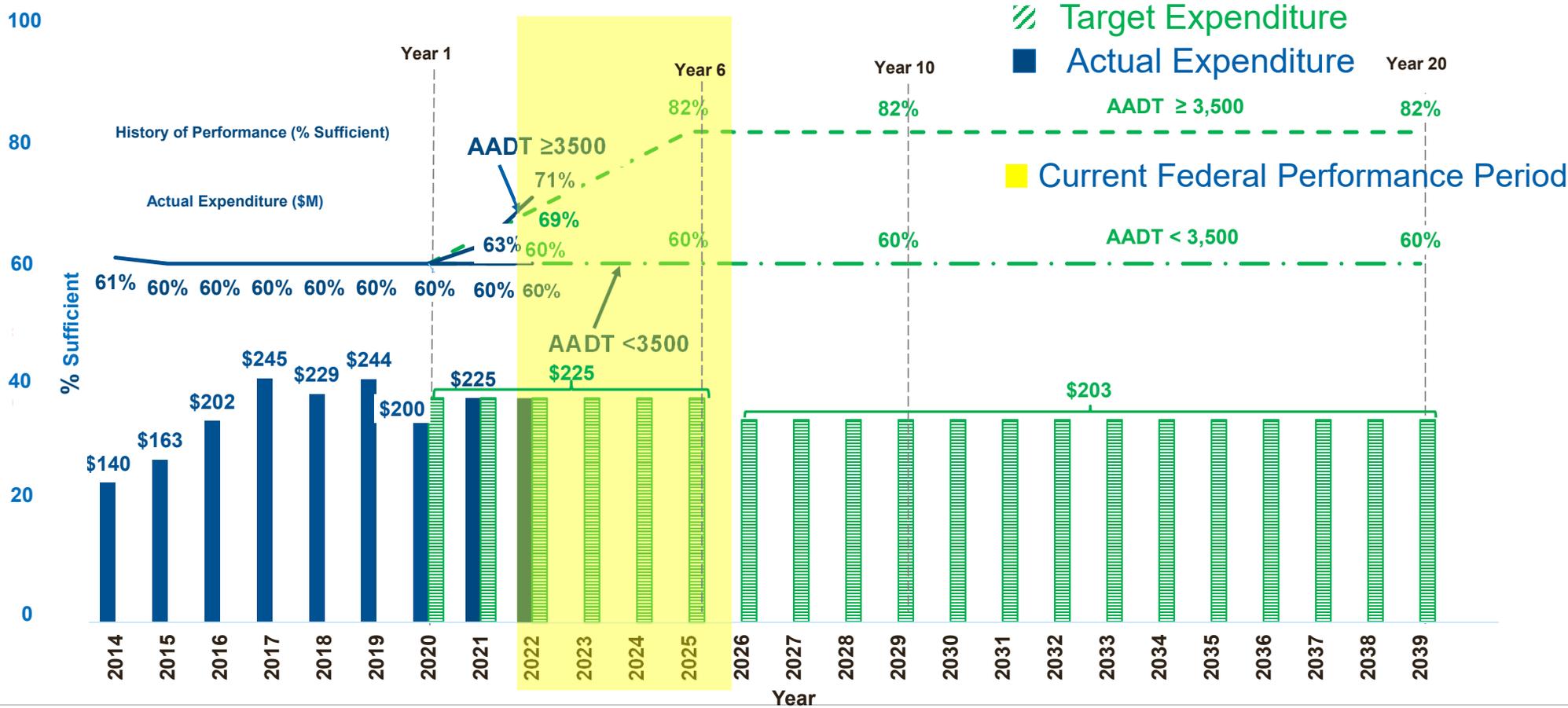
- - - Target Performance AADT ≥ 3,500: 82%
- - - Target Performance AADT < 3,500: 75%
- Actual Performance
- ▨ Target Expenditure
- Actual Expenditure
- Current Federal Performance Period



Secondary Network – 20 Year Outlook

(Predicted & Actual Performance)

--- Target Performance AADT ≥ 3,500: 82%
 AADT < 3,500: 60%
 — Actual Performance



QUESTIONS?



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