

Transportation Asset Management Webinar Series

Webinar 12: Transportation Asset Management Financial Plans

Sponsored by FHWA and AASHTO

Submit questions and comments using the webinar's Q&A feature



Webinar 12 — October 8, 2014

FHWA-AASHTO Asset Management Webinar Series

- This is the final webinar in a 12-part webinar series that has run over a two-year period
- Webinars have been held every two months, on topics such as mitigating and adapting to climate change risks, developing transportation asset management plans, and more
- Visit: <http://tam.transportation.org/Pages/Webinars.aspx> for more information
- You will find archives of previous webinars
 - video and slides from today's webinar will be posted on the site in the coming days
- Submit your questions using the webinar's Q&A feature

Welcome

- FHWA is pleased to sponsor this webinar on transportation asset management financial plans, in cooperation with the AASHTO Sub-Committee on Asset Management
- With this webinar, we reach the end of our 12-part series
- Since 2012, these webinars have provided an opportunity to connect with the asset management community and to bring people together around a series of important topics
- All of the webinars in the series can be accessed online at:

<http://tam.transportation.org/Pages/Webinars.aspx>

MAP-21 Requirements

MAP-21 requires State DOTs to develop a risk-based transportation asset management plan

- Plan Contents:
 - Pavement and bridge inventory and conditions on the NHS,
 - Objectives and measures,
 - Performance gap identification,
 - Lifecycle cost and risk management analysis,
 - A **financial plan**, and
 - Investment strategies

TAM Financial Plans

- Essential to determine what funding level will be available to address network needs
- Funding available and work types/treatments should look at the long term in order to more effectively manage the network strategically
- Asset Valuation and Depreciation are a useful communication tool and found to be an outcome measure

From the AASHTO Asset Management guide – A Focus on Implementation

TAM Financial Plans

- FHWA Office of Asset Management is committed to supporting agencies in strengthening and integrating financial planning and asset management capabilities
 - Through research and reports such as the ones we will hear about in our first presentation
 - And also through education and capacity-building efforts such as this webinar today
- Visit the FHWA asset management web site where additional information and resources are always available:
<http://www.fhwa.dot.gov/asset/>

Webinar Overview

- Today's presentation includes three perspectives on TAM financial plans and their relationship to an agency's transportation asset management plan
- We will hear about the experiences of agencies just getting started with TAM financial plans as well as those already engaged in this work
 - We will also have a chance to learn from international experience
- Presentations will highlight both successful approaches and some important lessons learned

Learning Objectives

- Building working knowledge of key concepts and definitions relevant to TAM financial plans
- Understanding specific approaches to developing a TAM financial plan in the context of MAP-21 requirements
- Beginning to apply this knowledge in order to answer:
 - How can can a TAM financial plan help agencies manage the reality of uncertain funding?
 - What benefits can states expect by pursuing a coordinated approach to their TAM financial plan and TAMP development?
 - What are the key lessons-learned for agencies just beginning to develop a TAM financial plan as part of their TAM program and TAMP?
- **SHARE LESSONS LEARNED, IDEAS, KNOWLEDGE!!!**

Webinar Agenda

- 2:00 Webinar introduction and overview**
Matt Hardy (AASHTO), Nastaran Saadatmand (FHWA), and Hyun-A Park (Spy Pond Partners, LLC)
- 2:20 TAM Financial Plans Overview**
Gordon Proctor (Gordon Proctor Associates)
- 2:40 Colorado DOT**
Scott Richrath (Colorado DOT)
- 3:00 Rhode Island DOT – Getting Started with a TAM Financial Plan**
Meredith Brady (Rhode Island DOT)
- 3:20 Q&A and wrap up**



TAM Financial Plan Overview



Gordon Proctor
Oct. 8, 2014

The Role of Financial Plans

Leading society to think strategically about the long-term investments in and management of assets



10/8/2014

TAMP seeks long-term, strategic approach to sustain assets

The asset management plan optimally identifies policies, finances, projects, risks and information in a coordinated way to achieve acceptable, stable long-term asset conditions.

Asset management plan includes:



A.M.
Targets



Risks
Identified



Treatment
Timing
Strategies



Coordinated
Processes



Financial
Plan

**Sustainable
Assets**



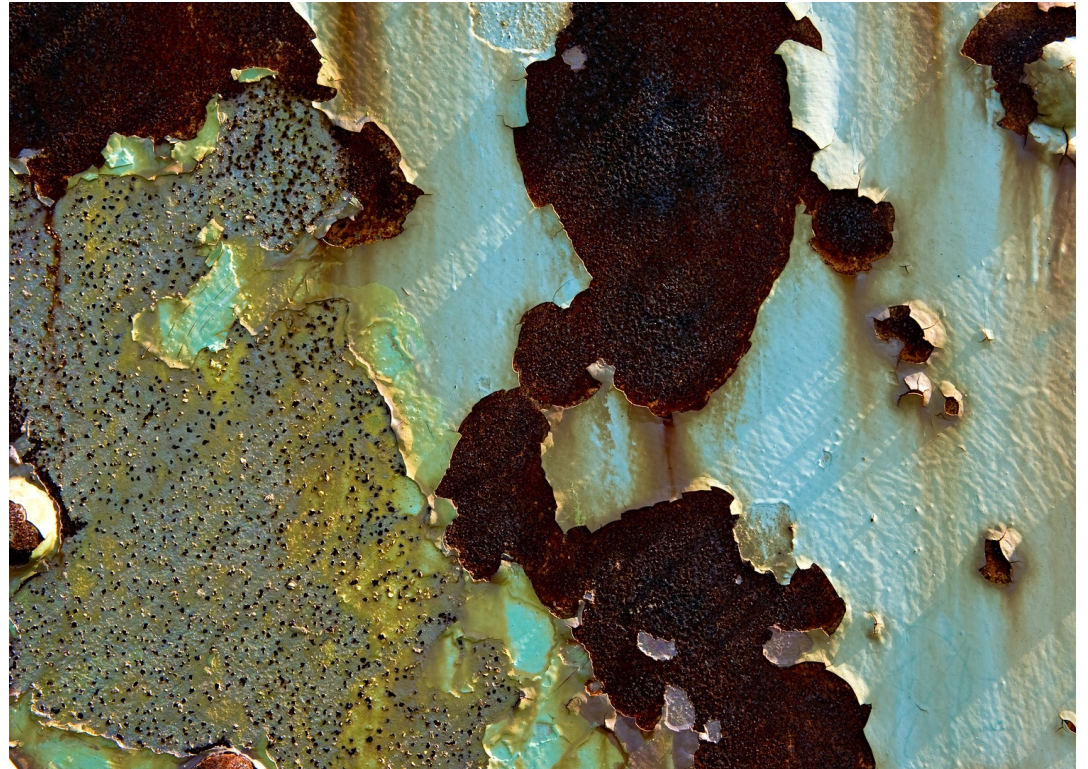
Planning, Budgeting Gaps

- Budgets are short term
 - Often cover only one or two years
 - Legislative budget process lacks a long-term perspective
 - Short-term budgets may be blind to long-term trends
 - Current balanced budgets can hide long-term structural deficits



Benefit of Financial Plan

- Can get decision makers to think about the long-term health of our infrastructure
- Your budget is not balanced if you are pushing today's maintenance obligations into the future



Can Be a Powerful Tool

- Brings into the current budget process the long-term implications of decisions
- Highlights structural deficits
- Allows an agency to document formally the impending needs, now outside of the legislative budgeting process



The Australian Influence

- MAP-21 strongly influenced by Australia
 - Asset management plans
 - Risk management approach
 - Long-term performance metrics
 - Financial plans
 - Financial metrics
 - Asset valuation
- Australia's experience holds lessons for US

Australian Sustainability Concept

- “A local government is financially sustainable if the local government is able to maintain its financial capital and infrastructure capital over the long term.”
 - Queensland Local Government Act

Australian Sentiment

- The importance of financial sustainability is to ensure that each generation ‘pays their way’, rather than any generation ‘living off their assets’ and leaving it to future generations to address the issue of repairing worn out infrastructure. Such issues are frequently referred to as ‘intergenerational equity’. – Barossa TAMP

Sustainability Metrics

Asset Sustainability
Ratio

$$\frac{\text{Amount Budgeted for Assets}}{\text{Amount Needed to Sustain}}$$

Asset Consumption
Ratio

$$\frac{\text{Current Value of Assets}}{\text{Replacement Cost of Assets}}$$

Asset Renewal
Ratio

$$\frac{\text{Expenditures on Asset Renewal}}{\text{Depreciation of Assets}}$$

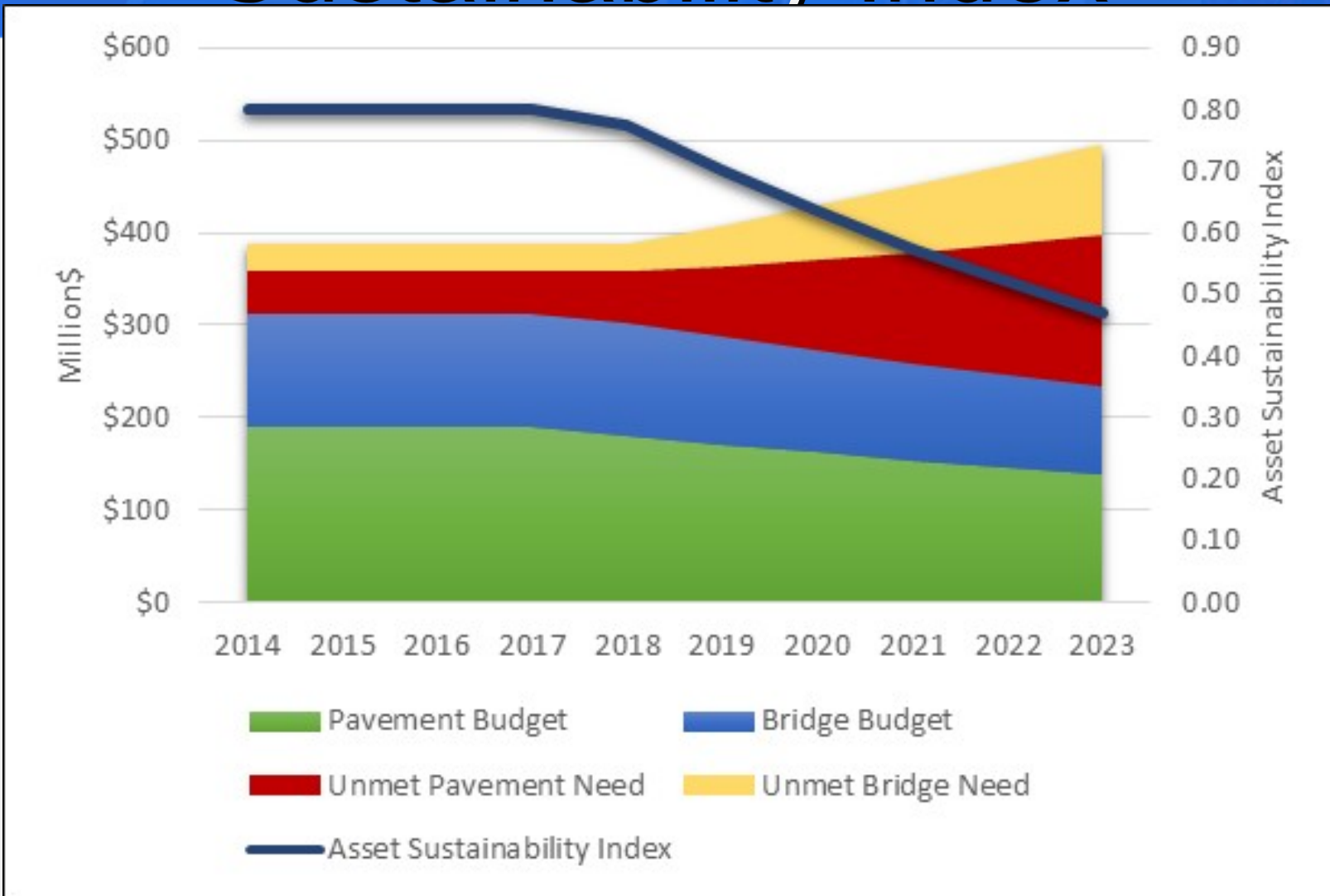
Accrual Insights

1	Cash Accounting (\$Millions)							
	Year							
2	1	3	5	7	9	10	Total	
3	Total Revenue	\$1,000	\$1,040	\$1,082	\$1,126	\$1,172	\$1,195	\$10,950
4	Total Budget	\$1,000	\$1,040	\$1,082	\$1,126	\$1,172	\$1,195	\$10,950
5	"Budget Deficit"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	Accrual Accounting (\$Millions)							
7	Year							
8	1	3	5	7	9	10	Total	
9	Total Revenue	\$1,000	\$1,040	\$1,082	\$1,126	\$1,172	\$1,195	\$10,950
10	Total Budget	\$1,000	\$1,040	\$1,082	\$1,126	\$1,172	\$1,195	\$10,950
11	"Budget Deficit"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12	\$ Needed to Sustain Assets	\$1,200	\$1,273	\$1,351	\$1,433	\$1,520	\$1,566	\$13,757
13	Investment Deficit	(\$200)	(\$233)	(\$268)	(\$307)	(\$348)	(\$371)	
14	Accumulating Deficit	(\$200)	(\$649)	(\$1,167)	(\$1,761)	(\$2,436)	(\$2,807)	(\$2,807)

Example Elements

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maintenance Need	\$74	\$75	\$76	\$78	\$79	\$81	\$81	\$81	\$81	\$81
Safety Need	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15
Local Pass Through	\$55	\$55	\$55	\$55	\$55	\$55	\$55	\$55	\$55	\$55
Pavement Need	\$237	\$237	\$237	\$237	\$237	\$249	\$261	\$274	\$288	\$302
Bridge Need	\$152	\$152	\$152	\$152	\$152	\$160	\$168	\$176	\$185	\$194
Signals, ITS Need	\$20	\$20	\$21	\$21	\$22	\$22	\$23	\$23	\$23	\$24
Total Need	\$553	\$554	\$556	\$558	\$560	\$582	\$602	\$624	\$647	\$671
Pavement Budget	\$190	\$190	\$190	\$190	\$180	\$171	\$163	\$154	\$147	\$139
Bridge Budget	\$122	\$122	\$122	\$122	\$122	\$116	\$110	\$104	\$99	\$94
Unmet Pavement Need	\$47	\$47	\$47	\$47	\$57	\$78	\$99	\$120	\$141	\$163
Unmet Bridge Need	\$30	\$30	\$30	\$30	\$30	\$44	\$58	\$72	\$86	\$100
Asset Sustainability Index	0.80	0.80	0.80	0.80	0.78	0.70	0.63	0.57	0.52	0.47

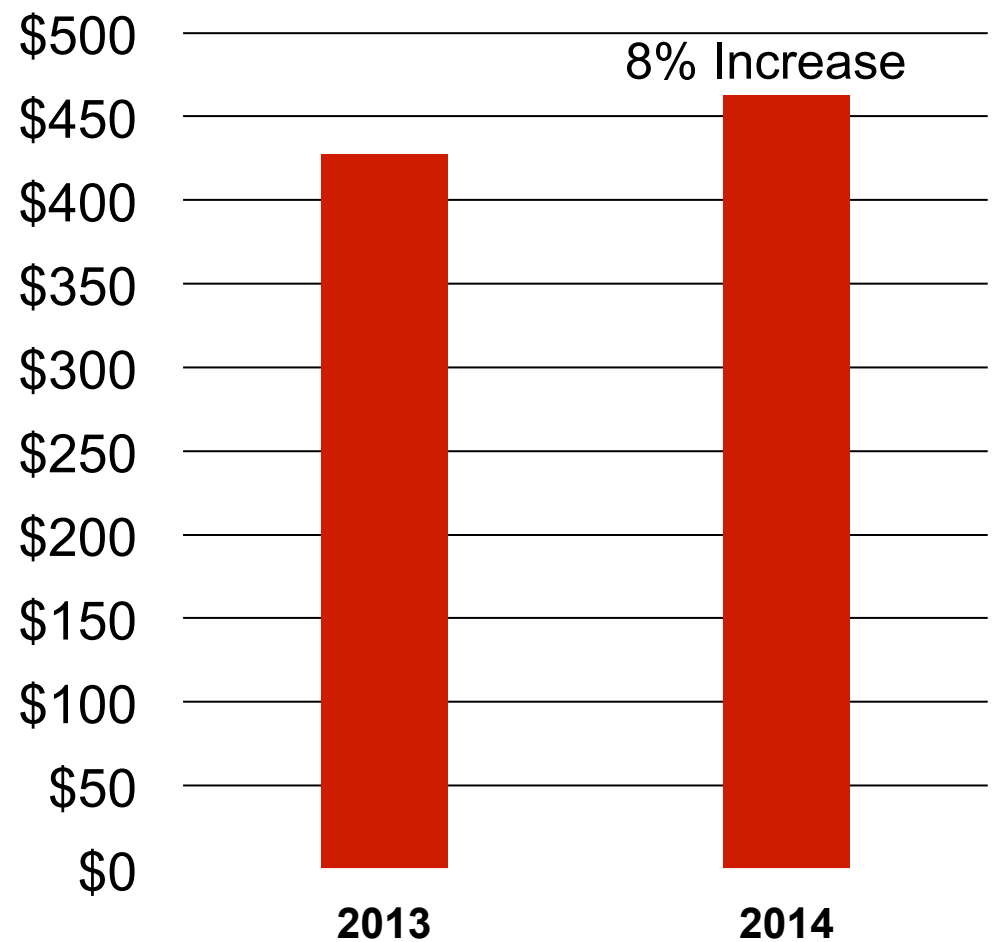
Budget, Deficits and Sustainability Index



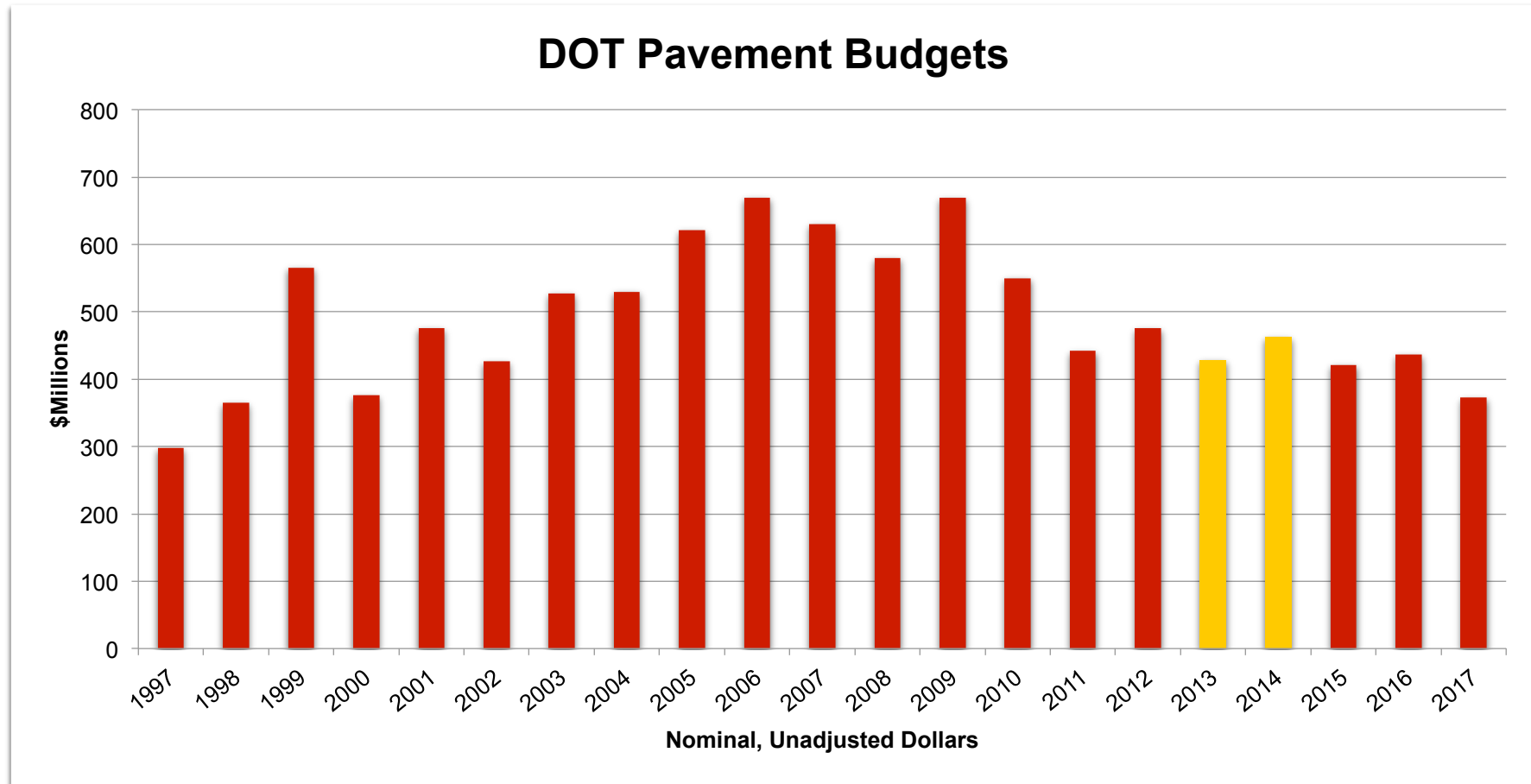
The Power of Perspective

- Current legislative budget by year or biennia tends to mask long-term trends
- Short budgets can look adequate, or growing

DOT Pavement Budgets

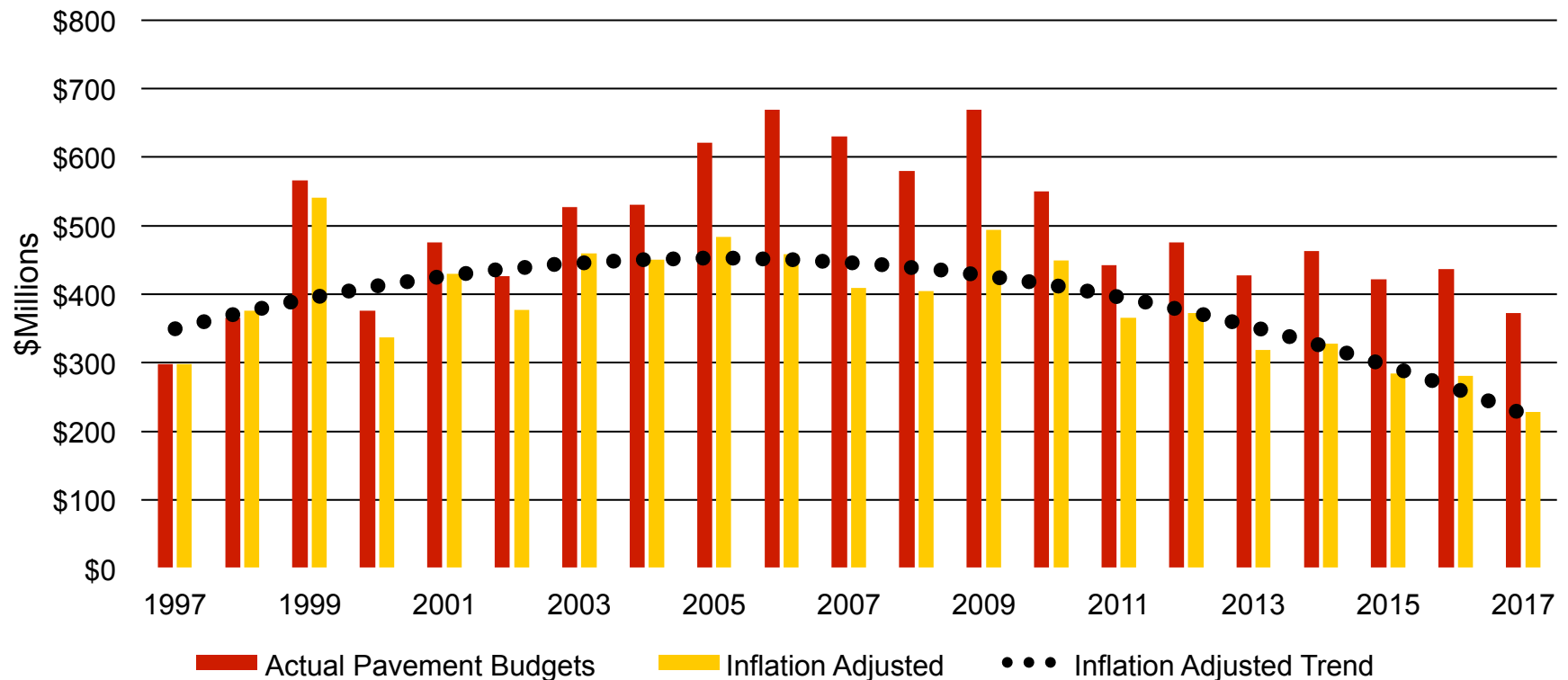


Biennial Budgets in Context



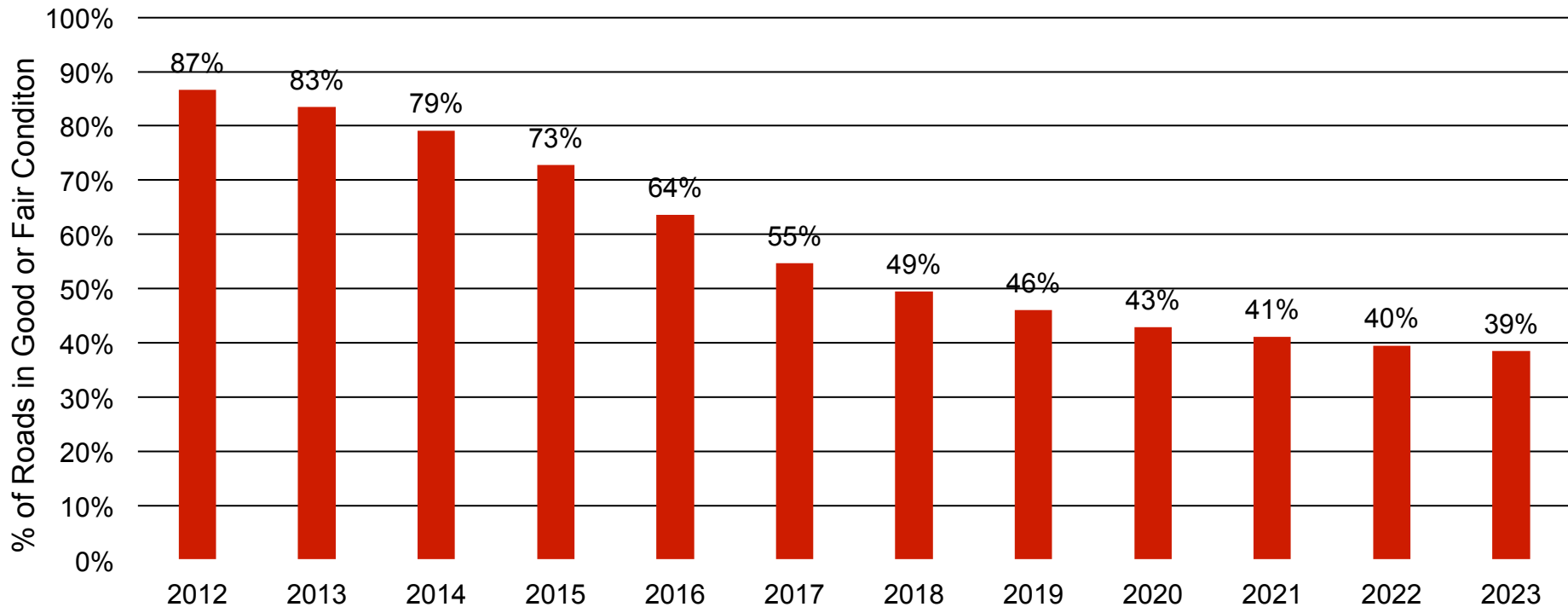
Budgets in Real Terms

Pavement Budgets in Actual and Inflation-Adjusted Dollars



Long Term Consequences

Percent of Roads in Good or Fair Condition



Elements of Financial Sustainability

- Longer-term horizons – at least 10 years
 - Larger assets and networks could be 20-50 years
- Reliance on accrual accounting
 - Capturing depreciation or some other form of long-term obligations
 - Recognizing future obligations or unmet needs on today's financial statements
- Don't rely on consuming future users' assets
 - 'Intergenerational equity'
 - Leave it better than we found it

Australian Audit Comments

- It is important to recognize that asset management is all about managing risk and not a compliance exercise.
- The greatest strategic risk is whether a council is sustainable and therefore able to provide the services desired by the community within council's financial capacity. – NSW Division of Local Government

Conclusions

- Strategic – creates a strategic, long-term assessment of needs, revenues, gaps, sustainability
- Communication – can be effective summary of sustainability or non-sustainability of assets
- Political – it can frame the budget, programming discussions or pressures on agencies
- Programming – provides multi-year framework for allocating funds to programs
- Risk – can illustrate the certainty, uncertainty of financial forecasts



Financial Plans

TAM Financial Plan Overview





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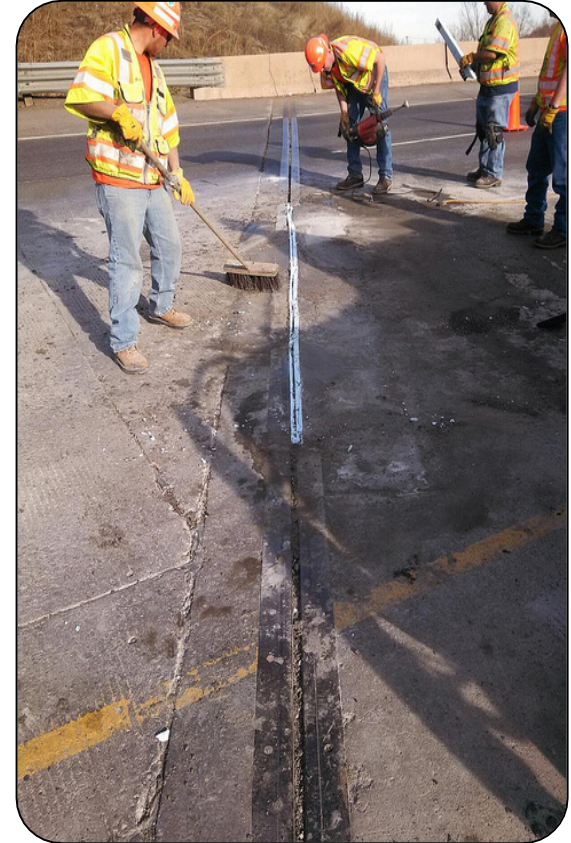
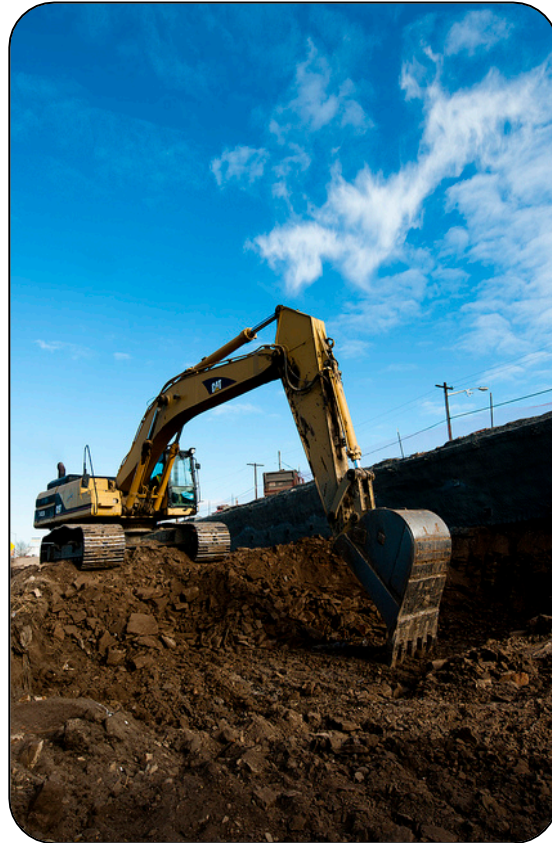
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Webinar 12: Transportation Asset Management & Financial Plans

Wednesday, October 8, 2014

Presenter: Scott Richrath, CFO, Colorado DOT

Webinar 12: Transportation Asset Management Financial Plans

- This webinar will provide a practical introduction to transportation asset management and financial plans in the context of MAP-21. It will address the linkages between financial plans and asset management programs. As part of this webinar, presenters will discuss both the challenges and the benefits of developing a transportation asset management financial plan. Presentations will also include consideration of relevant lessons from the experiences of international agencies that may be applicable to state DOTs





MAP-21 & RB-AMP: Guidance on Financial Planning

MAP-21 guidance simply states that an asset management plan shall include a financial plan. CDOT's plan achieves this requirement by:



- Defining historic funding levels
- Indicating how much money is expected to be available for asset management over the next 10 years
- Recommending how to allocate these funds between asset types



CDOT assesses financial sustainability by using overall system condition as a surrogate for overall value, and reviewing the impact of the implication of the recommended funding levels



Asset Management Plan: Notice of Proposed Rulemaking (NPRM)

Rule	Responsible	Expected
Highway Safety Program Grants	SCOHTS	COMPLETE
FTA ANPRM* (Rule 60)	SCOPT	COMPLETE
CMAQ Program Interim Guidance	SCOE/SCOP	COMPLETE
Safety Performance Measure (Rule 26)	SCOPM	COMPLETE
Highway Safety Improvement Program (Rule 30)*	SCOHTS	COMPLETE
FHWA/FTA Metropolitan & Statewide Planning (Rule 27 & 61)	SCOP	Comments Due Oct. 2, 2014
CMAQ Weighing Factors (Rule 33)	SCOE/SCOP	Comments Due Oct. 3, 2014
Planning & Environmental Linkage (supplemental to Planning NPRM)	SCOE/SCOP	Sept. 2014
Pavement/Bridge Performance Measure (Rule 28)	SCOPM	Oct. 24, 2014
Asset Management Plan (Rule 32)*	SCOP-TAM	Dec. 4, 2014

*60 day comment period



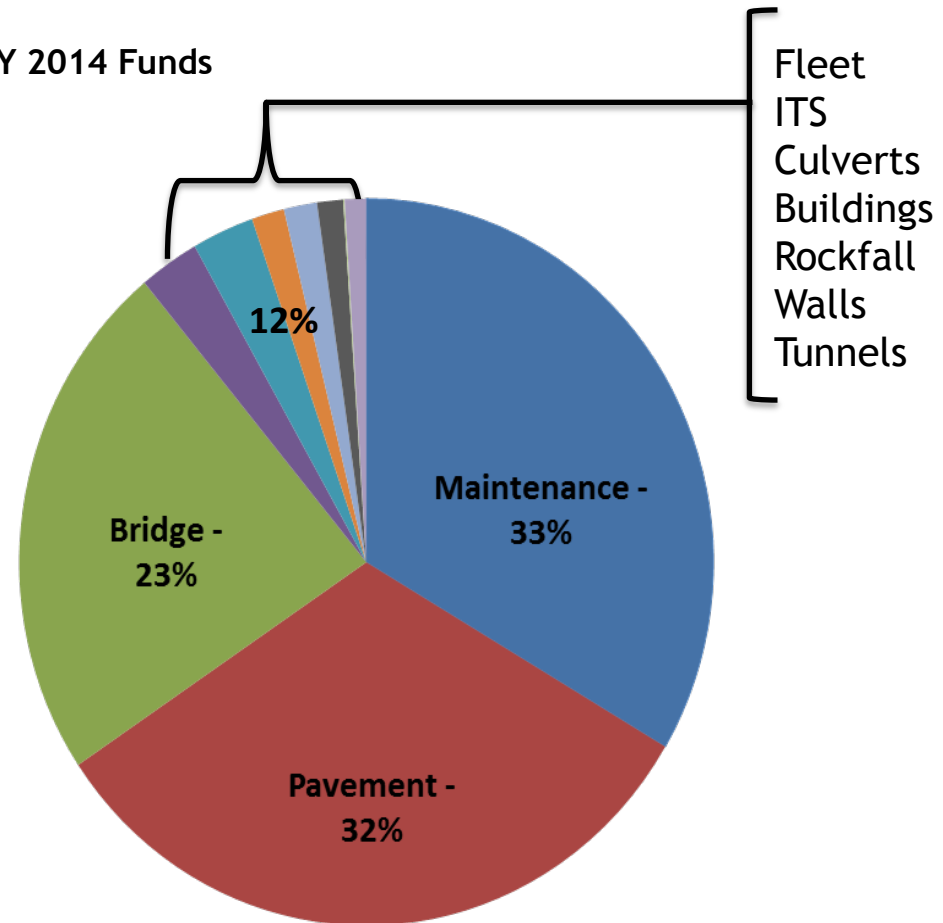
Financial Planning: Historic Funding

Based on historic funding levels, the financial plan estimates the level of future funding expected for distribution across the Department's ten asset categories

Figure 8.2 FY 2014 Funds

Historic Funding Levels:

- Shows funding levels by asset class per year for the previous 10 years
- Over the past 10 years Asset Management activities have received \$450-\$630 million annually
- Maintenance, Pavement and Bridge received 80% of all funding





Financial Planning: Future Funding

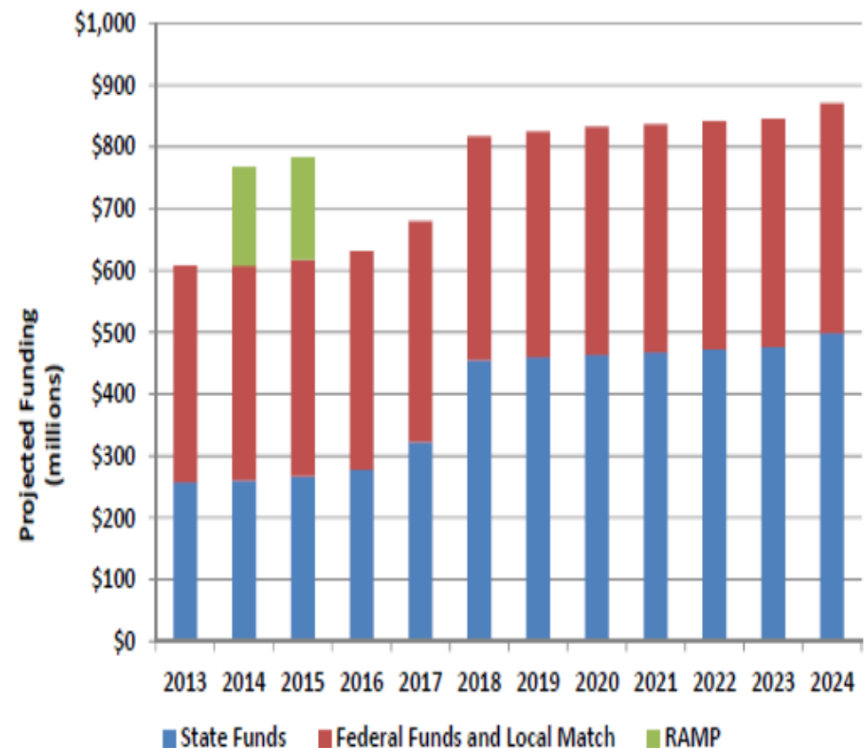
Anticipated revenues are weighted against the recommended funding levels and the long-term implications of investment on the condition of the overall transportation system

Future Funding Levels:

A 10 year estimate by asset type draws upon

- Historical funding level for all asset categories
- Projected Revenue from many sources including: Annual budget process (state and federal fees, taxes, general purpose revenue, enterprise funding)
- Program distribution process (Delphi Workshops)
- Direction from the Transportation Commission

Figure 8.3 Projected Funding Potentially Available for Asset Management Including RAMP



Source: CDOT

*RAMP is a program that utilizes existing cash balance on a one time basis



Improving Financial Analysis in Asset Management

Gaps Identified as Necessary to Achieve Implementation:

- **Develop & Document the Budget Distribution Process**
 - In order to account for policy directive updates, the annual budgeting process, distribution of fund to regions and allocation of funds to projects
- **Analyze Budget Trade-Offs Across Programs**
 - In order to better understand the implications of trading off investment dollars in one program vs. another
- **Improve Project Scoping and Optimization**
 - In order to assure the direct linkage between intended investment and actual spending





2014 Digital States Survey

2014 Digital States Survey, conducted by Center for Digital Government evaluated the digital technology practices of all 50 states, assigning each state a grade based on quantifiable results in better serving citizens and streamlining operations

Colorado ranks **second in the nation** when it comes to the use of information technology for its **transportation and motor vehicle initiatives** according to the survey highlighting:

- SAP increased business capabilities and accounting project systems.
- Converted the Oversize and Overweight Permitting System to an online system that is integrated with the Colorado State Patrol
- Leverage Google Apps for Government to save time and money
- National Recognition for CDOT Mobile





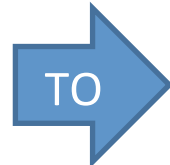
Long Range Planning:10+ Years Program Distribution

Line	Directed By	DRAFT FY 15 Budget	FY 2016	FY 2017	
1	Asset Management	\$ 476,396,343	\$ 476,760,247	\$ 518,792,840	
2	Maintenance	\$ 251,300,000	\$ 254,400,000	\$ 262,032,000	
3	Surface Treatment	\$ 149,500,000	\$ 149,500,000	\$ 155,900,000	
4	Structures On-System	\$ 30,700,000	\$ 39,500,000	\$ 55,964,497	
5	Rockfall Mitigation	\$ 5,100,000	\$ 3,000,000	\$ 5,100,000	
6	Cap. Expenditure (Road Eq./Prop./Cap. Op. Eq.)	\$ 24,996,343	\$ 15,960,247	\$ 24,996,343	
7	TSM&O: ITS Maintenance	\$ 14,800,000	\$ 14,400,000	\$ 14,800,000	
8	Asset Management- To be Assigned by TC			\$ -	
9	Other TC Directed Programs			\$ 99,056,081	
10	Hot Spots			\$ 2,167,154	
11	Traffic Signals			\$ 1,472,823	
12	TSM&O: Performance Improvement			\$ 607,619	
13	TSM&O: Congestion Relief			\$ 4,000,000	
14	Regional Priority Programs			\$ 50,000,000	
15	Capital Expenditure (ITS)			\$ 10,000,000	
16	Contingency			\$ 30,808,485	
17	Restricted Programs			\$ 679,060,070	
18	Highway Safety Investments			\$ 30,411,222	
19	Railway-Highway Crossings			\$ 3,258,905	
20	FASTER - Safety Projects			\$ 60,863,071	
21	Safety Education			\$ 10,024,516	
22	Strategic Projects			\$ 139,251,793	
23	Deliver - Program Delivery			\$ 73,552,219	
24	Aeronautics			\$ 48,168,138	
25	Transportation Alternatives			\$ 13,724,987	
26	STP-Metro			\$ 49,072,767	
27	Congestion Mitigation/Alternative Modes			\$ 46,454,250	
28	Metropolitan Planning			\$ 7,913,070	
29	Bridge Off-System			\$ 9,449,367	
30	Federal Transit	Federal	\$ 23,050,856	\$ 23,521,128	\$ 23,756,340
31	Strategic Projects - Transit	State Legislature/TC	\$ -	\$ 15,284,417	\$ 15,472,421
32	Transit and Rail Local Grants	State Legislature/TC	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
33	Transit and Rail Statewide Grants	State Legislature/TC	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000
34	Infrastructure Bank	TC	\$ 700,000	\$ 528,812	\$ 503,215
35	Debt Service	Debt Service	\$ 171,256,604	\$ 171,254,975	\$ 132,183,789
36	TOTAL		\$ 1,116,259,948	\$ 1,282,534,976	\$ 1,296,908,991
37	Revenue		\$ 1,116,259,948	\$ 1,282,534,976	\$ 1,296,908,991
38	Variance		\$ -	\$ (0)	\$ -

ASSET MANAGEMENT

- Maintenance
- Surface Treatment
- Structures On-System
- Rockfall Mitigation
- Cap. Expenditure (Road Eq./Prop./Cap Op Eq.)
- TSM&O: ITS Maintenance
- Asset Management (To be Assigned by TC)

2018



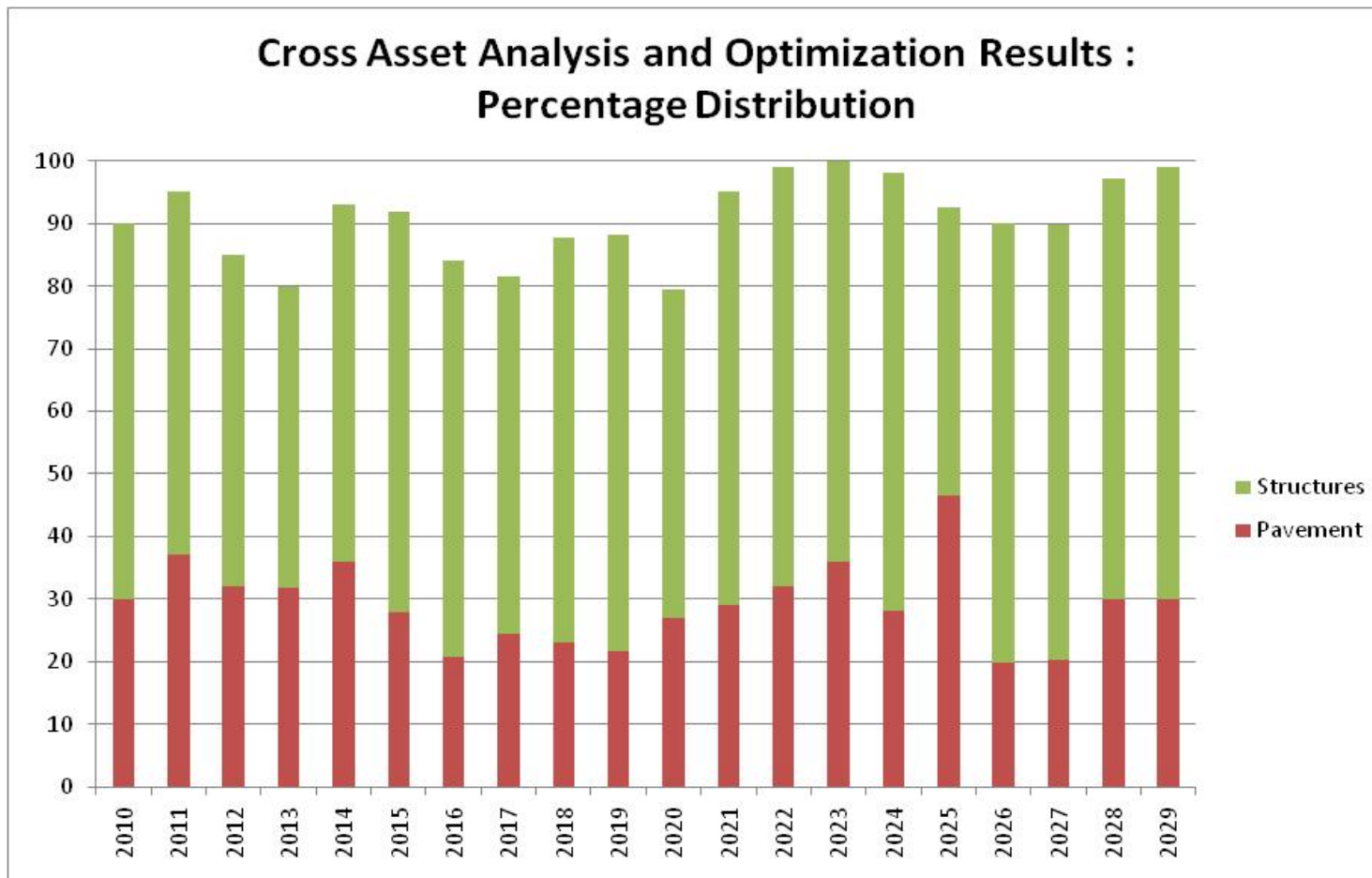
2040



Medium Range Planning: 4-10 Years TAM Trade-Offs



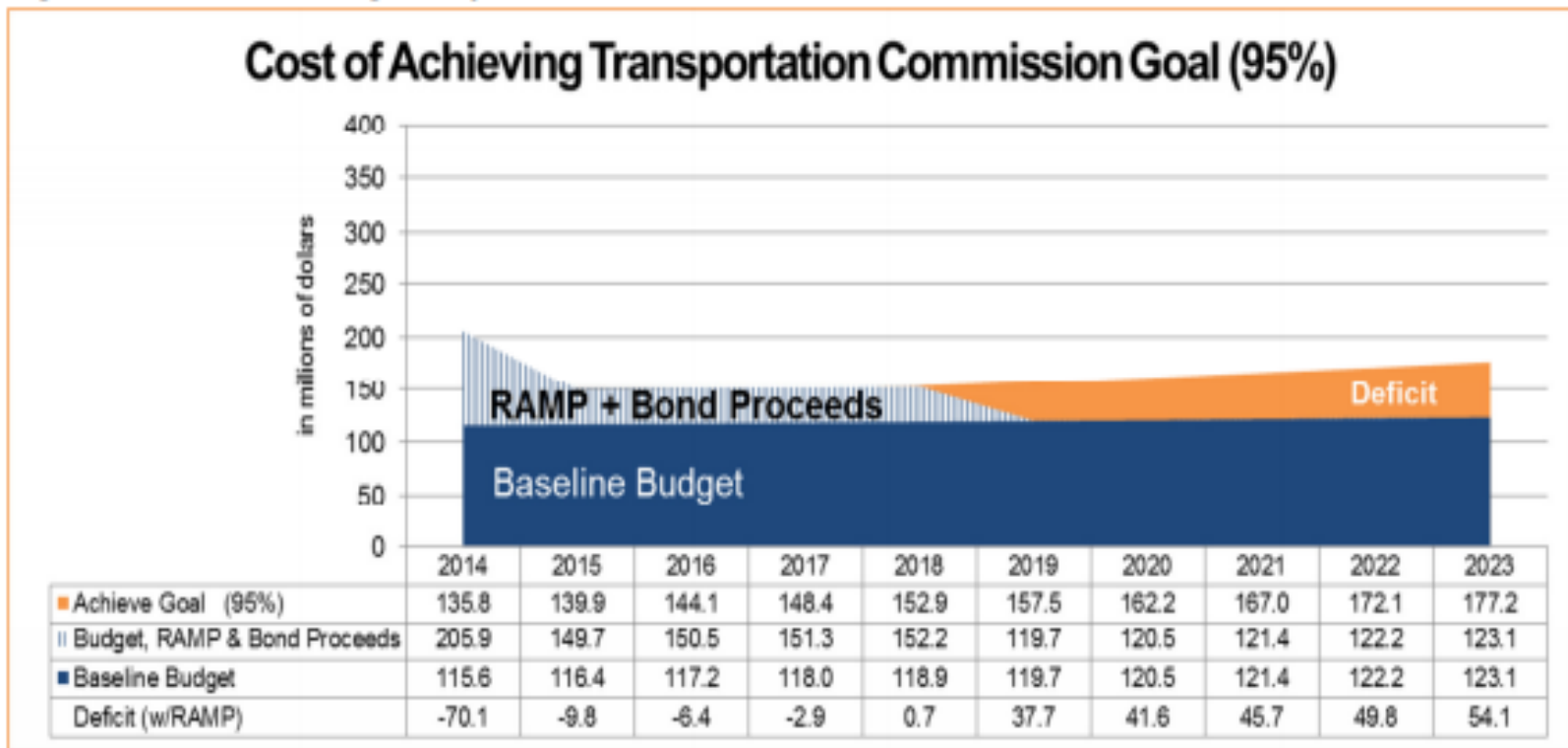
Asset Management System



Bridges vs. Pavement



Medium Range: Deficit Report



RAMP = Responsible Acceleration of Maintenance & Partnerships

www.coloradodot.info/library/AnnualReports



Short Range Planning: 1-4 Years Delphi Process

(In Millions)	FY15 Budget (Baseline + RAMP)	FY16 Amount Requested (Baseline + RAMP)	FY16 Delphi Results (Baseline + RAMP)
Surface Treatment	\$235.2	\$240.0	\$235.9
Bridge, BE & Bridge Fixed Costs	\$168.2	\$180.0	\$164.1
MLOS	\$251.3	\$258.8	\$254.4
Road Equipment	\$20.9	\$24.0	\$18.4
ITS	\$27.6	\$35.1	\$21.4
Rockfall Mitigation	\$9.1	\$12.3	\$9.2
Buildings	\$20.8	\$15.7	\$12.9
Tunnels	\$12.4	\$7.6	\$5.2
Culverts	\$9.6	\$12.0	\$8.2
Walls	\$0.0	\$4.0	\$2.4
Traffic Signals	\$0.0	\$16.0	\$5.7
Risk Mitigation	\$0.0	\$5.0	\$0.0
TOTAL	\$755.1	\$810.5	\$738.0

Note: RAMP Asset Management Dollars for FY16 are assumed to be \$150M.

Note: A risk mitigation pool to proactively address risk was discussed, along with potential funding options.

Staff determined that due to limited asset management funds, such a pool should seek an alternative source of funding.

Note: The FY16 Delphi Results are subject to adjustment by the Transportation Commission.

RAMP = Responsible Acceleration of Maintenance & Partnerships



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Scott Richrath, CFO, Colorado DOT
scott.richrath@state.co.us



Getting Started With a TAM Financial Plan

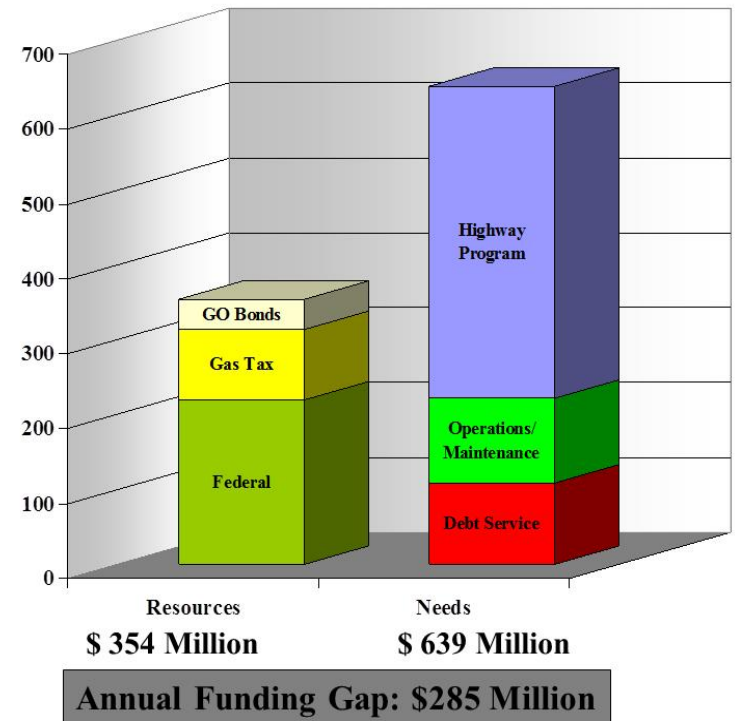
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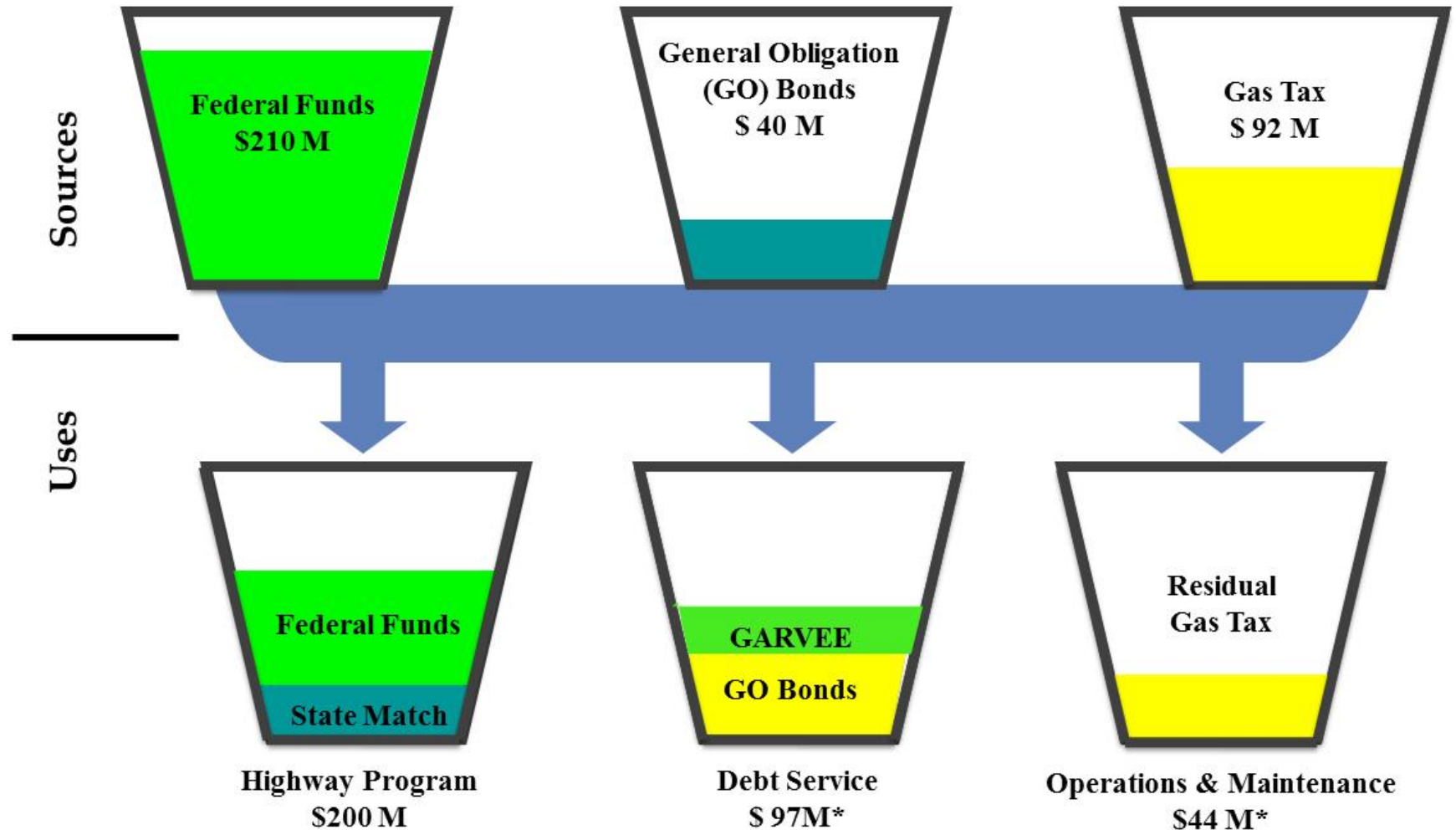
Current Financial Situation:

- Without knowing where we were headed, RI has been starting TAM financial planning effort for years.
- Overview of transportation infrastructure costs and resources: studied through private groups, Statewide Planning (Transportation 2030), Governor's Blue Ribbon Panel, legislative commissions.
- 2008 Blue Ribbon panel still cited for showing gap. Rough estimate of need.
- Transportation 2030, the state's Long Range Transportation Plan, laid out sink tread water, swim, win the race scenarios.

RIDOT Highway Program
Annual Needs Compared with Anticipated Resources
(Source: Blue Ribbon Panel Report)



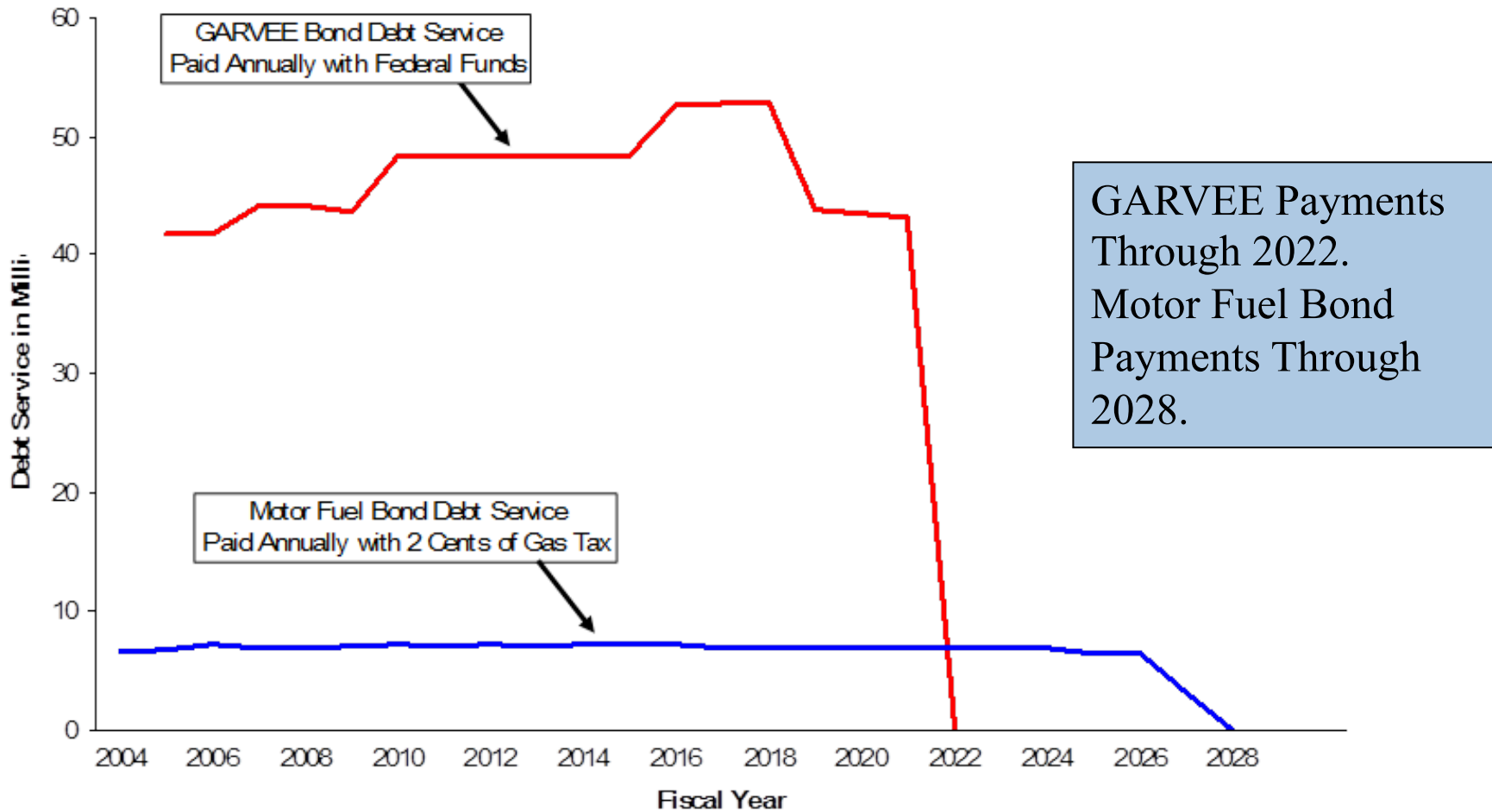
2012 RIDOT Highway and Bridge Program Funding Sources and Uses



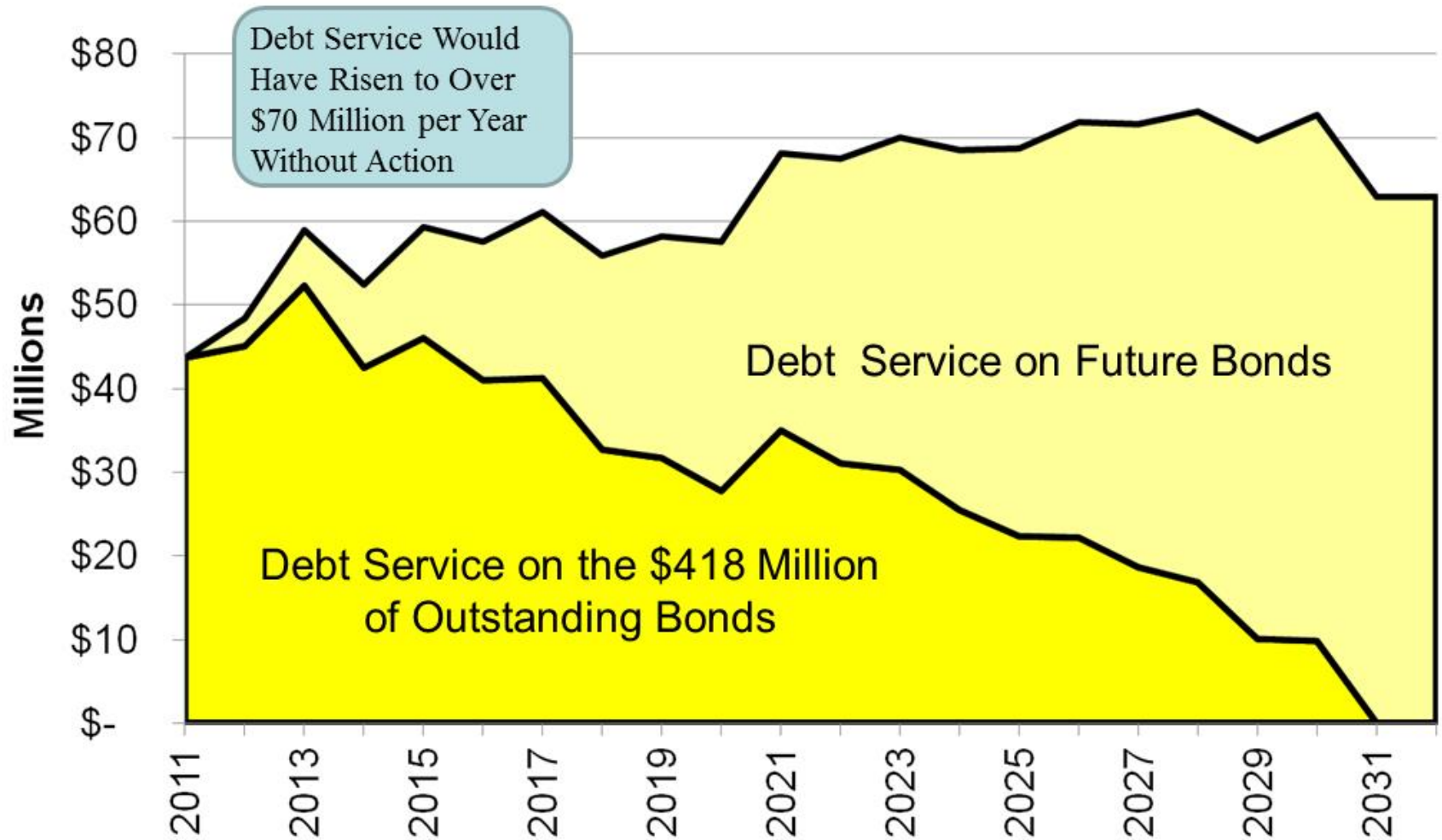
* In FY2012, the General Fund Paid \$6 Million of the GO Debt Service, Giving RIDOT Additional Funding for Operations and Maintenance.

GARVEE Program Debt Service Commitments

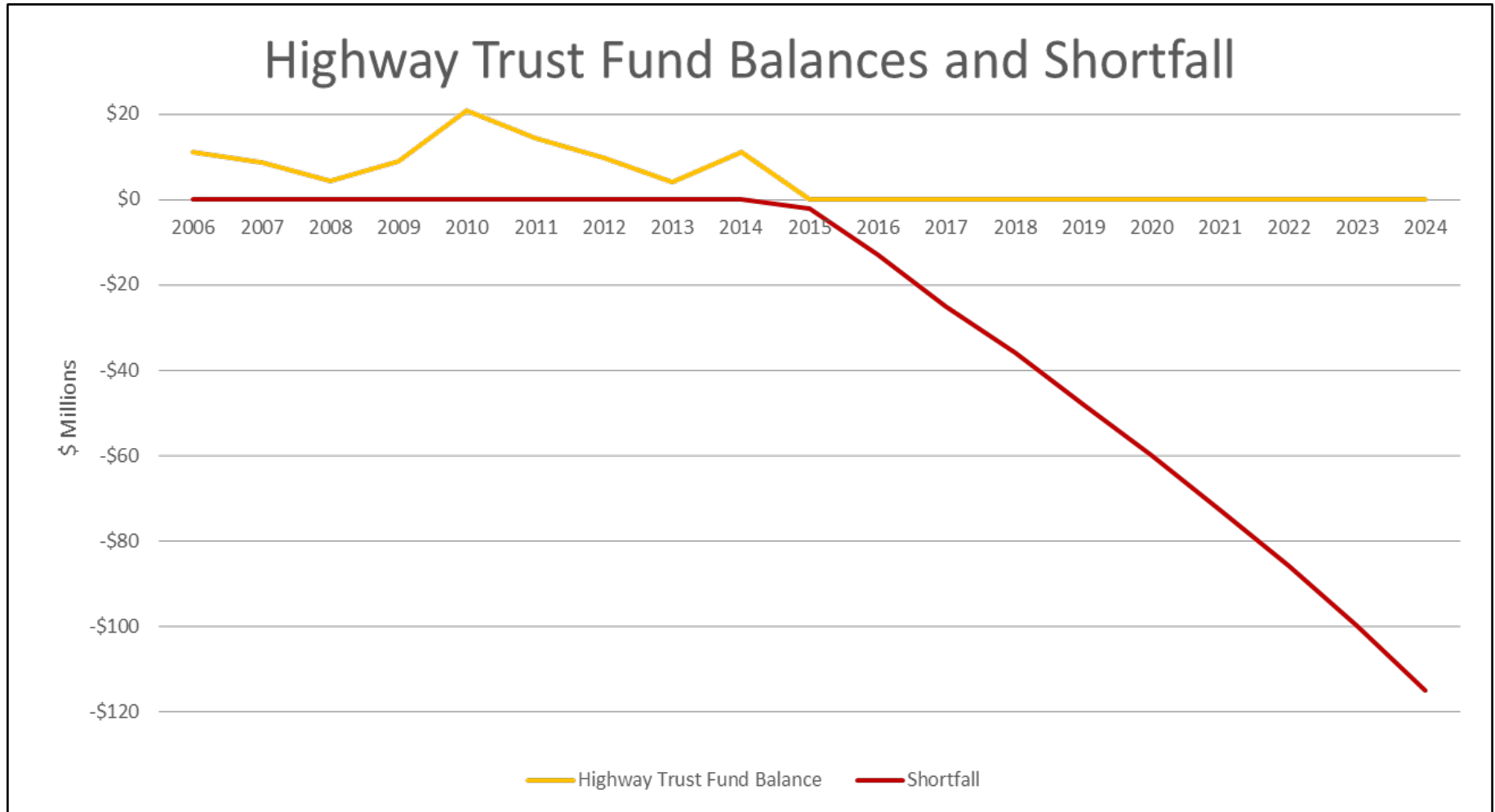
GARVEE Program Advanced:
 IWAY, Relocated 403, Sakonnet River Bridge, Washington Bridge, FRIP



GO Bond Debt Service Under Funding Structure Prior to FY 2013

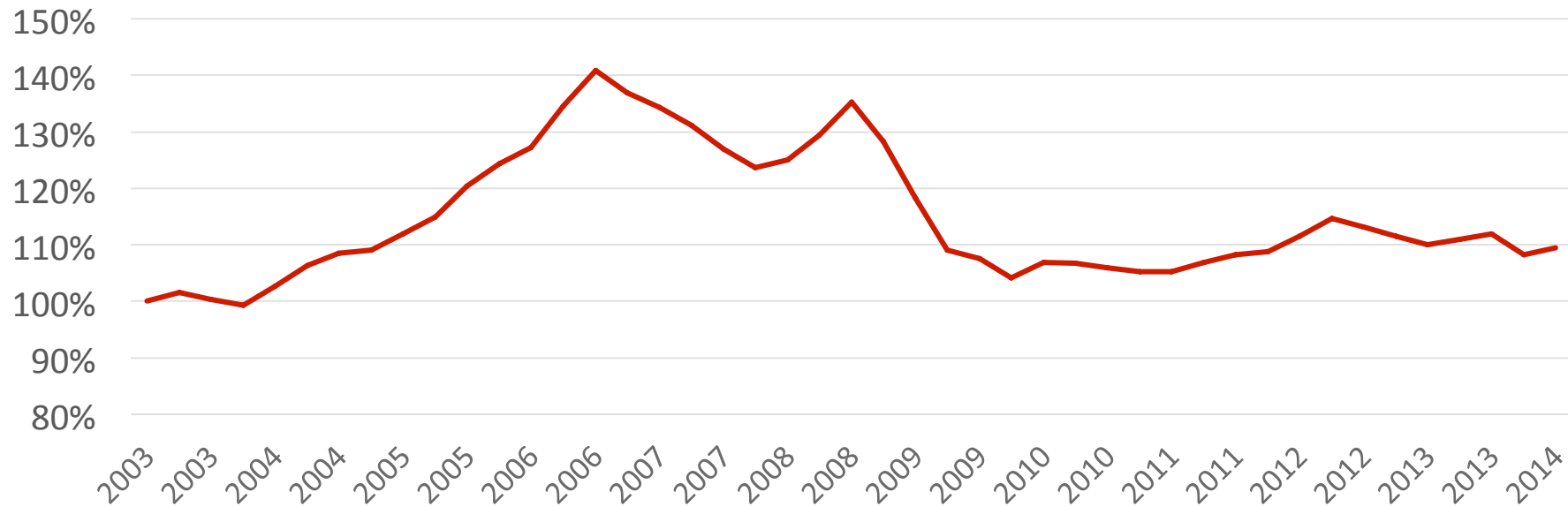


Highway Trust Fund



Inflation Effects

National Construction Price Trends



Source: FHWA

Construction inflation needs to be factored into our asset management plan.

Storms, Emergencies

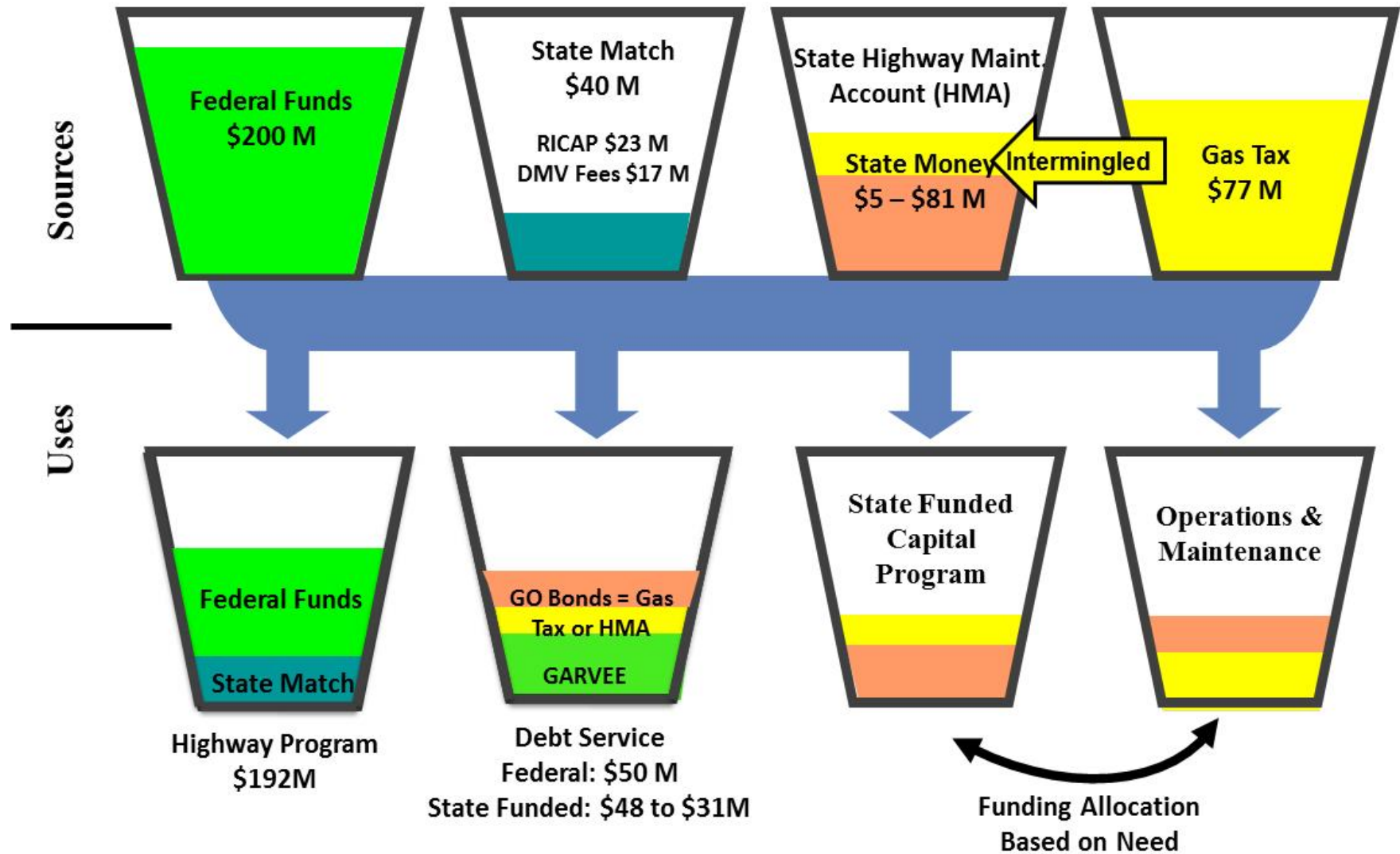


- Emergency needs: Storms, emergency bridge repairs may be a factor.
- Winter is not predictable; storms are increasing in frequency and intensity.

In 2012, Transportation Infrastructure Funding Picture Began to Change in RI

- Eliminated bond borrowing to match Federal program;
- Increased license and registration fees (3 year phase-in), set-aside Rhode Island Capital Plan (RICAP) funds, created Highway Maintenance Account (HMA);
- Shifted existing General Obligation bond debt service from gas tax payments to state General Revenue payments (over 5 years, 2018 no G.O. debt);
- Sakonnet River Bridge transferred to RI Turnpike & Bridge Authority (RITBA), tolling anticipated;
- 2014: Highway Maintenance Account expanded. Three year shift of all license/registration fees to HMA; gas tax indexing.
 - Toll eliminated, 3.5 cents of RIDOT's 21.75 cent share of gas tax reallocated to RITBA in its place; RIPTA (public transit) to receive 5% of available funds in HMA; G.O. Bond debt service returned from General Fund to HMA.

RIDOT Funding - Article 21 – New Buckets

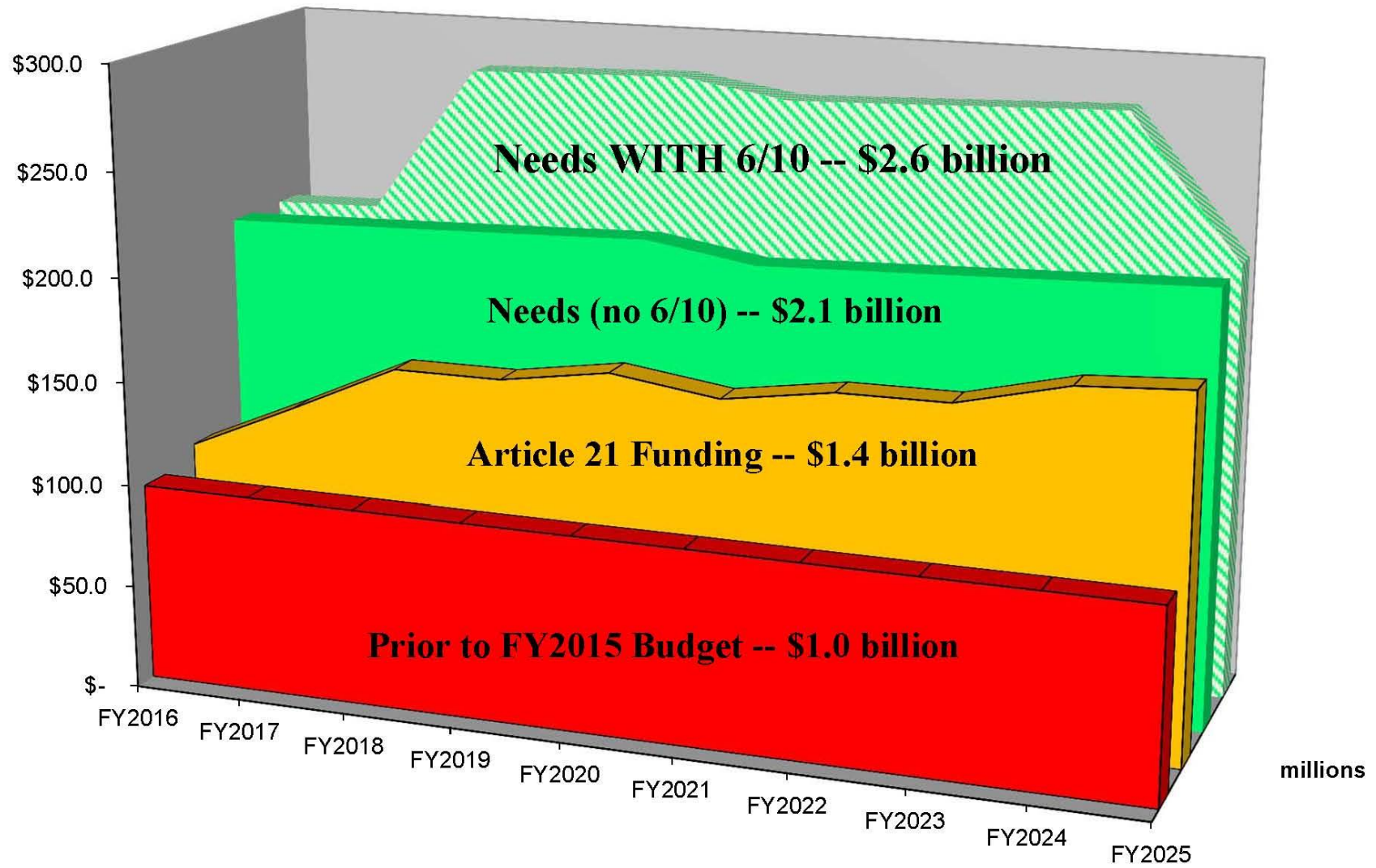


Article 21 Increase – \$551M Over 10 Years

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Increase	\$5	\$30	\$53	\$52	\$64	\$57	\$65	\$66	\$78	\$81
Inflation, Gas Tax Yield Loss		-\$2	-\$4	-\$5	-\$7	-\$9	-\$11	-\$13	-\$15	-\$17
Drainage	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$5
Better Bridge		\$9	\$18	\$17	\$21	\$17	\$20	\$19	\$23	\$24
Reliable Roads		\$9	\$18	\$17	\$21	\$17	\$20	\$19	\$23	\$24
Enhanced Maintenance		\$5	\$8	\$8	\$10	\$9	\$9	\$10	\$11	\$12
Net Annual Increase	\$5	\$28	\$49	\$47	\$57	\$48	\$54	\$53	\$62	\$65

Program funded with State revenues (beyond Federal match), beginning with \$5 million in FY2016 and increasing to \$81 million in FY2025;

RIDOT Revenue VS Needs Comparison



Budget Forecast: Uncertain

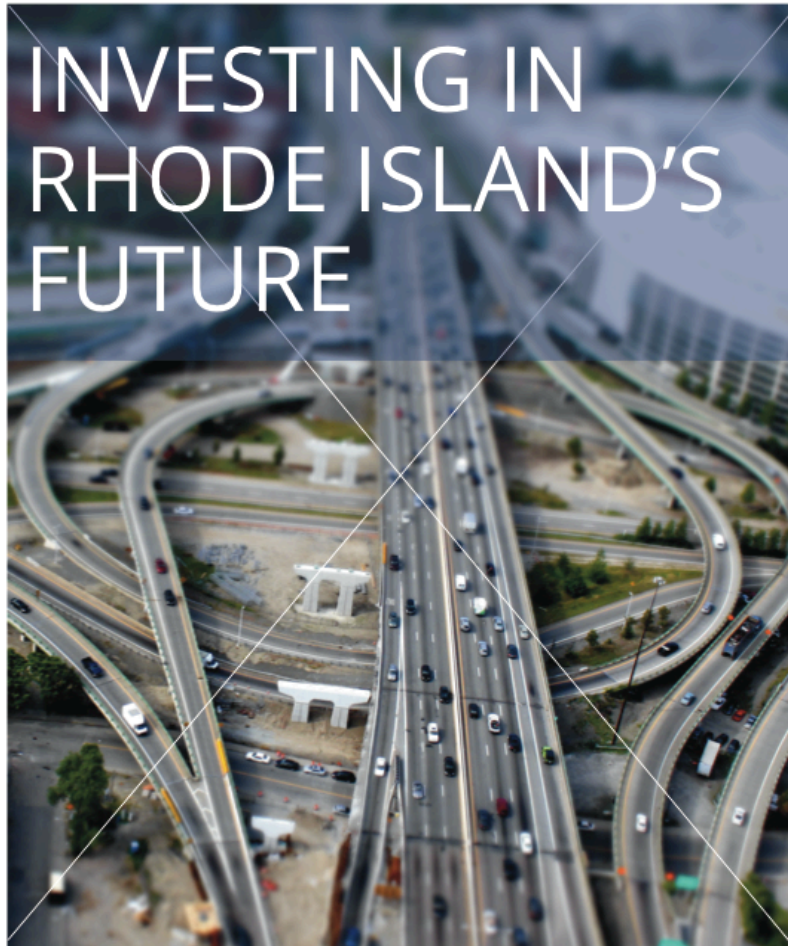
- State funds dependent on future General Assembly action;
- Critical Federal funds are highly uncertain;
- Highway Trust Fund is nearly insolvent;
- Timing, amount of Congressional action remains unknown.





Asset Inventory and Condition

- Provide an overview of RIDOT's assets and a high-level view of the current condition
 - Sets scope and foundation for the rest of the TAMP
 - List assets and condition
- Historic data on asset quantity, condition, and investment (if possible)



**A 10-Year Plan to Strengthen
Our State's Transportation System**

DATE OR DETAILS HERE



Examining specific needs:

- Pavement
- Bridge
- Drainage
- Maintenance
- Safety



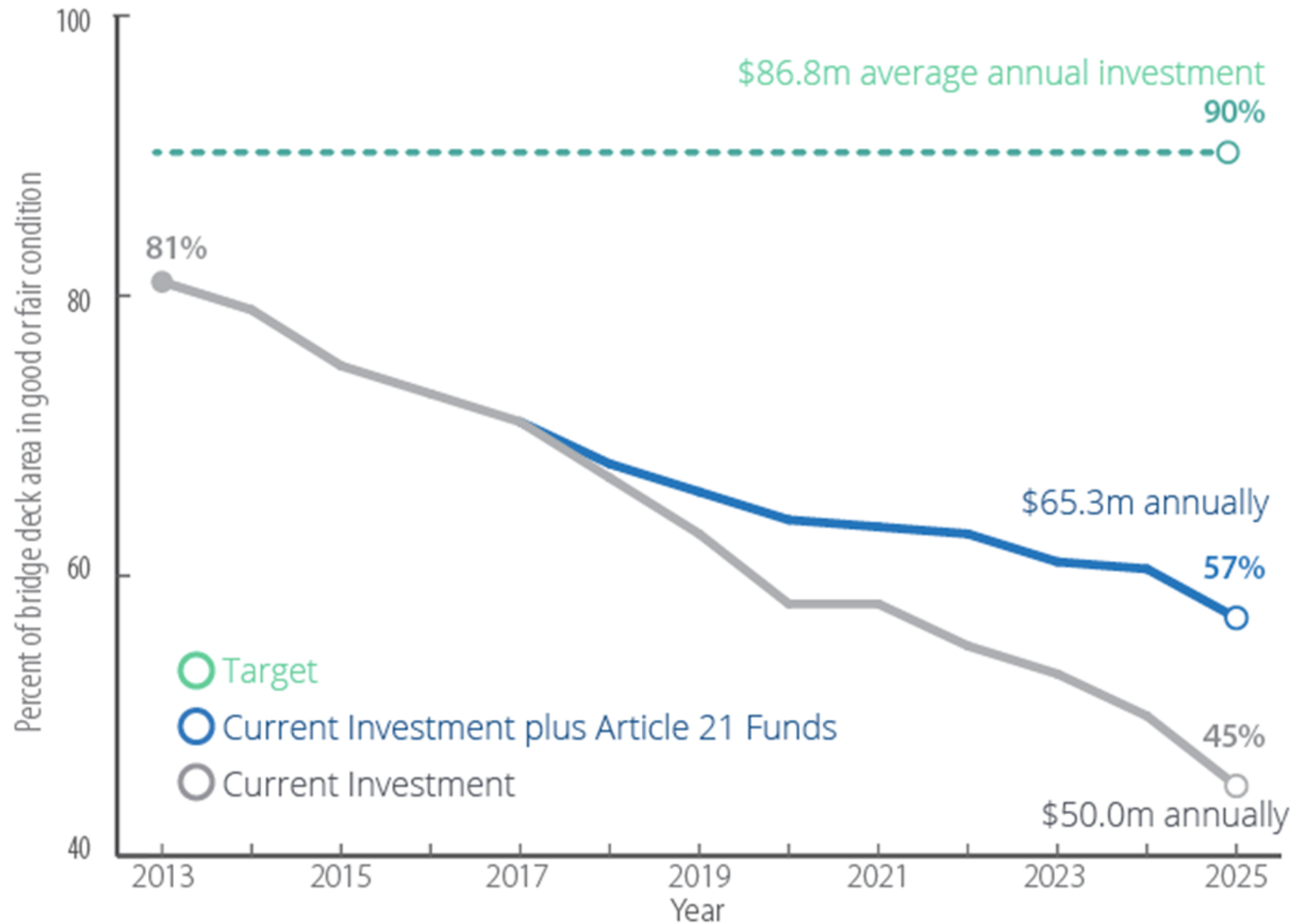
Component 1: Better Bridges

- State of the Data
 - Good data available on current inventory and conditions;
 - Historic data available;
 - Currently in transition to new National Bridge Elements (may complicate interpretation of element level data);
 - Analysis is performed through a set of spreadsheets – testing use of dTIMS.

Component 1: Better Bridges

- Performance Measure
 - % of bridge deck area in good, fair, and poor condition—based on NBI condition ratings.
 - The result is weighted by deck area to reflect the fact that larger bridges cost more to repair than smaller bridges.
 - MAP-21 specifically calls for FHWA to establish a minimum target for Interstate and NHS bridge conditions
 - Expect a similar measure to be required for TAMPs by FHWA

Bridge Performance, X Investment



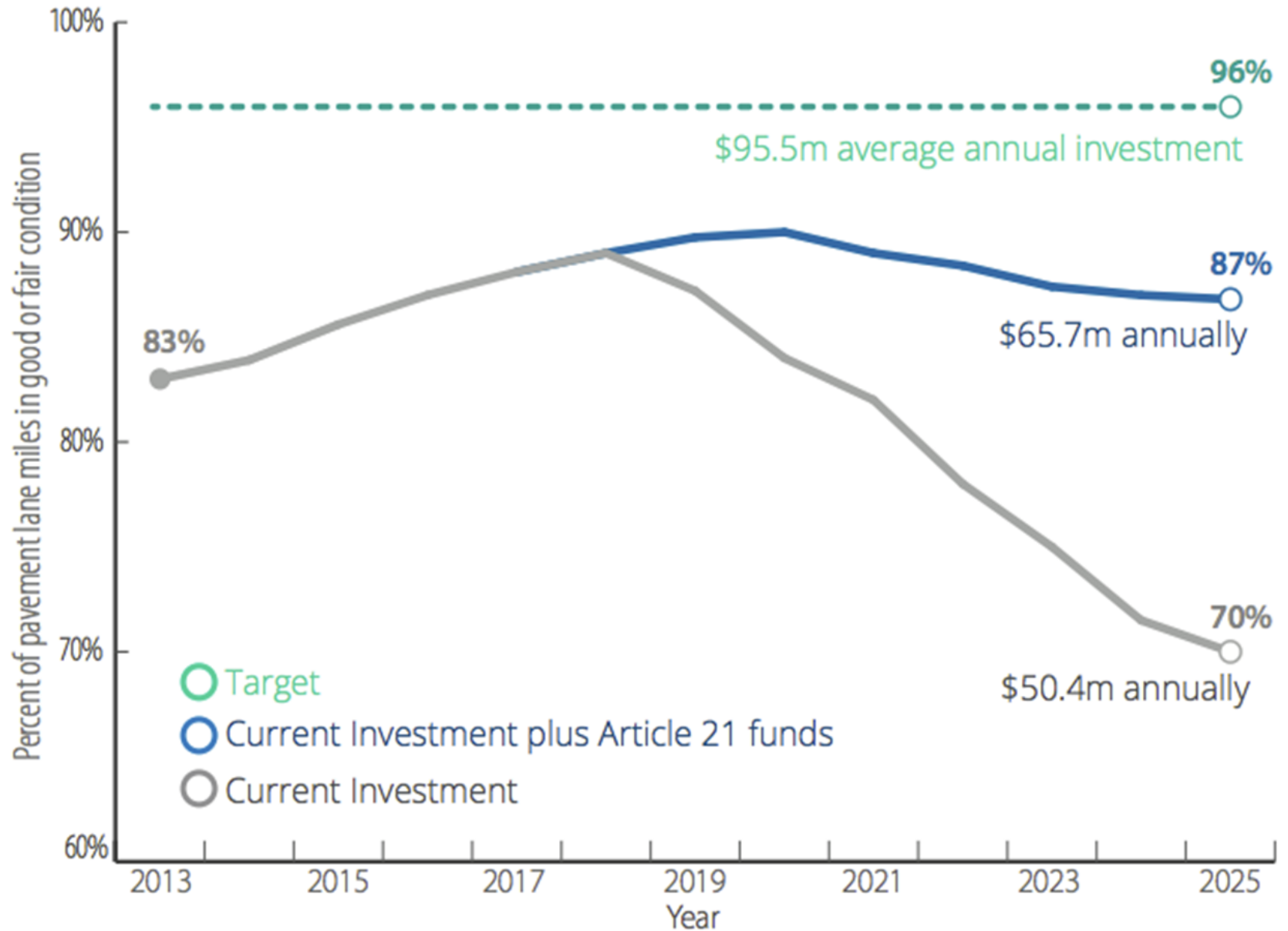
Component 2: Reliable Roads

- State of the Data
 - Good data available on current inventory and conditions;
 - Historic data available;

Component 2: Reliable Roads

- Performance Measure
 - Pavement Structural Health Index (PSHI) captures the different ways that pavement begins to deteriorate including: roughness, rutting, cracking and delamination.
 - The measure used is the percent of roadway in good, fair, or poor condition defined using the index.
 - Expect a similar measure to be required for TAMPs by FHWA.

Pavement Performance, X Investment



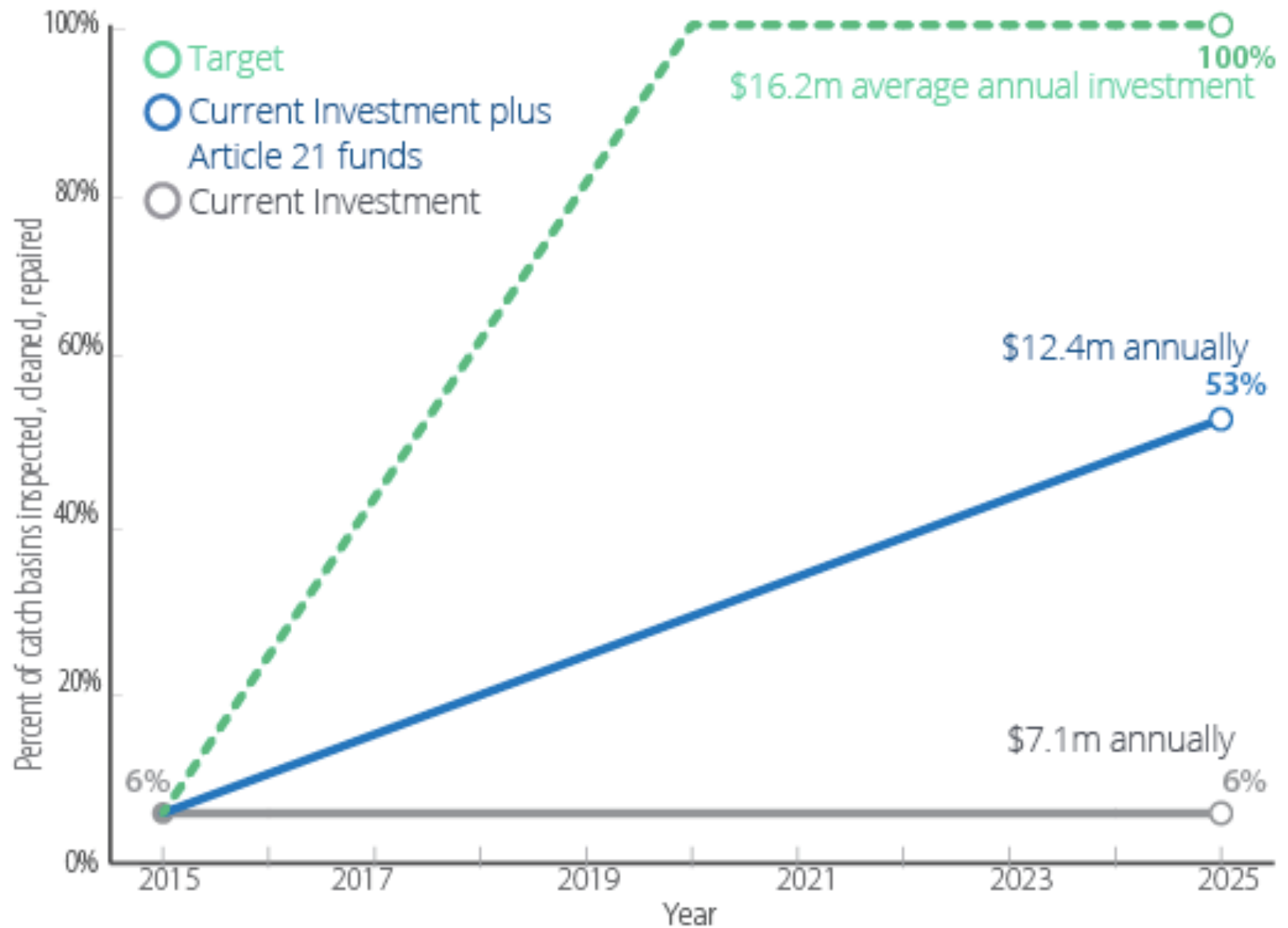
Component 3: Drainage, Repair, Improvement, and Preservation (DRIP)

- Have an estimated and approximate count of the number of assets;
- In process of formalizing the inventory: significant work remains to be performed;
- Have data on number of catchbasins cleaned by maintenance staff and through construction contracts. (Up to 50% of basins cleaned by maintenance are repeated from prior seasons due to flooding and siltation issues.)

Component 3: DRIP

- Performance Measure
 - Under discussion: most likely % of catchbasins cleaned and inspected (versus whole system);
 - Complicated by significant compliance issues RIDOT is navigating (DOJ);
 - Seven criteria for DRIP program: four met, but catchbasins comprise single most largest and most costly asset pool.

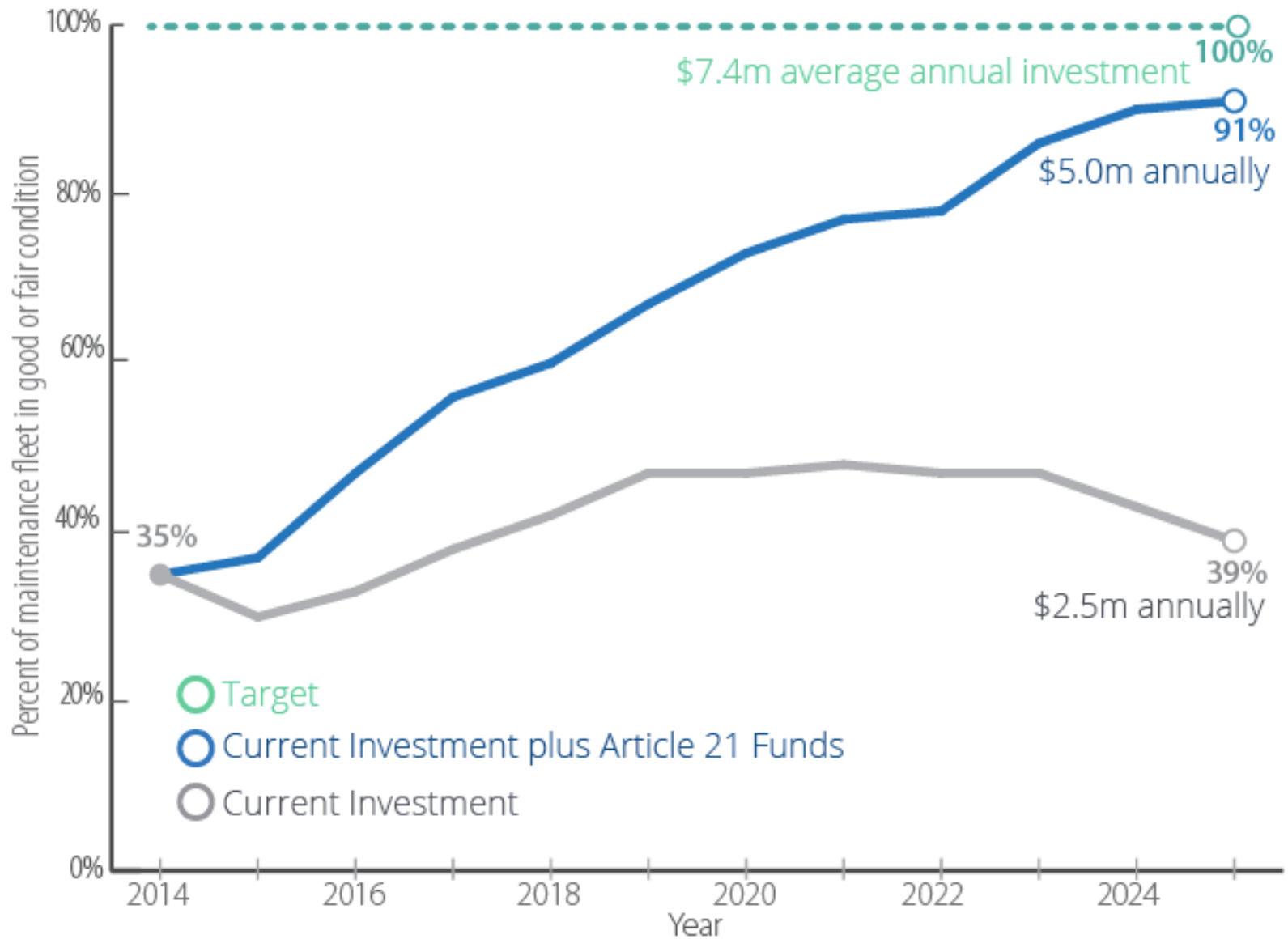
Drainage Performance, X Investment



Component 4: Maintenance

- State of the Data
 - Includes a numbers of different assets/activities – e.g. , winter maintenance, pavement/bridge maintenance, emergency response, etc...
 - Limited data available to measure maintenance performance
- Performance Measure
 - Percent of fleet in good/fair condition
 - Vehicles older than their estimated useful life are classified as poor
 - Used to illustrate impacts of changes in overall maintenance budget

Maintenance Performance, X Investment



Getting Started – A Summary

- What is the current financial situation?
- What are the current needs?
- Do available funds meet needs?
 - If no – what is the gap?
- How can available funds be used?
 - How can available funds be used to provide best results/
impact?
 - What are the risks in not meeting the needs?

Funding is both a risk, and a tool to address risk.

Questions?

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