

# Development of the 2024-2027 Statewide Transportation Improvement Program

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October 22, 2020

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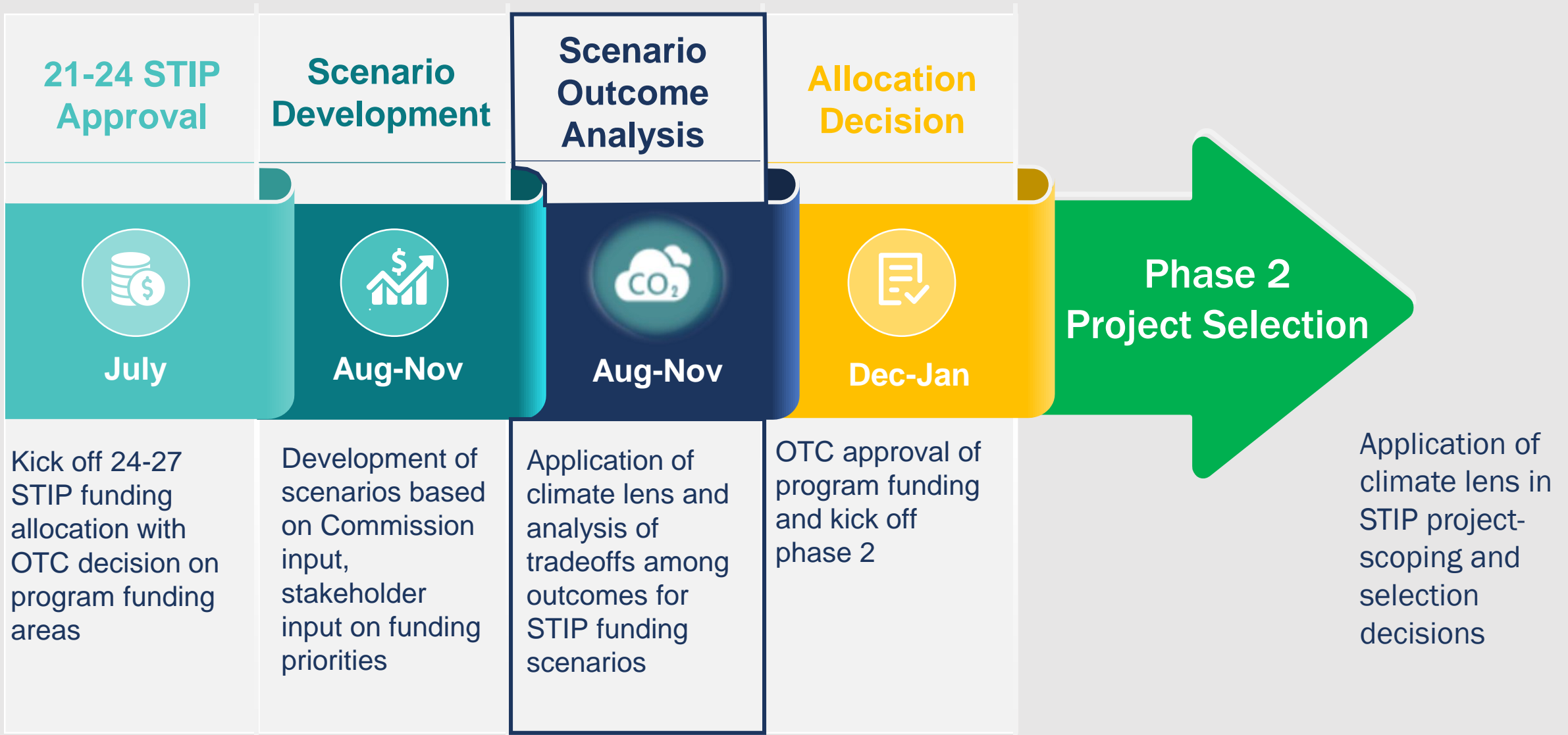
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# 2024-2027 STIP Development & Analysis Process





# Next Steps for STIP Funding Allocation

## October

- ODOT shares scenarios and results of analysis
- OTC provides feedback on refining scenarios

## December

- OTC selects funding allocation option

## January

- ODOT presents program allocations
- OTC direction to ODOT on how to use any additional federal funds

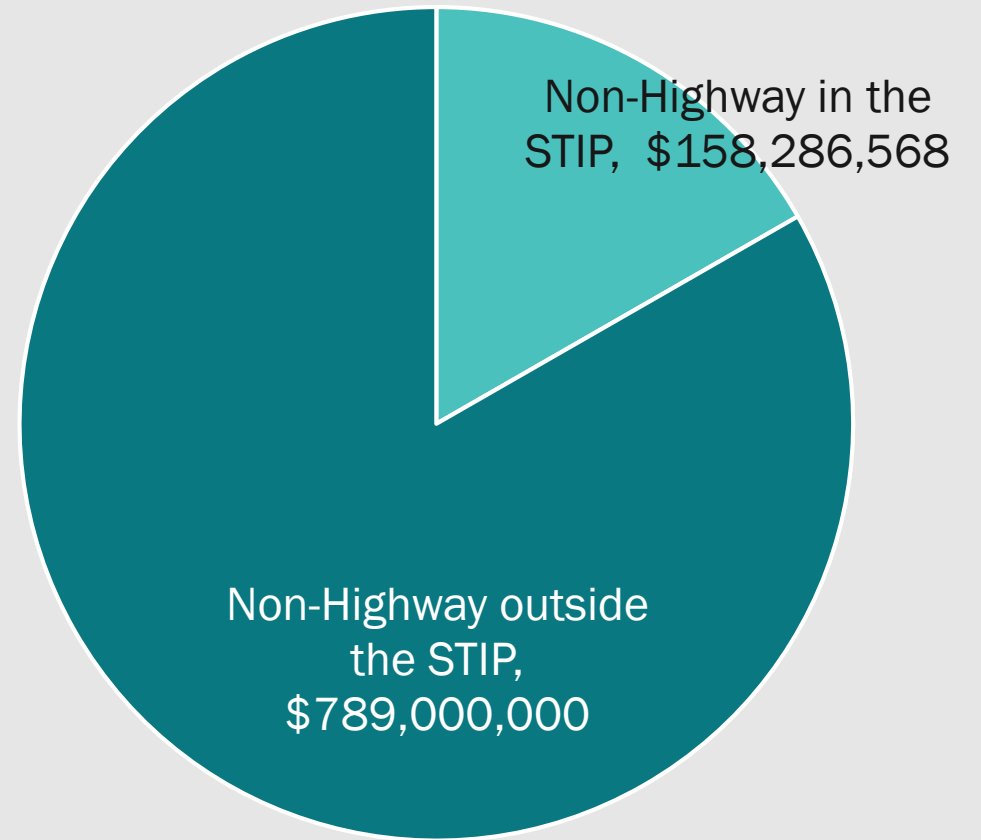
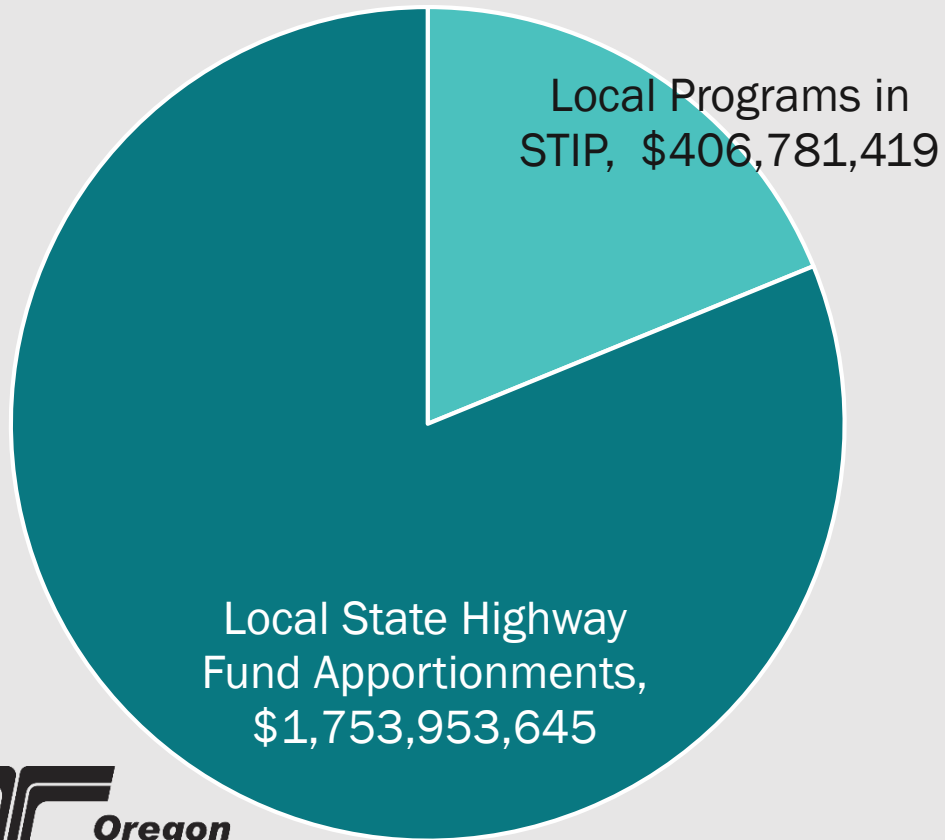


# STIP Public Engagement and Input Opportunities

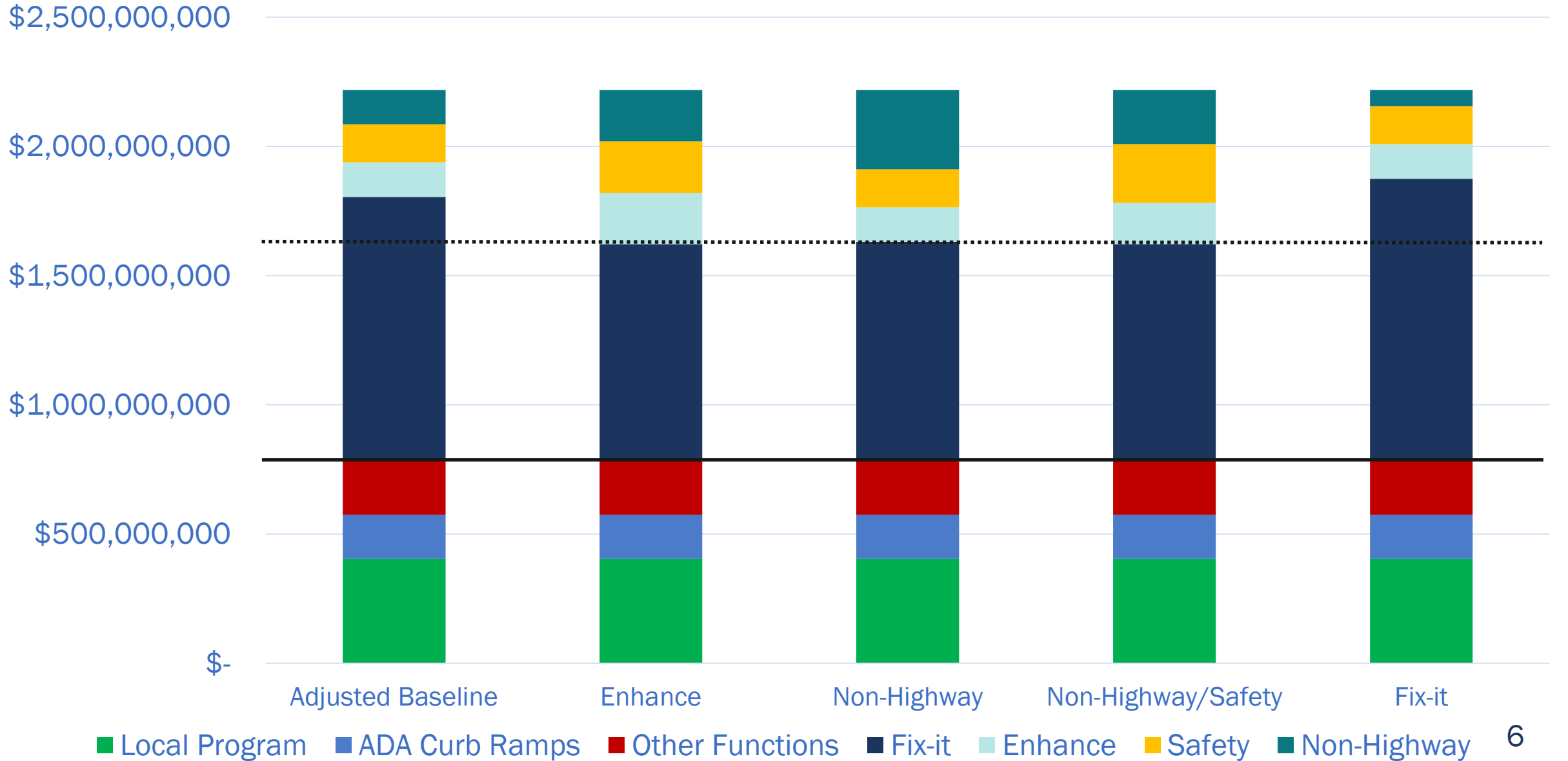
- Advisory committee discussions on funding scenarios
- Online open house for public comment on funding scenarios
- Webinar on November 2 for public comment opportunity
- Encouraging stakeholders to weigh in through letters to the OTC



# Non-Highway and Local Funding

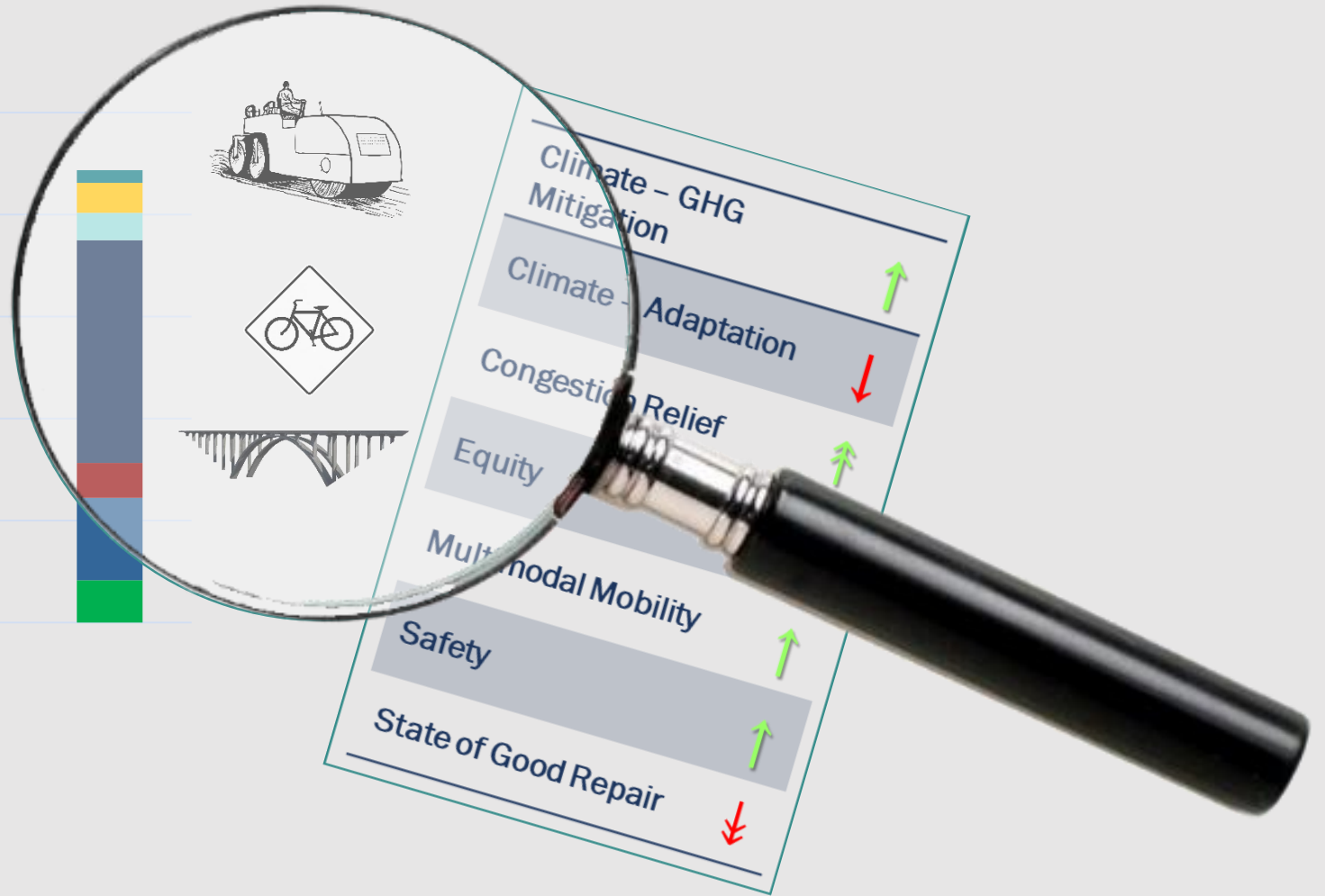
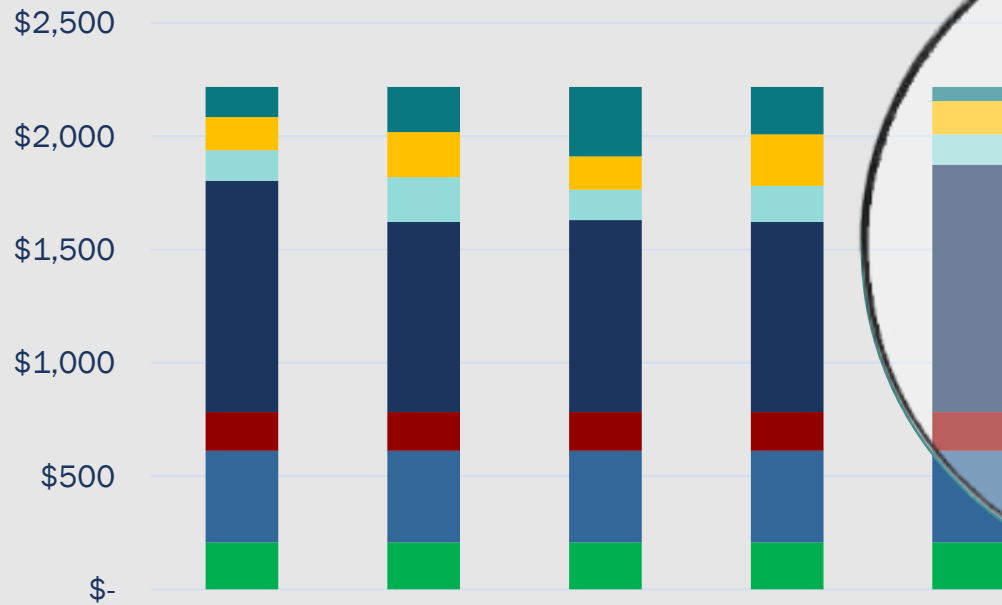


# 2024-2027 STIP Scenarios



# Scenario Analysis

In millions



# Analysis Requirements

Executive Order 20-04



## Add GHG Lens to Project Selection

- Phase 1: Inform funding allocation in 2024-2027 STIP
- Phase 2: Support project selection
  - Test and iterate
  - Engage stakeholders on methods
- Phase 3: Report on outcome of STIP projects



What about tradeoffs?



# Develop a Tradeoff Evaluation Framework

## Based on Strategic Action Plan Goals and Priorities

### OTC Strategic Action Plan

**3. Reduce Our Carbon Footprint**

*We will select and build cleaner projects to help reach Oregon's climate goals.*

Oregon's climate is drastically changing with more frequent and severe wildfires, flooding, and landslides. These events can lead to road closures that impact freight, the economy, and people's ability to obtain critical services. Cars, trucks, and other transportation sources significantly contribute to air pollution and are the largest source of GHG emissions in Oregon, constituting some forty percent of the total. We must take substantial and swift action to reduce carbon in order to achieve a cleaner and more sustainable future. ODOT is consolidating efforts and pursuing strategic actions to reduce transportation emissions.

The Oregon Statewide Transportation Strategy: A 2050 Vision for GHG Reduction is the state's roadmap for reducing carbon emissions from the transportation sector. Key actions include cleaner vehicles and fuels (e.g. electric vehicles), low carbon modes (transit, bike, walk, etc.), close proximity of housing to jobs (and uses), pricing (e.g. vehicle miles traveled charge), and demand management strategies (e.g. telecommuting).

ODOT is pursuing efforts within each of these categories by implementing the Governor's direction in Executive Order 20-04 and through multi-agency efforts (Every Mile Counts). Additional efforts are needed and will be identified in an ODOT Statewide Transportation Strategy Mid-Term Action Plan.

**Cleaner Investments and Projects**

Underpinning all of these efforts is determining how we spend money and how we build our projects. Most of Oregon's transportation dollars flow to or through ODOT and can be better targeted to low carbon investments. ODOT will consider GHG emission impacts and investment programs in selecting major capital projects. ODOT will support allocation to low carbon emission projects. Historic spending will be compared to future spending to calculate emission savings.

After projects are selected, emissions from building the project must also be considered. ODOT will pursue low carbon construction techniques where possible, relying on low carbon fuels and materials. We will inventory emissions, identify lower carbon options, and develop and pursue a transition plan with our construction partners.

**Implementing Actions**

Year	Actions
2021	Establish a carbon baseline for emissions from the construction of transportation projects.
2021	Identify alternative lower carbon materials and fuels and set emission reduction targets.
2021	Apply GHG emission standards in making ODOT investment decisions.
2022	Phase in lower carbon materials, fuels, and construction practices; monitor and adjust.
2022	Adjust investment programs to invest in lower emission projects (e.g. bike, walk, transit).

**Metric:**  
By the end of 2023, begin to reduce greenhouse gas emissions from ODOT activities.




Climate-Mitigation

Reduces emissions per mile and supports VMT reduction, improves health/AQ



Climate Adaptation/  
Resilience

Proactive investment that increases resilience to extreme weather events and climate change



Congestion

Ease of Roadway movement, ease congestion



Social Equity

Supports all user needs and exposure equitably, targets disadvantaged populations and frontline communities



Multi-Modal Mobility

Multi-modal access, resilient set of modal options



Safety

Prioritize the safety of system users and transportation workers



State of Good Repair  
(SOGR)

Cost-effectively preserve and maintain our assets

# Analysis Approach

## Mapping to Real Projects and Outcomes



Status Quo

### Look at STIP Projects

- Distinguish by project attribute
- Associate project attribute with:
  - Good: +
  - Neutral: 0
  - Bad: -

E.g. Bridge Replacement  
(adding capacity)

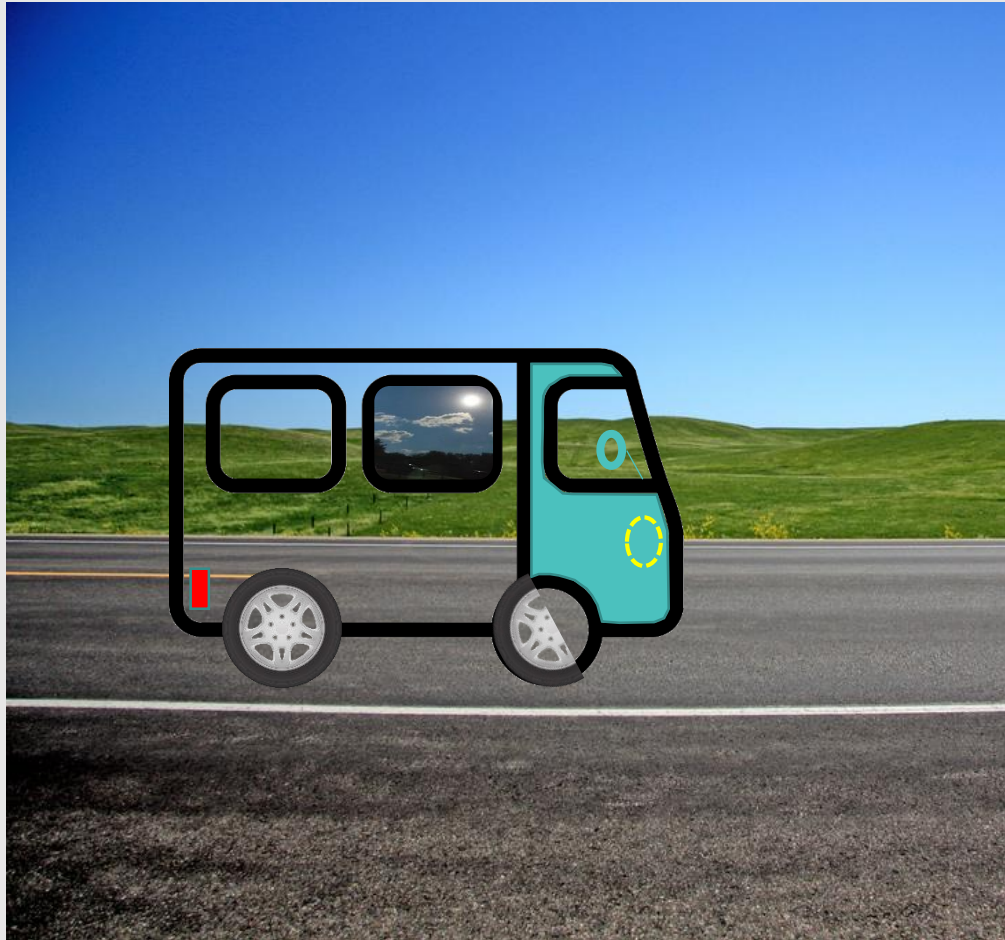


Desired Outcome	Relationship
➤ Congestion Relief	+
➤ Multi-Modal	0
➤ Social Equity	0
➤ Safety	+
➤ Climate Mitigation	-
➤ Climate Adaptation/Resilience	+
➤ State of Good Repair	0

Project	Congestion	Multi-Modal	Equity	Safety	Mitigation	Adaptation	Good Repair	
A	\$x			\$x		\$x		
B		\$x	\$x	\$x	\$x		\$x	
C						\$x	\$x	
D		\$x	\$x		\$x			
TOTAL	X%	X%	X%	X%	X%	X%	X%	% of funding spent
Need	Y%	Y%	Y%	Y%	Y%	Y%	Y%	% of total need

# Analysis Processes Will Improve Over Time

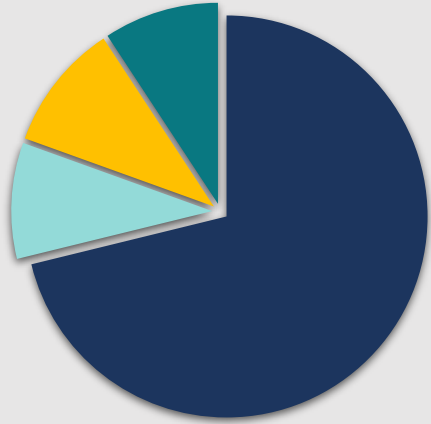
“We are building the bus as we drive it”









## Future Potential Opportunities for Improvement

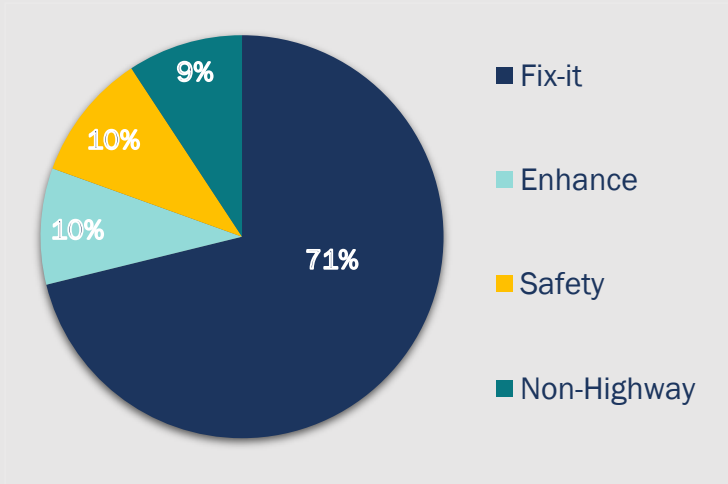
- Social Equity
- Geographic Sensitivity
- Social Cost of Carbon
- Requires Stability in Funding Categories and Outcomes

# RESULTS - Individual Scenario Analysis



	Climate - GHG Mitigation	=
	Climate - Adaptation/Resilience	↓
	Congestion Relief	↑
	Social Equity	↑
	Multimodal Mobility	↑
	Safety	↑
	State of Good Repair	↓

# Adjusted Baseline



## Baseline

Funding splits unchanged

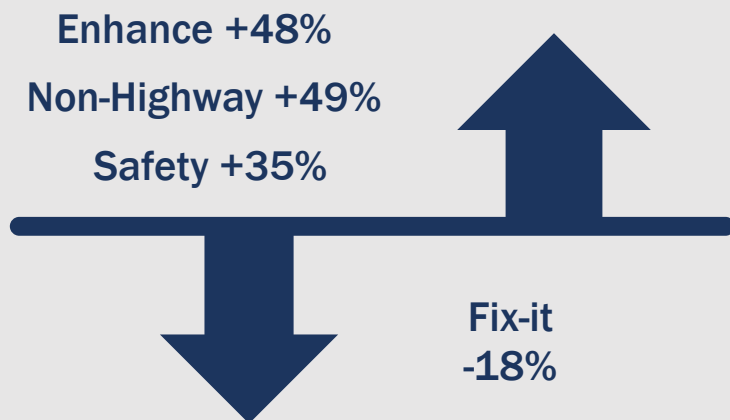
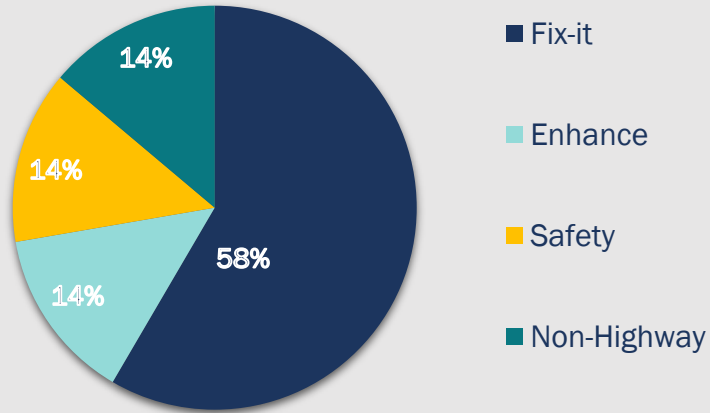
Outcome Areas		System Impacts and Implications
 Climate – GHG Mitigation	D -	Most trips drive alone & in low MPG cars
 Climate – Adaptation/ Resilience	C -	Slow progress with preservation projects
 Congestion Relief	B -	Select bottleneck projects in development
 Social Equity	C -	Few low cost travel options
 Multimodal Mobility	D	Connectivity gaps
 Safety	B	Focus on fatalities and serious injuries
 State of Good Repair	C	Several assets and areas deteriorating

*\*Note, grades reflect progress toward meeting identified needs, and are not the same as level of service*



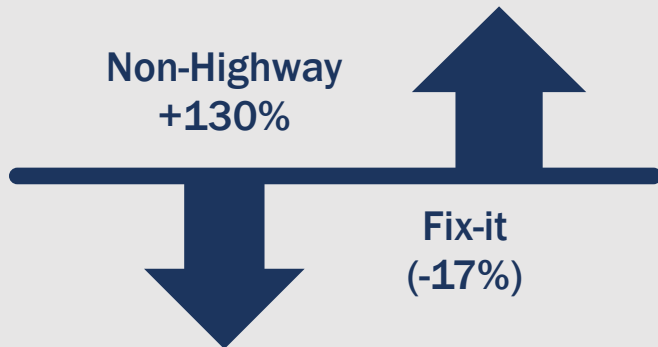
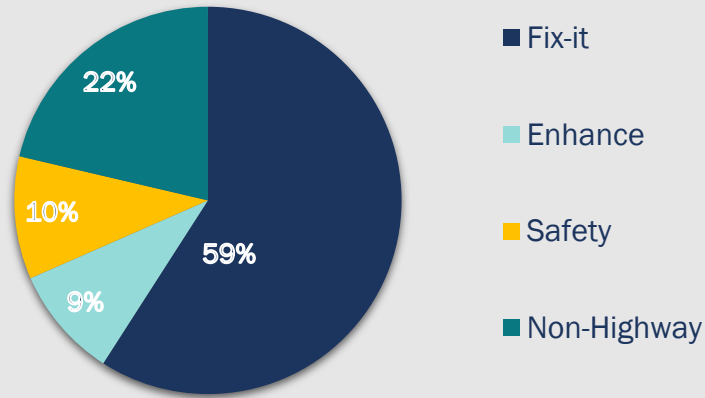
# S1 – Enhance

## Changes from Baseline



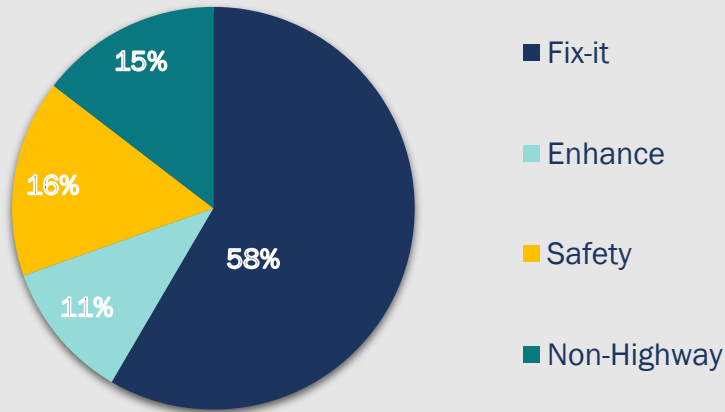
Outcome Areas		System Impacts and Implications
Climate – GHG Mitigation	=	Increased investments in bike, ped, transit, help to off-set capacity increases
Climate – Adaptation/Resilience	↓	Less funding to fix the system hampers ability to upgrade vulnerable infrastructure
Congestion Relief	↑	Starts to address a few critical bottlenecks
Social Equity	↑	Increased accessibility for highest need users to low cost, low carbon modes
Multimodal Mobility	↑	More strategic investments can be made to help complete critical connections
Safety	↑	Safety co-benefits of fix-it programs decline but more targeted safety investments stretch ability to address highest priority needs
State of Good Repair	↓	Pavement and bridge condition declines system-wide, including priority routes

# S2 – Non-highway Changes from Baseline



Outcome Areas	System Impacts and Implications
<b>Climate – GHG Mitigation</b>	Increased low carbon transportation options
<b>Climate – Adaptation/Resilience</b>	Less funding to fix the system hampers ability to upgrade vulnerable infrastructure
<b>Congestion Relief</b>	Slightly less funding impacts resources for bottleneck projects but is offset some by multimodal projects
<b>Social Equity</b>	Increased access for all users to low cost, low carbon modes
<b>Multimodal Mobility</b>	Cut timeframe to complete the biking and walking system in half; increased transit fleet replacement
<b>Safety</b>	Funding same as baseline; vulnerable user safety improved by non-highway funding increase
<b>State of Good Repair</b>	Pavement and bridge condition declines system-wide, including priority routes

# S3 – Safety/ Non-highway Changes from Baseline



Non-Highway +58%

Safety +55%

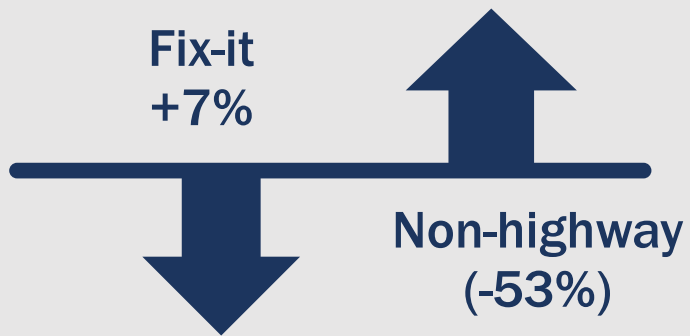
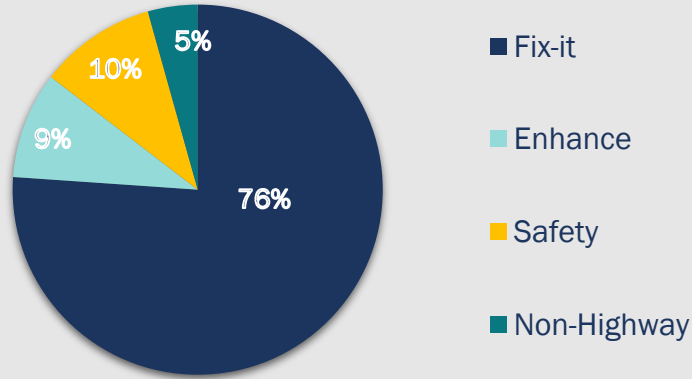
Enhance +19%

Fix-it  
(-18%)

Outcome Areas	System Impacts and Implications
Climate – GHG Mitigation	↑ Fewer crashes and some more low carbon options
Climate – Adaptation/Resilience	↓ Less funding to fix the system hampers ability to upgrade vulnerable infrastructure
Congestion Relief	↑ Some funding for critical bottlenecks
Social Equity	↑ Starting to increase access for all users to low cost, low carbon modes
Multimodal Mobility	↑ Make strategic investments to help complete critical connections and start to fill gaps
Safety	↑ Targeted safety investments stretch ability to address highest priority needs; vulnerable user safety improves
State of Good Repair	↓ Pavement and bridge condition declines system-wide, including priority routes

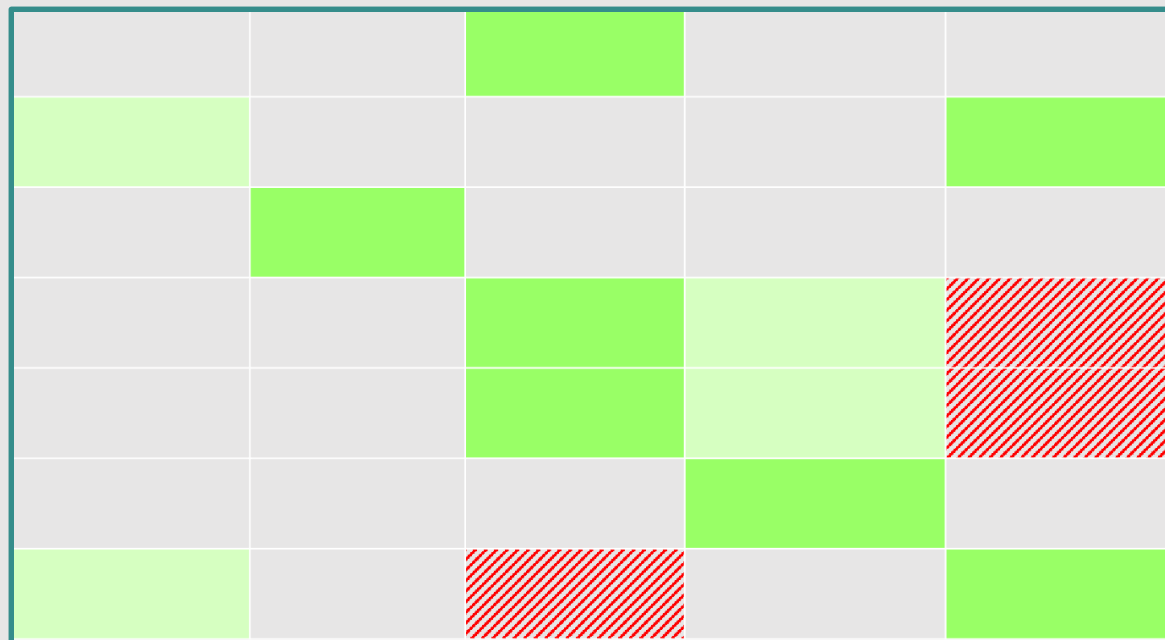
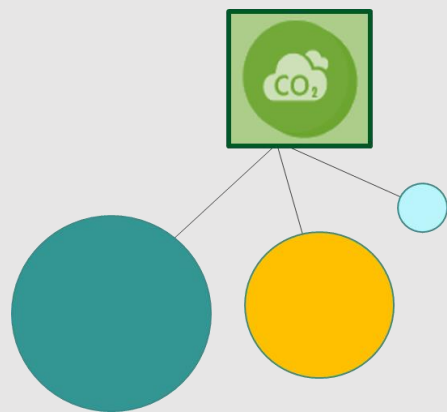
# S4 – Fix-it

## Changes from Baseline



Outcome Areas	System Impacts and Implications
 <b>Climate – GHG Mitigation</b>	 Driving remains predominate travel option
 <b>Climate – Adaptation/Resilience</b>	 Start to address locations or infrastructure that is most vulnerable
 <b>Congestion Relief</b>	 Slightly less funding impacts resources for bottleneck projects
 <b>Social Equity</b>	 Auto accessibility high while access to non-auto travel does not improve
 <b>Multimodal Mobility</b>	 Strips funding down to only min requirements, doubling the time to fill gaps and leaving the system disconnected
 <b>Safety</b>	 Funding same as baseline; many safety co-benefits of fix-it projects
 <b>State of Good Repair</b>	 Bridge and pavement conditions improve in the near-term but still continue to decline overall in the next decade

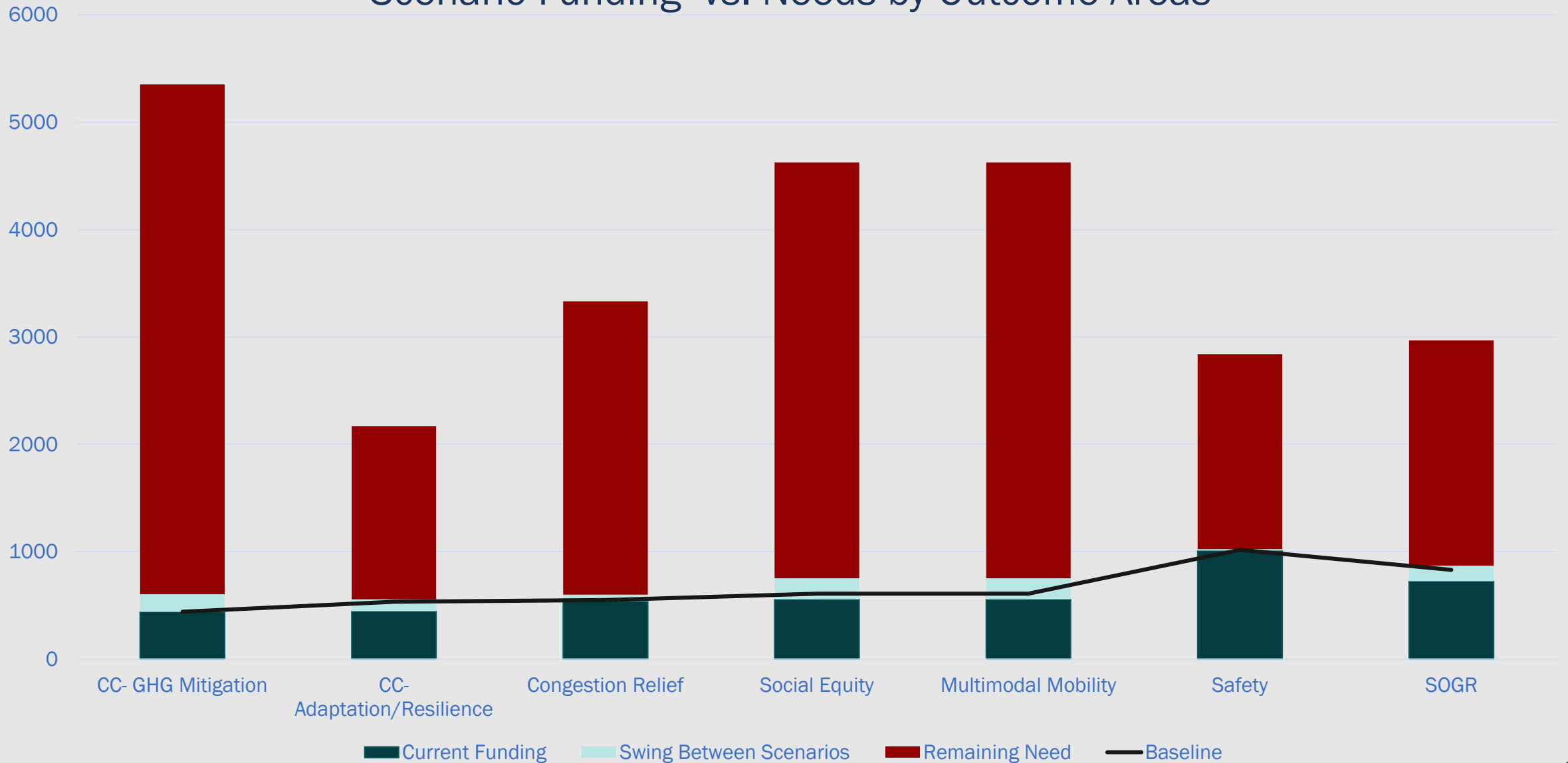
# RESULTS - Summary





# 2024-2027 STIP Scenarios Impact Range

Scenario Funding vs. Needs by Outcome Areas



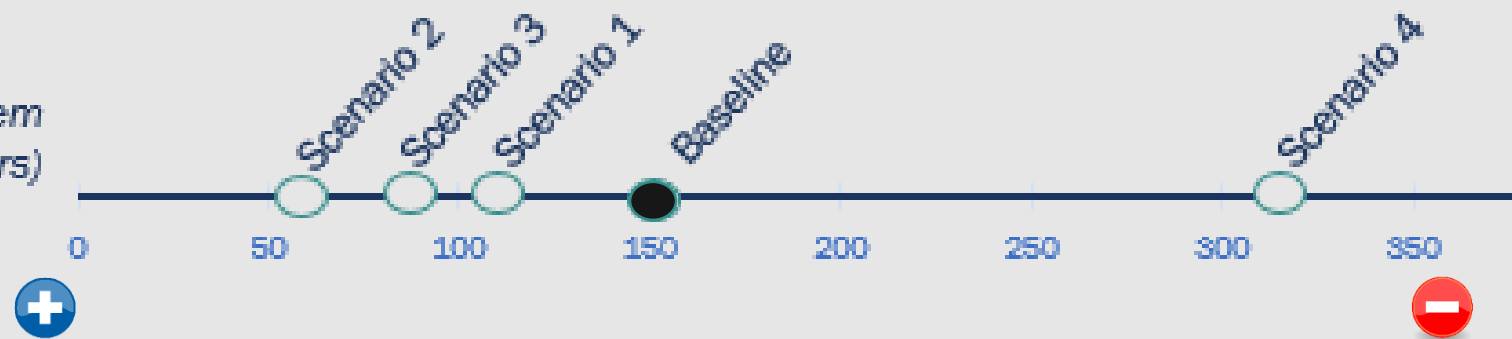
# Tradeoffs: Indicators across Scenarios

BASELINE	S1 ENHANCE	S2 NON-HIGHWAY	S3 SAFETY/NON-HIGHWAY	S4 FIX-IT
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State of Good Repair  
*Fix-it Priority Routes*  
 % Fair or Better  
 Condition by 2030



Multi-Modal  
 Complete b-p system  
 (Baseline 150-years)

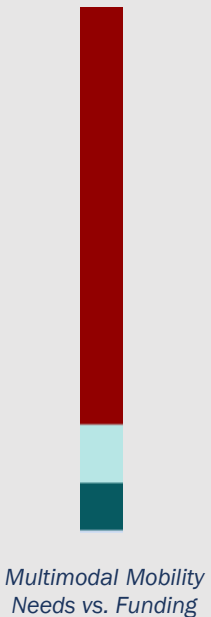
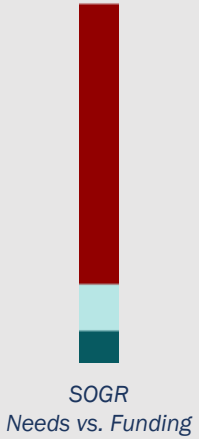


Deferred Backlog

\$ (\$0)

- Scenario 4
- Baseline
- Scenario 3
- Scenarios 1 & 2

\$\$\$ (\$15b)



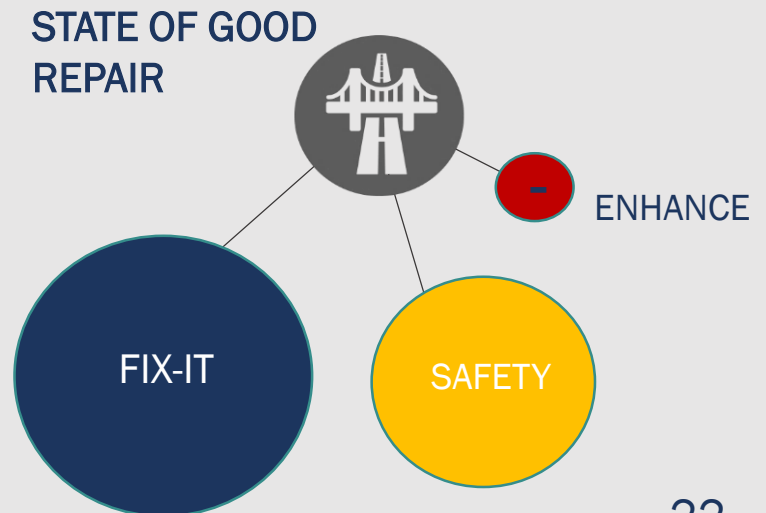
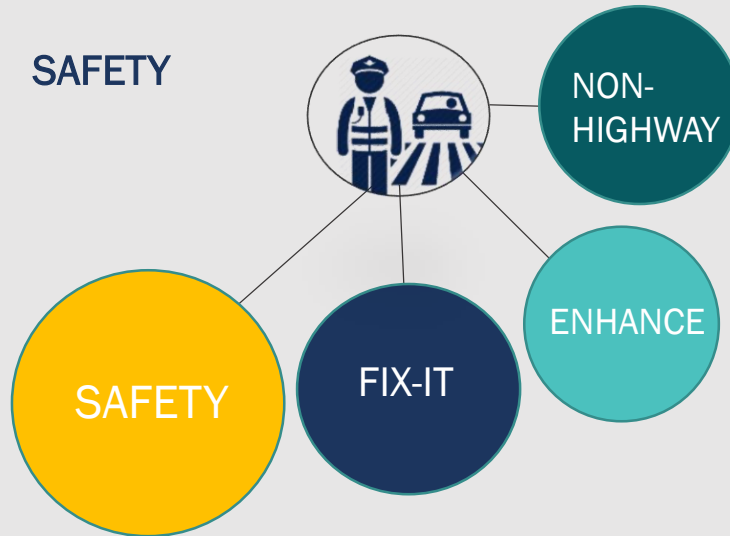
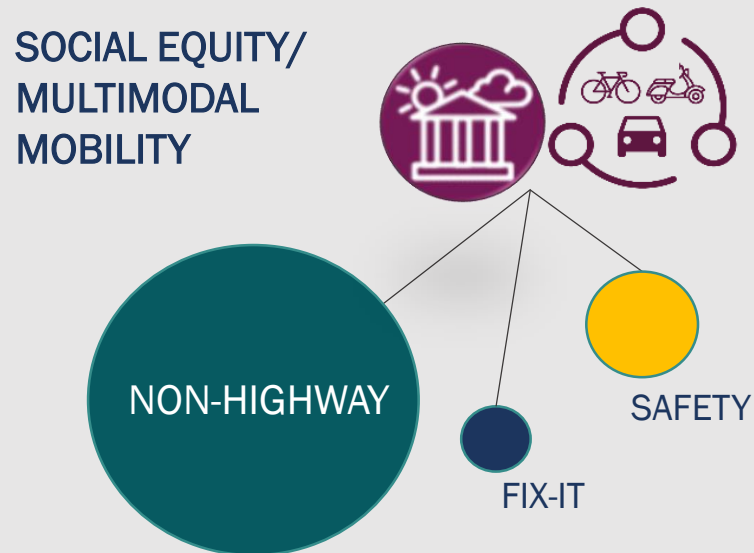
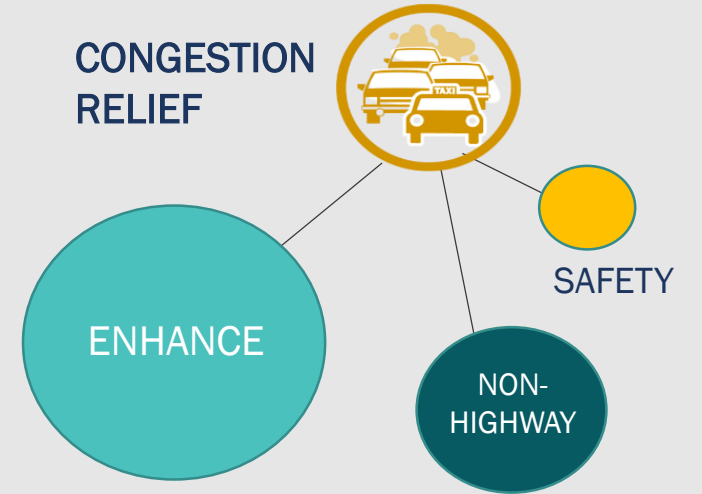
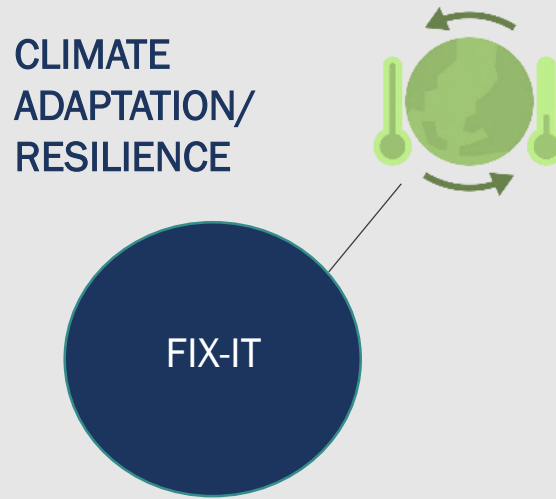
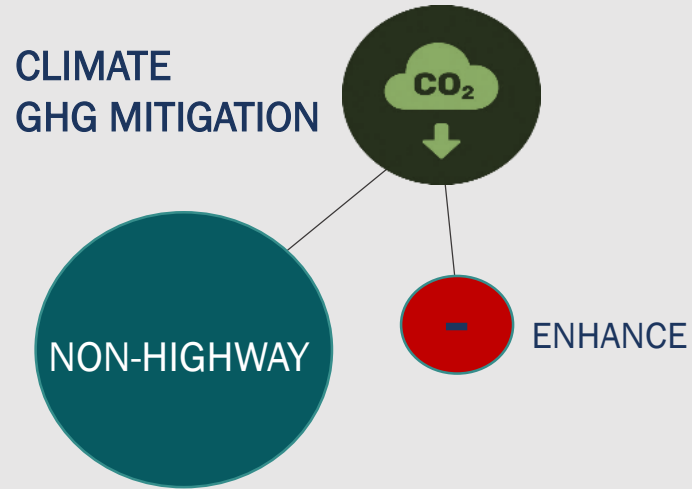
# Tradeoffs

## Changes from Baseline

SCENARIOS	S1 ENHANCE	S2 NON-HIGHWAY	S3 SAFETY/ NON-HIGHWAY	S4 FIX-IT
CLIMATE - GHG MITIGATION				
CLIMATE - ADAPTATION/RESILIENCE				
CONGESTION RELIEF				
SOCIAL EQUITY				
MULTIMODAL MOBILITY				
SAFETY				
STATE OF GOOD REPAIR				

# Investments to Influence Outcomes

Investment categories scaled to their support of outcomes



# Summary Takeaways

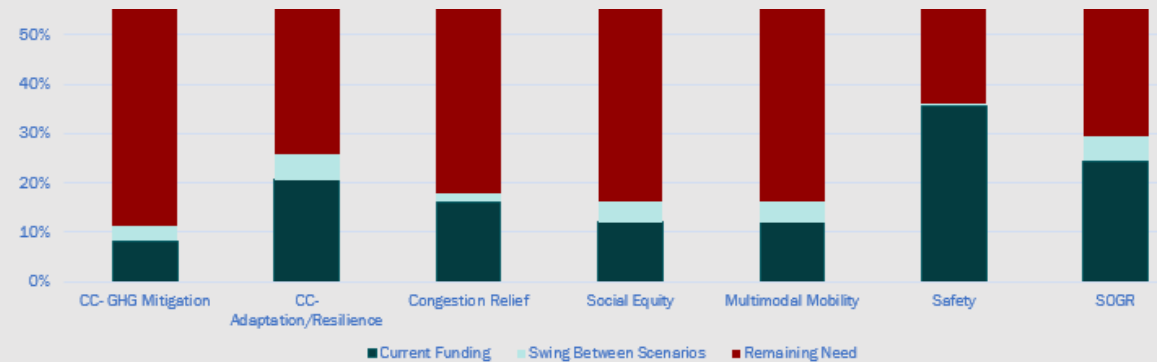
- **Needs far outweigh available funds**

There are a number of historically underfunded outcome areas, top among them include:

- Climate Change GHG Mitigation
- Multimodal Mobility and Social Equity

- **There are key relationships between funding categories and outcomes**

- Non-highway most benefits GHG Mitigation, Multimodal Mobility, and Social Equity
- Fix-it most benefits State of Good Repair and Adaptation/Resilience



- **Specific to Climate Change GHG Mitigation**

- Scenario 2 has the greatest potential positive impact
- Scenario 4 has negative impacts for GHG Mitigation (but most positive for Adaptation/Resilience)





# Summary of Scenarios

Performance Relative to One Another

SCENARIOS	BASELINE	S1 ENHANCE	S2 NON-HIGHWAY	S3 SAFETY/ NON-HIGHWAY	S4 FIX-IT
CLIMATE - GHG MITIGATION			++	+	--
CLIMATE - ADAPTATION/RESILIENCE	+	-	--	-	++
CONGESTION RELIEF		++		+	=
SOCIAL EQUITY			++	+	--
MULTIMODAL MOBILITY			++	+	--
SAFETY	=	++	+		
STATE OF GOOD REPAIR	+	-	--	-	++



## Direction Requested

- How to weigh the tradeoffs between goals
- General thoughts on scenarios
- Further information requested on scenarios
- Further modifications and refinements to scenarios



A worker in a red safety suit and hard hat is positioned on a blue aerial lift bucket, working on a steel bridge structure. The background is a dense forest of green trees. The entire image has a dark blue overlay.

# Discussion