

## NCHRP 20-05 Topic 48-15: How Transportation Agencies Assess the Value of Added Capacity Highway Projects versus Other Modal Projects and Strategies - State DOTs

### Introduction

Dear Stakeholder:

The Transportation Research Board (TRB) is preparing a synthesis on How Transportation Agencies Assess the Value of Added Capacity Highway Projects versus Other Modal Projects and Strategies. This is being done for the National Cooperative Highway Research Program (NCHRP) under the sponsorship of the American Association of State Highway and Transportation Officials, in cooperation with the Federal Highway Administration.

The objective of this study is to summarize the methods and policies utilized by State Departments of Transportation (DOTs) and select metropolitan planning organizations (MPOs) to evaluate and compare the benefits and costs of different types of transportation improvement strategies. For the purposes of this synthesis, highway reconstruction, rehabilitation, and preventive maintenance, are not included as these projects are generally not conducted in lieu of added capacity highway projects. This initiative does not involve any evaluation of the specific techniques, methods, or tools used to assess projects or programs for any mode.

This questionnaire is being sent to State DOTs and select Metropolitan Planning Organizations. Your completion of the questionnaire will ensure the success of this effort. **If you are not the appropriate person at your organization to complete this questionnaire, please forward it to the correct person.**

Please note that the majority of questions are the same in each of the three major sections: 1.) Long-Range Statewide Transportation Plan, 2.) Corridor and Subarea Plans/Studies, and 3.) Statewide Transportation Improvement Program. It is anticipated that this consistency should assist respondents in completing the survey in an efficient manner. In addition, very few of the questions require written responses (i.e., respondents can select their choices by clicking on them).

**Please complete and submit this survey by Thursday, March 9, 2017.** We estimate that it should take approximately 25-30 minutes to

complete. If you have any questions, please contact our Principal Investigator, Richard Perrin of T.Y. Lin International at richard.perrin@tylin.com or (585) 512-2000. Any supporting materials can be sent directly to Richard via the email provided at the end of the survey.

## QUESTIONNAIRE INSTRUCTIONS

1. To view and print the entire questionnaire, Click on the following link [4815SurveyStateDOT.pdf](#).
2. To save your partial answers and complete the questionnaire later, click on the "Save and Continue Later" link at the top of your screen. A link to the incomplete questionnaire will be emailed to you from *SurveyGizmo*. To return to the questionnaire later, open the email from *SurveyGizmo* and click on the link. We suggest using the "Save and Continue Later" feature if there will be more than 15 minutes of inactivity while the survey is opened, as some firewalls may terminate due to inactivity.
3. To pass a partially completed questionnaire to a colleague, click on the on the "Save and Continue Later" link at the top of your screen. A link to the incomplete questionnaire will be emailed to you from *SurveyGizmo*." Open the email from *SurveyGizmo* and forward it to a colleague.
4. To view and print your answers before submitting the survey, print using "control p" after the final question (35) of the survey.
5. To submit the survey, click on "Submit" on the last page.

Thank you very much in advance for your time and expertise.

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Please enter your contact information.

First Name \*

Last Name \*

Title

Agency/Organization \*

Street Address

Suite

City

State

Zip Code

Country

Email Address \*

Phone Number \*

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## Role in Public Transportation Services

1. Does your agency own, maintain, or operate any public transportation service (local, commuter, or intercity)? \*

☐ Yes

☐ No

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1.b. Our agency owns, maintains, and operates public transportation service in the following type(s) of area(s) (please check all that apply): \*

- ☐ Urbanized Area of 1,000,000 or more in population
  - ☐ Urbanized Area of 200,000 – 999,999 in population
  - ☐ Urbanized Area of 50,000 – 199,999 in population
  - ☐ Non-Urbanized Area of 49,999 or less in population
- 

## Long-Range Statewide Transportation Plan

2. In what year was the Plan last updated? \*

Before 2000

2000

2001

2002

2003

2004

2005

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

2016

2017

3. With respect to the Plan, please select all that apply: \*

- ☐ It includes *policies and strategies* to guide more detailed planning and project development activities (e.g., an emphasis on fix-it-first/asset management, assessing movements of people and freight by corridors or districts, etc.) for most major improvements regardless of mode.
  - ☐ It includes design *concepts* (e.g., the type of facility such as a freeway, grade-separated interchange, right-of-way rail transit, etc.) for most major improvements regardless of mode.
  - ☐ It includes design *scopes* (e.g., number of lanes or tracks to be constructed or added, length of project, signalization, safety, access control including approximate number and location of interchanges, preferential treatment for high-occupancy vehicles, etc.) for most major improvements regardless of mode.
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4. Is the Plan fiscally constrained (i.e., does it include a financial plan that demonstrates how it can be implemented based on reasonably expected resources from public, private, and not-for-profit sources)? \*

- ☐ Yes
  - ☐ No
- 

5. Are illustrative projects included in the Plan (i.e., additional projects that would be advanced if additional resources were to become available)? \*

- ☐ Yes
  - ☐ No
-

6. Which **modal elements** are included in the Plan (please check all that apply)? \*

- ☐ Highway Expansion
- ☐ Local Public Transportation – Bus
- ☐ Local Public Transportation – Rail
- ☐ Commuter Public Transportation – Bus
- ☐ Commuter Public Transportation – Rail
- ☐ Intercity Public Transportation – Bus
- ☐ Intercity Public Transportation – Rail
- ☐ Safety
- ☐ Operational and Management Strategies
- ☐ Ferry Boat
- ☐ Inland Waterway Transport
- ☐ Freight Rail
- ☐ Bicycle Lane
- ☐ Pedestrian Walkway
- ☐ Multi-Use Trail
- ☐ Aviation

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## Long-Range Statewide Transportation Plan - Costs Considered

7. For the modal elements that are included in the Plan, what **costs** (including “soft” costs for engineering, design, and environmental work as appropriate) are considered or forecasted for individual projects (please check all that apply)?

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Highway Expansion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operational and Management Strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ferry Boat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inland Waterway Transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freight Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Walkway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Use Trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aviation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If there are additional **costs** that are considered or forecasted for individual projects, please list them here along with the respective modal elements.

Long-Range Statewide Transportation Plan - Benefits Considered

8. a. For the modal elements that are included in the Plan, what **benefits** are considered or forecasted for individual projects (please check all that apply)?

	Improvement to the Condition of Assets	Safety	Efficiency/Travel Time Savings	Air Quality (reduced emissions including GHG)	Non-Air Environmental (e.g., noise, light, water, etc.)
Highway Expansion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Operational and Management Strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ferry Boat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inland Waterway Transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freight Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Walkway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Use Trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aviation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.b. For the modal elements that are included in the Plan, what **benefits** are considered or forecasted for individual projects (please check all that apply)?

	Equity/Environmental Justice	Economic Development Impacts (e.g., jobs, output, income, etc.)	Sustainability/Resiliency	Public Health (e.g., reduced rates of obesity, asthma, etc.)	Changes in the Value of Affected Properties
Highway Expansion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bus						
Commuter Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operational and Management Strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ferry Boat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inland Waterway Transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freight Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Walkway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Use Trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aviation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If there are additional **benefits** that are considered or forecasted for individual projects, please list them here along with the respective modal elements.

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## Long-Range Statewide Transportation Plan - Benefit-Cost Analysis

9. Is an overall or total benefit-cost analysis conducted (or ratio calculated) for projects included in the Plan? \*

- ☐ Yes, a benefit-cost analysis is conducted for **all** of the projects included in the Plan.
- ☐ Yes, a benefit-cost analysis is conducted for **some** of the projects included in the Plan.
- ☐ No, a benefit-cost analysis is not conducted for any of the projects included in the Plan.

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Please provide a brief explanation for what triggers a benefit-cost analysis to be conducted: \*

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## Long-Range Statewide Transportation Plan - Project Prioritization

10. Are projects in the Plan prioritized by mode (i.e., a Highway Expansion project is prioritized against all other Highway Expansion projects and the same is true for other modes)? \*

☐ Yes

☐ No

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11. a. Is there cross-modal prioritization of Highway Expansion projects and other types of projects in the Plan (i.e., Highway Expansion projects are prioritized alongside commuter public transportation – rail projects, operational and management strategies, etc.)? \*

☐ Yes

☐ No

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11.b. Which modes are included in the cross-modal prioritization that includes Highway Expansion projects in the Plan (please check all that apply)? \*

- ☐ Local Public Transportation – Bus
- ☐ Local Public Transportation – Rail
- ☐ Commuter Public Transportation – Bus
- ☐ Commuter Public Transportation – Rail
- ☐ Intercity Public Transportation – Bus
- ☐ Intercity Public Transportation – Rail
- ☐ Safety
- ☐ Operational and Management Strategies
- ☐ Ferry Boat
- ☐ Inland Waterway Transport
- ☐ Freight Rail
- ☐ Bicycle Lane
- ☐ Pedestrian Walkway
- ☐ Multi-Use Trail
- ☐ Aviation

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11.c. Is there legislation, an executive order, or other requirement in place that mandates your agency to conduct cross-modal prioritization of projects as part of the development of the Plan? \*

- ☐ Yes
  - ☐ No
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11.d. What is the name of the legislation, executive order, or other requirement in place that mandates your agency to conduct cross-modal prioritization of projects as part of the development of the Plan? \*

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11.e. If there are any non-highway projects that are included in the Plan that were selected in lieu of or in combination with a Highway Expansion project(s) to add capacity for people and freight, please provide a brief description such as “the proposed extension of the MetroSuburb Blue Line was prioritized over the widening of State Route 123 from four lanes to eight lanes in the Vision 2045 Statewide Transportation Plan. “

11.f. Do you anticipate conducting cross-modal prioritization that includes Highway Expansion projects in the next Plan? \*

- ☐ Yes
- ☐ No

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Long-Range Statewide Transportation Plan - Evaluation & Consultation

12. Is there a formal process in place to conduct a comparison of anticipated benefits of projects when included in the Plan (ex-ante) versus the actual benefits when said projects are implemented and operational (ex-post)? \*

☐ Yes

☐ No

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13. When evaluating Highway Expansion projects for possible inclusion in the Plan, is capacity (current or projected) on other agencies' highways and public transportation services considered in the evaluation? \*

☐ Yes

☐ No

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14. At what points in the development of the Plan are the following stakeholders consulted (please check all that apply)?

	Development of Scope of Work	Selection of Performance Measures	Development of Potential Alternatives	Selection of Recommendations	Review of Draft Plan
Agency Executive/Senior Leadership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A statewide commission or body (appointed or elected) other than the State DOT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local and/or Regional Public Transportation Operator(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metropolitan Planning Organization(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Officials in Non-Metropolitan Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indian Tribal Governments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Bus and/or Rail Operator(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div>Enter another option</div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div>Enter another option</div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div>Enter another option</div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Corridor and Subarea Plans/Studies

15. Has your agency conducted any Corridor or Sub-Area Plans/Studies in the last five years? \*

- ☐ Yes
- ☐ No



16. Which **modal elements** are included in the Corridor and Subarea Plans/Studies (please check all that apply)? \*

- ☐ Highway Expansion
- ☐ Local Public Transportation – Bus
- ☐ Local Public Transportation – Rail
- ☐ Commuter Public Transportation – Bus
- ☐ Commuter Public Transportation – Rail
- ☐ Intercity Public Transportation – Bus
- ☐ Intercity Public Transportation – Rail
- ☐ Safety
- ☐ Operational and Management Strategies
- ☐ Ferry Boat
- ☐ Inland Waterway Transport
- ☐ Freight Rail
- ☐ Bicycle Lane
- ☐ Pedestrian Walkway
- ☐ Multi-Use Trail
- ☐ Aviation

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## Corridor and Subarea Plans/Studies - Costs Considered

17. For the modal elements that are included in the Corridor and Subarea Plans/Studies, what **costs** (including “soft” costs for engineering, design, and environmental work as appropriate) are considered or forecasted for individual projects (please check all that apply)?

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Highway Expansion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operational and Management Strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ferry Boat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inland Waterway Transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freight Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Walkway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Use Trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aviation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If there are additional **costs** that are considered or forecasted for individual projects, please list them here along with the respective modal elements.

### Corridor and Subarea Plans/Studies - Benefits Considered

18. a. For the modal elements that are included in the Corridor and Sub-Area Plans/Studies, what **benefits** are considered or forecasted for individual projects (please check all that apply)?

	Improvement to the Condition of Assets	Safety	Efficiency/Travel Time Savings	Air Quality (reduced emissions including GHG)	Non-Air Environmental (e.g., noise, light, water, etc.)
Highway Expansion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Operational and Management Strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ferry Boat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inland Waterway Transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freight Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Walkway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Use Trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aviation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18.b. For the modal elements that are included in the Corridor and Sub-Area Plans/Studies, what **benefits** are considered or forecasted for individual projects (please check all that apply)?

	Equity/Environmental Justice	Economic Development Impacts (e.g., jobs, output, income, etc.)	Sustainability/Resiliency	Public Health (e.g., reduced rates of obesity, asthma, etc.)	Changes in the Value of Affected Properties
Highway Expansion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Commuter Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operational and Management Strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ferry Boat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inland Waterway Transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freight Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Walkway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Use Trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aviation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If there are additional **benefits** that are considered or forecasted for individual projects, please list them here along with the respective modal elements.

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## Corridor and Subarea Plans/Studies - Benefit-Cost Analysis

19. Is an overall or total benefit-cost analysis conducted (or ratio calculated) for projects included in the Corridor and Sub Area Plans/Studies? \*

- ☐ Yes, a benefit-cost analysis is conducted for **all** of the projects included in the Plan.
- ☐ Yes, a benefit-cost analysis is conducted for **some** of the projects included in the Plan.
- ☐ No, a benefit-cost analysis is not conducted for any of the projects included in the Plan.

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Please provide a brief explanation for what triggers a benefit-cost analysis to be conducted: \*

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## Corridor and Subarea Plans/Studies - Project Prioritization

20. Are projects in the Corridor and Subarea Plans/Studies prioritized by mode (i.e., a Highway Expansion project is prioritized against all other Highway Expansion projects and the same is true for other modes)? \*

☐ Yes

☐ No

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21. a. Is there cross-modal prioritization of Highway Expansion projects and other types of projects in any of Corridor and Subarea Plans/Studies (i.e., Highway Expansion projects are prioritized alongside commuter public transportation – rail projects, operational and management strategies, etc.)? \*

☐ Yes

☐ No

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21.b. Which modes are included in the cross-modal prioritization that includes Highway Expansion projects in the Corridor and Subarea Plans/Studies (please check all that apply)? \*

- ☐ Local Public Transportation – Bus
- ☐ Local Public Transportation – Rail
- ☐ Commuter Public Transportation – Bus
- ☐ Commuter Public Transportation – Rail
- ☐ Intercity Public Transportation – Bus
- ☐ Intercity Public Transportation – Rail
- ☐ Safety
- ☐ Operational and Management Strategies
- ☐ Ferry Boat
- ☐ Inland Waterway Transport
- ☐ Freight Rail
- ☐ Bicycle Lane
- ☐ Pedestrian Walkway
- ☐ Multi-Use Trail
- ☐ Aviation

---

21.c. Is there legislation, an executive order, or other requirement in place that mandates your agency to conduct cross-modal prioritization of projects as part of the development of the Corridor and Subarea Plans/Studies? \*

- ☐ Yes
  - ☐ No
-



21.d. What is the name of the legislation, executive order, or other requirement in place that mandates your agency to conduct cross-modal prioritization of projects as part of the development of the Corridor and Subarea Plans/Studies? \*

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21.e. If there are any non-highway projects that are included in the Corridor and Subarea Plans/Studies that were selected in lieu of or in combination with a Highway Expansion project(s) to add capacity for people and freight, please provide a brief description such as “the proposed extension of the MetroSuburb Blue Line was prioritized over the widening of State Route 123 from four lanes to eight lanes in the Northwest Interstate 7/US 232/State Route 123 Corridor Study completed in 2012. “

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21.f. If you were to undertake Corridor and Subarea Plans/Studies in the future, do you anticipate conducting cross-modal prioritization that includes Highway Expansion projects? \*

☐ Yes

☐ No

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Corridor and Subarea Plans/Studies - Evaluation & Consultation

22. Is there a formal process in place to conduct a comparison of anticipated benefits of projects when included in the Corridor and Subarea Plans and Studies (ex-ante) versus the actual benefits when said projects are implemented and operational (ex-post)? \*

☐ Yes

☐ No

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23. When evaluating Highway Expansion projects for possible inclusion in the Corridor and Subarea Plans/Studies, is capacity (current or projected) on other agencies' highways and public transportation services considered in the evaluation? \*

☐ Yes

☐ No

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24. At what points in the development of the Corridor and Subarea Plans/Studies are the following stakeholders consulted (please check all that apply)?

	Development of Scope of Work	Selection of Performance Measures	Development of Potential Alternatives	Selection of Recommendations	Review of Draft Plan
Agency Executive/Senior Leadership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A statewide commission or body (appointed or elected) other than the State DOT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local and/or Regional Public Transportation Operator(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metropolitan Planning Organization(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Officials in Non-Metropolitan Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indian Tribal Governments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Bus and/or Rail Operator(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div>Enter another option</div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div>Enter another option</div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div>Enter another option</div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

25. Which **modal elements** are included in the STIP (please check all that apply)? \*

- ☐ Highway Expansion
- ☐ Local Public Transportation – Bus
- ☐ Local Public Transportation – Rail
- ☐ Commuter Public Transportation – Bus
- ☐ Commuter Public Transportation – Rail
- ☐ Intercity Public Transportation – Bus
- ☐ Intercity Public Transportation – Rail
- ☐ Safety
- ☐ Operational and Management Strategies
- ☐ Ferry Boat
- ☐ Inland Waterway Transport
- ☐ Freight Rail
- ☐ Bicycle Lane
- ☐ Pedestrian Walkway
- ☐ Multi-Use Trail
- ☐ Aviation

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## Statewide Transportation Improvement Program - Costs Considered

26. For the modal elements that are included in the STIP, what **costs** (including “soft” costs for engineering, design, and environmental work as appropriate) are considered or forecasted for individual projects (please check all that apply)?

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Highway Expansion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operational and Management Strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ferry Boat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inland Waterway Transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freight Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Walkway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Use Trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aviation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If there are additional **costs** that are considered or forecasted for individual projects, please list them here along with the respective modal elements.

## Statewide Transportation Improvement Program - Benefits Considered

27. a. For the modal elements that are included in the STIP, what **benefits** are considered or forecasted for individual projects (please check all that apply)?

	Improvement to the Condition of Assets	Safety	Efficiency/Travel Time Savings	Air Quality (reduced emissions including GHG)	Non-Air Environmental (e.g., noise, light, water, etc.)
Highway Expansion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Operational and Management Strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ferry Boat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inland Waterway Transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freight Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Walkway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Use Trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aviation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

27.b. For the modal elements that are included in the STIP, what **benefits** are considered or forecasted for individual projects (please check all that apply)?

	Equity/Environmental Justice	Economic Development Impacts (e.g., jobs, output, income, etc.)	Sustainability/Resiliency	Public Health (e.g., reduced rates of obesity, asthma, etc.)	Changes in the Value of Affected Properties
Highway Expansion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bus						
Commuter Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercity Public Transportation – Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operational and Management Strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ferry Boat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inland Waterway Transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freight Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Walkway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Use Trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aviation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



If there are additional **benefits** that are considered or forecasted for individual projects, please list them here along with the respective modal elements.

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## Statewide Transportation Improvement Program - Benefit-Cost Analysis

28. Is an overall or total benefit-cost analysis conducted (or ratio calculated) for projects included in the STIP? \*

- ☐ Yes, a benefit-cost analysis is conducted for **all** of the projects included in the Plan.
- ☐ Yes, a benefit-cost analysis is conducted for **some** of the projects included in the Plan.
- ☐ No, a benefit-cost analysis is not conducted for any of the projects included in the Plan.

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Please provide a brief explanation for what triggers a benefit-cost analysis to be conducted: \*

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## Statewide Transportation Improvement Program - Project Prioritization

29. Are projects in the STIP prioritized by mode (i.e., a Highway Expansion project is prioritized against all other Highway Expansion projects and the same is true for other modes)? \*

☐ Yes

☐ No

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30. a. Is there cross-modal prioritization of Highway Expansion projects and other types of projects in the STIP (i.e., Highway Expansion projects are prioritized alongside commuter public transportation – rail projects, operational and management strategies, etc.)? \*

☐ Yes

☐ No

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30.b. Which modes are included in the cross-modal prioritization that includes Highway Expansion projects in the STIP (please check all that apply)? \*

- ☐ Local Public Transportation – Bus
- ☐ Local Public Transportation – Rail
- ☐ Commuter Public Transportation – Bus
- ☐ Commuter Public Transportation – Rail
- ☐ Intercity Public Transportation – Bus
- ☐ Intercity Public Transportation – Rail
- ☐ Safety
- ☐ Operational and Management Strategies
- ☐ Ferry Boat
- ☐ Inland Waterway Transport
- ☐ Freight Rail
- ☐ Bicycle Lane
- ☐ Pedestrian Walkway
- ☐ Multi-Use Trail
- ☐ Aviation

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30.c. Is there legislation, an executive order, or other requirement in place that mandates your agency to conduct cross-modal prioritization of projects as part of the development of the STIP? \*

- ☐ Yes
  - ☐ No
-

30.d. What is the name of the legislation, executive order, or other requirement in place that mandates your agency to conduct cross-modal prioritization of projects as part of the development of the STIP? \*

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30.e. If there are any non-highway projects that are included in the STIP that were selected in lieu of or in combination with a Highway Expansion project(s) to add capacity for people and freight, please provide a brief description such as “the proposed extension of the MetroSuburb Blue Line was prioritized over the widening of State Route 123 from four lanes to eight lanes in the 2015-2018 STIP. “

30.f. Do you anticipate conducting cross-modal prioritization that includes Highway Expansion projects in the next STIP? \*

☐ Yes

☐ No

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Statewide Transportation Improvement Program - Project Evaluation

31. Is there a formal process in place to conduct a comparison of anticipated benefits of projects when included in the STIP (ex-ante) versus the actual benefits when said projects are implemented and operational (ex-post)? \*

☐ Yes

☐ No

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32. When evaluating Highway Expansion projects for possible inclusion in the STIP, is capacity (current or projected) on other agencies' highways and public transportation services considered in the evaluation? \*

☐ Yes

☐ No

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Looking Ahead/Final Thoughts

33. The following question relates to whether or not your agency has begun to consider the impacts of emerging technologies and trends (e.g., automated/connected vehicles, transportation network companies like Uber and Lyft, delivery by drones, additive manufacturing such as 3D printing and laser sintering, parking management, etc.) in the planning and programming processes.

Which statement most closely describes your agency's current approach to emerging transportation technologies and trends? \*

- ☐ a. Out Front – We have an adopted policy, are quantifying and modeling the likely impacts on infrastructure design and service operations, and are modifying our planning and programming processes to consider these impacts in project conceptualization, evaluation, and selection.
  - ☐ b. Between Out Front (a.) and Gradual Integration (see c.)
  - ☐ c. Gradual Integration – We have monitored and assessed the advances in technology and changes in trends to a degree that we feel comfortable enough that we've created a policy framework that provides us with flexibility and that will be used to advance the incorporation of these impacts in our planning and programming processes in the near future.
  - ☐ d. Between Gradual Integration (c.) and Wait and See (see e.)
  - ☐ e. Wait and See – We are aware that there are and will be impacts but are not devoting more than a modest amount of time and effort attempting to forecast the effects of continually-shifting technologies and preferences at either the policy or project levels.
-

34. Forecasting costs and benefits is critical to the evaluation of projects. To conduct these evaluations agencies use various analytical tools – some of which may be developed in-house and others from vendors (either custom-built or off the shelf).

Please provide the following basic information on any models, calculators, or the other tools used by your agency in the planning and programming process.

	Name of Analytical Tool (e.g., "BDOT C-BA Calc")	Purpose of Analytical Tool (e.g., "Cost-Benefit Ratio")	Developer (e.g., "XYZ Analytics" or "in-house")	Year Created (e.g., "2010")	Year Last Updated (e.g., "2015")
a.					
b.					
c.					
d.					
e.					
f.					
g.					
h.					
j.					

35. Please provide any additional comments on assessing the value of added capacity highway projects versus other modal projects and strategies, or thoughts on project evaluation and cross-modal prioritization.

Thank You!

Thank you for completing the survey questionnaire for **How Transportation Agencies Assess the Value of Added Capacity Highway Projects versus Other Modal Projects and Strategies**

Your response is critical to the success of the project and we appreciate you taking the time to provide your input. If you have any questions or comments, please feel free to contact Richard Perrin at:

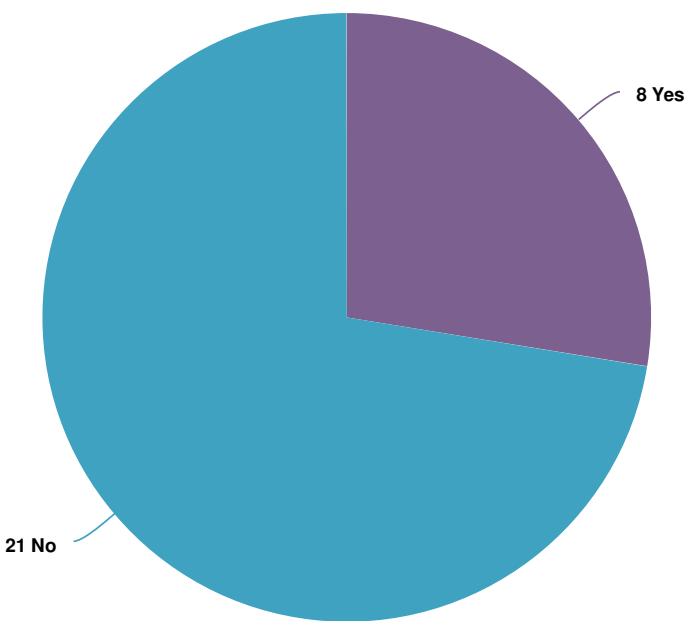
- E-mail: [Richard.Perrin@tylin.com](mailto:Richard.Perrin@tylin.com)
- Phone: (585) 512-2000





# Report for NCHRP 20-05 Topic 48-15: How Transportation Agencies Assess the Value of Added Capacity Highway Projects versus Other Modal Projects and Strategies - State DOTs

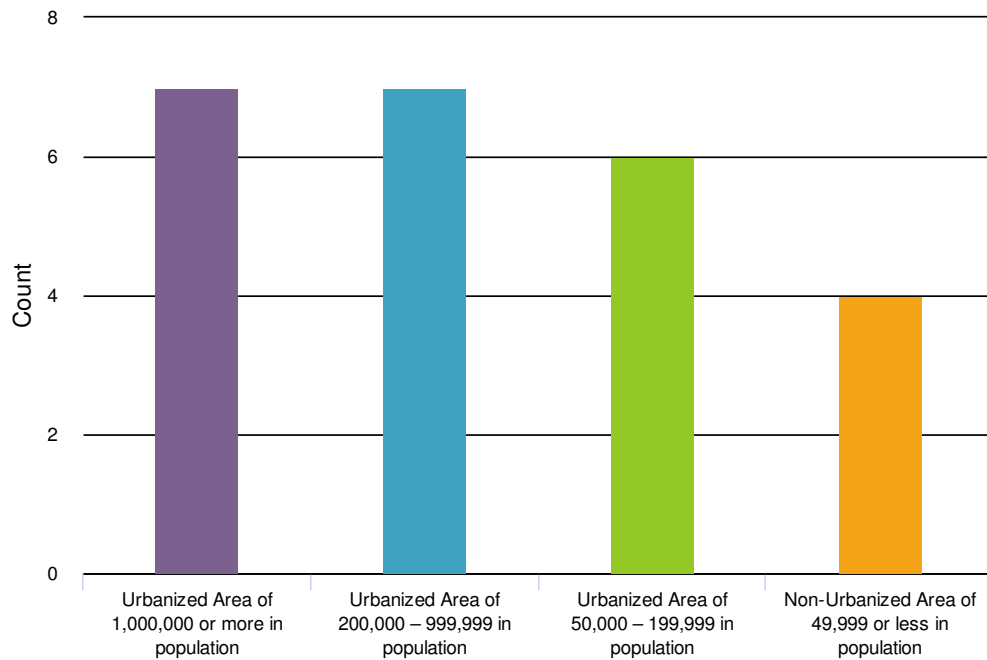
1. Does your agency own, maintain, or operate any public transportation service (local, commuter, or intercity)?







Value		Percent	Responses
Yes	<div><div></div></div>	27.6%	8
No	<div><div></div></div>	72.4%	21

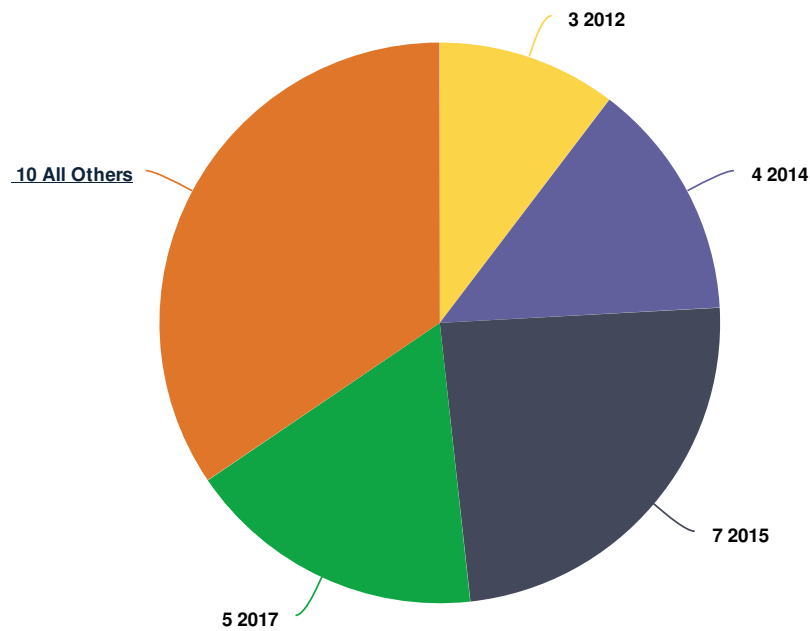
Totals: 29

1.b. Our agency owns, maintains, and operates public transportation service in the following type(s) of area(s) (please check all that apply):



Value		Percent	Responses
Urbanized Area of 1,000,000 or more in population		87.5%	7
Urbanized Area of 200,000 – 999,999 in population		87.5%	7
Urbanized Area of 50,000 – 199,999 in population		75.0%	6
Non-Urbanized Area of 49,999 or less in population		50.0%	4

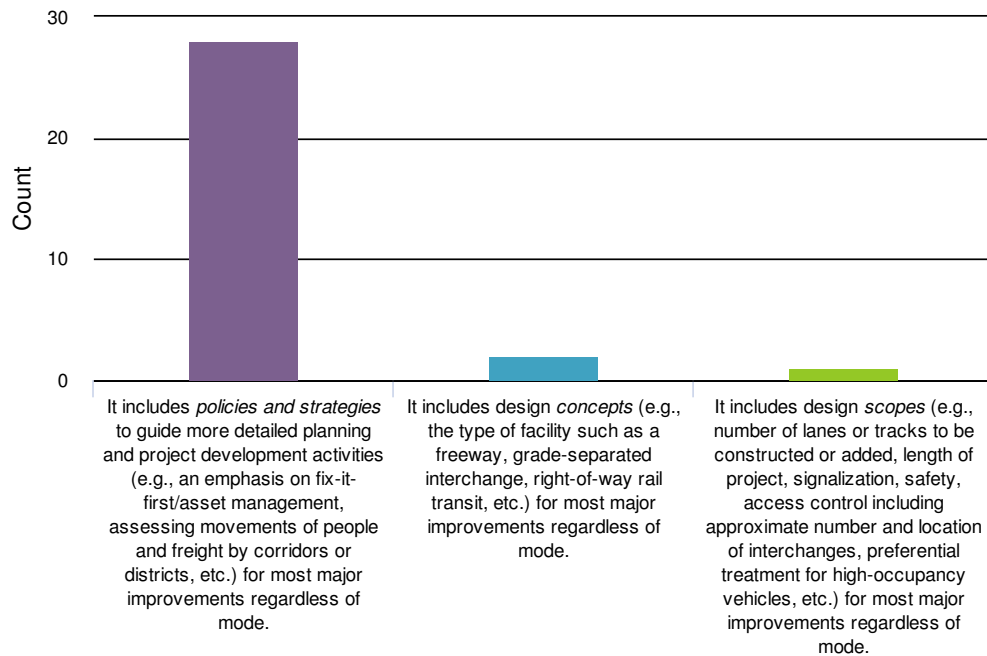
## 2. In what year was the Plan last updated?



Value		Percent	Responses
2006	<div><div></div></div>	6.9%	2
2007	<div><div></div></div>	3.4%	1
2008	<div><div></div></div>	6.9%	2
2009	<div><div></div></div>	6.9%	2
2010	<div><div></div></div>	3.4%	1
2012	<div><div></div></div>	10.3%	3
2014	<div><div></div></div>	13.8%	4
2015	<div><div></div></div>	24.1%	7
2016	<div><div></div></div>	6.9%	2
2017	<div><div></div></div>	17.2%	5

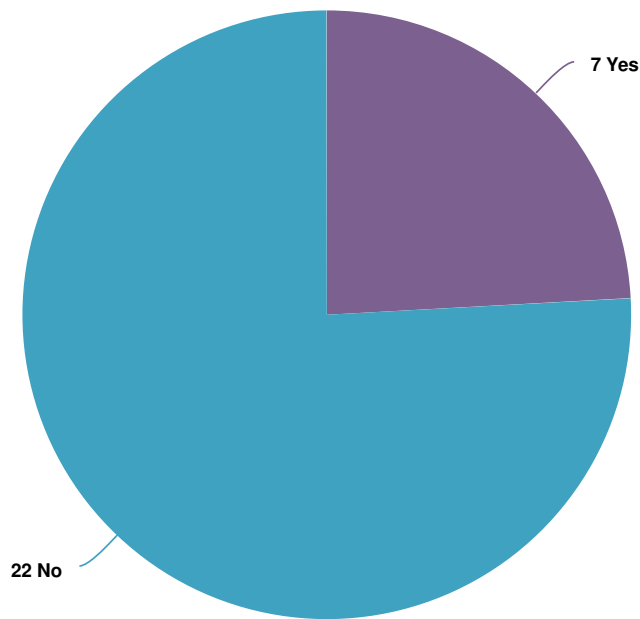
Totals: 29

### 3. With respect to the Plan, please select all that apply:



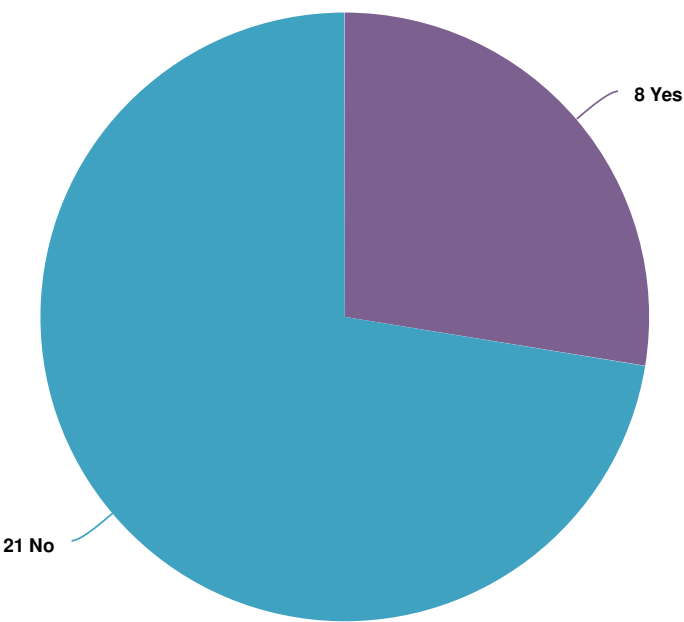
Value	Percent	Responses
It includes <i>policies and strategies</i> to guide more detailed planning and project development activities (e.g., an emphasis on fix-it-first/asset management, assessing movements of people and freight by corridors or districts, etc.) for most major improvements regardless of mode.	96.6%	28
It includes design <i>concepts</i> (e.g., the type of facility such as a freeway, grade-separated interchange, right-of-way rail transit, etc.) for most major improvements regardless of mode.	6.9%	2
It includes design <i>scopes</i> (e.g., number of lanes or tracks to be constructed or added, length of project, signalization, safety, access control including approximate number and location of interchanges, preferential treatment for high-occupancy vehicles, etc.) for most major improvements regardless of mode.	3.4%	1

4. Is the Plan fiscally constrained (i.e., does it include a financial plan that demonstrates how it can be implemented based on reasonably expected resources from public, private, and not-for-profit sources)?



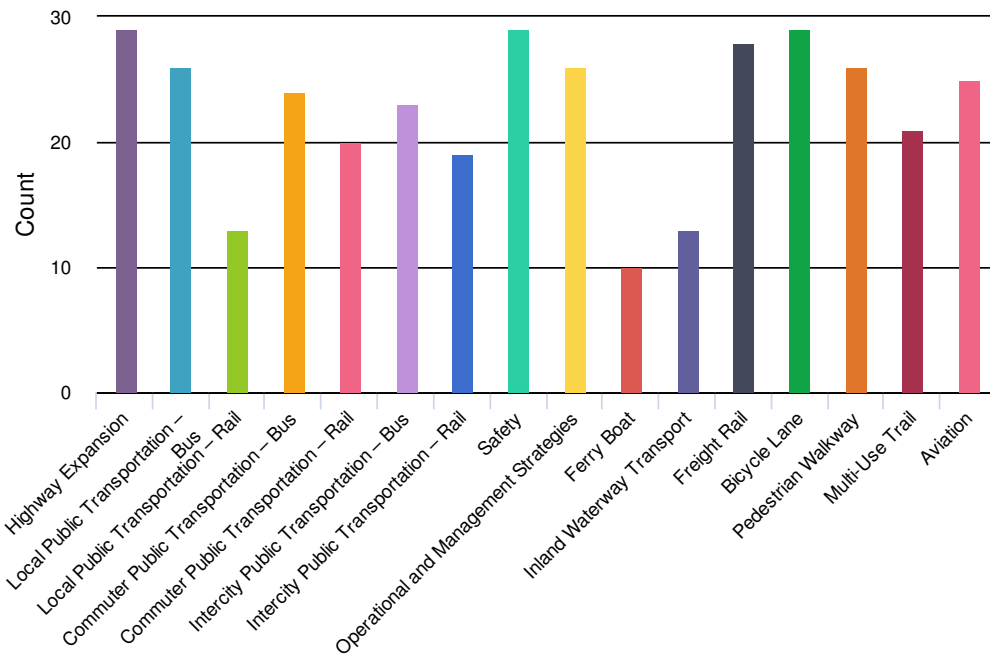
Value		Percent	Responses
Yes	<div><div></div></div>	24.1%	7
No	<div><div></div></div>	75.9%	22
Totals: 29			

















5. Are illustrative projects included in the Plan (i.e., additional projects that would be advanced if additional resources were to become available)?



Value		Percent	Responses
Yes	<div><div></div></div>	27.6%	8
No	<div><div></div></div>	72.4%	21
Totals: 29			

6. Which modal elements are included in the Plan (please check all that apply)?



Value		Percent	Responses
Highway Expansion		100.0%	29
Local Public Transportation – Bus		89.7%	26
Local Public Transportation – Rail		44.8%	13
Commuter Public Transportation – Bus		82.8%	24
Commuter Public Transportation – Rail		69.0%	20
Intercity Public Transportation – Bus		79.3%	23
Intercity Public Transportation – Rail		65.5%	19
Safety		100.0%	29
Operational and Management Strategies		89.7%	26
Ferry Boat		34.5%	10
Inland Waterway Transport		44.8%	13
Freight Rail		96.6%	28
Bicycle Lane		100.0%	29
Pedestrian Walkway		89.7%	26
Multi-Use Trail		72.4%	21
Aviation		86.2%	25



7. For the modal elements that are included in the Plan, what costs (including “soft” costs for engineering, design, and environmental work as appropriate) are considered or forecasted for individual projects (please check all that apply)?

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Highway Expansion Checks	9	2	5	0
Local Public Transportation – Bus Checks	7	1	3	0
Local Public Transportation – Rail Checks	6	0	0	0
Commuter Public Transportation – Bus Checks	7	1	2	0
Commuter Public Transportation – Rail Checks	7	0	1	0
Intercity Public Transportation – Bus Checks	6	1	2	0
Intercity Public Transportation – Rail Checks	6	0	1	0
Safety Checks	9	1	4	0
Operational and Management Strategies Checks	8	1	4	0
Ferry Boat Checks	3	1	2	0
Inland Waterway Transport Checks	3	0	0	0
Freight Rail Checks	8	1	3	0

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Bicycle Lane Checks	7	0	2	0
Pedestrian Walkway Checks	6	0	2	0
Multi-Use Trail Checks	2	0	1	0
Aviation Checks	6	1	2	0

8. a. For the modal elements that are included in the Plan, what benefits are considered or forecasted for individual projects (please check all that apply)?

	Improvement to the Condition of Assets	Safety	Efficiency/Travel Time Savings	Air Quality (reduced emissions including GHG)	Non-Air Environmental (e.g., noise, light, water, etc.)
Highway Expansion Checks	8	8	7	5	3
Local Public Transportation – Bus Checks	5	2	3	3	1
Local Public Transportation – Rail Checks	3	1	2	1	0
Commuter Public Transportation – Bus Checks	4	2	3	3	0
Commuter Public Transportation – Rail Checks	4	2	2	2	0
Intercity Public Transportation – Bus Checks	3	1	1	1	0
Intercity Public Transportation – Rail Checks	3	1	1	1	0
Safety Checks	5	7	3	3	3

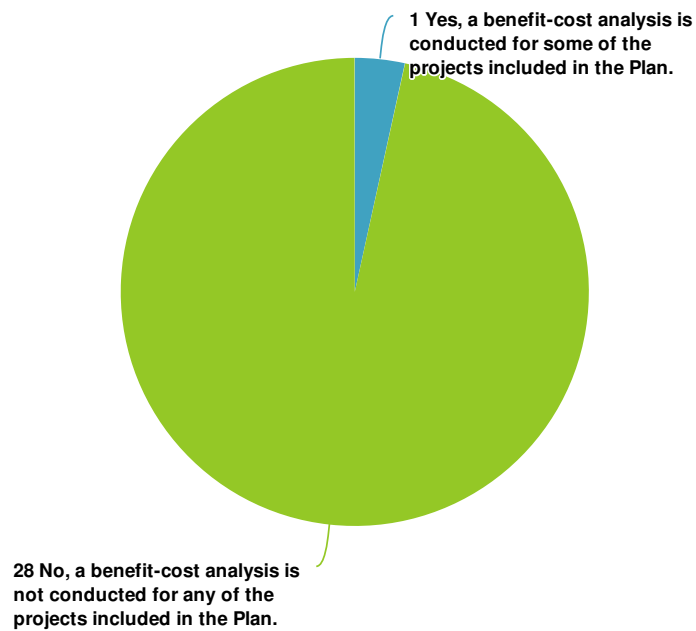
	Improvement to the Condition of Assets	Safety	Efficiency/Travel Time Savings	Air Quality (reduced emissions including GHG)	Non-Air Environmental (e.g., noise, light, water, etc.)
Operational and Management Strategies Checks	6	6	5	3	3
Ferry Boat Checks	4	1	3	1	1
Inland Waterway Transport Checks	4	1	2	1	1
Freight Rail Checks	7	4	6	3	3
Bicycle Lane Checks	5	5	2	2	1
Pedestrian Walkway Checks	5	5	2	2	1
Multi-Use Trail Checks	1	2	2	1	1
Aviation Checks	6	5	4	2	2

8.b. For the modal elements that are included in the Plan, what benefits are considered or forecasted for individual projects (please check all that apply)?

	Equity/Environmental Justice	Economic Development Impacts (e.g., jobs, output, income, etc.)	Sustainability/Resiliency	Public Health (e.g., reduced rates of obesity, asthma, etc.)	Changes in the Value of Affected Properties
Highway Expansion Checks	4	5	4	2	3
Local Public Transportation – Bus Checks	3	3	2	1	1
Local Public Transportation – Rail Checks	2	2	0	0	0
Commuter Public Transportation – Bus Checks	3	2	1	0	0
Commuter Public Transportation – Rail Checks	3	1	0	0	0
Intercity Public Transportation – Bus Checks	3	3	2	1	1
Intercity Public Transportation – Rail Checks	2	1	0	0	0
Safety Checks	5	4	4	3	2

	Equity/Environmental Justice	Economic Development Impacts (e.g., jobs, output, income, etc.)	Sustainability/Resiliency	Public Health (e.g., reduced rates of obesity, asthma, etc.)	Changes in the Value of Affected Properties
Operational and Management Strategies Checks	2	5	4	1	2
Ferry Boat Checks	2	3	2	0	1
Inland Waterway Transport Checks	1	4	1	0	2
Freight Rail Checks	2	5	4	1	2
Bicycle Lane Checks	2	2	1	3	1
Pedestrian Walkway Checks	2	2	1	3	1
Multi-Use Trail Checks	1	1	1	1	1
Aviation Checks	2	5	4	1	2

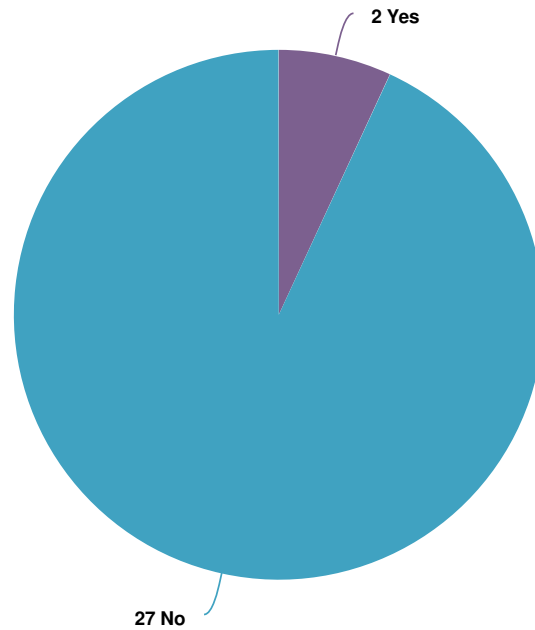
9. Is an overall or total benefit-cost analysis conducted (or ratio calculated) for projects included in the Plan?



Value		Percent	Responses
Yes, a benefit-cost analysis is conducted for <b>some</b> of the projects included in the Plan.	<div></div>	3.4%	1
No, a benefit-cost analysis is not conducted for any of the projects included in the Plan.	<div></div>	96.6%	28

Totals: 29

10. Are projects in the Plan prioritized by mode (i.e., a Highway Expansion project is prioritized against all other Highway Expansion projects and the same is true for other modes)?

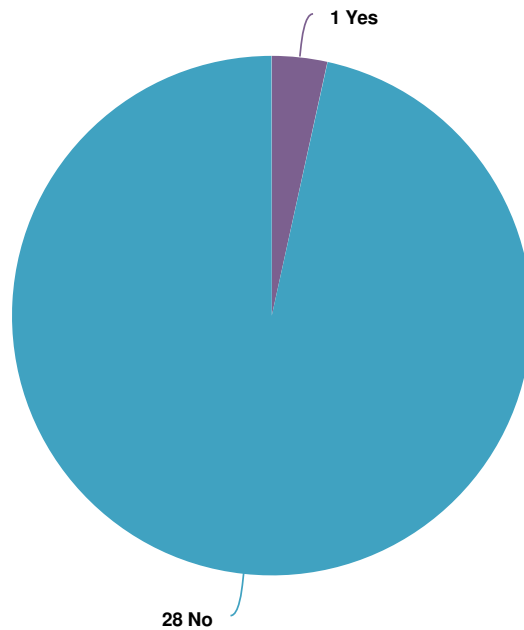


Value		Percent	Responses
Yes	<div><div></div></div>	6.9%	2
No	<div><div></div></div>	93.1%	27

Totals: 29

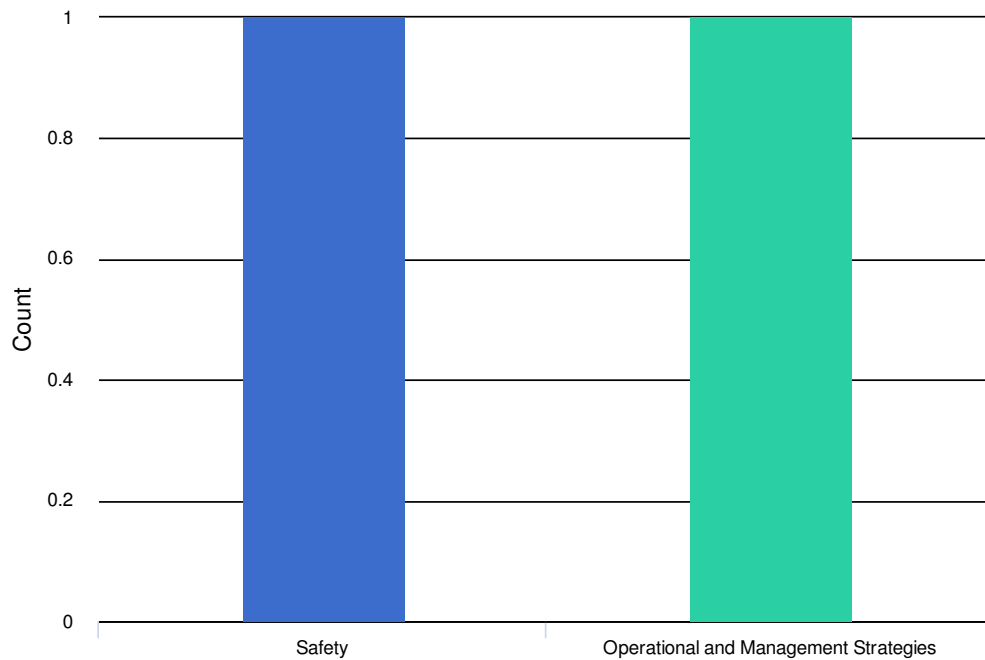


11. a. Is there cross-modal prioritization of Highway Expansion projects and other types of projects in the Plan (i.e., Highway Expansion projects are prioritized alongside commuter public transportation – rail projects, operational and management strategies, etc.)?



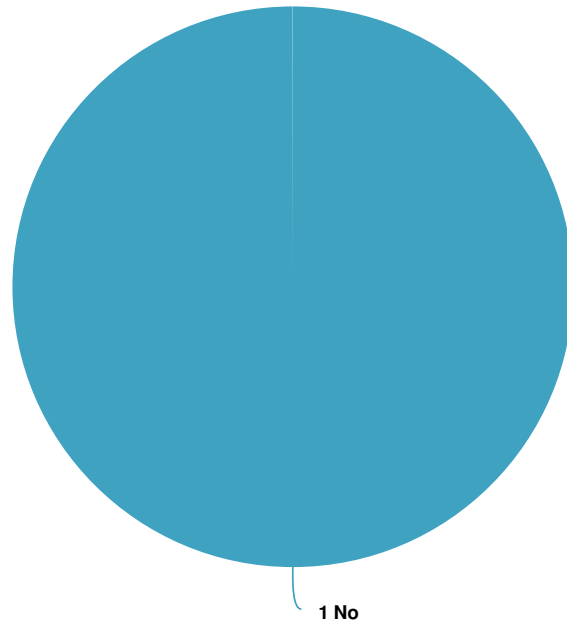
Value		Percent	Responses
Yes	<div></div>	3.4%	1
No	<div></div>	96.6%	28
Totals: 29			

11.b.Which modes are included in the cross-modal prioritization that includes Highway Expansion projects in the Plan (please check all that apply)?



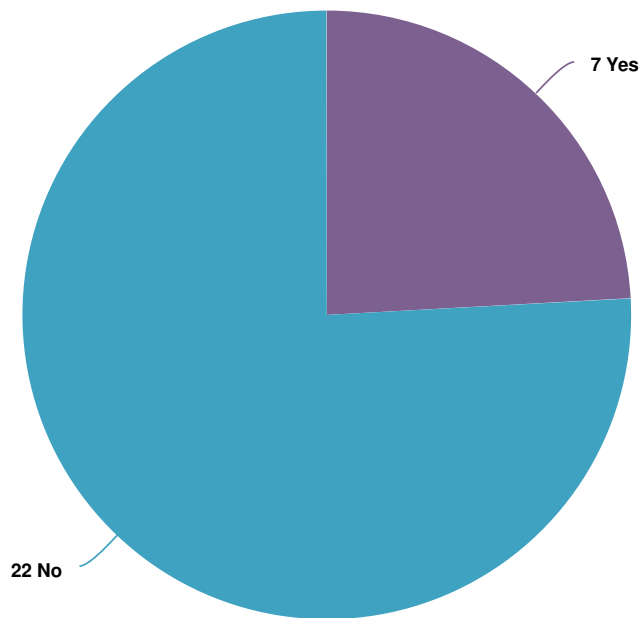
Value		Percent	Responses
Safety	<div></div>	100.0%	1
Operational and Management Strategies	<div></div>	100.0%	1

11.c. Is there legislation, an executive order, or other requirement in place that mandates your agency to conduct cross-modal prioritization of projects as part of the development of the Plan?



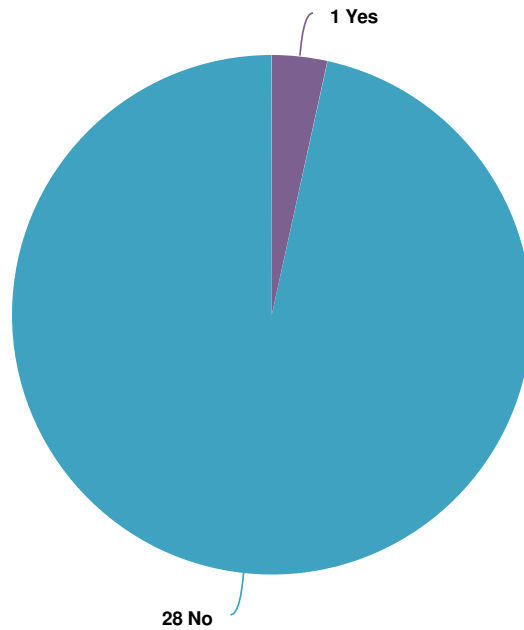
Value	Percent	Responses
No	100.0%	1
		Totals: 1

11.f. Do you anticipate conducting cross-modal prioritization that includes Highway Expansion projects in the next Plan?



Value		Percent	Responses
Yes	<div><div></div></div>	24.1%	7
No	<div><div></div></div>	75.9%	22
Totals: 29			

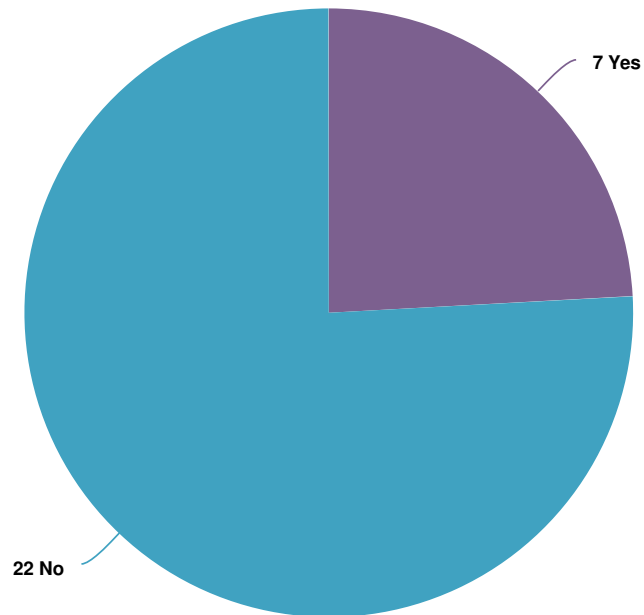
12. Is there a formal process in place to conduct a comparison of anticipated benefits of projects when included in the Plan (ex-ante) versus the actual benefits when said projects are implemented and operational (ex-post)?



Value		Percent	Responses
Yes	<div><div></div></div>	3.4%	1
No	<div><div></div></div>	96.6%	28

Totals: 29

13. When evaluating Highway Expansion projects for possible inclusion in the Plan, is capacity (current or projected) on other agencies' highways and public transportation services considered in the evaluation?



Value		Percent	Responses
Yes	<div><div></div></div>	24.1%	7
No	<div><div></div></div>	75.9%	22
Totals: 29			

14. At what points in the development of the Plan are the following stakeholders consulted (please check all that apply)?

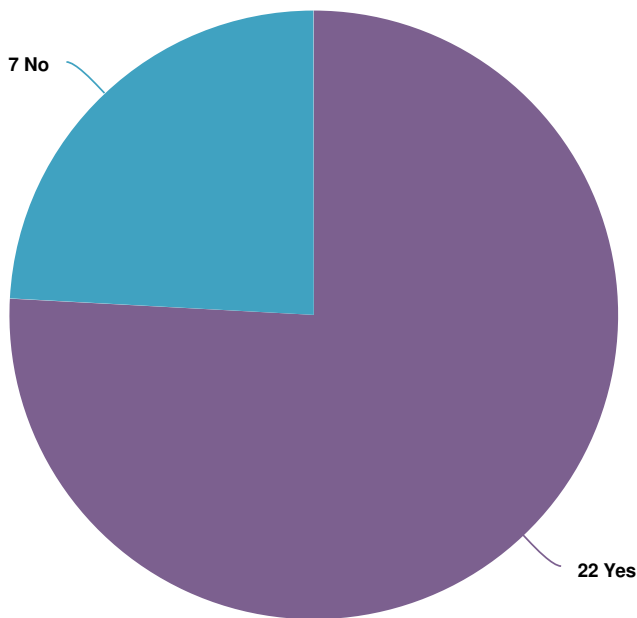
	Development of Scope of Work	Selection of Performance Measures	Development of Potential Alternatives	Selection of Recommendations	Review of Draft Plan
Agency Executive/Senior Leadership Checks	25	25	19	26	28
A statewide commission or body (appointed or elected) other than the State DOT Checks	8	12	10	12	18
Local and/or Regional Public Transportation Operator(s) Checks	7	15	19	17	26
Metropolitan Planning Organization(s) Checks	9	21	23	21	28
Local Officials in Non- Metropolitan Areas Checks	6	19	20	19	25
Indian Tribal Governments Checks	5	10	13	13	20
Intercity Bus and/or Rail Operator(s) Checks	5	13	16	17	21
Freight Stakeholders Checks	1	2	1	2	2
General Public Checks	1	2	2	2	1
General public Checks	1	0	1	1	1

	Development of Scope of Work	Selection of Performance Measures	Development of Potential Alternatives	Selection of Recommendations	Review of Draft Plan
Internal Steering Committee Checks	1	1	1	1	1
Resource Agencies Checks	1	1	1	1	1
State Dept. of Public Health Checks	1	1	1	1	1
State Freight Advisory Committee Checks	1	1	1	1	1
cross agency staff level Checks	1	1	1	1	1
Environmental and other transportation stakeholders Checks	0	1	1	1	1
Freight Advisory Council Checks	0	1	1	0	1
Modal advocates Checks	0	1	1	1	1
associations of city and county officials Checks	0	1	1	1	1
other state agencies with transportation responsibilities Checks	0	1	1	1	1
Bike/Ped advocacy groups Checks	0	0	1	0	1



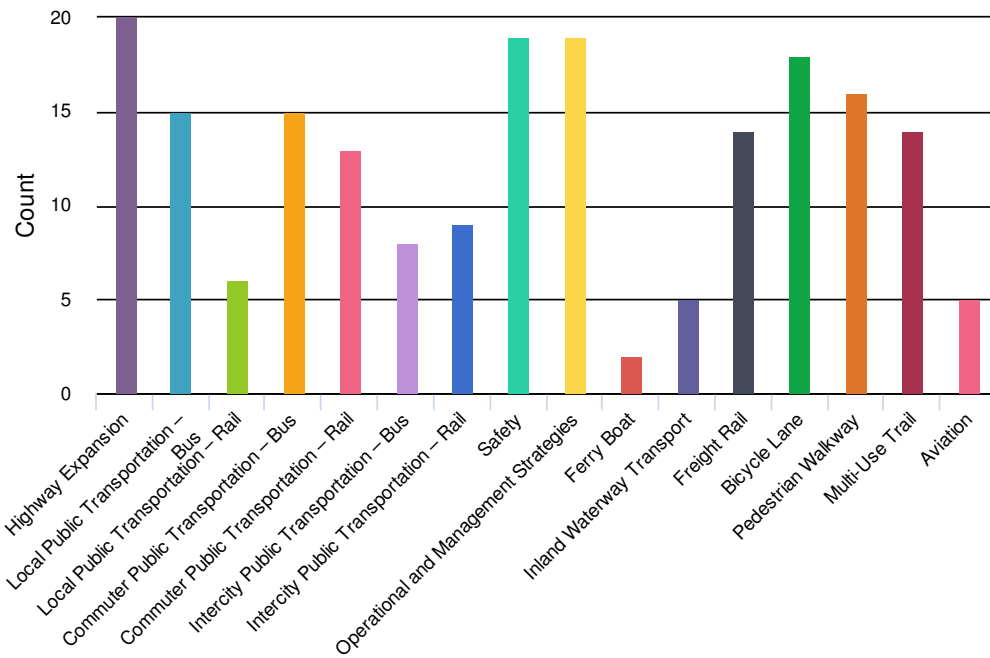
	Development of Scope of Work	Selection of Performance Measures	Development of Potential Alternatives	Selection of Recommendations	Review of Draft Plan
Federal land managing agencies Checks	0	0	1	1	1
Other Stakeholders (eg -carriers, EPA, freight rail, state health/hman services, etc) Checks	0	0	1	0	1
Rural Planning Organizations Checks	0	0	1	0	1

















15. Has your agency conducted any Corridor or Sub-Area Plans/Studies in the last five years?



Value		Percent	Responses
Yes	<div><div></div></div>	75.9%	22
No	<div><div></div></div>	24.1%	7
Totals: 29			

16. Which modal elements are included in the Corridor and Subarea Plans/Studies (please check all that apply)?



Value		Percent	Responses
Highway Expansion		90.9%	20
Local Public Transportation – Bus		68.2%	15
Local Public Transportation – Rail		27.3%	6
Commuter Public Transportation – Bus		68.2%	15
Commuter Public Transportation – Rail		59.1%	13
Intercity Public Transportation – Bus		36.4%	8
Intercity Public Transportation – Rail		40.9%	9
Safety		86.4%	19
Operational and Management Strategies		86.4%	19
Ferry Boat		9.1%	2
Inland Waterway Transport		22.7%	5
Freight Rail		63.6%	14
Bicycle Lane		81.8%	18
Pedestrian Walkway		72.7%	16
Multi-Use Trail		63.6%	14
Aviation		22.7%	5

17. For the modal elements that are included in the Corridor and Subarea Plans/Studies, what costs (including “soft” costs for engineering, design, and environmental work as appropriate) are considered or forecasted for individual projects (please check all that apply)?

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Highway Expansion Checks	18	8	6	5
Local Public Transportation – Bus Checks	8	2	2	1
Local Public Transportation – Rail Checks	2	1	0	0
Commuter Public Transportation – Bus Checks	6	2	1	2
Commuter Public Transportation – Rail Checks	6	2	0	2
Intercity Public Transportation – Bus Checks	6	2	1	1
Intercity Public Transportation – Rail Checks	7	2	1	1
Safety Checks	16	5	4	2
Operational and Management Strategies Checks	17	8	6	4
Ferry Boat Checks	1	1	1	0
Inland Waterway Transport Checks	2	0	0	1

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Freight Rail Checks	10	4	2	4
Bicycle Lane Checks	15	5	4	2
Pedestrian Walkway Checks	14	4	4	1
Multi-Use Trail Checks	11	4	2	2
Aviation Checks	3	2	2	1

18. a. For the modal elements that are included in the Corridor and Sub-Area Plans/Studies, what benefits are considered or forecasted for individual projects (please check all that apply)?

	Improvement to the Condition of Assets	Safety	Efficiency/Travel Time Savings	Air Quality (reduced emissions including GHG)	Non-Air Environmental (e.g., noise, light, water, etc.)
Highway Expansion Checks	16	20	19	15	12
Local Public Transportation – Bus Checks	7	11	11	8	5
Local Public Transportation – Rail Checks	1	3	3	2	2
Commuter Public Transportation – Bus Checks	7	10	11	8	5
Commuter Public Transportation – Rail Checks	3	8	8	6	4
Intercity Public Transportation – Bus Checks	3	7	6	5	3
Intercity Public Transportation – Rail Checks	4	8	7	5	4
Safety Checks	11	19	11	5	6

	Improvement to the Condition of Assets	Safety	Efficiency/Travel Time Savings	Air Quality (reduced emissions including GHG)	Non-Air Environmental (e.g., noise, light, water, etc.)
Operational and Management Strategies Checks	11	18	17	10	6
Ferry Boat Checks	1	0	1	0	0
Inland Waterway Transport Checks	2	2	2	1	1
Freight Rail Checks	9	11	12	8	5
Bicycle Lane Checks	15	16	7	9	5
Pedestrian Walkway Checks	14	16	6	8	4
Multi-Use Trail Checks	9	11	5	6	5
Aviation Checks	5	5	4	2	2

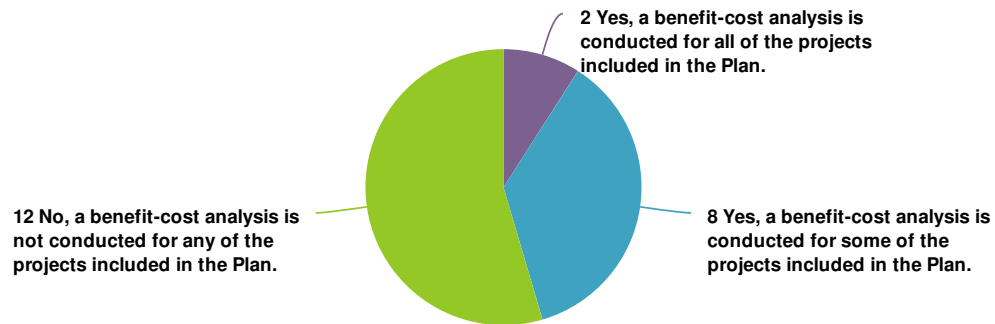





18.b. For the modal elements that are included in the Corridor and Sub-Area Plans/Studies, what benefits are considered or forecasted for individual projects (please check all that apply)?

	Equity/Environmental Justice	Economic Development Impacts (e.g., jobs, output, income, etc.)	Sustainability/Resiliency	Public Health (e.g., reduced rates of obesity, asthma, etc.)	Changes in the Value of Affected Properties
Highway Expansion Checks	13	14	12	2	6
Local Public Transportation – Bus Checks	8	7	3	1	2
Local Public Transportation – Rail Checks	2	1	0	0	0
Commuter Public Transportation – Bus Checks	5	5	3	2	3
Commuter Public Transportation – Rail Checks	6	6	2	1	3
Intercity Public Transportation – Bus Checks	4	4	3	1	2
Intercity Public Transportation – Rail Checks	3	4	2	0	2

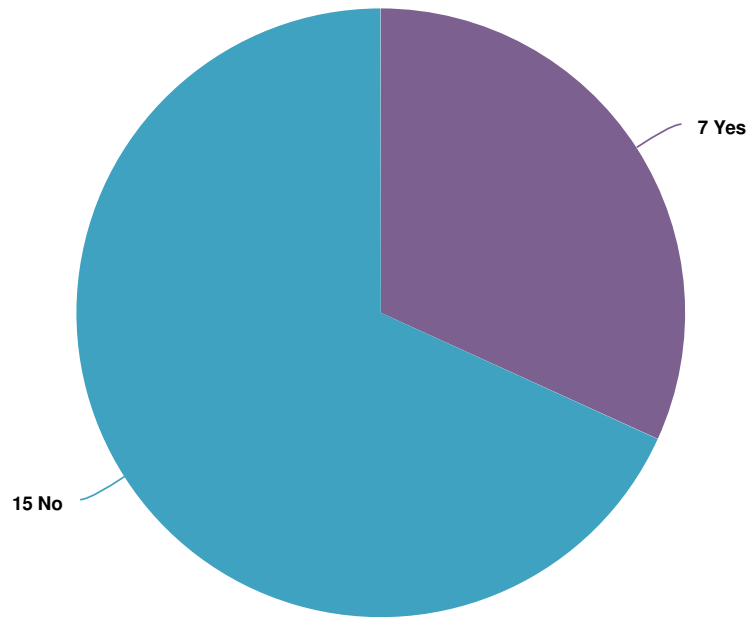
	Equity/Environmental Justice	Economic Development Impacts (e.g., jobs, output, income, etc.)	Sustainability/Resiliency	Public Health (e.g., reduced rates of obesity, asthma, etc.)	Changes in the Value of Affected Properties
Safety Checks	10	3	4	5	2
Operational and Management Strategies Checks	8	7	9	2	2
Ferry Boat Checks	0	1	1	0	0
Inland Waterway Transport Checks	1	2	1	0	1
Freight Rail Checks	5	9	4	1	3
Bicycle Lane Checks	11	7	8	9	5
Pedestrian Walkway Checks	10	4	6	7	3
Multi-Use Trail Checks	5	4	6	6	4
Aviation Checks	2	4	2	1	2

19. Is an overall or total benefit-cost analysis conducted (or ratio calculated) for projects included in the Corridor and Sub Area Plans/Studies?



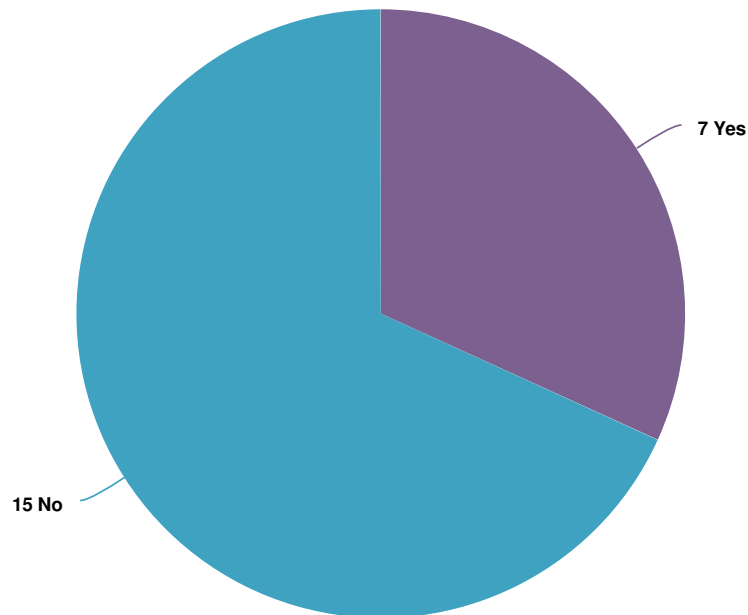
Value		Percent	Responses
Yes, a benefit-cost analysis is conducted for <b>all</b> of the projects included in the Plan.		9.1%	2
Yes, a benefit-cost analysis is conducted for <b>some</b> of the projects included in the Plan.		36.4%	8
No, a benefit-cost analysis is not conducted for any of the projects included in the Plan.		54.5%	12
Totals: 22			

20. Are projects in the Corridor and Subarea Plans/Studies prioritized by mode (i.e., a Highway Expansion project is prioritized against all other Highway Expansion projects and the same is true for other modes)?



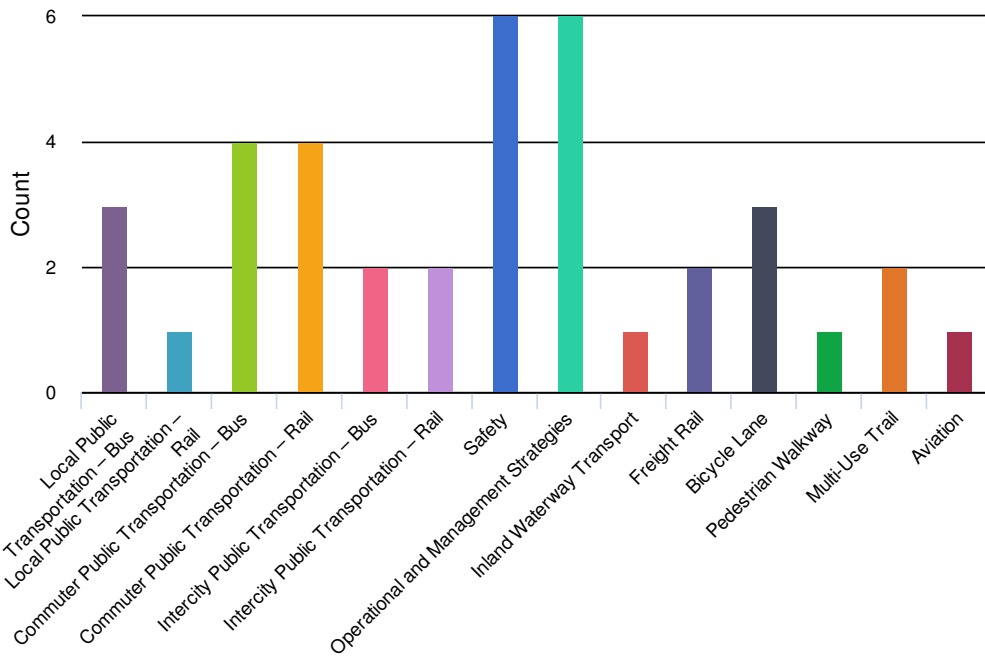
Value		Percent	Responses
Yes	<div><div></div></div>	31.8%	7
No	<div><div></div></div>	68.2%	15
Totals: 22			















21. a. Is there cross-modal prioritization of Highway Expansion projects and other types of projects in any of Corridor and Subarea Plans/Studies (i.e., Highway Expansion projects are prioritized alongside commuter public transportation – rail projects, operational and management strategies, etc.)?



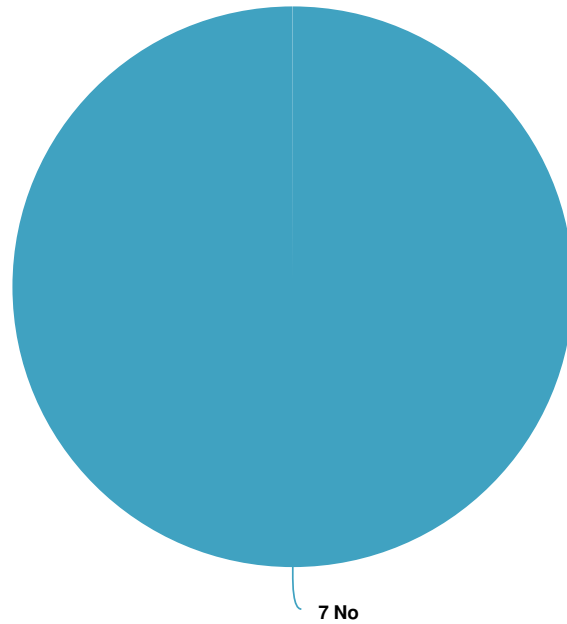
Value		Percent	Responses
Yes	<div><div></div></div>	31.8%	7
No	<div><div></div></div>	68.2%	15
Totals: 22			

21.b. Which modes are included in the cross-modal prioritization that includes Highway Expansion projects in the Corridor and Subarea Plans/Studies (please check all that apply)?



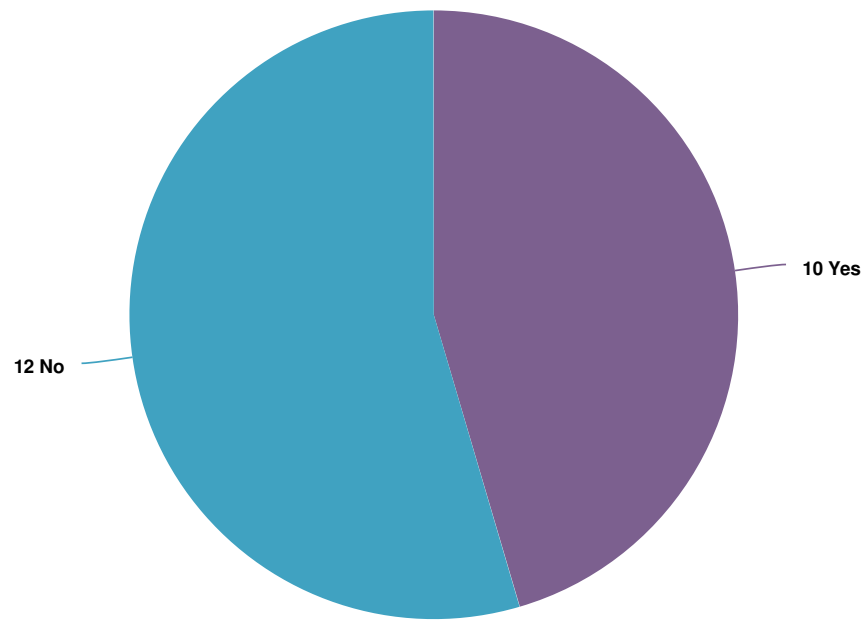
Value		Percent	Responses
Local Public Transportation - Bus		42.9%	3
Local Public Transportation - Rail		14.3%	1
Commuter Public Transportation - Bus		57.1%	4
Commuter Public Transportation - Rail		57.1%	4
Intercity Public Transportation - Bus		28.6%	2
Intercity Public Transportation - Rail		28.6%	2
Safety		85.7%	6
Operational and Management Strategies		85.7%	6
Inland Waterway Transport		14.3%	1
Freight Rail		28.6%	2
Bicycle Lane		42.9%	3
Pedestrian Walkway		14.3%	1
Multi-Use Trail		28.6%	2
Aviation		14.3%	1

21.c. Is there legislation, an executive order, or other requirement in place that mandates your agency to conduct cross-modal prioritization of projects as part of the development of the Corridor and Subarea Plans/Studies?



Value	Percent	Responses
No	100.0%	7
Totals: 7		

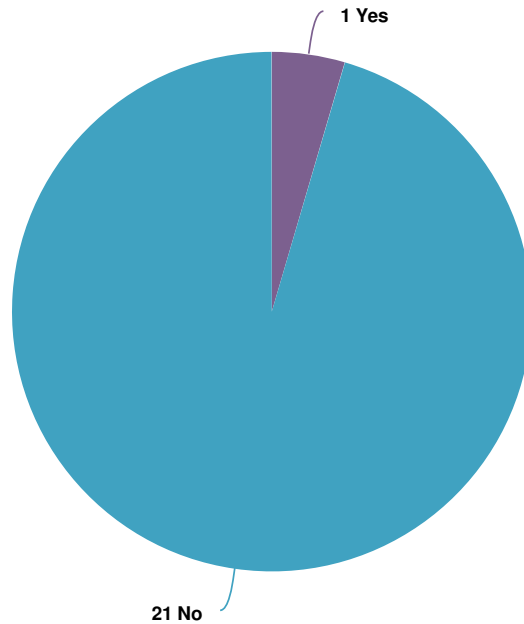
21.f. If you were to undertake Corridor and Subarea Plans/Studies in the future, do you anticipate conducting cross-modal prioritization that includes Highway Expansion projects?



Value		Percent	Responses
Yes	<div><div></div><div></div></div>	45.5%	10
No	<div><div></div><div></div></div>	54.5%	12
Totals: 22			

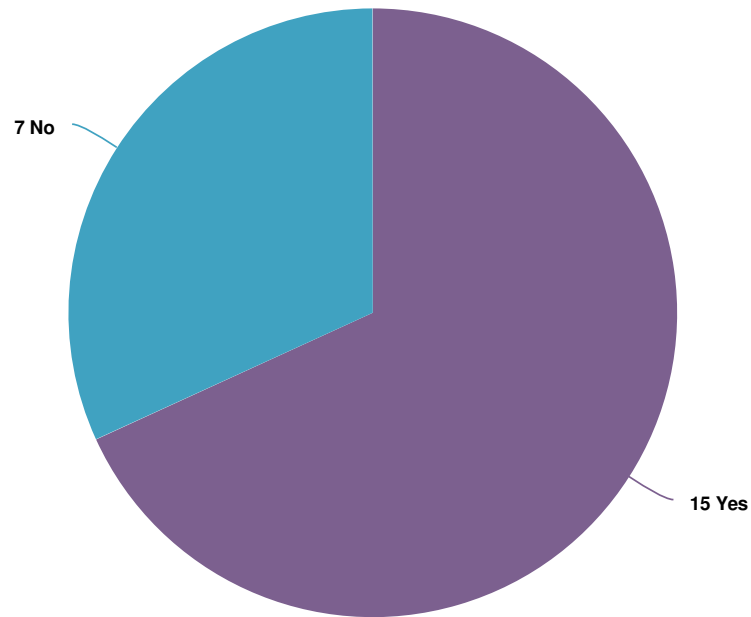


22. Is there a formal process in place to conduct a comparison of anticipated benefits of projects when included in the Corridor and Subarea Plans and Studies (ex-ante) versus the actual benefits when said projects are implemented and operational (ex-post)?



Value		Percent	Responses
Yes	<div><div></div></div>	4.5%	1
No	<div><div></div></div>	95.5%	21
Totals: 22			

23. When evaluating Highway Expansion projects for possible inclusion in the Corridor and Subarea Plans/Studies, is capacity (current or projected) on other agencies' highways and public transportation services considered in the evaluation?



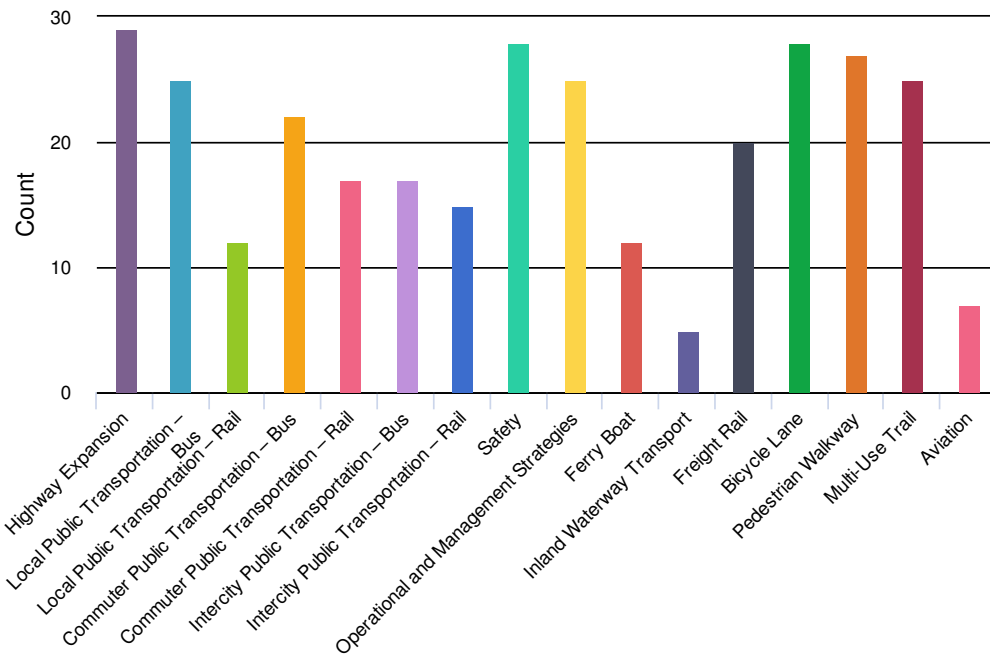
Value		Percent	Responses
Yes	<div><div></div></div>	68.2%	15
No	<div><div></div></div>	31.8%	7
Totals: 22			

















24. At what points in the development of the Corridor and Subarea Plans/Studies are the following stakeholders consulted (please check all that apply)?

	Development of Scope of Work	Selection of Performance Measures	Development of Potential Alternatives	Selection of Recommendations	Review of Draft Plan
Agency Executive/Senior Leadership Checks	14	8	14	17	21
A statewide commission or body (appointed or elected) other than the State DOT Checks	6	5	6	8	10
Local and/or Regional Public Transportation Operator(s) Checks	7	10	17	15	20
Metropolitan Planning Organization(s) Checks	13	12	19	16	21
Local Officials in Non- Metropolitan Areas Checks	10	10	17	14	20
Indian Tribal Governments Checks	6	6	13	11	16
Intercity Bus and/or Rail Operator(s) Checks	6	6	15	13	17
CA Depart. of Public Health, CA Air Resource Board, CA Energy Commission Checks	1	1	1	1	1

	Development of Scope of Work	Selection of Performance Measures	Development of Potential Alternatives	Selection of Recommendations	Review of Draft Plan
CA Office of Business and Economic Development Checks	1	1	1	1	1
California Freight Advisory Committe Checks	1	1	1	1	1
Freight Advisory Committee Checks	0	0	0	0	0
Advocacy groups Checks	0	1	1	1	1
Environmental and other stakeholders Checks	0	1	1	1	1
Freight Stakeholders Checks	0	1	1	1	1
Modal Stakeholders Checks	0	1	1	1	1
Freight Advisory Council Checks	0	0	1	0	1
General public Checks	0	0	1	1	1
Rural Planning Organizations Checks	0	0	1	1	1

25. Which modal elements are included in the STIP (please check all that apply)?



Value		Percent	Responses
Highway Expansion		100.0%	29
Local Public Transportation – Bus		86.2%	25
Local Public Transportation – Rail		41.4%	12
Commuter Public Transportation – Bus		75.9%	22
Commuter Public Transportation – Rail		58.6%	17
Intercity Public Transportation – Bus		58.6%	17
Intercity Public Transportation – Rail		51.7%	15
Safety		96.6%	28
Operational and Management Strategies		86.2%	25
Ferry Boat		41.4%	12
Inland Waterway Transport		17.2%	5
Freight Rail		69.0%	20
Bicycle Lane		96.6%	28
Pedestrian Walkway		93.1%	27
Multi-Use Trail		86.2%	25
Aviation		24.1%	7

26. For the modal elements that are included in the STIP, what costs (including “soft” costs for engineering, design, and environmental work as appropriate) are considered or forecasted for individual projects (please check all that apply)?

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Highway Expansion Checks	29	6	4	2
Local Public Transportation – Bus Checks	24	5	1	2
Local Public Transportation – Rail Checks	12	2	1	1
Commuter Public Transportation – Bus Checks	20	5	1	1
Commuter Public Transportation – Rail Checks	15	5	2	2
Intercity Public Transportation – Bus Checks	15	2	0	0
Intercity Public Transportation – Rail Checks	14	5	2	3
Safety Checks	27	5	3	1
Operational and Management Strategies Checks	23	7	4	2
Ferry Boat Checks	11	1	0	0
Inland Waterway Transport Checks	5	1	1	1

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Freight Rail Checks	18	4	1	1
Bicycle Lane Checks	28	4	2	1
Pedestrian Walkway Checks	27	3	2	1
Multi-Use Trail Checks	24	2	2	1
Aviation Checks	6	0	0	0

Total Checks  
% of Total Checks

4.6%

0.9%

0.4%

0.3%

6503  
100.0%



27. a. For the modal elements that are included in the STIP, what benefits are considered or forecasted for individual projects (please check all that apply)?

	Improvement to the Condition of Assets	Safety	Efficiency/Travel Time Savings	Air Quality (reduced emissions including GHG)	Non-Air Environmental (e.g., noise, light, water, etc.)
Highway Expansion Checks	20	21	21	15	11
Local Public Transportation – Bus Checks	11	11	10	10	3
Local Public Transportation – Rail Checks	5	6	6	5	3
Commuter Public Transportation – Bus Checks	9	8	7	9	3
Commuter Public Transportation – Rail Checks	7	7	8	7	3
Intercity Public Transportation – Bus Checks	5	5	5	6	3
Intercity Public Transportation – Rail Checks	4	5	6	4	2
Safety Checks	14	19	7	6	5

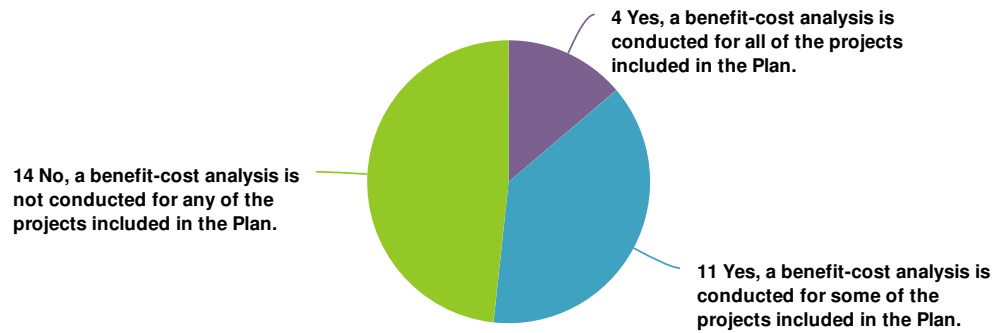
	Improvement to the Condition of Assets	Safety	Efficiency/Travel Time Savings	Air Quality (reduced emissions including GHG)	Non-Air Environmental (e.g., noise, light, water, etc.)
Operational and Management Strategies Checks	11	13	15	10	4
Ferry Boat Checks	7	6	4	2	2
Inland Waterway Transport Checks	3	2	1	1	2
Freight Rail Checks	9	12	9	5	4
Bicycle Lane Checks	16	17	6	9	4
Pedestrian Walkway Checks	15	17	6	8	4
Multi-Use Trail Checks	11	12	4	6	3
Aviation Checks	3	3	2	1	0




27.b. For the modal elements that are included in the STIP, what benefits are considered or forecasted for individual projects (please check all that apply)?

	Equity/Environmental Justice	Economic Development Impacts (e.g., jobs, output, income, etc.)	Sustainability/Resiliency	Public Health (e.g., reduced rates of obesity, asthma, etc.)	Changes in the Value of Affected Properties
Highway Expansion Checks	16	16	9	2	5
Local Public Transportation – Bus Checks	11	9	3	2	2
Local Public Transportation – Rail Checks	6	5	1	1	0
Commuter Public Transportation – Bus Checks	11	8	4	2	1
Commuter Public Transportation – Rail Checks	8	8	2	1	0
Intercity Public Transportation – Bus Checks	7	5	2	1	1
Intercity Public Transportation – Rail Checks	4	6	1	0	0
Safety Checks	12	7	5	3	2

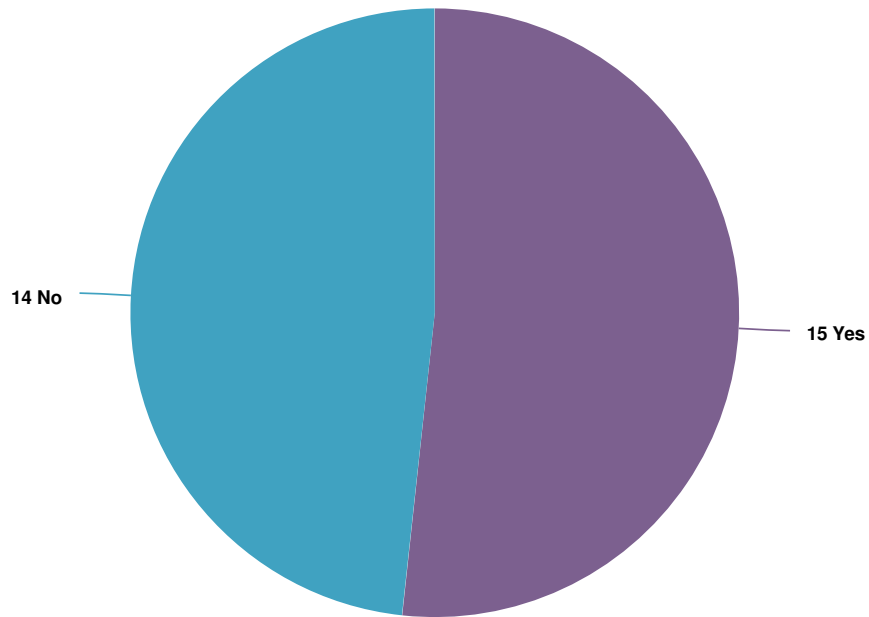
	Equity/Environmental Justice	Economic Development Impacts (e.g., jobs, output, income, etc.)	Sustainability/Resiliency	Public Health (e.g., reduced rates of obesity, asthma, etc.)	Changes in the Value of Affected Properties
Operational and Management Strategies Checks	9	7	8	2	2
Ferry Boat Checks	5	3	0	0	0
Inland Waterway Transport Checks	2	1	1	1	1
Freight Rail Checks	6	8	4	2	3
Bicycle Lane Checks	13	7	5	4	2
Pedestrian Walkway Checks	12	6	4	4	2
Multi-Use Trail Checks	10	4	3	4	2
Aviation Checks	2	1	1	1	1

28. Is an overall or total benefit-cost analysis conducted (or ratio calculated) for projects included in the STIP?



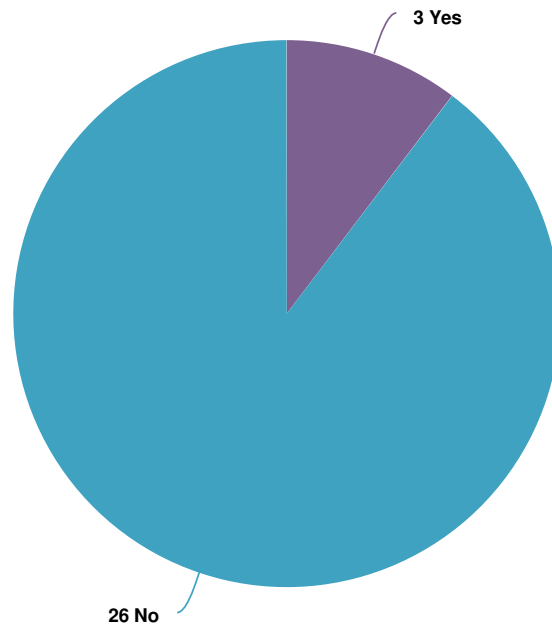
Value		Percent	Responses
Yes, a benefit-cost analysis is conducted for <b>all</b> of the projects included in the Plan.		13.8%	4
Yes, a benefit-cost analysis is conducted for <b>some</b> of the projects included in the Plan.		37.9%	11
No, a benefit-cost analysis is not conducted for any of the projects included in the Plan.		48.3%	14
Totals: 29			

29. Are projects in the STIP prioritized by mode (i.e., a Highway Expansion project is prioritized against all other Highway Expansion projects and the same is true for other modes)?



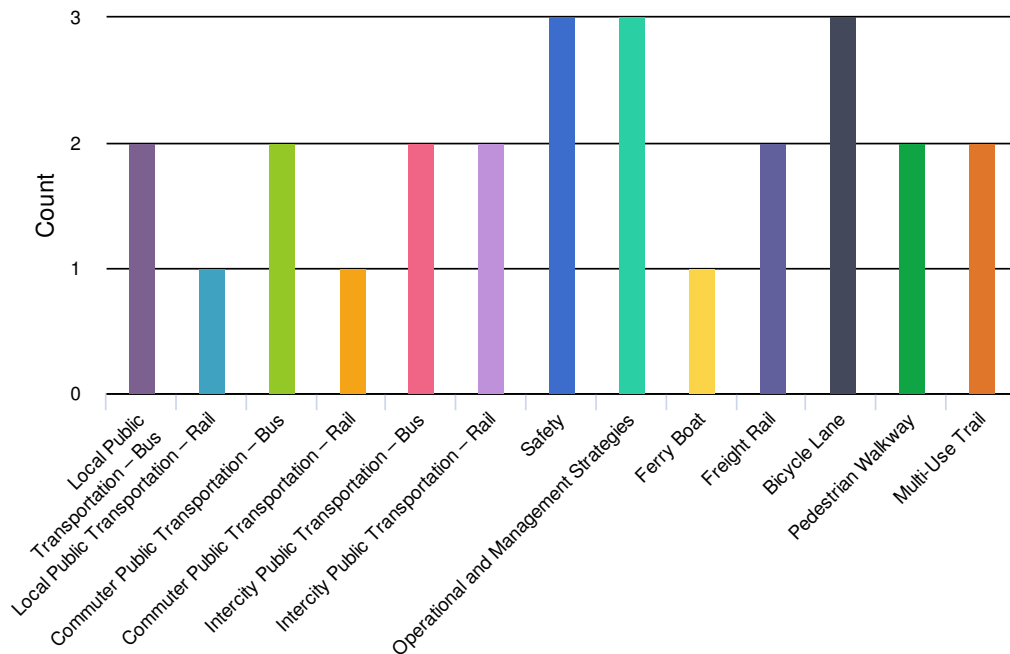
Value		Percent	Responses
Yes	<div><div></div><div></div></div>	51.7%	15
No	<div><div></div><div></div></div>	48.3%	14
Totals: 29			

30. a. Is there cross-modal prioritization of Highway Expansion projects and other types of projects in the STIP (i.e., Highway Expansion projects are prioritized alongside commuter public transportation – rail projects, operational and management strategies, etc.)?



Value		Percent	Responses
Yes	<div><div></div></div>	10.3%	3
No	<div><div></div></div>	89.7%	26
Totals: 29			

30.b. Which modes are included in the cross-modal prioritization that includes Highway Expansion projects in the STIP (please check all that apply)?

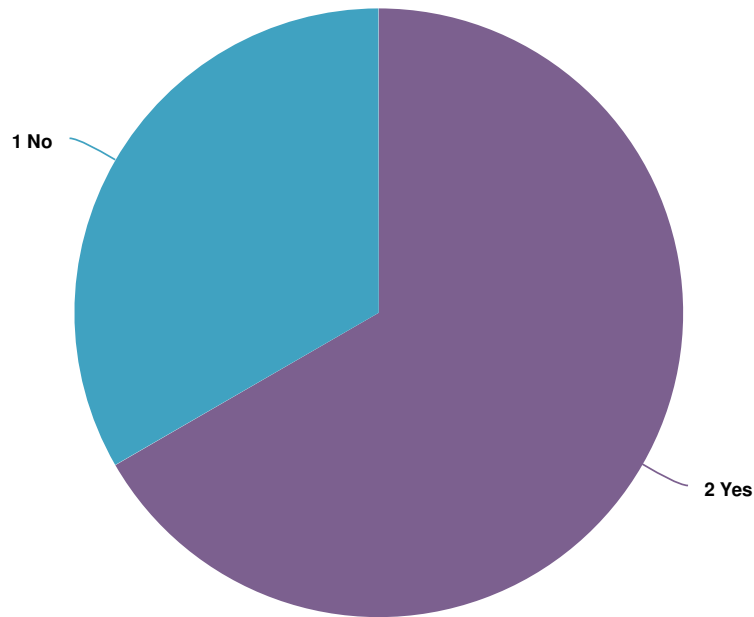


Value		Percent	Responses
Local Public Transportation - Bus		66.7%	2
Local Public Transportation - Rail		33.3%	1
Commuter Public Transportation - Bus		66.7%	2
Commuter Public Transportation - Rail		33.3%	1
Intercity Public Transportation - Bus		66.7%	2
Intercity Public Transportation - Rail		66.7%	2
Safety		100.0%	3
Operational and Management Strategies		100.0%	3
Ferry Boat		33.3%	1
Freight Rail		66.7%	2
Bicycle Lane		100.0%	3
Pedestrian Walkway		66.7%	2
Multi-Use Trail		66.7%	2



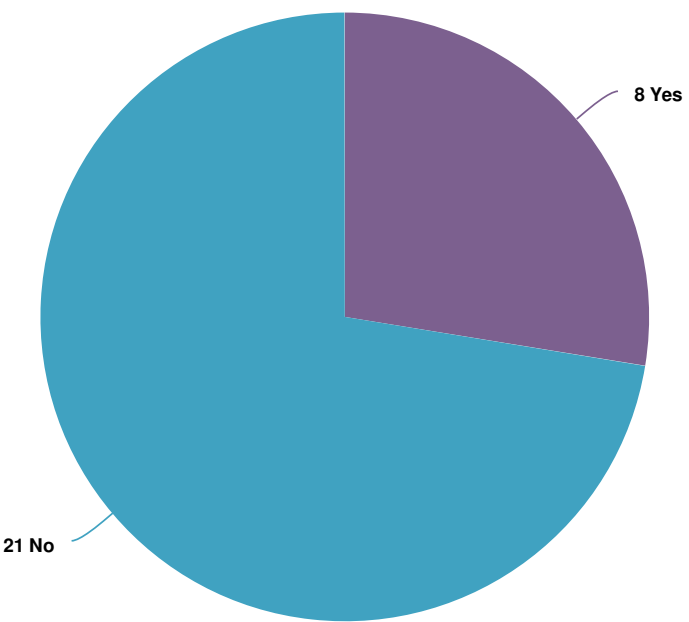


30.c. Is there legislation, an executive order, or other requirement in place that mandates your agency to conduct cross-modal prioritization of projects as part of the development of the STIP?



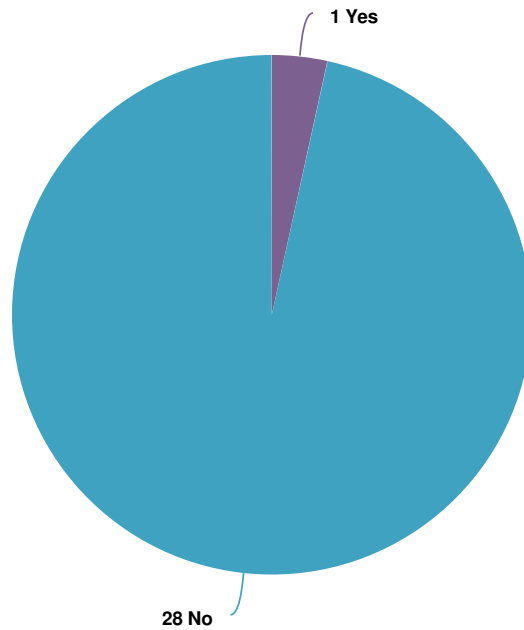
Value		Percent	Responses
Yes	<div><div></div></div>	66.7%	2
No	<div><div></div></div>	33.3%	1
			Totals: 3

30.f. Do you anticipate conducting cross-modal prioritization that includes Highway Expansion projects in the next STIP?



Value		Percent	Responses
Yes	<div><div></div></div>	27.6%	8
No	<div><div></div></div>	72.4%	21
Totals: 29			

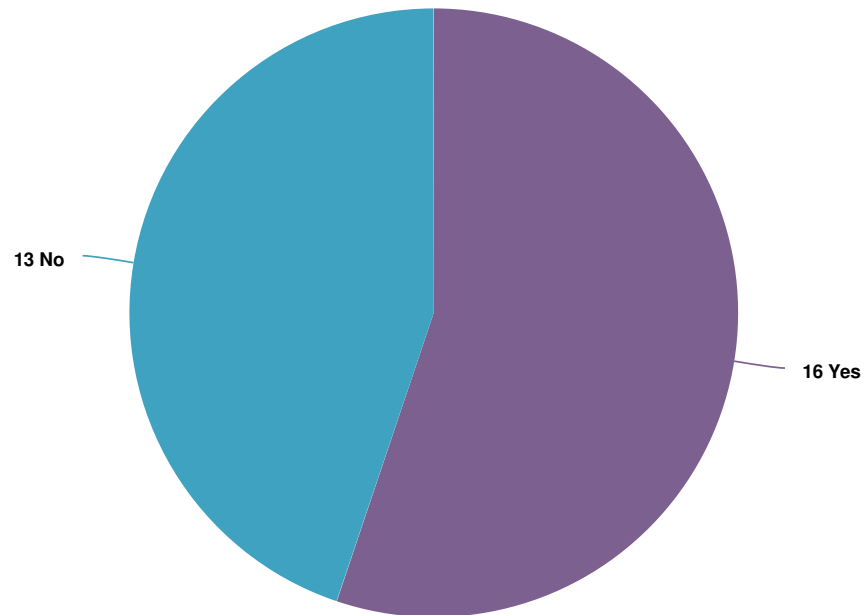
31. Is there a formal process in place to conduct a comparison of anticipated benefits of projects when included in the STIP (ex-ante) versus the actual benefits when said projects are implemented and operational (ex-post)?



Value		Percent	Responses
Yes	<div><div></div></div>	3.4%	1
No	<div><div></div></div>	96.6%	28

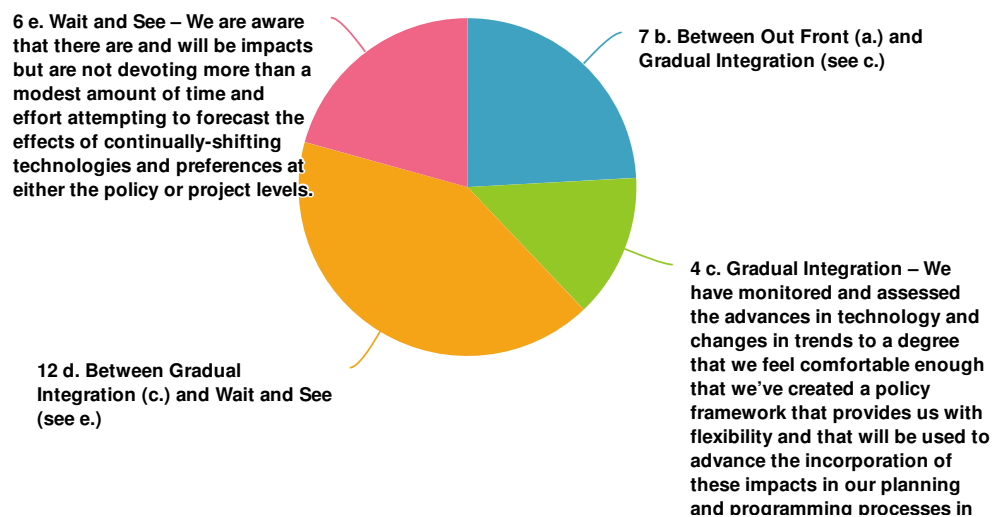
Totals: 29





32. When evaluating Highway Expansion projects for possible inclusion in the STIP, is capacity (current or projected) on other agencies' highways and public transportation services considered in the evaluation?



Value		Percent	Responses
Yes	<div><div></div></div>	55.2%	16
No	<div><div></div></div>	44.8%	13
Totals: 29			

33. The following question relates to whether or not your agency has begun to consider the impacts of emerging technologies and trends (e.g., automated/connected vehicles, transportation network companies like Uber and Lyft, delivery by drones, additive manufacturing such as 3D printing and laser sintering, parking management, etc.) in the planning and programming processes. Which statement most closely describes your agency's current approach to emerging transportation technologies and trends?



Value		Percent	Responses
b. Between Out Front (a.) and Gradual Integration (see c.)		24.1%	7
c. Gradual Integration – We have monitored and assessed the advances in technology and changes in trends to a degree that we feel comfortable enough that we've created a policy framework that provides us with flexibility and that will be used to advance the incorporation of these impacts in our planning and programming processes in the near future.		13.8%	4
d. Between Gradual Integration (c.) and Wait and See (see e.)		41.4%	12
e. Wait and See – We are aware that there are and will be impacts but are not devoting more than a modest amount of time and effort attempting to forecast the effects of continually-shifting technologies and preferences at either the policy or project levels.		20.7%	6

Totals: 29