

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

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 MPOs. 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.) Metropolitan (Long-Range) Transportation Plan, 2.) Corridor and Subarea Plans/Studies, and 3.) 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 [4815SurveyMPO.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 (30) 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.

Please enter your contact information.

First Name *

Last Name *

Title

Agency/Organization *

Street Address

Suite

City

State

Zip Code

Country

Email Address *

Phone Number *

Metropolitan (Long-Range) Transportation Plan

1. In what year was the Plan last updated? *



2011
2012
2013
2014
2015
2016
2017

2. 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.

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

Yes

No

4. 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

Metropolitan (Long-Range) Transportation Plan - Costs Considered

5. 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.

Metropolitan (Long-Range) Transportation Plan - Benefits Considered

6. 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"/>	<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"/>

6.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"/>

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

Metropolitan (Long-Range) Transportation Plan - Benefit-Cost Analysis

7. 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.

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

Metropolitan (Long-Range) Transportation Plan - Project Prioritization

8. 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

9. 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

9.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

9.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
-

9.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? *

9.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. “

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

- Yes
- No

10. 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

11. 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"/>
State Department(s) of Transportation	<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"/>
<input type="text" value="Enter another option"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="Enter another option"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="Enter another option"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

- Yes
 - No
-

13. 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
-

Corridor and Subarea Plans/Studies - Costs Considered

14. 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

15. 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"/>

15.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"/>

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

Corridor and Subarea Plans/Studies - Benefit-Cost Analysis

16. 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.

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

Corridor and Subarea Plans/Studies - Project Prioritization

17. 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

18. 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

18.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

18.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
-

18.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? *

18.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. “

18.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

Corridor and Subarea Plans/Studies - Evaluation & Consultation

19. 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

20. 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"/>
State Department(s) of Transportation	<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"/>
<input type="text" value="Enter another option"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="Enter another option"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text" value="Enter another option"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Transportation Improvement Program

21. Which **modal elements** are included in the TIP (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

Transportation Improvement Program - Costs Considered

22. For the modal elements that are included in the TIP, 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.

Transportation Improvement Program - Benefits Considered

23. a. For the modal elements that are included in the TIP, 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"/>

23.b. For the modal elements that are included in the TIP, 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"/>

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

Transportation Improvement Program - Benefit-Cost Analysis

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

- 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.

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

Transportation Improvement Program - Project Prioritization

25. Are projects in the TIP 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

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

Yes

No

26.b. Which modes are included in the cross-modal prioritization that includes Highway Expansion projects in the TIP (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

26.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 TIP? *

- Yes
 - No
-

26.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 TIP? *

26.e. If there are any non-highway projects that are included in the TIP 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. “

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

- Yes
- No

Transportation Improvement Program - Project Evaluation

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

- Yes
- No

Looking Ahead/Final Thoughts

28. 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? *

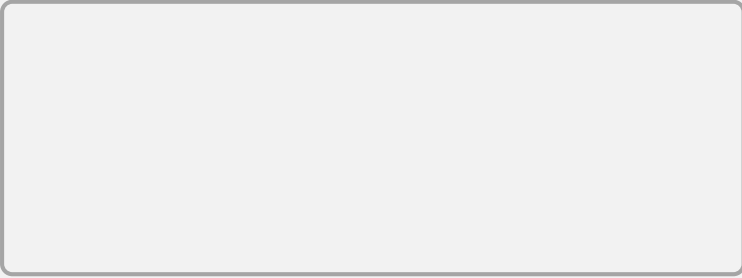
- a. Out Front – We have an adopted policy, are quantifying and modeling the likely impacts on infrastructure design and service operations, and are modifying our planning and programming processes to consider these impacts in project conceptualization, evaluation, and selection.
 - b. Between Out Front (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.
-

29. 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., "Mega City MPO 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.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
b.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
c.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
d.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
e.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
f.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
g.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
h.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
j.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

30. 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**

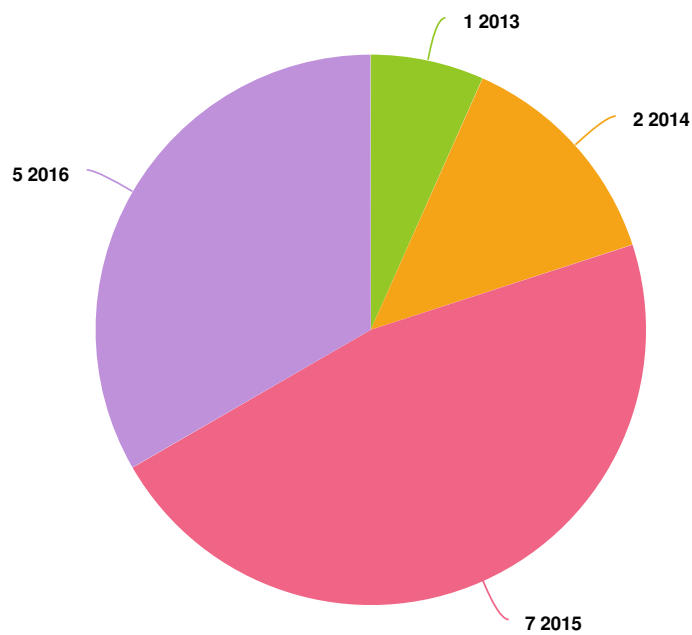
Your response is critical to the success of the project and we appreciate you taking the time to provide your input. If you have any questions or comments, please feel free to contact Richard Perrin at:

- E-mail: Richard.Perrin@tylin.com
- 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 - MPOs




1. In what year was the Plan last updated?




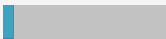
Value	Percent	Responses
2013	6.7%	1
2014	13.3%	2
2015	46.7%	7
2016	33.3%	5

Totals: 15

2. 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.		93.3%	14
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.		80.0%	12
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.		73.3%	11

3. 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		93.3%	14
No		6.7%	1

Totals: 15

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

Value		Percent	Responses
Highway Expansion		93.3%	14
Local Public Transportation – Bus		100.0%	15
Local Public Transportation – Rail		93.3%	14
Commuter Public Transportation – Bus		73.3%	11
Commuter Public Transportation – Rail		73.3%	11
Intercity Public Transportation – Bus		40.0%	6
Intercity Public Transportation – Rail		60.0%	9
Safety		100.0%	15
Operational and Management Strategies		100.0%	15
Ferry Boat		20.0%	3
Inland Waterway Transport		33.3%	5
Freight Rail		66.7%	10
Bicycle Lane		100.0%	15
Pedestrian Walkway		86.7%	13
Multi-Use Trail		80.0%	12
Aviation		20.0%	3

5. 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	12	9	5	2
Local Public Transportation - Bus Checks	12	9	4	2
Local Public Transportation - Rail Checks	11	9	4	2
Commuter Public Transportation - Bus Checks	9	8	3	1
Commuter Public Transportation - Rail Checks	9	8	4	2
Intercity Public Transportation - Bus Checks	4	3	2	2
Intercity Public Transportation - Rail Checks	6	5	4	2
Safety Checks	12	7	3	1
Operational and Management Strategies Checks	12	8	4	2
Ferry Boat Checks	2	2	2	2
Inland Waterway Transport Checks	3	1	0	0
Freight Rail Checks	8	4	3	1

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Bicycle Lane Checks	11	6	3	1
Pedestrian Walkway Checks	10	5	3	1
Multi-Use Trail Checks	9	5	3	1
Aviation Checks	2	2	1	1

6. 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	10	11	13	10	8
Local Public Transportation - Bus Checks	11	10	12	10	6
Local Public Transportation - Rail Checks	10	9	11	9	6
Commuter Public Transportation - Bus Checks	8	7	10	8	5
Commuter Public Transportation - Rail Checks	8	7	10	8	5
Intercity Public Transportation - Bus Checks	3	2	4	3	2
Intercity Public Transportation - Rail Checks	7	6	8	6	3
Safety Checks	8	8	6	5	4




	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	8	9	7	6
Ferry Boat Checks	2	2	2	2	2
Inland Waterway Transport Checks	2	1	0	0	0
Freight Rail Checks	7	6	4	4	4
Bicycle Lane Checks	9	9	5	6	5
Pedestrian Walkway Checks	7	7	4	6	5
Multi-Use Trail Checks	7	6	5	5	4
Aviation Checks	2	1	1	1	1

6.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	12	9	7	6	2
Local Public Transportation - Bus Checks	12	9	7	8	3
Local Public Transportation - Rail Checks	11	8	6	7	2
Commuter Public Transportation - Bus Checks	10	7	4	6	1
Commuter Public Transportation - Rail Checks	10	7	4	6	1
Intercity Public Transportation - Bus Checks	3	1	1	3	1
Intercity Public Transportation - Rail Checks	7	5	4	5	2
Safety Checks	8	7	6	5	3



	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	8	7	5	5	2
Ferry Boat Checks	2	1	1	2	1
Inland Waterway Transport Checks	1	1	0	0	0
Freight Rail Checks	8	7	5	5	3
Bicycle Lane Checks	11	8	6	6	3
Pedestrian Walkway Checks	9	6	5	5	3
Multi-Use Trail Checks	8	5	4	5	3
Aviation Checks	1	1	1	1	1

7. 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 all of the projects included in the Plan.		26.7%	4
Yes, a benefit-cost analysis is conducted for some of the projects included in the Plan.		20.0%	3
No, a benefit-cost analysis is not conducted for any of the projects included in the Plan.		53.3%	8



Totals: 15

8. 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		53.3%	8
No		46.7%	7

Totals: 15



9. 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		53.3%	8
No		46.7%	7
			Totals: 15

9.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
Local Public Transportation – Bus		100.0%	8
Local Public Transportation – Rail		100.0%	8
Commuter Public Transportation – Bus		87.5%	7
Commuter Public Transportation – Rail		75.0%	6
Intercity Public Transportation – Bus		25.0%	2
Intercity Public Transportation – Rail		37.5%	3
Safety		62.5%	5
Operational and Management Strategies		75.0%	6
Ferry Boat		12.5%	1
Inland Waterway Transport		12.5%	1
Freight Rail		12.5%	1
Bicycle Lane		87.5%	7
Pedestrian Walkway		62.5%	5
Multi-Use Trail		62.5%	5

9.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
Yes		25.0%	2
No		75.0%	6



Totals: 8

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

Value		Percent	Responses
Yes		53.3%	8
No		46.7%	7

Totals: 15

10. 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		13.3%	2
No		86.7%	13

Totals: 15


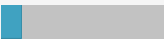
11. At what points in the development of the Plan are the following stakeholders consulted (please check all that apply)?

	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	14	14	14	15	15
A statewide commission or body (appointed or elected) other than the State DOT Checks	1	1	1	1	3
Local and/or Regional Public Transportation Operator(s) Checks	12	15	15	15	15
State Department(s) of Transportation Checks	13	15	15	14	15
Local Officials in Non-Metropolitan Areas Checks	4	6	7	7	9
Indian Tribal Governments Checks	4	5	5	5	5
Intercity Bus and/or Rail Operator(s) Checks	5	5	6	6	6
City and County Elected Officials Checks	1	1	1	1	1
Community Advocates 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
County Transportation Commissions Checks	1	1	1	1	1
EJ Groups Checks	1	1	1	1	1
Elected Regional Council Checks	1	1	1	1	1
FHWA/FTA/MPO Board Checks	1	1	1	1	1
Local Elected Officials Checks	1	1	1	1	1
Local Officials and Staff in Metro Area Checks	1	1	1	1	1
Private Sector Stakeholders Checks	1	1	1	1	1
Public Checks	1	1	1	1	1
Public Advisory Committee Checks	1	1	1	1	1
Stakeholders and Special Interest Groups Checks	1	1	1	1	1
MPO Policy Board Checks	0	0	0	0	0
MPO Policy Committees and Board of Directors Checks	0	1	1	1	1

















	Development of Scope of Work	Selection of Performance Measures	Development of Potential Alternatives	Selection of Recommendations	Review of Draft Plan
Military Working Group, Officials from neighboring counties/Mexico Checks	0	1	1	1	1
Other advisory committee stakeholders Checks	0	1	1	1	1
general public Checks	0	0	0	0	1

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

Value		Percent	Responses
Yes		86.7%	13
No		13.3%	2

Totals: 15

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

Value		Percent	Responses
Highway Expansion		84.6%	11
Local Public Transportation – Bus		84.6%	11
Local Public Transportation – Rail		84.6%	11
Commuter Public Transportation – Bus		76.9%	10
Commuter Public Transportation – Rail		69.2%	9
Intercity Public Transportation – Bus		30.8%	4
Intercity Public Transportation – Rail		38.5%	5
Safety		100.0%	13
Operational and Management Strategies		100.0%	13
Ferry Boat		7.7%	1
Inland Waterway Transport		7.7%	1
Freight Rail		38.5%	5
Bicycle Lane		84.6%	11
Pedestrian Walkway		84.6%	11
Multi-Use Trail		92.3%	12
Aviation		23.1%	3

14. 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	11	5	3	2
Local Public Transportation – Bus Checks	10	7	5	3
Local Public Transportation – Rail Checks	10	6	4	3
Commuter Public Transportation – Bus Checks	9	7	5	3
Commuter Public Transportation – Rail Checks	8	6	4	3
Intercity Public Transportation – Bus Checks	3	3	4	1
Intercity Public Transportation – Rail Checks	3	2	3	1
Safety Checks	10	4	4	3
Operational and Management Strategies Checks	10	5	4	3
Ferry Boat Checks	1	1	1	1
Inland Waterway Transport Checks	0	0	0	0

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Freight Rail Checks	3	2	1	1
Bicycle Lane Checks	11	6	3	3
Pedestrian Walkway Checks	11	7	3	3
Multi-Use Trail Checks	12	6	3	3
Aviation Checks	2	2	1	1

15. 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	9	10	10	9	7
Local Public Transportation - Bus Checks	8	8	10	8	7
Local Public Transportation - Rail Checks	8	8	10	8	7
Commuter Public Transportation - Bus Checks	8	7	9	7	6
Commuter Public Transportation - Rail Checks	7	6	8	6	5
Intercity Public Transportation - Bus Checks	4	4	4	3	4
Intercity Public Transportation - Rail Checks	4	4	4	4	4
Safety Checks	10	9	7	5	4




	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	9	7	9	5	4
Ferry Boat Checks	1	1	1	1	1
Inland Waterway Transport Checks	0	0	0	0	0
Freight Rail Checks	3	3	2	3	3
Bicycle Lane Checks	7	7	8	6	4
Pedestrian Walkway Checks	8	8	7	7	5
Multi-Use Trail Checks	7	7	6	6	4
Aviation Checks	1	1	1	1	1

15.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	8	9	7	3	5
Local Public Transportation - Bus Checks	9	9	6	5	3
Local Public Transportation - Rail Checks	9	9	6	4	3
Commuter Public Transportation - Bus Checks	8	8	5	5	3
Commuter Public Transportation - Rail Checks	7	7	4	4	3
Intercity Public Transportation - Bus Checks	3	4	3	3	2
Intercity Public Transportation - Rail Checks	3	5	3	2	3



	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	8	6	5	4	3
Operational and Management Strategies Checks	6	7	5	5	3
Ferry Boat Checks	1	1	1	1	1
Inland Waterway Transport Checks	0	1	0	0	0
Freight Rail Checks	3	4	3	2	1
Bicycle Lane Checks	7	7	5	5	2
Pedestrian Walkway Checks	8	8	6	6	3
Multi-Use Trail Checks	8	7	5	6	3
Aviation Checks	1	2	1	1	1

16. 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 all of the projects included in the Plan.		53.8%	7
Yes, a benefit-cost analysis is conducted for some of the projects included in the Plan.		15.4%	2
No, a benefit-cost analysis is not conducted for any of the projects included in the Plan.		30.8%	4


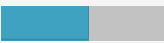
Totals: 13

17. 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		46.2%	6
No		53.8%	7

Totals: 13


18. 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		46.2%	6
No		53.8%	7
			Totals: 13



18.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		83.3%	5
Local Public Transportation – Rail		83.3%	5
Commuter Public Transportation – Bus		83.3%	5
Commuter Public Transportation – Rail		83.3%	5
Intercity Public Transportation – Rail		16.7%	1
Safety		83.3%	5
Operational and Management Strategies		83.3%	5
Inland Waterway Transport		16.7%	1
Freight Rail		33.3%	2
Bicycle Lane		66.7%	4
Pedestrian Walkway		66.7%	4
Multi-Use Trail		83.3%	5
Aviation		16.7%	1



18.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%	6
			Totals: 6

18.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		53.8%	7
No		46.2%	6
			Totals: 13

19. 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		15.4%	2
No		84.6%	11

Totals: 13

20. 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	13	10	11	11	13
A statewide commission or body (appointed or elected) other than the State DOT Checks	1	1	2	1	3
Local and/or Regional Public Transportation Operator(s) Checks	12	9	10	10	11
State Department(s) of Transportation Checks	12	10	11	10	12
Local Officials in Non-Metropolitan Areas Checks	2	2	3	2	6
Indian Tribal Governments Checks	4	4	5	5	5
Intercity Bus and/or Rail Operator(s) Checks	4	3	4	3	4
City and County Elected Officials Checks	1	1	1	1	1
Community Representatives 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
County Transportation Commission Checks	1	1	1	1	1
EJ Community Checks	1	1	1	1	1
Local Officials and Staff in Metro Areas Checks	1	0	1	0	1
Local Partner Staff Checks	1	1	1	1	1
Private Sector Stakeholders Checks	1	1	1	1	1
Regional Election Officials Checks	1	1	1	1	1
Stakeholders and Special Interest Groups Checks	1	0	1	0	1
local elected officials Checks	1	0	0	0	1
Local Steering Committee Checks	0	1	1	1	1
MPO Working Groups Checks	0	1	1	1	1
MPO Policy Committees and Board of Directors Checks	0	0	1	1	1

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

Value		Percent	Responses
Highway Expansion		93.3%	14
Local Public Transportation – Bus		93.3%	14
Local Public Transportation – Rail		80.0%	12
Commuter Public Transportation – Bus		86.7%	13
Commuter Public Transportation – Rail		80.0%	12
Intercity Public Transportation – Bus		26.7%	4
Intercity Public Transportation – Rail		33.3%	5
Safety		100.0%	15
Operational and Management Strategies		100.0%	15
Ferry Boat		20.0%	3
Inland Waterway Transport		6.7%	1
Freight Rail		33.3%	5
Bicycle Lane		100.0%	15
Pedestrian Walkway		93.3%	14
Multi-Use Trail		86.7%	13
Aviation		13.3%	2

22. For the modal elements that are included in the TIP, 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	14	6	2	1
Local Public Transportation - Bus Checks	14	6	1	1
Local Public Transportation - Rail Checks	12	5	1	1
Commuter Public Transportation - Bus Checks	13	7	1	1
Commuter Public Transportation - Rail Checks	11	6	1	1
Intercity Public Transportation - Bus Checks	4	2	1	1
Intercity Public Transportation - Rail Checks	5	2	1	1
Safety Checks	15	4	1	1
Operational and Management Strategies Checks	15	5	1	1
Ferry Boat Checks	3	1	1	1
Inland Waterway Transport Checks	1	0	0	0
Freight Rail Checks	5	2	1	1

	Initial Construction	Annualized Maintenance	Full Life Cycle	Travel Costs to Households & Businesses
Bicycle Lane Checks	15	4	1	1
Pedestrian Walkway Checks	14	4	1	1
Multi-Use Trail Checks	13	3	1	1
Aviation Checks	2	2	1	1

23. a. For the modal elements that are included in the TIP, 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	9	9	8	9	4
Local Public Transportation - Bus Checks	9	9	9	8	4
Local Public Transportation - Rail Checks	8	8	8	7	3
Commuter Public Transportation - Bus Checks	10	9	10	9	4
Commuter Public Transportation - Rail Checks	9	8	9	8	2
Intercity Public Transportation - Bus Checks	3	3	3	3	2
Intercity Public Transportation - Rail Checks	4	4	4	4	2
Safety Checks	8	8	7	5	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	8	8	8	6	2
Ferry Boat Checks	1	1	1	1	1
Inland Waterway Transport Checks	0	0	0	0	0
Freight Rail Checks	2	2	2	1	1
Bicycle Lane Checks	9	9	8	8	3
Pedestrian Walkway Checks	9	9	8	8	3
Multi-Use Trail Checks	7	7	7	7	4
Aviation Checks	2	2	1	1	1

23.b. For the modal elements that are included in the TIP, 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	10	7	6	3	2
Local Public Transportation - Bus Checks	10	7	5	4	2
Local Public Transportation - Rail Checks	8	5	4	4	2
Commuter Public Transportation - Bus Checks	9	6	4	4	2
Commuter Public Transportation - Rail Checks	8	5	3	3	1
Intercity Public Transportation - Bus Checks	2	2	2	1	1
Intercity Public Transportation - Rail Checks	3	3	3	2	1
Safety Checks	10	5	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	9	5	4	3	2
Ferry Boat Checks	1	1	1	1	1
Inland Waterway Transport Checks	0	0	0	0	0
Freight Rail Checks	3	2	1	1	1
Bicycle Lane Checks	11	6	6	5	4
Pedestrian Walkway Checks	9	5	6	4	4
Multi-Use Trail Checks	9	5	5	4	4
Aviation Checks	2	1	1	1	1

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

Value	Percent	Responses
Yes, a benefit-cost analysis is conducted for all of the projects included in the Plan.	26.7%	4
Yes, a benefit-cost analysis is conducted for some of the projects included in the Plan.	6.7%	1
No, a benefit-cost analysis is not conducted for any of the projects included in the Plan.	66.7%	10



Totals: 15

25. Are projects in the TIP 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		40.0%	6
No		60.0%	9

Totals: 15

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


Value		Percent	Responses
Yes		33.3%	5
No		66.7%	10

Totals: 15



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

Value		Percent	Responses
Local Public Transportation - Bus		100.0%	5
Local Public Transportation - Rail		60.0%	3
Commuter Public Transportation - Bus		80.0%	4
Commuter Public Transportation - Rail		60.0%	3
Intercity Public Transportation - Bus		40.0%	2
Intercity Public Transportation - Rail		40.0%	2
Safety		80.0%	4
Operational and Management Strategies		100.0%	5
Freight Rail		20.0%	1
Bicycle Lane		100.0%	5
Pedestrian Walkway		60.0%	3
Multi-Use Trail		60.0%	3

26.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 TIP?



Value		Percent	Responses
No		100.0%	5
			Totals: 5

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




Value		Percent	Responses
Yes		40.0%	6
No		60.0%	9

Totals: 15

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

Value		Percent	Responses
Yes		13.3%	2
No		86.7%	13
			Totals: 15

28. 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.)		26.7%	4
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.		33.3%	5
d. Between Gradual Integration (c.) and Wait and See (see e.)		40.0%	6

Totals: 15