

Plan Bay Area 2050 Final Blueprint Preview: Transportation Element

Subject: Update on forecasted transportation revenues and needs, as well as preliminary assignments for assumed regional discretionary funding in the Plan Bay Area 2050 Final Blueprint.

Background: Over the past seven months, staff have presented on three foundational components informing the Transportation Element of the Plan Bay Area 2050 Final Blueprint. First, the Horizon initiative explored the efficacy of strategies, as well as individual transportation projects, through Futures Planning and the Project Performance Assessment. Second, the Draft Needs and Revenue Assessment highlighted financial gaps for transportation relative to other key elements of the long-range plan. Most recently, MTC and ABAG approved analysis of the Draft Blueprint in February 2020 with a set of the highest-performing strategies.

Each of these steps has been leading towards the development of the Final Blueprint, in which financial constraints must be reconciled with the full suite of strategies, continuing to refine the individual projects incorporated within. Action items on the Transportation Element of the Final Blueprint are anticipated for July and September 2020.

Adjustments to Needs and Revenues Forecast

In December 2019, staff presented an initial 30-year forecast ranging between \$472 billion and \$544 billion in transportation revenues, with the higher end of the range *dependent on the inclusion of new revenue streams*. These forecasted revenues would be available to fund transportation investments across Plan Bay Area 2050's 30-year planning horizon. Staff also presented a summary of financial needs, totaling \$385 billion, to operate existing transit services and to maintain the region's pavement, bridge, and transit assets over the 30-year period.

In addition to integrating further refinements to these draft forecasts, staff has also adjusted near-term revenue estimates to reflect fallout from the coronavirus pandemic (COVID-19). While the extent of the unprecedented impact of COVID-19 cannot yet be known for certain, staff have revised near-term revenue forecasts, estimating \$11 billion in transportation revenue loss primarily over the next five years.

Correspondingly, transit service levels are projected to experience a near-term decline of at least 6 percent in revenue vehicle-hours because of the sustained revenue impacts from COVID-19, affecting need estimates for transit operating and transit capital maintenance. **Attachments B and C** compare the forecasted transportation revenues that were shared with the committee in December 2019 alongside the refined transportation revenue forecast. Additional breakdowns of financial needs are included in **Attachment A**.

Prioritizing Major Projects Using Project Performance and Commitment Letters

While a shortlist of high-performing projects were integrated into the Draft Blueprint strategies – from core capacity improvements to new bus rapid transit lines – staff identified performance challenges in terms of cost-effectiveness, alignment with the adopted Guiding Principles, and support for equitable outcomes. The results of this analysis were published as part of the Project Performance Assessment this winter, as shown in **Attachment D**, and project sponsors were asked to submit tangible policy commitments or scope revisions to address these issues by April 2020.

Staff have worked to prioritize projects for inclusion into the Final Blueprint strategies, which will weave together the investments that have the strongest blend of performance outcomes with policy and funding commitments. Ultimately, these refined strategies will help create an integrated network of investments with supportive public policies to advance more sustainable and equitable outcomes. Additional information on staff recommendations on a project-by-project basis can be found in **Attachment E**, with projects rated as “Include”, “Consider”, or “Exclude” in terms of status in the Final Blueprint. Projects that are fully funded with local revenues are also indicated; these projects would advance to the Final Blueprint dependent on Plan progress toward the SB 375 GHG reduction mandate and other regional goals.

Issues:

- (1) Prioritizing Transportation Strategies Through Regional Trade-Off Discussions
Plan Bay Area 2050 is statutorily required to be fiscally-constrained, meaning the final set of transportation strategies must not exceed forecasted transportation revenues. Analyses show that the investments needed to maintain the existing transportation systems already consume a large share of the total future revenues, with known funding for operations and maintenance falling short of the projected costs. The reduction in forecasted transportation revenues increases these operations and maintenance funding shortfalls and intensifies the challenge of meeting the SB 375 mandated greenhouse gas emissions reduction target while maintaining fiscal constraint.

Ultimately, this means that trade-offs will be required, weighing the appropriate strategies and investment levels. **Attachment F** lays out a high-level initial concept, building upon the Draft Blueprint strategies with a set of Final Blueprint strategies that integrate projects with sufficient policy commitments. Staff will continue to refine this concept while working to determine which “Consider” projects can be included in the Final Blueprint this summer, with decisions informed by the Draft Blueprint’s progress on critical climate and equity goals.

- (2) Impacts of COVID-19 on Near-Term Transportation Projects
New to Plan Bay Area 2050, the forecasted transportation revenues have been separated into two 15-year periods—revenues generated from 2021 through 2035 (“Period 1”) and revenues generated from 2036 to 2050 (“Period 2”). Expenditures must be fiscally-constrained within these two 15-year periods to better align investments with forecasted future revenues. Before the onset of COVID-19, revenues available in Period 1 (2021 to 2035) were already not sufficient to meet every funding request; the economic fallout from COVID-19 is expected to further reduce revenues available in the near-term. With more revenues projected to be available in Period 2, it is likely that some projects that would have otherwise been implemented in Period 1 will be pushed back into Period 2 to meet fiscal constraint requirements.

Next Steps: Outcomes from the analysis of the Draft Blueprint will be shared publicly and with the committees in July. This analysis will highlight successes and shortcomings of the Draft Blueprint with regard to critical climate and equity goals, among others, which will further inform refinements to all Blueprint strategies, including the concept for the Final Blueprint presented this month. Staff will ask for the joint committees' direction on key questions related to the Transportation Element, with final action on all aspects of the Final Blueprint slated for September 2020 following public and stakeholder engagement.

Recommendation: Information

Attachments: Attachment A: Presentation
Attachment B: Revised Transportation Revenue Forecast – Summary
Attachment C: Revised Transportation Revenue Forecast – Detail
Attachment D: Project Performance Assessment Findings (January 2020)
Attachment E: Initial Staff Recommendations on Major Projects
Attachment F: Initial Concept for Final Blueprint (Transportation Element)


Therese W. McMillan

PLAN BAY AREA 2050

Final Blueprint Preview: Transportation Element Update

Adam Noelting, William Bacon, and Raleigh McCoy

June 2020

Similar to the Draft Blueprint, the Final Blueprint will weave together **complementary strategies to achieve key regional outcomes.**



Plan Bay Area 2050 Blueprint

- **Transportation** Strategies
- **Housing** Geographies & Strategies
- **Economic** Geographies & Strategies
- **Environmental** Strategies

With the Draft Blueprint coming soon, now is an opportune time to think about **borderline strategies & investments** not included in the Draft.

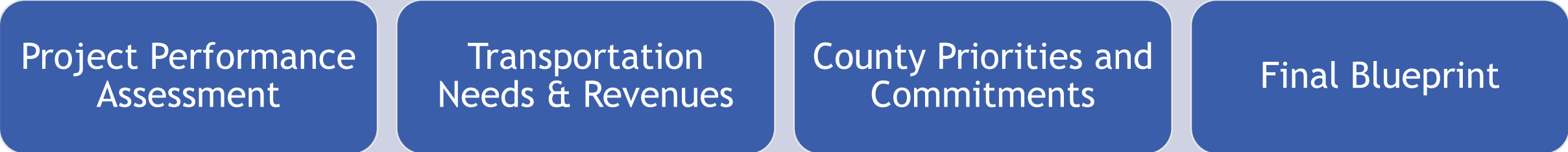


Transportation Element

- Revisions to Transportation Needs & Revenues *(including from COVID-19/Recession)*
- Commitment Letters for Transportation Projects with Performance Challenges
- Integration of Select Projects into Refined Strategies for Final Blueprint

★ *Updates on the Housing, Environment, and Economy elements coming in July and Sept.*

Robust technical analyses over the past year have spotlighted high-performing projects & complementary policies.



*Draft Findings:
November 2019*

*Final Findings:
February 2020*

*Draft Needs &
Revenues:
December 2019*

*Revised Needs &
Revenues:
June 2020*

*County Revenue
Forecasts:
Winter 2020*

*Draft County Lists:
March 2020*

*Commitment Letters:
April 2020*

*Final County Lists:
July 2020*

*Major Project
Recommendations:
June 2020*


*Action: Reg. Commitments
July 2020*

*Action: Final Strategies
September 2020*

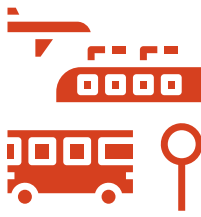
PLAN BAY AREA 2050

Updated Needs and Revenues for Transportation

Integrating COVID-19 & Recession Impacts



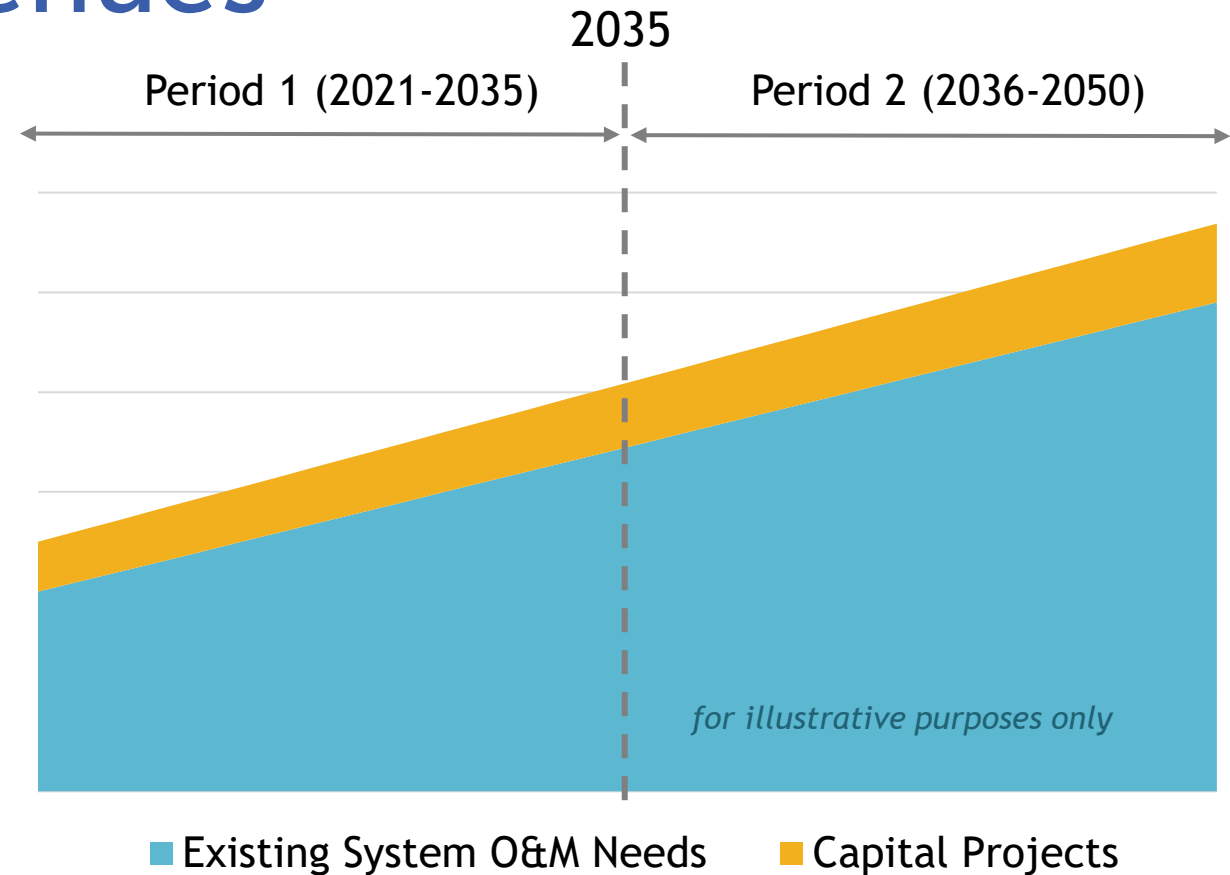
The impacts of the COVID-19 pandemic, and the subsequent economic consequences, on transportation revenue are likely to be significant in the near term. Revenue impacts will likely be concentrated in the first half of the plan.



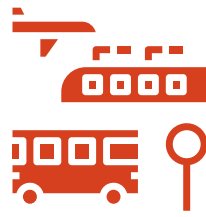
Key Context: Transportation Revenues

Per new CARB regulations, Plan Bay Area 2050 will split the 30-year planning horizon into two 15-year periods.

This will affect when we assume major capital projects will be delivered over the Plan's lifespan.



30-Year Revenue Forecast (in Billions of YOES)



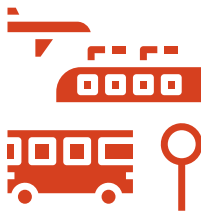
Needs and Revenue

Transportation Revenues

Revised Draft Plan Bay Area 2050 Revenue (in billions of Year of Expenditure \$)

Revenue Source	Revised Draft Forecast	COVID-19 Reduction	Total Revenue
Federal Funds	\$48	\$0	\$48
State Funds	\$105	-\$2	\$103
Regional Funds	\$59	-\$1	\$58
Local Funds	\$237	-\$8	\$229
Anticipated	\$24	\$0	\$24
New Revenues	\$48	\$0	\$48
TOTAL without New Revenues	\$474	-\$11	\$463
<i>TOTAL with New Revenues</i>	\$522	-\$11	\$511

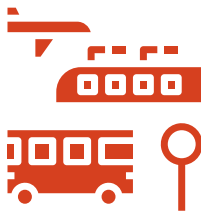
Note: Numbers may not sum due to rounding.



Transportation Revenues

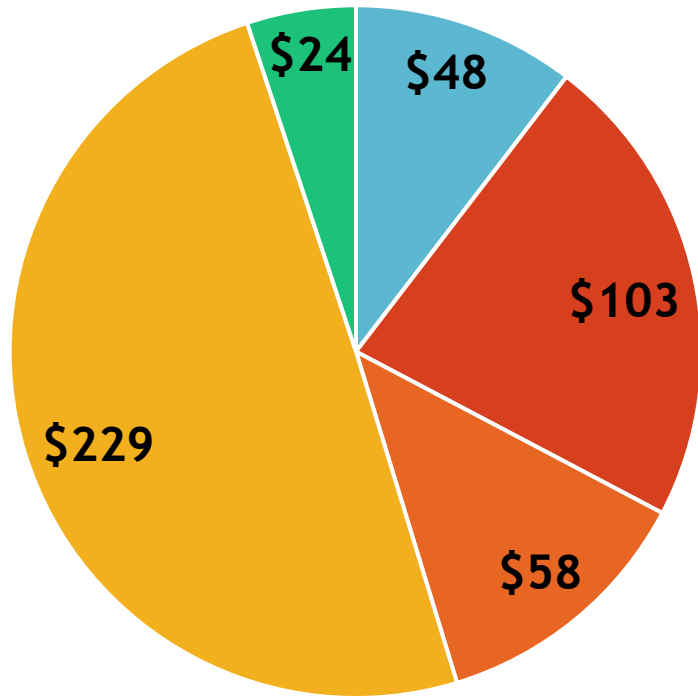
- **Approach to COVID-19 Impacts**
 - Applied a revenue “haircut” to State, Regional, and Local revenue sources
 - “Haircut” based on projected revenue impacts to specific revenue sources due to COVID-19
 - Impacts contained to “Period 1”, starting in FY 2020-21 through FY 2034-35
 - Adjusted new revenues estimate to reflect a later start year and lower annual revenues
- **Key Changes Since December 2019 Initial Revenue Forecast**
 - Adjusted local streets and roads funding based on revised local revenue information
 - Included CARB’s Low Carbon Fuel Standard program
 - Included various local fee revenues
 - Included CARES Act funds for transit for FY 2020-21

Transportation Revenues

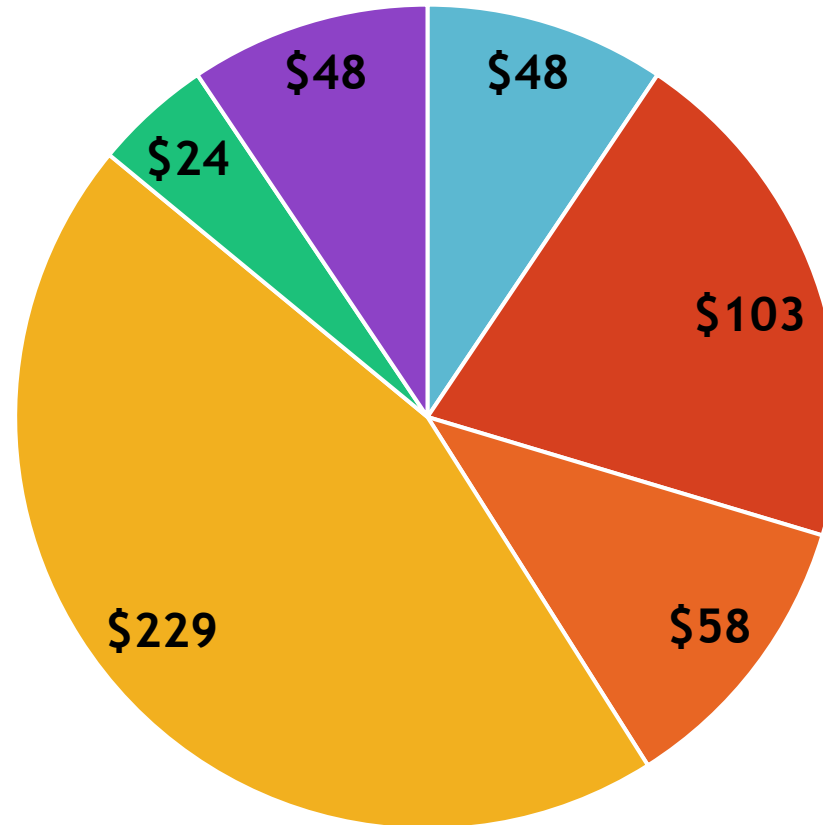


Revised Draft Plan Bay Area 2050 Revenue (in billions of Year of Expenditure \$)

\$463 Billion
Total without New Revenues



\$511 Billion
Total with New Revenues



Key Caveats:

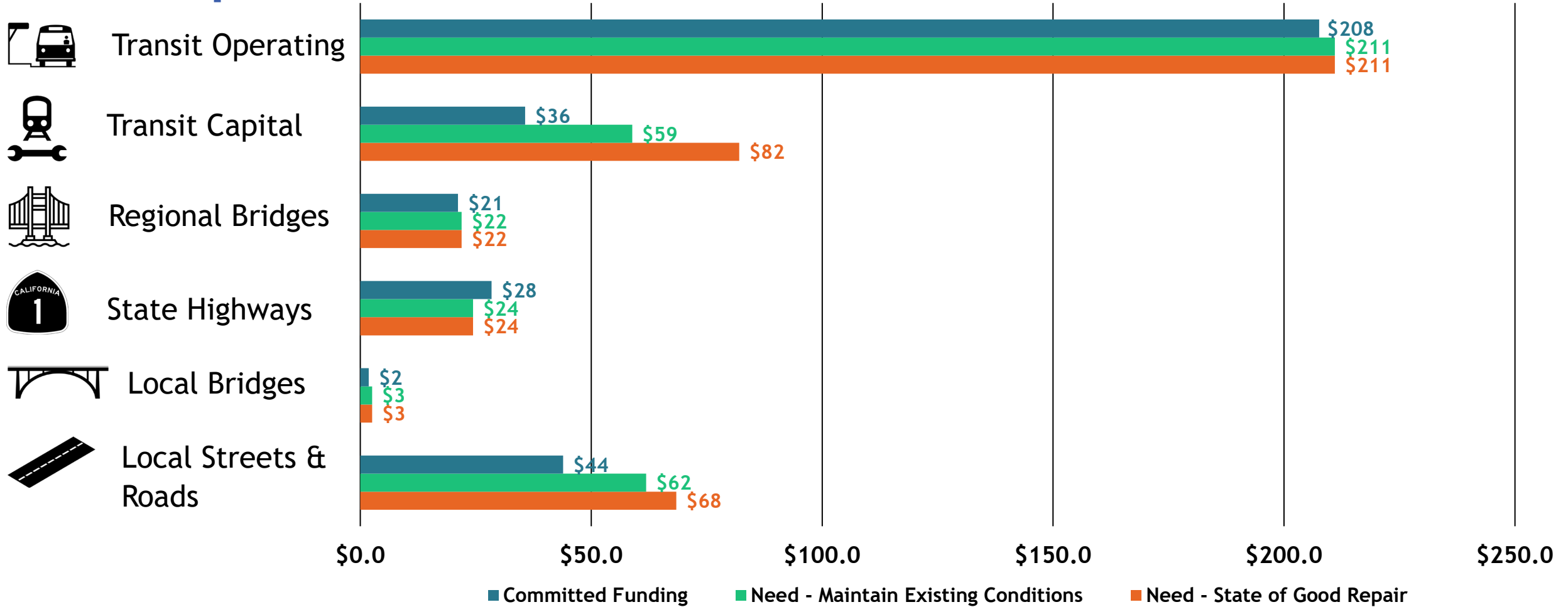
Charts **do not include** revenue projections (still under development) for Blueprint tolling strategy, which could further augment monies available.

New Revenues (“megameasure”) start date is **now assumed by 2035**.

Transportation Needs



In Billions of Year-of-Expenditure \$



\$410 Billion need to reach State of Good Repair



\$72 billion unfunded need

\$381 Billion need to maintain existing condition/service



\$42 billion unfunded need

PLAN BAY AREA 2050



Commitment Letters & Initial Strategy Recommendations for Final Blueprint (Transportation)

*Improving Lower-Performing Strategies with Project-
Level Commitments*

Important: in addition to advancing critical climate and equity goals, Plan Bay Area 2050 must do so in a **fiscally-constrained manner.**

- **Transportation strategy costs must not exceed forecasted transportation revenues.** However, regional discretionary funding requests exceed reasonably-anticipated revenues, even with the inclusion of a major transportation measure in the years ahead.
- Updates and expansions to the Final Blueprint strategies will **weave together projects into an integrated network** based upon Project Performance, policy commitments, and funding commitments.
- While a number of projects will be integrated into the Final Blueprint strategies, **many will not be able to be advanced until the second half of the Plan (after 2035)** when more revenues may be available.

Refresher: What is a strategy in the context of Plan Bay Area 2050?

What do we mean by “strategy”?

A strategy is either a **public policy or set of investments that can be implemented** in the Bay Area over the next 30 years; a strategy is **not a near-term action or legislative proposal**.

Who would implement these strategies?

Strategies in Plan Bay Area 2050 can be implemented at the **local, regional, or state levels**. Specific implementation actions and the role for MTC/ABAG will be identified through a collaborative process for the Implementation Plan in late 2020.

How many strategies can we include in the Blueprint?

Plan Bay Area 2050 must be **fiscally constrained**, meaning that not every strategy can be integrated into the Plan given finite revenues available.



Draft Blueprint: 9 High-Performing Strategies



Maintain and Optimize Existing Infrastructure

- **Operate and Maintain the Existing System**
- Accelerate Restoration of Transit Operations to 2019 Levels
- **Enable Seamless Mobility with Unified Trip Planning and Fare Payment**
- **Reform Regional Transit Fare Policy**
- **Implement Per-Mile Tolling on Congested Freeways with Transit Alts.**
- Improve Interchanges and Address Highway Bottlenecks
- Advance Other Regional Programs and Local Priorities



Create Healthy and Safe Streets

- **Build a Complete Streets Network**
- **Advance Regional Vision Zero Policy through Street Design and Reduced Speeds**



Enhance Regional and Local Transit

- **Advance Low-Cost Transit Projects**
- **Build a New Transbay Rail Crossing**
- Increase Existing Rail Capacity and Frequency
- Extend the Regional Rail Network
- Build an Integrated Regional Express Lane and Express Bus Network

Draft Blueprint: 9 High-Performing Strategies

Final Blueprint: ... Plus 6 Potential New Strategies



Maintain and Optimize Existing Infrastructure

- Operate and Maintain the Existing System
- **Accelerate Restoration of Transit Operations to 2019 Levels [NEW]**
- Enable Seamless Mobility with Unified Trip Planning and Fare Payments
- Reform Regional Transit Fare Policy
- Implement Per-Mile Tolling on Congested Freeways with Transit Alts.
- **Improve Interchanges and Address Highway Bottlenecks [NEW]**
- **Advance Other Regional Programs and Local Priorities [NEW]**



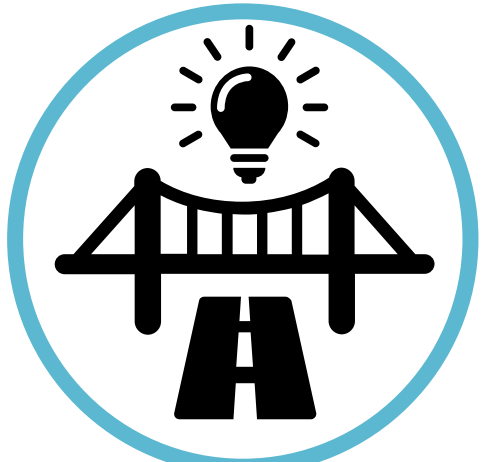
Create Healthy and Safe Streets

- Build a Complete Streets Network
- Advance Regional Vision Zero Policy through Street Design and Reduced Speeds

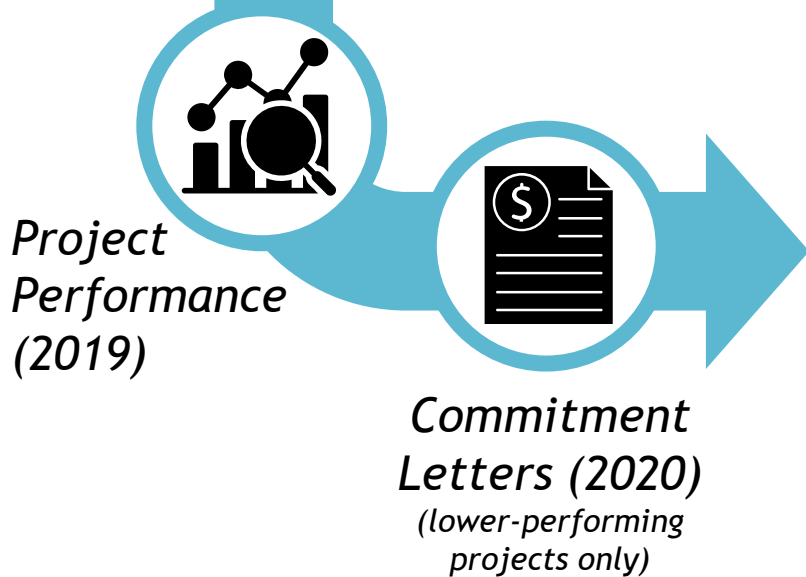


Enhance Regional and Local Transit

- Advance Low-Cost Transit Projects
- Build a New Transbay Rail Crossing
- **Increase Existing Rail Capacity and Frequency [NEW]**
- **Extend the Regional Rail Network [NEW]**
- **Build an Integrated Regional Express Lane and Express Bus Network [NEW]**



How can a transportation project advance into one of the Final Blueprint strategies?



Initial Staff Recommendation
(June 2020)

Action: Projects to Advance into Final Strategies
(July 2020)



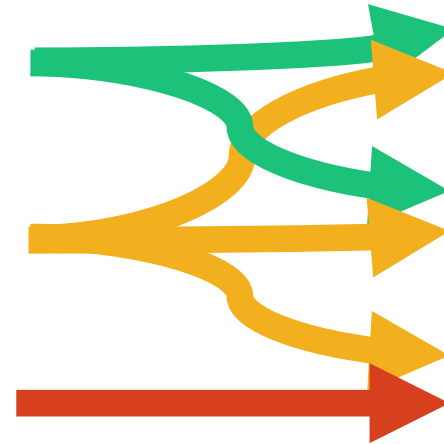
Include



Consider



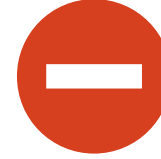
Exclude



Include in **Period 1** strategy *(before 2035)*



Include in **Period 2** strategy *(after 2035)*



Do not integrate into a Final Blueprint strategy

*As Draft Blueprint strategies - and the high-performing projects included within them - were showcased this winter, today's presentation will emphasize **new strategies**, as well as medium- and low-performing projects that have gone through the commitment letter process.*

New Strategy #1: Improve Interchanges and Address Highway Bottlenecks



Spotlight Project #1A: SR-37 Widening + Resilience

- Advance interim/near-term improvements to SR-37, while further considering long-term improvements to fully protect corridor
- **[New!]** Include a means-based toll discount on SR-37
- **[New!]** Do not pursue full conversion to limited-access freeway



Spotlight Project #1B: I-80/I-680/SR-12 Interchange + Widening

- Address highway bottleneck in Solano County serving the Bay Area's largest gateway to the Northern California megaregion

New Strategy #2: Increase Existing Rail Capacity and Frequency by Modernizing the Network



Spotlight Project #2A: Caltrain Enhanced Growth Scenario

- Work within existing infrastructure to increase frequencies on Caltrain to eight trains per hour
- **[New!]** Reduction in project scope to improve cost-effectiveness rating
- **[New!]** Caltrain support for Regional Transit Fare Reform strategy



Spotlight Project #2B: ACE Service Frequency Boost

- Increase ACE frequencies to 10 round trips per day
- **[New!]** ACE support for Regional Transit Fare Reform strategy

New Strategy #3: Extend the Regional Rail Network



Spotlight Project #3A: Valley Link

- Improve transit connections between the Central Valley and the Bay Area with new commuter rail service terminating at Dublin/Pleasanton BART station
- *No commitments required due to medium-high performance rating*



Spotlight Project #3B: Dumbarton Rail

- Improve transit connectivity between Redwood City and Union City, connecting housing and job centers more directly with rail
- **[New!]** Explore cheaper light rail or “group rapid transit” service outside of Union Pacific right-of-way



Spotlight Project #3C: Caltrain Downtown Extension

- Extend Caltrain service to the Salesforce Transit Center, improving access to jobs in the Financial District
- *Note: “Consider” rating reflects nexus with New Transbay Rail Crossing; project need is greatest if commuter rail mode is selected*

New Strategy #4: Build an Integrated Regional Express Lane and Express Bus Network



Spotlight Project #4A: Regional Express Lane Network

- Continue strategic build out of a regional express lanes network that allows carpoolers and bus riders to bypass congestion at a free or reduced cost
- **[New!]** Mitigate GHG increases by focusing on lane conversions over widening
- **[New!]** Require further equity commitments (e.g., means-based tolling)



Spotlight Project #4B: Regional Express Bus Network

- Leverage the Express Lanes network with a Phase 1 network of express bus services to provide fast and frequent alternatives in high-demand corridors
- **[New!]** Improve cost-effectiveness and equity by focusing on up to three routes with high ridership potential



Spotlight Project #4C: AC Transit Transbay Service Increase

- Boost AC Transit transbay frequencies to further alleviate congestion on the Bay Bridge corridor
- **[New!]** Improve cost-effectiveness and address inequities by focusing on six routes with high ridership today

New Strategies #5 & #6: Advance Local Priorities and Restore Transit Operations to 2019 Levels



Advance Other Regional Programs and Local Priorities

- Advance low-cost or non-capacity-increasing projects (e.g., Diridon Station), as well as key regional programs, prioritized by CTAs and multi-county sponsors
- **[New!]** All projects included within must align with Plan Bay Area 2050 Vision, as these projects were not evaluated in Horizon

Total Strategy Cost: \$8-14B

Regional Discretionary: \$1-5B



Accelerate Restoration of Transit Operations to 2019 Levels

- Return transit service hours to their pre-COVID-19 levels while enhancing system integration to achieve greater efficiencies & improved connectivity
- **[New!]** This strategy emerged from post-COVID-19 transit operating assumptions in baseline needs and was not previously evaluated in Horizon

Total Strategy Cost: \$3B

Regional Discretionary: \$3B

Initial Concept for Final Blueprint *(Transportation Only)*

	Strategy	Regional Disc.	Total Cost
Maintain and Optimize Existing Infrastructure	Operate and Maintain the Existing System	\$ 18 - 41 B	\$ 355 - 378 B
	[New!] Accelerate Restoration of Transit Operations to 2019 Levels	\$ 3 B	\$ 3 B
	Enable Seamless Mobility with Unified Trip Planning and Fare Payments	\$ 1 B	\$ 1 B
	Reform Regional Transit Fare Policy	\$ 10 - 11 B	\$ 10 - 12 B
	Implement Per-Mile Tolling on Congested Freeways with Transit Alternatives	\$ 1 B	\$ 1 B
	[New!] Improve Interchanges and Address Highway Bottlenecks	\$ 3 - 10 B	\$ 9 - 18 B
	[New!] Advance Other Regional Programs and Local Priorities	\$ 1 - 5 B	\$ 8 - 14 B
Create Healthy and Safe Streets	Build a Complete Streets Network	\$ 7 - 9 B	\$ 9 - 13 B
	Advance Regional Vision Zero Policy through Street Design and Reduced Speeds	\$ 1 - 3 B	\$ 2 - 5 B
Enhance Regional and Local Transit	Advance Low-Cost Transit Projects	\$ 9 - 15 B	\$ 35 - 44 B
	Build a New Transbay Rail Crossing	\$ 27 B	\$ 29 B
	[New!] Increase Existing Rail Capacity and Frequency	\$ 0 - 9 B	\$ 5 - 16 B
	[New!] Extend the Regional Rail Network	\$ 3 - 13 B	\$ 4 - 17 B
	[New!] Build an Integrated Regional Express Lane and Express Bus Network	\$ 2 - 4 B	\$ 3 - 6 B
	Total	\$ 86 - 152 B	\$ 474 - 557 B

Preview of Key Implementation Area: Megaprojects

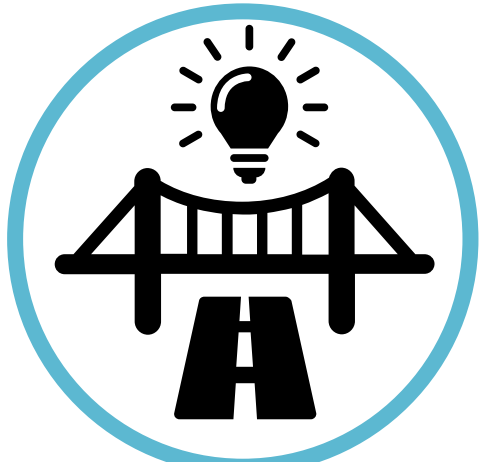
The first half of the Plan is characterized by limited available revenues and uncertainty about transit demand due to lasting impacts from COVID-19. As a result, most of the higher-cost projects will need to be recommended for inclusion in Period 2 (2036-2050).

Under a megaproject advancement policy, projects could advance to Period 1 if:

- New public or private funding sources are identified **and/or**
- Commitments to ensure timely project delivery are made **and/or**
- Project makes strategic shifts to better advance equity and cost-effectiveness



More detail on the proposed megaproject advancement policy to be shared by 2021.



What's Next? Staff will return in July with an action item on key projects to be infused into Final Blueprint strategies, with "Consider" projects contingent on Draft Blueprint results.

Project Performance (2019)



Commitment Letters (2020)
(lower-performing projects only)

Initial Staff Recommendation
(June 2020)



Include



Consider



Exclude



Action: Projects to Advance into Final Strategies
(July 2020)



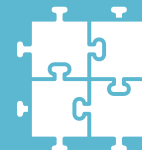
Include in **Period 1** strategy *(before 2035)*



Include in **Period 2** strategy *(after 2035)*



Do not integrate into a Final Blueprint strategy



Q&A + Discussion

Upcoming *Plan Bay Area 2050*
Milestones:

- **July 2020:** Draft Blueprint Release
- **July 2020:** Action on Regional Priorities for Final Blueprint
- **September 2020:** Action on Final Blueprint Strategies

Attachment B: Revised Transportation Revenue Forecast
(all estimates in billions of year-of-expenditure dollars)

	Initial Draft (Dec. 2019)	Revised Draft	COVID-19 Reduction	Final Draft (Jun. 2020)
Federal				
Period 1 (2021-2035)	\$14	\$15	\$0**	\$15
Period 2 (2036-2050)	\$21	\$22	\$0	\$22
Total*	\$46	\$48	\$0**	\$48
State				
Period 1 (2021-2035)	\$39	\$45	-\$2	\$43
Period 2 (2036-2050)	\$52	\$59	\$0	\$59
Total*	\$92	\$105	-\$2	\$103
Regional				
Period 1 (2021-2035)	\$27	\$26	-\$1	\$25
Period 2 (2036-2050)	\$40	\$34	\$0	\$34
Total	\$67	\$59	-\$1	\$58
Local				
Period 1 (2021-2035)	\$97	\$95	-\$8	\$89
Period 2 (2036-2050)	\$146	\$143	\$0	\$141
Total	\$243	\$238	-\$8	\$230
Anticipated/Unspecified***				
Total	\$24	\$24	\$0	\$24
Regional Megameasure****				
Period 1 (2021-2035)	\$25	\$0	\$0	\$0
Period 2 (2036-2050)	\$48	\$48	\$0	\$48
Total	\$73	\$48	\$0	\$48
TOTAL				
Period 1 (2021-2035)	\$202	\$181	-\$11	\$172
Period 2 (2036-2050)	\$307	\$305	\$0	\$303
Flexible Availability	\$36	\$36	\$0	\$36
Total	\$545	\$522	-\$11	\$511

* Total includes "flexible funds" that are not assigned to a specific period.

** No loss of federal funds is assumed.

*** Does not yet include anticipated revenues from Draft Blueprint all-lane tolling strategy.

**** For financial assumption purposes, this was assumed to be equivalent to a 1-cent sales tax implemented no later than 2035.

PLAN BAY AREA 2050 - TRANSPORTATION REVENUE FORECAST BY SOURCE
 In Billions of Year of Expenditure \$ - 30 Year Forecast Period FY 2020-21 to FY 2049-50
REVISED : May 2020



Revenue Source	Plan Bay Area 2050 Revenue Assumptions	PBA 2040 (For Reference -- 24 Year Forecast)	Plan Bay Area 2050 Total Revenue	Revenue Period 1 FY 2021 - FY 2035	Revenue Period 2 FY 2036 - FY 2050	Revenue Period 3 Flexible Availability
FEDERAL						
FHWA Construction of Ferry Boats & Ferry Terminal Facilities Formula Program	Base Year: FY 2018-19 Data Source: FHWA Growth Rate: 2%-3%	\$0.04	\$0.09	\$0.03	\$0.05	\$0.00
FHWA/FTA Section 5303 Metropolitan Planning	Base Year: FY 2018-19 Data Source: FHWA Growth Rate: 2%-3%	\$0.03	\$0.52	\$0.21	\$0.31	\$0.00
FHWA STP/CMAQ - Regional	Base Year: FY 2018-19 Data Source: FHWA Growth Rate: 2%-3%	\$3.26	\$4.62	\$1.84	\$2.78	\$0.00
FHWA Highway Safety Improvement Program (HSIP)	Base Year: FY 2018-19 Data Source: FHWA Growth Rate: 2%-3%	\$0.31	\$0.84	\$0.34	\$0.51	\$0.00
FHWA STP/CMAQ - County	Base Year: FY 2018-19 Data Source: FHWA Growth Rate: 2%-3%	\$2.18	\$3.08	\$1.23	\$1.85	\$0.00
FTA Passenger Ferry Grant Program	Base Year: FY 2018-19 Data Source: FTA Growth Rate: 2%-3%	\$0.10	\$0.15	\$0.06	\$0.09	\$0.00
FTA Sections 5307 & 5340 Urbanized Area Formula (Capital)	Base Year: FY 2018-19 Data Source: FTA Growth Rate: 2%-3%	\$7.08	\$10.48	\$4.18	\$6.31	\$0.00
FTA Section 5309 Fixed-Guideway Capital Investment Grants - New Starts and Core Capacity	Base Year: FY 2018-19 Data Source: FTA Growth Rate: 2%-3%	\$5.02	\$9.17	\$0.00	\$0.00	\$9.17
FTA Section 5309 Fixed-Guideway Capital Investment Grants - Small Starts	Base Year: FY 2018-19 Data Source: FTA Growth Rate: 2%-3%	\$0.70	\$1.98	\$0.00	\$0.00	\$1.98
FTA Section 5310 Enhanced Mobility of Seniors & Individuals with Disabilities	Base Year: FY 2018-19 Data Source: FTA Growth Rate: 2%-3%	\$0.16	\$0.24	\$0.10	\$0.14	\$0.00
FTA Section 5311 Non-Urbanized Area Formula	Base Year: FY 2018-19 Data Source: FTA Growth Rate: 2%-3%	\$0.07	\$0.07	\$0.03	\$0.04	\$0.00
FTA Section 5337 State of Good Repair Formula	Base Year: FY 2018-19 Data Source: FTA Growth Rate: 2%-3%	\$6.56	\$10.50	\$4.19	\$6.31	\$0.00
FTA Section 5339 Bus & Bus Facilities Program	Base Year: FY 2018-19 Data Source: FTA Growth Rate: 2%-3%	\$0.40	\$0.71	\$0.28	\$0.43	\$0.00
FTA Bus and Bus Facilities Discretionary Program	Base Year: FY 2018-19 Data Source: FTA Growth Rate: 2%-3%	\$0.38	\$0.12	\$0.05	\$0.07	\$0.00
National Highway Freight Program	Base Year: FY 2018-19 Data Source: FHWA Growth Rate: 2%-3%	\$0.77	\$1.16	\$0.46	\$0.70	\$0.00
National Significant Freight and Highway Projects Discretionary Program	Base Year: FY 2018-19 Data Source: FHWA Growth Rate: 2%-3%	\$1.53	\$2.01	\$0.80	\$1.21	\$0.00

Revenue Source	Plan Bay Area 2050 Revenue Assumptions	PBA 2040 (For Reference -- 24 Year Forecast)	Plan Bay Area 2050 Total Revenue	Revenue Period 1 FY 2021 - FY 2035	Revenue Period 2 FY 2036 - FY 2050	Revenue Period 3 Flexible Availability
Highway Bridge Program	Assumption: 5-Year Historical Avg. Data Source: FMS Growth Rate: 2%-3%		\$1.84	\$0.73	\$1.11	\$0.00
Coronavirus Aid, Relief, and Economic Security (CARES) Act	Date Source: CARES Act	N/A	\$0.50	\$0.50	\$0.00	\$0.00
Federal Total		\$28.59	\$48.10	\$15.03	\$21.92	\$11.15

Revenue Source	Plan Bay Area 2050 Revenue Assumptions	PBA 2040 (For Reference -- 24 Year Forecast)	Plan Bay Area 2050 Total Revenue	Revenue Period 1 FY 2021 - FY 2035	Revenue Period 2 FY 2036 - FY 2050	Revenue Period 3 Flexible Availability
STATE						
Active Transportation Program (ATP) - State Program	Assumption Base: FY 2017-18 Distribution Base: Bay Area receives 20% of funds	\$0.28	\$0.56	\$0.25	\$0.31	\$0.00
Affordable Housing & Sustainable Communities Program	Assumption Base: \$2.9 billion per year in Cap and Trade auction proceeds Distribution Base: Bay Area receives 30% of funds	\$1.08	\$1.79	\$0.88	\$0.91	\$0.00
Cap & Trade Goods Movement (from 40% Uncommitted Funds)	Assumption Base: \$2.9 billion per year in Cap and Trade auction proceeds Distribution Base: Bay Area receives 30% of funds	\$0.50	\$2.22	\$1.09	\$1.13	\$0.00
Freeway Service Patrol	Assumption Base: Bay Area share of prescribed statewide set-aside from the Road Maintenance and Rehabilitation Account	\$0.00	\$0.14	\$0.07	\$0.07	\$0.00
Gas Tax Subvention + RMRA	Assumption Base: Estimate of Fuel excise tax and Road Maintenance and Rehabilitation Account revenue Distribution Base: Bay Area share of registered vehicle, road mileage, and population	\$8.29	\$23.67	\$9.45	\$14.22	\$0.00
High Speed Rail	Assumption Base: Bay Area current + anticipated connectivity projects.	\$9.26	\$1.56	\$0.00	\$0.00	\$1.56
Local Partnership Program	Assumption Base: Bay Area population share of prescribed statewide set-aside from the Road Maintenance and Rehabilitation Account	\$0.00	\$1.15	\$0.56	\$0.59	\$0.00
Local Planning	Assumption Base: Bay Area population share of prescribed statewide set-aside from the Road Maintenance and Rehabilitation Account	\$0.00	\$0.14	\$0.07	\$0.07	\$0.00
Low Carbon Transit Operations Program Population-Based	Assumption Base: \$2.9 billion per year in Cap and Trade auction proceeds Distribution Base: Bay Area receives 19% of funds	\$0.29	\$0.42	\$0.20	\$0.21	\$0.00
Low Carbon Transit Operations Program Revenue-Based	Assumption Base: \$2.9 billion per year in Cap and Trade auction proceeds Distribution Base: Bay Area receives 19% of funds	\$0.80	\$1.11	\$0.54	\$0.57	\$0.00
Low Carbon Fuel Standard Program	Source: Transit operator estimates based on CARB forecasts	\$0.00	\$12.95	\$6.13	\$6.82	\$0.00
Proposition 1B	N/A	\$0.01	\$0.00	\$0.00	\$0.00	\$0.00
Solutions for Congested Corridors	Assumption Base: Senate Bill 1 program revenue Distribution Base: Bay Area receives 30% of funds	\$0.00	\$3.76	\$1.41	\$2.35	\$0.00
State Bridges and Culverts	Assumption Base: Bay Area population share of prescribed statewide set-aside from the Road Maintenance and Rehabilitation Account	\$0.00	\$2.29	\$1.12	\$1.17	\$0.00

Revenue Source	Plan Bay Area 2050 Revenue Assumptions	PBA 2040 (For Reference -- 24 Year Forecast)	Plan Bay Area 2050 Total Revenue	Revenue Period 1 FY 2021 - FY 2035	Revenue Period 2 FY 2036 - FY 2050	Revenue Period 3 Flexible Availability
State Highway Operations & Protection Program (SHOPP)	Assumption Base: 2019 SHSMP and estimate of gas tax revenue Distribution Base: Bay Area receives 20% of funds	\$13.75	\$26.14	\$11.01	\$15.13	\$0.00
State Transit Assistance (STA) Population-Based	Assumption Base: FY 2018/19 Distribution Base: Bay Area receives 20% of funds	\$1.79	\$2.90	\$1.20	\$1.71	\$0.00
State Transit Assistance (STA) Revenue-Based	Assumption Base: 2018-19 Distribution Base: Bay Area receives 52% of funds	\$5.12	\$7.75	\$3.19	\$4.55	\$0.00
State Transit Assistance Capital - Population Based	Assumption Base: FY 2018/19 Distribution Base: Bay Area receives 20% of funds	\$0.00	\$0.51	\$0.19	\$0.32	\$0.00
State Transit Assistance Capital - Revenue Based	Assumption Base: 2018-19 Distribution Base: Bay Area receives 52% of funds	\$0.00	\$1.37	\$0.51	\$0.86	\$0.00
State Transportation Improvement Program (STIP): Regional Transportation Improvement Program (RTIP) County Shares	Assumption Base: 2020 STIP FE and estimate of gas tax revenue Distribution Base: Bay Area historical share of total funds	\$3.11	\$3.14	\$1.22	\$1.92	\$0.00
STIP: Interregional Road/Intercity Rail (ITIP)	Assumption Base: 2020 STIP FE and estimate of gas tax revenue Distribution Base: Bay Area historical share of total funds	\$0.71	\$0.75	\$0.29	\$0.46	\$0.00
Trade Corridor Enhancement	Assumption Base: Senate Bill 1 program revenue Distribution Base: Bay Area receives 20% of funds	\$0.00	\$2.63	\$1.07	\$1.56	\$0.00
Transit and Intercity Rail Capital Program	Assumption Base: \$2.9 billion per year in Cap and Trade auction proceeds + Senate Bill 1 program revenue Distribution Base: Bay Area receives	\$3.00	\$6.24	\$2.63	\$3.61	\$0.00
University Research	Assumption Base: Bay Area population share of prescribed statewide set-aside from the Road Maintenance and Rehabilitation Account	\$0.00	\$0.04	\$0.02	\$0.02	\$0.00
Workforce Development	Assumption Base: Bay Area population share of prescribed statewide set-aside from the Road Maintenance and Rehabilitation Account	\$0.00	\$0.03	\$0.01	\$0.01	\$0.00
State Total	State Total	\$47.99	\$103.3	\$43.1	\$58.6	\$1.6

Revenue Source	Plan Bay Area 2050 Revenue Assumptions	PBA 2040 (For Reference -- 24 Year Forecast)	Plan Bay Area 2050 Total Revenue	Revenue Period 1 FY 2021 - FY 2035	Revenue Period 2 FY 2036 - FY 2050	Revenue Period 3 Flexible Availability
REGIONAL						
2% Toll Revenues	Base Year: FY 2018-19 Source: BATA Growth Rate: 0.3%-0.6%	\$0.10	\$0.12	\$0.06	\$0.06	\$0.00
5% State General Funds	Base Year: FY 2018-19 Source: BATA Growth Rate: 0.3%-0.6%	\$0.09	\$0.12	\$0.05	\$0.06	\$0.00
Active Transportation Program (ATP) - Regional Program	Assumption Base: FY 2017-18 Distribution Base: Bay Area share based on ATP formula	\$0.31	\$0.56	\$0.25	\$0.31	\$0.00
AB 1107 ½-cent Sales Tax in three BART counties (25% MTC Administered Share)	Assumption Base: Weighted average of county sales tax authority estimates for the three counties of the BART District	\$2.61	\$4.60	\$1.76	\$2.84	\$0.00
AB 1107 ½-cent Sales Tax in three BART Counties (75% BART Share)	Assumption Base: Weighted average of county sales tax authority estimates for the three counties of the BART District	\$8.67	\$13.79	\$5.27	\$8.51	\$0.00
AB 1171	Base Year: FY 2018-19 Source: BATA Growth Rate: 0.3%-0.6%	\$0.10	\$0.53	\$0.26	\$0.27	\$0.00
AB 434 (Transportation Fund for Clean Air – Regional) – 60% of funding	Base Year: FY 2018-19 Source: DMV data Growth Rate: MTC estimate based on Vehicle Registration data	\$0.37	\$0.45	\$0.22	\$0.23	\$0.00
AB 664	Base Year: FY 2018-19 Source: BATA Growth Rate: 0.3%-0.6%	\$0.38	\$0.48	\$0.23	\$0.25	\$0.00
BATA Base Toll Revenues	Base Year: FY 2018-19 Source: BATA Growth Rate: 0.3%-0.6%	\$3.60	\$4.54	\$2.15	\$2.39	\$0.00
Regional Measure 3 (RM3)	Base Year: FY 2018-19 - Assumes indexing of toll after 2025 Source: BATA Growth Rate: 0.3%-0.6%	\$5.10	\$14.22	\$5.48	\$8.75	\$0.00
Regional Express Lane Network Revenues	Source: BAIFA estimates	\$5.08	\$2.07	\$0.86	\$1.21	\$0.00
Regional Measure 2 (RM2)	Base Year: FY 2018-19 Source: BATA Growth Rate: 0.3%-0.6%	\$3.18	\$3.99	\$1.90	\$2.10	\$0.00
RM1 Rail Extension Reserve	Base Year: FY 2018-19 Source: BATA Growth Rate: 0.3%-0.6%	\$0.05	\$0.37	\$0.17	\$0.19	\$0.00

Revenue Source	Plan Bay Area 2050 Revenue Assumptions	PBA 2040 (For Reference -- 24 Year Forecast)	Plan Bay Area 2050 Total Revenue	Revenue Period 1 FY 2021 - FY 2035	Revenue Period 2 FY 2036 - FY 2050	Revenue Period 3 Flexible Availability
Service Authority for Freeway and Expressways (SAFE)	Base Year: FY 2018-19 Source: DMV data Growth Rate: MTC estimate based on Vehicle Registration data	\$0.15	\$0.19	\$0.09	\$0.10	\$0.00
Seismic Surcharge with Carpool	Base Year: FY 2018-19 Source: BATA Growth Rate: 0.3%-0.6%	\$3.43	\$4.32	\$2.05	\$2.27	\$0.00
Seismic Retrofit Account (Caltrans)	Base Year: FY 2018-19 Source: BATA Growth Rate: 0.3%-0.6%	\$3.18	\$3.99	\$1.90	\$2.10	\$0.00
Seismic Retrofit	Base Year: FY 2018-19 Source: BATA Growth Rate: 0.3%-0.6%	\$3.18	\$3.99	\$1.90	\$2.10	\$0.00
Regional Total	Regional Total	\$39.56	\$58.3	\$24.6	\$33.7	\$0.0

Revenue Source	Plan Bay Area 2050 Revenue Assumptions	PBA 2040 (For Reference -- 24 Year Forecast)	Plan Bay Area 2050 Total Revenue	Revenue Period 1 FY 2021 - FY 2035	Revenue Period 2 FY 2036 - FY 2050	Revenue Period 3 Flexible Availability
LOCAL						
AB 434 (Transportation Fund for Clean Air – County Program Manager) – 40% of funding	Base Year: FY 2018-19 Source: DMV data Growth Rate: MTC estimate based on Vehicle Registration data	\$0.26	\$0.30	\$0.14	\$0.15	\$0.00
County Sales Tax Measures	Estimates provided by county sales tax authorities	\$33.15	\$54.83	\$28.69	\$26.13	\$0.00
County Sales Tax Measures - Reauthorizations	Estimates provided by county sales tax authorities	\$5.98	\$22.64	\$0.88	\$21.77	\$0.00
County Vehicle Registration Fees	Base Year: FY 2018-19 Source: DMV data Growth Rate: MTC estimate based on Vehicle Registration data	\$1.02	\$1.19	\$0.62	\$0.57	\$0.00
County Vehicle Registration Fees - Reauthorization	Base Year: FY 2018-19 Source: DMV data Growth Rate: MTC estimate based on Vehicle Registration data	\$0.03	\$0.10	\$0.00	\$0.10	\$0.00
Express Lane Revenue (county managed)	Source: Alameda CTC, BAIFA, VTA estimates	\$3.61	\$2.25	\$0.83	\$1.42	\$0.00
Golden Gate Bridge Toll	Estimates based on data from the Golden Gate Bridge, Highway and Transportation District	\$3.43	\$5.40	\$2.59	\$2.82	\$0.00
Local Funding for Streets and Roads (excludes local sales taxes)	Source: 2018 CA Statewide Local Streets & Roads Needs Assessment	\$14.76	\$16.04	\$6.51	\$9.53	\$0.00
Property Tax/Parcel Taxes	Base Year: FY 2018-19 Data Source: AC Transit, BART, Marin Transit, WETA	\$5.42	\$9.93	\$3.77	\$6.16	\$0.00
San Francisco Municipal Transportation Agency (SFMTA) General Fund and Parking/Fine Revenues	Estimates based on data from the SFMTA	\$10.10	\$30.79	\$12.45	\$18.34	\$0.00
San Francisco Transportation Sustainability Fee	Estimates based on data from the City and County of San Francisco	\$0.80	\$0.42	\$0.20	\$0.21	\$0.00
San Francisco Prop D (2019 TNC Tax)	Estimates based on data from the City and County of San Francisco	\$0.00	\$0.84	\$0.41	\$0.44	\$0.00
SMART Sales Tax in Marin and Sonoma Counties	MTC estimate based on weighted averages of Marin and Sonoma sales tax revenue as forecast by TAM and SCTA	\$0.54	\$0.35	\$0.35	\$0.00	\$0.00
SMART Sales Tax in Marin and Sonoma Counties - Reauthorization	MTC estimate based on weighted averages of Marin and Sonoma sales tax revenue as forecast by TAM and SCTA	\$0.64	\$1.49	\$0.37	\$1.11	\$0.00
Transit Fare Revenues	Base Year: FY 2018-19 Data Source: Each operator Growth Rate: Based on operators' estimates	\$39.78	\$51.57	\$19.22	\$32.35	\$0.00
Transit Non-Fare Revenues	Base Year: FY 2018-19 Data Source: Each operator Growth Rate: Based on operators' estimates	\$19.96	\$11.78	\$4.30	\$7.48	\$0.00
Transportation Development Act (TDA)	Estimates based on sales tax forecasts developed by county sales tax authorities (for Solano County is based on a ten year retrospective analysis of actual TDA receipts)	\$12.58	\$19.63	\$7.50	\$12.13	\$0.00
Local Total	Local Total	\$155.86	\$229.5	\$88.8	\$140.7	\$0.0

Revenue Source	Plan Bay Area 2050 Revenue Assumptions	PBA 2040 (For Reference -- 24 Year Forecast)	Plan Bay Area 2050 Total Revenue	Revenue Period 1 FY 2021 - FY 2035	Revenue Period 2 FY 2036 - FY 2050	Revenue Period 3 Flexible Availability
ANTICIPATED/UNSPECIFIED						
Anticipated/Unspecified	Growth Rate: 2.2% Data Source: Retrospective analysis of a 15 year period (FY 2005-06 to FY 2019-20)	\$14.00	\$23.48			\$23.48
Anticipated/Unspecified Total	Anticipated Total	\$14.00	\$23.5	\$0.0	\$0.0	\$23.5
OTHER/OPTIONAL NEW REVENUE						
Optional/Megameasure	Assumes a 1% sales tax in all nine counties, starting in FY 2034-35. Estimates based on sales tax forecasts developed by county sales tax authorities (for Solano County is based on a ten year retrospective analysis of actual TDA receipts)		\$47.87	\$0.00	\$47.87	\$0.00
2020 Ballot Measures, Pricing, and Toll Projects	Revenue forecast will be updated based on 2020 ballot measures and pricing and toll facility projects included in Plan Bay Area 2050	\$13.57	TBD	TBD	TBD	TBD
Other Total	Other Total	\$13.57	\$47.9	\$0.0	\$47.9	\$0.0
GRAND TOTAL without Optional	Grand Total without Megameasure	\$299.57	\$462.7	\$171.6	\$254.9	\$36.2
GRAND TOTAL with Optional	Grand Total with Megameasure	\$299.57	\$510.6	\$171.6	\$302.8	\$36.2



Horizon/Plan Bay Area 2050: Final Project Performance Findings

Attachment A: Overall Summary Table

Benefit-Cost Ratios and Equity Scores across Three Futures, and Guiding Principle Flags

Total number of projects: 97; 81 projects from public agencies, 12 projects (along with 4 alternate versions) from public/NGOs that were jury finalists from the Transformative Projects process. (see high-level description of methodology at the bottom of the page)

Project Type	Project ID	Row ID	Project	Project Source	Lifecycle Cost	Guiding Principle Flags	Benefit-Cost Ratio			Equity Score		
							Rising Tides Falling Fortunes	Clean and Green	Back to the Future	Rising Tides Falling Fortunes	Clean and Green	Back to the Future
Build Core Rail	1004	1	New San Francisco-Oakland Transbay Rail Crossing - Commuter Rail (Crossing 5)	Crossings Study	\$46.1B	2	0.7	2	2	Even	Even	Even
	1007	2	New San Francisco-Oakland Transbay Rail Crossing - BART + Commuter Rail (Crossing 7)	Crossings Study	\$83.5B	2	0.6	1	1	Even	Even	Even
	1002	3	New San Francisco-Oakland Transbay Rail Crossing - BART (Crossing 3: Mission St)	Crossings Study	\$36.2B	0	0.6	1	1	Even	Even	Even
	1003	4	New San Francisco-Oakland Transbay Rail Crossing - BART (Crossing 4: New Markets)	Crossings Study	\$37.4B	0	0.6	1	1	Even	Even	Even
	2300	5	Caltrain Downtown Extension	TJPA	\$4.8B	0	<0.5	0.7	0.6	Challenges	Challenges	Challenges
	2205	6	BART to Silicon Valley (Phase 2)	VTA	\$6.0B	0	<0.5	<0.5	0.6	Advances	Advances	Even
	2306	7	Dumbarton Rail (Redwood City to Union City)	SamTrans + CCAG	\$3.9B	0	<0.5	<0.5	0.5	Even	Even	Challenges
	2310	8	Megaregional Rail Network + Resilience Project (Caltrain, ACE, Valley Link, Dumbarton, Cap Cor)	City of San Jose	\$54.1B	2	<0.5	0.5	<0.5	Challenges	Challenges	Challenges
	2208	9	BART Gap Closure (Millbrae to Silicon Valley)	VTA	\$40.4B	0	<0.5	<0.5	<0.5	Advances	Advances	Even
	6002	10	SMART to Richmond via New Richmond-San Rafael Bridge	Public/NGO Submission	\$5.0B	2	<0.5	<0.5	<0.5	Challenges	Challenges	Challenges
Extend Rail Network - High Cost	2308	11	Valley Link (Dublin to San Joaquin Valley)	TVSJVRRRA	\$3.0B	0	<0.5	1	1	Even	Even	Even
	2309	12	Altamont Corridor Vision Phase 1 (to San Joaquin Valley)	TVSJVRRRA, SJRRC	\$4.6B	0	<0.5	0.6	0.7	Challenges	Challenges	Challenges
	2206	13	BART Extension from Diridon to Cupertino	VTA	\$12.1B	0	<0.5	<0.5	<0.5	Even	Advances	Even
	2207	14	BART Extension from Diridon to Gilroy (replacing existing Caltrain)	VTA	\$17.7B	1	<0.5	<0.5	<0.5	Even	Advances	Even
	2204	15	BART on I-680 (Walnut Creek to West Dublin/Pleasanton)	Caltrans	\$11.0B	0	<0.5	<0.5	<0.5	Even	Even	Even
	2203	16	BART to Hercules & I-80 Bus from Vallejo to Oakland	CCTA	\$5.8B	0	<0.5	<0.5	<0.5	Challenges	Challenges	Challenges
Extend Rail Network - Low Cost	2312	17	ACE Rail Service Increase (10 Daily Roundtrips)	SJRRC	\$1.3B	0	<0.5	1	1	Challenges	Challenges	Challenges
	2202	18	BART DMU Extension to Brentwood	CCTA	\$0.6B	0	<0.5	0.5	<0.5	Advances	Challenges	Challenges
	2305	19	SMART to Solano (Novato to Suisun City, without sea level rise protections)	SMART	\$1.6B	0	<0.5	<0.5	<0.5	Even	Challenges	Challenges
	2304	20	SMART Extension to Cloverdale	SMART	\$0.5B	0	<0.5	<0.5	<0.5	Challenges	Even	Challenges
Optimize Existing Transit Network - High Cost	2201	21	BART Core Capacity	BART	\$4.5B	0	1	2	2	Even	Even	Even
	2001	22	AC Transit Local Rapid Network: Capital Improvements + Service Increase	AC Transit	\$6.4B	0	0.5	0.6	0.8	Advances	Advances	Even
	2303	23	Caltrain Full Electrification and Blended System: High Growth	VTA, City of San Jose	\$31.3B	2	<0.5	1	0.5	Challenges	Even	Challenges
	2302	24	Caltrain Full Electrification and Blended System: Moderate Growth	Caltrain + HSR	\$24.6B	2	<0.5	0.9	0.5	Challenges	Even	Challenges
	2005	25	Alameda County BRT Network + Connected Vehicle Corridors	ACTC	\$4.0B	0	<0.5	<0.5	0.6	Advances	Advances	Even
	2410	26	VTA LRT Systemwide Grade Separation and Full Automation	City of San Jose	\$14.8B	1	<0.5	<0.5	0.7	Advances	Advances	Even
	2409	27	VTA LRT Systemwide Grade Separation	VTA	\$11.6B	0	<0.5	<0.5	0.5	Advances	Advances	Even
	2401	28	North San Jose LRT Subway	VTA	\$4.9B	0	<0.5	<0.5	0.5	Even	Advances	Even
	2411	29	VTA LRT Systemwide Grade Separation, Network Expansion, and Full Automation	VTA, City of San Jose	\$44.2B	0	<0.5	<0.5	<0.5	Advances	Advances	Even
	2407	30	Muni Metro Southwest M-Line Subway	SFCTA	\$5.6B	0	<0.5	<0.5	<0.5	Advances	Advances	Challenges
2301	31	Caltrain Full Electrification and Blended System: Base Growth	Caltrain + HSR	\$20.9B	2	<0.5	<0.5	<0.5	Even	Even	Even	

Lifecycle Costs: This includes initial capital cost, annual O&M costs, rehabilitation and replacements costs, and a residual value of the investment at the end of the analysis period, calculated using discounted present value methodology. Refer to Attachment D for details, and for costs as reviewed with sponsors. Note: Societal transfers such as fare/toll revenue (or loss) are excluded from both benefits and costs, following standard practice for societal benefit-cost analyses.

Guiding Principle Flags: Flags, based on qualitative analysis, are intended to draw attention to a direct adverse impact a project may have that may not be captured as part of other assessments. Refer to Attachment C for details.

Benefit-Cost Ratio: All project impacts are measured against a uniform base transportation and land use network in each future, except Resilience projects, which are measured against a baseline where that asset is out of service (hence n/a in some futures). Costs and Benefits to determine the ratio are detailed in Attachment D and E. For inter-regional projects, modeled Bay Area benefits have been multiplied by a factor to reflect the ratio of expected ridership from outside the region. Valley Link/ACE Rail benefit multiplier: 3.3; Caltrain/HSR benefit multiplier: 1.3 (the HSR multiplier is applied in Clean and Green only, the Future where HSR is completely built out).

Equity Score: "Advances" indicates that the project may benefit lower income individuals (below regional median income) more than higher income individuals. "Challenges" indicates that project benefits skew towards higher income individuals. "Even" indicates even distribution of benefits for all income groups.

Note on Bicycle Projects: Improvements to individual bicycle facilities cannot be sufficiently modeled using Travel Model 1.5 (except Bay Bridge West Span since this opens up a connection); Travel Model 2.0 (under development) may allow more advanced analysis in the future. As an interim solution, a single "Enhanced Regionwide Bike Infrastructure" (Project ID 6006) was modeled, supported by off-model assertions based on research literature review. This project does not consider any specific improvements, but instead provides perspective on the benefits of a regionwide bike infrastructure investment (e.g. shared streets, trails, superhighways) on our transportation system.

(Full methodology can be found here: https://mtc.ca.gov/sites/default/files/ProjectPerformance_Methodology.pdf)



Horizon/Plan Bay Area 2050: Final Project Performance Findings

Attachment A: Overall Summary Table

Benefit-Cost Ratios and Equity Scores across Three Futures, and Guiding Principle Flags

Total number of projects: 97; 81 projects from public agencies, 12 projects (along with 4 alternate versions) from public/NGOs that were jury finalists from the Transformative Projects process. (see high-level description of methodology at the bottom of the page)

Project Type	Project ID	Row ID	Project	Project Source	Lifecycle Cost	Guiding Principle Flags	Benefit-Cost Ratio			Equity Score			
							Rising Tides Falling Fortunes	Clean and Green	Back to the Future	Rising Tides Falling Fortunes	Clean and Green	Back to the Future	
Optimize Existing Transit Network - Low Cost	3001	32	Treasure Island Congestion Pricing	SF	\$0.8B	1	8	7	>10	Challenges	Challenges	Challenges	
	6111	33	Integrated Transit Fare System (with Transit Capacity Expansion)	Public/NGO Submission	\$0.3B	0	6	7	>10	Advances	Advances	Advances	
	6112	34	Integrated Transit Fare System and Seamless Transfers (with Transit Capacity Expansion)	Public/NGO Submission	\$0.5B	0	5	7	>10	Advances	Advances	Advances	
	2209	35	Irvington BART Infill Station	ACTC	\$0.2B	0	1	1	9	Even	Even	Even	
	3002	36	Downtown San Francisco Congestion Pricing	SF	\$0.3B	1	2	3	4	Challenges	Challenges	Challenges	
	2007	37	San Francisco Southeast Waterfront Transit Improvements	SF	\$0.6B	0	2	3	4	Even	Even	Even	
	2100	38	San Pablo BRT	AC Transit	\$0.5B	0	1	3	4	Advances	Advances	Even	
	2008	39	Alameda Point Transit Network Improvements	ACTC	\$0.5B	0	0.7	3	4	Even	Even	Even	
	2000	40	AC Transit Local Network: Service Increase	AC Transit	\$2.6B	0	1	2	2	Advances	Advances	Even	
	2101	41	Geary BRT (Phase 2)	SF	\$0.6B	0	1	2	3	Even	Even	Challenges	
	2105	42	Alameda County E14th St/Mission and Fremont Blvd Multimodal Corridor	ACTC	\$0.5B	0	1	2	2	Advances	Advances	Even	
	2103	43	SamTrans El Camino Real BRT: Capital and Service Improvements	CCAG	\$0.6B	0	1	1	2	Advances	Even	Challenges	
	2003	44	Muni Forward: Capital Improvements + Service Increase	SF	\$2.9B	0	0.7	2	1	Even	Even	Even	
	6100	45	Integrated Transit Fare System	Public/NGO Submission	\$0.3B	0	2	<0.5	5	Advances	Advances	Advances	
	2004	46	Sonoma Countywide Bus: Service Increase	SCTA	\$0.9B	0	<0.5	<0.5	1	Advances	Even	Even	
	2400	47	Downtown San Jose LRT Subway	VTA	\$1.9B	0	<0.5	<0.5	1	Even	Even	Even	
	6106	48	Free Transit for Low-Income Households	Public/NGO Submission	\$0.1B	0	<0.5	<0.5	<0.5	Advances	Advances	Advances	
	6101	49	Free Transit for All	Public/NGO Submission	\$0.1B	1	<0.5	<0.5	<0.5	Advances	Advances	Advances	
	Build Local Transit	4000	50	Oakland/Alameda Gondola Network	City of Oakland	\$1.1B	1	0.7	<0.5	2	Even	Advances	Even
		4001	51	Mountain View AV Network (Free Fare, Subsidies from Companies)	City of Mountain View	\$1.4B	1	<0.5	0.9	1	Advances	Advances	Advances
2403		52	Vasona LRT Extension (Phase 2)	VTA	\$0.3B	0	0.7	<0.5	1	Advances	Advances	Even	
2412		53	SR-85 LRT (Mountain View to US101 interchange)	City of Cupertino	\$3.7B	0	<0.5	0.7	0.6	Even	Challenges	Even	
2408		54	Muni Metro T-Third Extension to South San Francisco	City of South San Fran..	\$1.8B	0	<0.5	<0.5	1	Challenges	Challenges	Even	
4002		55	Contra Costa Autonomous Shuttle Program	CCTA	\$3.4B	0	<0.5	<0.5	<0.5	Advances	Even	Challenges	
4003		56	Cupertino-Mountain View-San Jose Elevated Maglev Rail Loop	City of Cupertino	\$8.1B	1	<0.5	<0.5	<0.5	Challenges	Challenges	Challenges	
2402		57	San Jose Airport People Mover	VTA	\$1.4B	0	<0.5	<0.5	<0.5	Even	Challenges	Even	
Enhance Alternate Modes	2600	58	WETA Ferry Service Frequency Increase	WETA	\$0.4B	0	2	6	3	Challenges	Even	Even	
	6006	59	Enhanced Regionwide Bike Infrastructure	MTC/ABAG	\$12.6B	0	1	3	3	Advances	Advances	Advances	
	2602	60	WETA Ferry Service: Berkeley - San Francisco	WETA	\$0.2B	0	<0.5	1	1	Advances	Even	Even	
	2700	61	Bay Bridge West Span Bike Path	MTC/ABAG	\$0.8B	0	<0.5	1	0.5	Even	Challenges	Challenges	
	2603	62	WETA Ferry Service: Redwood City - San Francisco - Oakland	WETA	\$0.3B	0	0.6	0.6	<0.5	Even	Even	Even	
	4004	63	Regional Hovercraft Network	CCAG	\$2.6B	0	<0.5	0.6	<0.5	Even	Challenges	Advances	
	6004	64	Bay Trail Completion	Public/NGO Submission	n/a	0	cannot be modeled			cannot be modeled			
6005	65	Regional Bicycle Superhighway Network	Public/NGO Submission	n/a	0	cannot be modeled			cannot be modeled				

Lifecycle Costs: This includes initial capital cost, annual O&M costs, rehabilitation and replacements costs, and a residual value of the investment at the end of the analysis period, calculated using discounted present value methodology. Refer to Attachment D for details, and for costs as reviewed with sponsors. Note: Societal transfers such as fare/toll revenue (or loss) are excluded from both benefits and costs, following standard practice for societal benefit-cost analyses.

Guiding Principle Flags: Flags, based on qualitative analysis, are intended to draw attention to a direct adverse impact a project may have that may not be captured as part of other assessments. Refer to Attachment C for details.

Benefit-Cost Ratio: All project impacts are measured against a uniform base transportation and land use network in each future, except Resilience projects, which are measured against a baseline where that asset is out of service (hence n/a in some futures). Costs and Benefits to determine the ratio are detailed in Attachment D and E. For inter-regional projects, modeled Bay Area benefits have been multiplied by a factor to reflect the ratio of expected ridership from outside the region. Valley Link/ACE Rail benefit multiplier: 3.3; Caltrain/HSR benefit multiplier: 1.3 (the HSR multiplier is applied in Clean and Green only, the Future where HSR is completely built out).

Equity Score: "Advances" indicates that the project may benefit lower income individuals (below regional median income) more than higher income individuals. "Challenges" indicates that project benefits skew towards higher income individuals. "Even" indicates even distribution of benefits for all income groups.

Note on Bicycle Projects: Improvements to individual bicycle facilities cannot be sufficiently modeled using Travel Model 1.5 (except Bay Bridge West Span since this opens up a connection); Travel Model 2.0 (under development) may allow more advanced analysis in the future. As an interim solution, a single "Enhanced Regionwide Bike Infrastructure" (Project ID 6006) was modeled, supported by off-model assertions based on research literature review. This project does not consider any specific improvements, but instead provides perspective on the benefits of a regionwide bike infrastructure investment (e.g. shared streets, trails, superhighways) on our transportation system.

(Full methodology can be found here: https://mtc.ca.gov/sites/default/files/ProjectPerformance_Methodology.pdf)



Horizon/Plan Bay Area 2050: Final Project Performance Findings

Attachment A: Overall Summary Table

Benefit-Cost Ratios and Equity Scores across Three Futures, and Guiding Principle Flags

Total number of projects: 97; 81 projects from public agencies, 12 projects (along with 4 alternate versions) from public/NGOs that were jury finalists from the Transformative Projects process. (see high-level description of methodology at the bottom of the page)

Project Type	Project ID	Row ID	Project	Project Source	Lifecycle Cost	Guiding Principle Flags	Benefit-Cost Ratio			Equity Score		
							Rising Tides Falling Fortunes	Clean and Green	Back to the Future	Rising Tides Falling Fortunes	Clean and Green	Back to the Future
Build Road Capacity - High Cost	1001	66	Southern Crossing Bridge + New San Francisco-Oakland Transbay Rail Crossing - BART (Crossin..	Crossings Study	\$47.1B	1	0.6	1	2	Even	Even	Even
	3000	67	Regional Express Lanes (MTC + VTA + ACTC + US-101)	MTC/ABAG	\$12.1B	1	0.5	0.6	2	Challenges	Challenges	Challenges
	1005	68	Mid-Bay Bridge (I-238 to I-380) (Crossing 2)	Crossings Study	\$19.9B	2	<0.5	<0.5	1	Even	Challenges	Even
	1006	69	San Mateo Bridge Reconstruction and Widening (Crossing 1)	Crossings Study	\$15.7B	1	<0.5	<0.5	<0.5	Advances	Challenges	Even
Build Road Capacity - Low Cost	3101	70	I-680/SR-4 Interchange Improvements (Direct/HOV Connectors, Ramp Widening, Auxiliary Lan..	CCTA	\$0.4B	1	<0.5	2	3	Even	Challenges	Even
	3110	71	Union City-Fremont East-West Connector	ACTC	\$0.4B	1	0.7	1	3	Even	Even	Even
	3102	72	SR-4 Operational Improvements	CCTA	\$0.5B	1	<0.5	1	2	Challenges	Challenges	Even
	3104	73	I-80/I-680/SR-12 Interchange + Widening (Phases 2B-7)	STA	\$0.7B	2	<0.5	1	1	Challenges	Even	Even
	3103	74	SR-4 Widening (Brentwood to Discovery Bay)	CCTA	\$0.4B	1	<0.5	<0.5	6	Advances	Even	Challenges
	3106	75	SR-152 Realignment and Tolling	VTA	\$1.9B	2	2	<0.5	<0.5	Even	Challenges	Even
	3109	76	SR-262 Widening and Interchange Improvements	ACTC	\$1.2B	2	<0.5	<0.5	1	Even	Even	Challenges
	3100	77	SR-239 Widening (Brentwood to Tracy including Airport Connector)	CCTA	\$2.4B	1	<0.5	<0.5	0.9	Challenges	Advances	Challenges
	3105	78	SR-12 Widening (I-80 to Rio Vista)	STA	\$2.5B	2	<0.5	<0.5	0.7	Even	Challenges	Even
	Optimize Existing Freeway Network	5000	79	Bay Area Forward (Phase 1: Freeway Ramp and Arterial Components Only)	MTC/ABAG	\$0.6B	1	7	9	6	Challenges	Challenges
6103		80	Demand-Based Tolling on All Highways with Means-Based Tolls	Public/NGO Submission	\$6.0B	1	2	0.8	9	Even	Even	Even
6102		81	HOV Lane Network with per-mile fee for SOVs	Public/NGO Submission	\$7.7B	1	2	<0.5	5	Challenges	Challenges	Challenges
3003		82	San Francisco Arterial HOV and Freeway HOT Lanes	SF	\$1.3B	0	0.5	0.9	3	Challenges	Challenges	Even
2002		83	AC Transit Transbay Network: Capital Improvements + Service Increase	AC Transit	\$6.5B	0	0.5	0.8	1	Challenges	Challenges	Challenges
6022		84	Bus Rapid Transit (BRT) on All Bridges: Dedicated Lanes + Service/Capacity Improvements	Public/NGO Submission	\$1.2B	0	0.6	1	<0.5	Advances	Advances	Even
6020		85	Regional Express (ReX) Bus Network + Optimized Express Lane Network	Public/NGO Submission	\$41.0B	1	<0.5	0.7	0.5	Challenges	Challenges	Challenges
5003		86	I-680 Corridor Improvements (BRT, Express Bus, Shared AVs, Gondolas)	CCTA	\$4.6B	0	<0.5	0.5	0.6	Even	Even	Even
6104		87	Reversible Lanes on Top 10 Congested Bridges and Freeways	Public/NGO Submission	\$2.4B	1	<0.5	<0.5	<0.5	Challenges	Even	Advances
6003		88	I-80 Corridor Overhaul with Per-Mile Tolling	Public/NGO Submission	\$3.9B	1	<0.5	<0.5	<0.5	Even	Challenges	Challenges
6021		89	Bus Rapid Transit (BRT) on All Bridges: Dedicated Lanes only	Public/NGO Submission	\$0.2B	0	<0.5	<0.5	<0.5	Advances	Advances	Even
Resilience	6105	90	Timing Regulation of Freight Delivery	Public/NGO Submission	n/a	1	cannot be modeled			cannot be modeled		
	7002	91	I-580/US-101/SMART Marin Resilience Project	MTC/ABAG/BCDC	\$0.2B	0	>10	>10	>10	Challenges	Challenges	Challenges
	7005	92	SR-237 Resilience Project (Alviso)	MTC/ABAG/BCDC	\$0.2B	0	>10	n/a	>10	Even	n/a	Even
	7006	93	I-880 Resilience Project (South Fremont)	MTC/ABAG/BCDC	\$0.1B	0	>10	n/a	n/a	Challenges	n/a	n/a
	7004	94	SR-84 Resilience Project (Dumbarton Bridge, 101 Interchange)	MTC/ABAG/BCDC	\$0.2B	0	>10	n/a	n/a	Challenges	n/a	n/a
	7003	95	US-101 Peninsula Resilience Project (San Antonio Rd, Poplar Ave, Millbrae Ave)	MTC/ABAG/BCDC	\$0.2B	0	>10	n/a	n/a	Challenges	n/a	n/a
	7001	96	VTA LRT Resilience Project (Tasman West)	MTC/ABAG/BCDC	\$0.2B	0	5	5	8	Even	Advances	Even
	3200	97	SR-37 Long Term Project (Tolling, Elevation, Interchanges, Widening, Express Bus)	MTC/ABAG/North Bay ..	\$6.0B	2	2	2	0.7	Challenges	Challenges	Challenges

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(Full methodology can be found here: https://mtc.ca.gov/sites/default/files/ProjectPerformance_Methodology.pdf)

Attachment E: Initial Staff Recommendations on Major Projects

Given the requirements for fiscal constraint and the ambitious SB 375-mandated target for per capita greenhouse gas emissions reductions, MTC employs a performance-based planning approach to project selection to ensure that limited regional trade-off revenues (revenues not currently pledged to a specific use) are directed toward projects that support regional goals.

97 major projects were analyzed through the Project Performance Assessment, with Draft Results shared in November 2019 and Final Results shared in January 2020. Final Project Performance Assessment results are found in **Attachment D** for reference. Projects were assessed in three distinct future scenarios using three metrics: benefit/cost ratio, equity score, and Guiding Principles flags. Using the final results, projects were identified as having a performance challenge if they met any of the following criteria.

- Two or more benefit/cost ratios below one
- One or more equity scores with a “Challenges” rating
- One or more Guiding Principles flags

A total of 62 projects were identified as having a performance challenge. The large number of projects with a performance challenge can be attributed to a number of factors. These include best-practice refinements to the benefit-cost methodology - which led to more conservative estimates of cost-effectiveness - and the new quantitative equity score - which highlighted that a number of projects predominantly benefit higher-income users when simulated in the Travel Model.

In previous Plans, projects that did not perform well went through the “compelling case” process, where sponsors highlighted deficiencies in the project performance methodology that resulted in the full benefits of the project not being quantified. Plan Bay Area 2050 takes a different approach to projects with challenges, inviting sponsors to leverage the results of Project Performance to propose project-level alterations or complementary strategies that would improve the performance of their projects. Projects with funding gaps and performance challenges were required to submit a commitment letter to improve their position for regional trade-off revenues to close their funding gap; otherwise, CTAs could assign shares of their forecasted future transportation revenues to close funding gaps or drop the project from consideration in Plan Bay Area 2050. Commitment letters were submitted for 29 of the 62 projects identified as having a performance challenges, all of which will require regional trade-off revenues to close their funding gap; six projects are being advanced through 100% local funding commitments. The remaining projects were not advanced for consideration.

The ultimate goal of the “collaborative space” approach to Project Performance was to allow sponsors and MTC/ABAG to learn from project performance results and modify projects to maximize their benefits to Bay Area residents. Additionally, the “collaborative space” process encourages sponsor-level support for bold regional strategies identified by MTC/ABAG staff for analysis in the Draft Blueprint by offering sponsors the opportunity to endorse strategies and identify them as candidates for implementation at a local level (e.g., integrated fare policy, higher-density zoning around transit stations). While sponsors may not have implementing authority for all strategies, support expressed through the commitment letters will help MTC/ABAG make the case for implementation with the appropriate stakeholders.

A number of sponsors provided meaningful proposals to improve the performance of their projects. Table 1 summarizes examples of commitments and lists example projects; note that the table is not exhaustive.

Table 1. Examples of Performance Commitments
(for illustrative purposes only; recommendation on Final Blueprint status still pending)

Metric	Commitment	Example Project(s)
B/C Ratio	Switch to more cost-effective mode	Brentwood Extension (now Bus Rapid Transit); Dumbarton Rail (now Group Rapid Transit)
	Reorient to a more limited phase 1	AC Transit Rapid Network, ReX
	Increase user base by supporting TOD or new PDAs	Dumbarton Rail; ACE Freq. Increase
	Scale back to study	T-Third Ext. to South San Francisco; SJC Airport People Mover
Equity Score	Pledge to continue participating in means-based fare pilot	SMART to Cloverdale; WETA Projects
	Support for affordability requirements in station area TODs	Caltrain Enhanced Growth; ACE Freq. Increase
	Support for studying means-based fares	SF Congestion Pricing; Regional Hovercraft
	Include means-based toll discount or exemption	Treasure Island Congestion Pricing; SR-37
Guiding Principles Flag	GHG: focus on lane conversions over widenings	Express Lanes
	Safety: add a multi-use path for cyclists/pedestrians	Union City-Fremont East West Connector; SR-37
	Construction-related displacement: eliminate displacing structures from scope	ReX; Caltrain Enhanced Growth

Due to time and resource constraints, projects were not reanalyzed based on updates to project scope proposed in the commitment letters. Staff appraised projects qualitatively based on the following factors:

- **Expected performance with commitment applied:** would the commitment make a meaningful improvement or would gains likely be marginal?
- **Strength and applicability of the commitment:** is this commitment of an appropriate magnitude? How well does it address the challenge?
- **Commitment feasibility:** is this a realistic commitment to make given the sponsor's implementation authority?
- **Alignment with Blueprint strategies:** does this project support the strategies approved by MTC/ABAG Joint Planning and Administrative Committee in February 2020?
- **Strength of local funding commitment:** did the CTA prioritize this project with local funding shares? How large is the funding gap that would be met with regional trade-off revenues?

These factors were used to generate initial staff recommendations on a project-level basis, summarized in the tables below by corridor or Bay Area subregion. Information on each project's performance rating and the contents of its commitment letter are included, along with an initial staff recommendation of "include," "consider," or "exclude" in the Final Blueprint strategies. The table notes projects that were not included on CTA lists and which will be dropped from consideration.

- An **Include** rating means that the project has a high likelihood of being integrated into the Final Blueprint strategies, thanks to a combination of performance and/or commitments made.
- A **Consider** rating means that a final recommendation on the project will be pending further insights from the Draft Blueprint in July - including GHG, equity, and fiscal aspects - as well as any further requested information from the project sponsor.
- An **Exclude** rating means that the project has a low likelihood of being integrated into the Final Blueprint strategies, unless unanticipated future revenues emerge later this summer.

Staff will return in July with an update to these tables to incorporate fiscal-constraint considerations, including final recommendations on whether or not to include projects marked "consider" in a strategy. Crucially, given oversubscription of early years' revenues, the **July recommendation will also include a time period for regional discretionary funding and anticipated project delivery** (Period 1: 2021-2035 or Period 2: 2036-2050).

Major Projects Proposed for Integration into Advance Low-Cost Transit Projects Strategy

Title		Performance Challenges			Performance Commitments	Recommendation
		B/C	Equity	GPs		
2004	Sonoma County Service Freq. Increase	Major	None	None	No commitment letter received	100% Locally Funded
2201	BART Core Capacity	None	None	None	No commitment letter needed	Include
2602	WETA Ferry: Berkeley-SF	None	None	None	No commitment letter needed	Include
2600	WETA Service Frequency Increase	None	Minor	None	Reduce fare burden via participation in regional means-based fare program	Include
2205	BART to Silicon Valley (Phase 2)	None	None	None	No commitment letter needed	Include
3109	E 14th/Mission Blvd Corridor Project	None	None	None	No commitment letter needed	Include
2209	Irvington BART Infill Station	None	None	None	No commitment letter needed	Include
2008	Alameda Point Transit Network	None	None	None	No commitment letter needed	Include
2100	San Pablo BRT	None	None	None	No commitment letter needed	Include
2000	AC Transit Local Service Freq. Increase	None	None	None	No commitment letter needed	Include
2001	AC Transit Rapid Network	Minor	None	None	Rescope to focus on high-performing routes	Include with more limited scope
2007	South East SF Transit Improvements	None	None	None	No commitment letter needed	Include
2003	Muni Forward	None	None	None	No commitment letter needed	Include
3001	Treasure Island Congestion Pricing	None	Major	Minor	Project includes an affordability program with means-based tolls/fares	Include
3002	Downtown SF Congestion Pricing	None	Major	Minor	No substantial commitments	Include
2103	El Camino Rapid Bus	None	Minor	None	No commitment letter needed	Include
2101	Geary BRT (Phase 2)	None	Minor	None	No substantial commitments	Include
2202	BART DMU to Brentwood BRT to Brentwood	Major	Major	None	Rescope to BRT	Consider per regional discretionary funding request
5003	I-680 Multimodal Improvements	Minor	None	None	Reduce scope to focus on high-performing Express Bus service that serves Communities of Concern Support for transit-supportive land use policy on the corridor	Consider per regional discretionary funding request
2603	WETA Ferry: Redwood City-SF	Minor	None	None	No substantial commitments	Exclude project; keep 100% locally funded study

Major Projects Proposed for Integration into [Build a Complete Streets Network Strategy](#)

Title		Performance Challenges			Performance Commitments	Recommendation
		B/C	Equity	GPs		
6006	Enhanced Regional Bicycle Infrastructure	None	None	None	No commitment letter needed	Include
2700	Bay Bridge West Span Bike Path	Minor	Major	None	Increase usage via e-bike programs in Communities of Concern; reduce costs by removing connection to Treasure Island; explore philanthropic/private funding	Consider
2104	Better Market Street	<i>Not modelable (no performance rating)</i>			No substantial commitments	Consider
6004	Bay Trail Completion	<i>Not modelable (no performance rating)</i>			No commitment letter received	Fold into regional Complete Streets strategy
6005	Regional Bicycle Superhighway Network	<i>Not modelable (no performance rating)</i>			No commitment letter received	Exclude

Major Projects Proposed for Integration into [Build a New Transbay Crossing Strategy](#)

Title		Performance Challenges			Performance Commitments	Recommendation
		B/C	Equity	GPs		
1004	New Transbay Rail Crossing (BART or Commuter Rail)	None	None	None	No commitment letter needed	Include Phase 1 only, contingent upon fiscal constraint

Major Projects Proposed for Integration into Improve Interchanges and Highway Bottlenecks Strategy

		Performance Challenges			Performance Commitments	Recommendation
Title		B/C	Equity	GPs		
3100	SR-239 Freeway	Major	Major	Minor	No commitment letter received	100% Locally Funded
3101	I-680/SR-4 Interchange + Widening	None	Minor	Minor	No commitment letter received	100% Locally Funded
3102	SR-4 Operational Improvements	None	Minor	Minor	No commitment letter received	100% Locally Funded
3103	SR-4 Widening (Brentwood to Discovery Bay)	Major	Minor	Minor	No commitment letter received	100% Locally Funded
3106	SR-152 Freeway	Major	Minor	Major	Rescope to study	100% Locally Funded
5000	Bay Area Forward (Phase 1)	None	Major	Minor	Rescope to focus on highest-performing/transit-supportive elements	Include
3112	SR-37 Interim Improvements	<i>Project Performance Assessment Not Required</i>			Support for means-based tolls and fares ; inclusion of HOV lanes benefitting carpools and transit; inclusion of multi-use path to improve safety	Include
3200	SR-37 Widening + Resilience	None	Major	Major		Consider per reg. discretionary funding request
3104	I-80/I-680/SR-12 Interchange + Widening	None	Minor	Major	No substantial commitments	Consider per further commitments to improve GHG performance
3110	Union City-Fremont East-West Connector	None	None	Minor	Includes a multi-use path to improve safety	Consider per further commitments to improve GHG performance
3109	SR-262 Mission Blvd	Major	Minor	Major	Open to phasing between Period 1 and Period 2 (2036-50)	Consider Phase 1 project, contingent on additional information
2005	Alameda County BRT Network + CV Corridors	Major	None	None	No commitment letter received	Not in CTA List
6104	Reversible Lanes on Top 10 Congested Bridges and Freeways	Major	Minor	Minor	No commitment letter received	Not in CTA List
2004	SR-12 Widening	Major	Minor	Major	No commitment letter received	Not in CTA List

Major Projects Proposed for Integration into [Increase Existing Rail Capacity and Frequency by Modernizing the Network Strategy](#)

Title		Performance Challenges			Performance Commitments	Recommendation
		B/C	Equity	GPs		
2302	Caltrain Enhanced Growth (revision to Caltrain Base Growth)	Major	None	Major	Reduce scope by eliminating nonessential grade separations; reduce fare burden via participation in regional means-based fare program; support for transit-supportive land use policy on the corridor	Consider per regional discretionary funding request
2312	ACE 10 Daily Round Trips	None	Major	None	Commitment to means-based fares and support for fare integration Support for transit-supportive land use policy in station areas	Consider per regional discretionary funding request
2309	Altamont Vision Phase 1	Minor	Major	None		Exclude
2301 2303	Caltrain High & Moderate Growth	Minor	Major	Major	No commitment letter received	Not in CTA List
2400	Downtown San Jose Subway	Major	None	None	Support for transit-supportive land use policy on the corridor	Not in CTA List
2401	North San Jose LRT Subway	Major	None	None	No commitment letter received	Not in CTA List
2409 2410 2411	VTA LRT Grade Separation, Expansion, & Automation	Major	None	Minor	No commitment letter received	Not in CTA List
2407	Muni Metro Southwest Subway	Major	Minor	None	No commitment letter received	Not in CTA List
2310	Megaregional Rail	Major	Major	Major	No commitment letter received	Not in CTA List

Major Projects Proposed for Integration into [Expand Regional Rail Network Strategy](#)

Title		Performance Challenges			Performance Commitments	Recommendation
		B/C	Equity	GPs		
2403	Vasona LRT (Phase 2)	Minor	None	None	No commitment letter received	100% Locally Funded
2308	Valley Link (Bay Area Segment)	None	None	None	No commitment letter needed	Include
2300	Caltrain Downtown Extension	Minor	Major	None	No substantial commitments	Consider contingent on new Transbay rail crossing
2206	BART to Cupertino Stevens Creek LRT	Major	None	None	Rescope to light rail to reduce costs; support for transit-supportive land use policy on the corridor	Consider per regional discretionary funding request
2306	Dumbarton Rail	Major	Minor	None	Rescope to LRT Increase usage via TOD in East Bay PDAs	Consider pending PDA applications
2402	San Jose Airport People Mover Planning/Env.	Major	Minor	None	Rescope to planning/environmental	Exclude project; keep 100% locally funded study
2408	Muni Metro to South San Francisco	Major	Major	None	Rescope to study	Exclude project; keep 100% locally funded study
3105	SMART to Cloverdale	Major	Major	None	Reduce fare burden via participation in regional means-based fare program; discounted transfers to several local transit systems	Exclude
2305	SMART to Solano	Major	Major	None	No substantial commitments	Exclude
6002	SMART to Richmond via New RSR Bridge	Major	Major	Major	No commitment letter received	Not in CTA List
2204	I-680 BART	Major	None	None	No commitment letter received	Not in CTA List
2208	BART from Millbrae to Silicon Valley	Major	None	None	No commitment letter received	Not in CTA List
2207	BART to Gilroy	Major	None	Minor	No commitment letter received	Not in CTA List
2412	SR-85 Rail	Minor	Minor	None	No commitment letter received	Not in CTA List
4003	South Bay Maglev Loop	Major	Major	Minor	No commitment letter received	Not in CTA List

Major Projects Proposed for Integration into [Build an Integrated Regional Express Lane and Express Bus Network Strategy](#) (continued)

Title	B/C	Performance Challenges			Performance Commitments	Recommendation
		B/C	Equity	GPs		
3000	US-101 Express Lanes: I-380 to SF County Line ^{1,2}	Minor	Major	Minor	Increase focus on lane conversions and invest in regional express bus service	Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	I-80 Express Lanes: Carquinez Bridge to Bay Bridge Toll Plaza	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	I-80 Express Lanes: SR-37 - Carquinez Bridge ^{1,2}	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	I-80 Express Lanes: Red Top Rd to SR-37	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	I-80 Express Lanes: I-505 to Red Top Rd	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	I-80 WB Bay Bridge HOV Bypass Lane	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	I-880 Express Lanes (NB): Hegenberger Rd to Lewelling Blvd	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	I-880 Express Lanes (NB): Hegenberger Rd to Bay Bridge	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	I-580 Express Lanes: Greenville Rd to San Joaquin County Line	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	I-580 Express Lanes: Bay Bridge to I-238	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	I-580 Express Lanes: I-238 to I-680	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	SR-84 WB: Dumbarton Bridge Toll Plaza	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)

Major Projects Proposed for Integration into [Build an Integrated Regional Express Lane and Express Bus Network Strategy](#) (continued)

Title	B/C	Performance Challenges			Performance Commitments	Recommendation
		B/C	Equity	GPs		
3000	SR-92 WB: San Mateo Bridge Toll Plaza	Minor	Major	Minor	Increase focus on lane conversions and invest in regional express bus service	Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	SR-4 Express Lanes: Hillcrest Ave to I-680/SR-4 Interchange	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	SR-85 Express Lanes: SR-237 to SR-87 (dual)	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3000	US-101/I-280 Express Lanes: SM County Line to 3 rd St ^{1,2}	Minor	Major	Minor		Include, contingent on expanded equity commitments (e.g., means-based tolls)
3003	SF Express Bus on Express Lanes	Minor	Major	None	Rescope to remove arterial HOV lanes; commitment to increase bus service in CoCs	Include
2002	AC Transit Transbay Service Freq. Increase	None	Major	None	Explore new routes serving lower-income riders in East Oakland and West Contra Costa	Include with more limited scope
6020	ReX Green Line (Vallejo to SFO via SF Transbay) ¹	Minor	Major	Minor	Rescope to reduce routes based on performance and alignment with Express Lanes and Communities of Concern; offer means-based fares and free/reduced cost transfers	Include
6020	ReX Blue Line (SF Transbay to Diridon) ¹	Minor	Major	Minor		Consider as basic express bus
6020	ReX Red Line (DT Oakland to Redwood City via Dumbarton) ¹	Minor	Major	Minor		Consider as basic express bus
6003	I-80 Corridor Overhaul	Major	Major	None	No commitment letter received	Not in CTA List
6021	BRT on All Bridges	Major	None	None	No commitment letter received	Not in CTA List

Major Projects Proposed for Integration into [Advance Other Regional Programs and Local Priorities Strategy](#)

Title		Performance Challenges			Performance Commitments	Recommendation
		B/C	Equity	GPs		
4002	Contra Costa AV Shuttle Program	Major	Major	None	Rescope to study	100% Locally Funded
4004	Regional Hovercraft Network	Major	Minor	None	Increase usage via first/last mi shuttles; include means-based fares	Exclude project; keep 100% locally funded pilot route
7003	VTA LRT SLR Project	None	None	None	No commitment letter needed	Include
7005	SR-237 SLR Project	None	None	None	No commitment letter needed	Include
7004	US-101 Peninsula Resilience	None	None	None	No commitment letter needed	Include
7001	Marin I-580/US-101 Resilience Project	None	None	None	No commitment letter needed	Include
2304	US-101 Coyote Creek Resilience Project	None	None	None	No commitment letter needed	Include
7006	I-880 Resilience Project	None	None	None	No commitment letter needed	Include
7002	Dumbarton Bridge Resilience	None	None	None	No commitment letter needed	Include
4000	Oakland/Alameda Gondola Network	Minor	None	Minor	No commitment letter received	Not in CTA List
4001	Mountain View AV Network	Minor	None	Minor	No commitment letter received	Not in CTA List

Attachment F: Initial Concept for Final Blueprint (Transportation Element)

(all estimates in billions of year-of-expenditure dollars; RD = regional discretionary funding)

	Include		Include + Consider	
	RD	Total	RD	Total
Operate and Maintain the Existing System				
Maintain Local Streets	0	44	18	62
Maintain Highways and Bridges	0	49	0	49
Maintain Public Transit Capital	18	54	23	59
Maintain Transit Operations <i>(at 2021 levels)</i>	0	208	0	208
Draft Blueprint Strategies				
Enable Seamless Mobility with Unified Trip Planning and Fare Payments	1	1	1	1
Reform Regional Transit Fare Policy	10	10	11	12
Implement Per-Mile Tolling on Congested Freeways with Transit Alternatives	1	1	1	1
Build a Complete Streets Network	7	9	9	13
Advance Regional Vision Zero Policy through Street Design and Reduced Speeds	1	2	3	5
Advance Low-Cost Transit Projects	9	35	15	44
Build a New Transbay Rail Crossing	27	29	27	29
Final Blueprint Strategies <i>(Proposed)</i>				
Accelerate Restoration of Transit Operations <i>(to 2019 levels)</i>	3	3	3	3
Increase Existing Rail Capacity and Frequency by Modernizing the Network	0	5	9	16
Extend the Regional Rail Network	3	4	13	17
Build an Integrated Regional Express Lane and Express Bus Network	2	3	4	6
Improve Interchanges and Address Highway Bottlenecks	3	9	10	18
Advance Other Regional Programs and Local Priorities	1	8	5	14
TOTAL EXPENDITURES	86	474	152	557