

Attachment B: Draft Project Performance Assessment

Background and Context:

The [Horizon](#) initiative developed three divergent 2050 Futures (i.e., planning scenarios) used to “stress test” major transportation investments in preparation for Plan Bay Area 2050. This included the Project Performance Assessment, which was developed to provide a high-level, regionwide assessment of major transportation project benefits under each hypothetical 2050 Future (i.e., Rising Tides Falling Fortunes, Clean and Green, and Back to the Future) using the regional travel model and documented benefit valuations. The methodology for the Project Performance Assessment¹ is built on performance assessments from prior plan cycles and was informed by significant stakeholder input.

Because this plan cycle is a limited and focused update, except for the more significant update of the transit-related strategies, the Project Performance Assessment methodology used for Plan Bay Area 2050 was maintained, and only benefit valuations and project scope and cost information was updated. The next major plan update, starting in 2026, presents an opportunity to revisit the performance assessment approach and methodology, as appropriate.

Interpreting and Understanding Benefit-Cost Scores:

Like the prior three cycles of Plan Bay Area, Plan Bay Area 2050+ includes a Project Performance Assessment that evaluated projects for cost effectiveness using their societal benefit-cost ratio. The benefit-cost ratio compares project benefits (e.g., regionwide accessibility; freeway reliability and vehicle ownership; transit crowding; emissions and natural land loss; and health and safety) to project lifecycle costs that include construction, operations, and maintenance. The benefit-cost ratio assessment uses Travel Model 1.5 to quantify benefits of transportation projects. Benefits (or disbenefits) of the project relative to a baseline no-project scenario were determined for each of the three Horizon Futures, reflecting differing external forces, growth forecasts, and land use patterns. As such, each project received three distinct benefit-cost ratio scores, one for each Future. Projects were considered cost-effective when the benefit-cost ratio is one, indicating that societal benefits and costs are roughly equal, or above

¹ The detailed Project Performance Assessment Methodology is included in Appendix 1 of the October 2021 Performance Report for Plan Bay Area 2050, available at https://planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_Performance_Report_October_2021.pdf

one, indicating that benefits outweigh costs. This approach enables an “apples-to-apples”, order of magnitude comparison across different types of major transportation investments.

The [Plan Bay Area 2050 Performance Report](#) details the Project Performance Assessment methodology and includes a confidence assessment that identifies key limitations for the assessment as a whole and for individual projects. A project’s individual scoring results should be understood within this context. Individual project scores from the Project Performance Assessment may not be comparable to other types of project assessments that may have been completed for federal or state funding programs, since the Project Performance Assessment focuses on identifying project benefits under a wide range of hypothetical future scenarios. For certain projects such as major rail projects and those serving urban downtown locations, economic benefits such as land values and job agglomeration can be significant; however, such benefits are not within the scope of the type of societal benefit-cost analyses used for the Project Performance Assessment, per federal guidance on benefit-cost assessment best practices. Additionally, projects were evaluated individually to understand their impact and to be able to compare all projects uniformly. However, projects serving related travel markets could, if evaluated as a package, increase or decrease the benefits of an individual project.

Interpreting and Understanding Equity Scores:

The quantitative equity score included in the Project Performance Assessment was developed to provide insight into whether a project would advance equitable outcomes by providing a greater share of accessibility benefits to people with low incomes. This calculation was performed for each of the Futures, yielding three distinct, different equity scores. Additionally, projects were evaluated for whether or not they directly serve an existing Equity Priority Community.

The equity score calculates the ratio of the monetized accessibility benefit from the project experienced by lower-income persons (defined as people residing in a household with combined income of less than \$100,000 in 2019 dollars) relative to the monetized accessibility benefits experienced by all Bay Area residents. Projects receive one of three equity scores based on the quantitative ratio calculated using regional travel model outputs:

- **Advances Equity:** more than 60% of project benefits accrue to lower-income persons
- **Even Distribution:** between 40% and 60% of project benefits accrue to lower-income persons

- Challenges Equity: Less than 40% of project benefits accrue to lower-income persons

It is important to note that this is not a comprehensive or absolute assessment of a project's equity benefits, and that the quantitative equity score is a regionwide, comparative metric that provides insight into a project's potential equity benefits at the regional rather than the local level. For this reason, the assessment is complemented by MTC's traditional geographic assessment of mapping projects and determining if they provide a point of access to Equity Priority Communities, as noted above. Transit 2050+ ultimately leveraged that assessment as the primary equity lens.

Transit 2050+/Plan Bay Area 2050+: Draft Project Performance Findings (August 2024)

Overall Summary Table

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

Project Type	Project ID	Row ID	Project	Project Source	Lifecycle Cost (2019 \$)	Guiding Principle Flags	Provides Point of Access in EPC?	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
Enhance Transit Frequency, Capacity, and Reliability	2312	1	ACE Service Expansion	SJRRRC	\$0.3B	0	Yes	>10	>10	>10	Challenges	Even	Advances
	2106	2	AC Transit 23rd Street BRT	AC Transit	\$0.2B	0	Yes	>10	4	3	Challenges	Challenges	Advances
	5003	3	I-680 San Jose-Martinez Express Bus Service Expansion	CCTA	\$0.3B	0	Yes	6	2	2	Challenges	Even	Advances
	2011	4	San Mateo Bridge Express Bus Service Expansion, Multimodal Corridor Improvements, and Infras..	MTC/ABAG	\$0.3B	0	Yes	5	2	>10	Challenges	Challenges	Advances
	2210	5	Capitol Corridor South Bay Connect Rail Speed Improvements, Rail Infill Station, and Infrastructu..	CCJPA	\$0.3B	0	Yes	5	3	5	Challenges	Challenges	Advances
	2202	6	Antioch-Brentwood BRT	CCTA	\$0.2B	0	Yes	5	3	3	Advances	Advances	Advances
	2600	7	WETA Ferry Frequency Boosts	WETA	\$0.4B	0	Yes	4	7	6	Challenges	Even	Advances
	2602	8	WETA Berkeley-San Francisco Ferry Service Expansion	WETA	\$0.2B	0	No	4	<0.5	6	Challenges	Even	Advances
	2003	9	SFMTA Muni Forward Five-Minute Network LRT, Rapid Bus, and Local Bus Frequency Boosts	SF	\$1.5B	0	Yes	4	6	5	Challenges	Challenges	Even
	6023	10	ReX Green Line (Vallejo-SFO) Express Bus Service Expansion	MTC/ABAG	\$0.3B	0	Yes	4	<0.5	<0.5	Challenges	Even	Advances
	2010	11	Dumbarton Bridge Express Bus Frequency Boosts, Express Bus Service Expansion, and Transit Pri..	MTC/ABAG + SamTrans	\$0.5B	0	Yes	3	1	4	Challenges	Advances	Advances
	2004	12	Sonoma County Local Bus Frequency Boosts	SCTA	\$0.4B	0	Yes	3	0.5	2	Advances	Even	Advances
	6024	13	ReX Red Line (Oakland-Redwood City) Express Bus Service Expansion	MTC/ABAG	\$0.4B	0	Yes	3	<0.5	2	Challenges	Advances	Advances
	2007	14	SFMTA Southeast San Francisco Local Bus Frequency Boosts, Express Bus Service Expansion, and..	SF	\$0.4B	0	Yes	3	6	6	Even	Even	Even
	2009	15	SamTrans Express Bus Service Expansion	SamTrans	\$0.3B	0	Yes	3	3	4	Challenges	Even	Even
	2400	16	VTA LRT Grade Separations and Modernization - Downtown San Jose	VTA	\$0.6B	0	Yes	3	1	3	Challenges	Challenges	Advances
	2209	17	BART Irvington Infill Station	City of Fremont	\$0.2B	0	No	2	<0.5	8	Even	Even	Even
	2604	18	Golden Gate Transit Ferry and Express Bus Service Expansion and Frequency Boosts	GGBHTD	\$0.6B	0	Yes	2	2	3	Challenges	Even	Advances
	2103	19	SamTrans El Camino Real BRT	SamTrans + CCAG	\$0.5B	0	Yes	2	1	3	Advances	Even	Challenges
	6025	20	ReX Blue Line (San Francisco-San Jose) Express Bus Service Expansion	MTC/ABAG	\$0.5B	0	Yes	2	<0.5	<0.5	Challenges	Advances	Advances
	2000	21	AC Transit Local Bus Frequency Boosts	AC Transit	\$2.2B	0	Yes	1	3	2	Advances	Advances	Even
	2001	22	AC Transit Rapid Bus Frequency Boosts and Multimodal Corridor Improvements	AC Transit	\$1.3B	0	Yes	2	2	0.9	Challenges	Even	Advances
	2201	23	BART Core Capacity Rail Frequency Boosts and Infrastructure Improvements	BART	\$4.6B	0	Yes	1	3	3	Even	Even	Even
	2302	24	Caltrain Frequency Boosts (Enhanced Growth)	Caltrain	\$1.6B	0	Yes	1	9	1	Challenges	Even	Even
	2008	25	AC Transit Alameda Point Rapid Bus Service Expansion and Multimodal Corridor Improvements	ACTC	\$0.3B	0	Yes	1	6	4	Even	Even	Even
	2012	26	VTA Frequency Boosts (Visionary Network)	VTA	\$1.9B	0	Yes	1	3	2	Even	Advances	Advances
	2413	27	Muni Metro Modernization	SF	\$1.3B	0	Yes	0.9	1	<0.5	Challenges	Challenges	Advances
	2100	28	AC Transit San Pablo Avenue BRT	AC Transit	\$0.8B	0	Yes	0.7	2	2	Advances	Advances	Even
	2105	29	AC Transit E 14th Street/Mission Street/Fremont Boulevard Local Bus Frequency Boosts, Rapid B..	ACTC	\$0.6B	0	Yes	0.7	2	1	Advances	Advances	Even
	2603	30	WETA Redwood City-San Francisco-Oakland Ferry Service Expansion	WETA	\$0.4B	0	No	0.6	<0.5	4	Challenges	Challenges	Advances
Expand Transit Services throughout the Region	2308	31	Valley Link Initial Operating Phase	TVSJVRRRA	\$2.0B	0	No	3	2	4	Even	Advances	Advances
	2402	32	San Jose Airport Connector	City of San Jose	\$0.8B	0	Yes	2	0.9	1	Challenges	Even	Advances

NOTES:

1) **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. 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.

2) **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.

3) **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 Initial Operating Segment: 3.6; ACE Service Expansion: 8.5; South Bay Connect: 1.6.

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

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								Rising Tides Falling Fortunes	Clean And Green	Back To The Future	Rising Tides Falling Fortunes	Clean And Green	Back To The Future
Expand Transit Services throughout the Region	2206	33	VTA Stevens Creek LRT Extension	VTA	\$1.4B	0	Yes	1	2	2	Challenges	Even	Advances
	2211	34	SFMTA Central Subway Extension	SF	\$1.2B	0	Yes	1	0.6	<0.5	Even	Even	Advances
	1004	35	Link21 Rail Expansion	BART + CCJPA	\$29.9B	0	Yes	<0.5	<0.5	0.9	Even	Advances	Even
	2306	36	Samtrans Dumbarton Group Rapid Transit Rail Expansion	SamTrans + CCAG	\$2.6B	0	Yes	<0.5	0.5	0.5	Challenges	Challenges	Advances
	2300	37	Caltrain/HSR Portal (Downtown Rail Extension)	TJPA + SFCTA	\$4.8B	0	No	<0.5	0.5	0.6	Challenges	Challenges	Challenges
	2212	38	SF Geary/19th Avenue Subway	SF	\$15.2B	0	Yes	<0.5	<0.5	<0.5	Even	Even	Even
	2304	39	SMART Windsor-Cloverdale Extension	SMART	\$0.5B	0	No	<0.5	<0.5	<0.5	Challenges	Even	Challenges
	2205	40	BART Silicon Valley Phase II Extension	VTA	\$7.0B	0	Yes	<0.5	<0.5	<0.5	Advances	Advances	Even
	2305	41	SMART Solano Extension	SMART	\$1.5B	0	Yes	<0.5	<0.5	<0.5	Even	Challenges	Challenges
Implement Pricing Strategies to Manag..	3001	42	Downtown San Francisco Congestion Pricing	SF	\$0.6B	1	Yes	8	7	>10	Challenges	Challenges	Challenges
	3002	43	Treasure Island Congestion Pricing	SF	\$0.2B	1	Yes	3	4	6	Challenges	Challenges	Challenges
Improve Highways and Interchanges	3113	44	VTA US-101/SR-25 Interchange Improvements	VTA	\$0.5B	1	No	6	4	>10	Challenges	Challenges	Even
	5000	45	MTC Bay Area Forward	MTC/ABAG	\$0.8B	0	No	3	3	4	Challenges	Challenges	Even
	3104	46	STA I-80/I-680/SR-12 Interchange Improvements	STA	\$0.7B	1	No	1	0.8	2	Challenges	Challenges	Advances
	3200	47	SR-37 Freeway Expansion and Express Bus Service	MTC/ABAG/North Bay ..	\$6.5B	2	Yes	1	1	1	Challenges	Challenges	Challenges
	3100	48	CCTA SR-4/SR-239 Interchange Improvements and Freeway Expansion	CCTA	\$1.1B	1	No	0.8	0.5	<0.5	Challenges	Advances	Advances
	3114	49	VTA Countywide Expressway Interchange Improvements, Grade Separations, and Roadway Expan..	VTA	\$1.6B	2	Yes	0.8	0.5	1	Challenges	Challenges	Advances
	3000	50	MTC Regional Express Lane System (Plan Bay Area 2050 Network)	MTC/ABAG	\$6.7B	1	Yes	0.5	0.6	2	Challenges	Challenges	Challenges
	3005	51	MTC Regional Express Lane System (Dual Express Lanes Network)	MTC/ABAG	\$10.3B	1	Yes	<0.5	<0.5	3	Challenges	Challenges	Challenges
	3006	52	MTC Regional Express Lane System (Expanded Network)	MTC/ABAG	\$8.2B	1	Yes	<0.5	0.5	3	Challenges	Challenges	Challenges
	3109	53	Alameda CTC SR-262 Interchange Improvements and Freeway Expansion	ACTC	\$0.4B	2	No	<0.5	1	3	Even	Even	Challenges
	3004	54	MTC Regional Express Lane System (Conversion-Only Network)	MTC/ABAG	\$4.8B	1	Yes	<0.5	0.5	1	Even	Challenges	Even

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