

Metropolitan Transportation Commission Policy Advisory Council

October 9, 2019

Agenda Item 6

Transit Update: Rail Synthesis and Crossings

- Subject:** Highlights of the progress on regional rail over the past decade, including identification of potential next steps to improve the region's transit system and discussion of tradeoffs associated with a new Transbay Crossing.
- Background:** Policy Advisory Council Agenda Item 6, Transit Update: Rail Synthesis and Crossings is attached. This report will be presented to the Regional Advisory Working Group on October 8, 2019. Additionally, staff will seek input on the Transit Update: Rail Synthesis and Crossings at the October 12, 2019 Joint MTC Planning Committee with the ABAG Administrative Committee.
- Staff will be at your October 9 meeting to discuss this report. The Council's input is requested.
- Attachments:** Agenda Item 5b from the October 2019 Joint MTC Planning Committee with the ABAG Administrative Committee

Metropolitan Transportation Commission and the Association of Bay Area Governments Joint MTC Planning Committee with the ABAG Administrative

October 11, 2019

Agenda Item 5b

Transit Update: Rail Synthesis and Crossings

- Subject:** Highlights of the progress on regional rail over the past decade, including identification of potential next steps to improve the region's transit system and discussion of tradeoffs associated with a new Transbay Crossing.
- Background:** Over ten years ago, MTC partnered with the Peninsula Corridor Joint Powers Board (Caltrain), the Bay Area Rapid Transit District (BART), and the California High-Speed Rail Authority (CHSRA) for a two-year planning effort to develop a long-range vision for improving the passenger rail system in the San Francisco Bay Area as well as the wider Northern California megaregion. The Regional Rail Plan for the San Francisco Bay Area (2007 RRP) identified more than 50 capital improvement projects organized by a series of corridors. The 2007 RRP also recognized that success depended on more than the delivery of capital improvements, noting the need for bold policy changes to reform land use, transit governance, and transportation funding.
- The Bay Area has delivered on a number of the 2007 RRP's ready-to-go capital improvement projects, and project development phases continue for a number of other key projects. However, the region has fallen short on many of the policy recommendations, particularly the bold policy changes to reform governance and project delivery.
- Issues:** Current passenger rail trends are creating challenges for the region. Rail services are expensive to operate and maintain – accounting for a significant share of the long-range regional plan – yet at the same time regional ridership peaked in 2016 and continues to become more commute-focused. Trunk lines serving San Francisco (Transbay BART & Caltrain) are over-crowded, and the delivery of major capital projects has been slow.
- Meanwhile, project development and planning studies are underway for a next-generation of regional rail investments, including the Second Transbay Rail Crossing, Caltrain Business Plan, Caltrain Downtown Extension (DTX), Diridon Integrated Station Concept (DISC) Plan, Dumbarton Rail, San Jose Rail Corridor Plan, Southern Alameda County Integrated Rail Analysis, and Valley Link efforts. Only some of these projects are currently included in the region's adopted fiscally constrained long-range plan, Plan Bay Area 2040.
- Strategic choices related to governance and organizational structure are required to successfully deliver the next-generation regional rail investments. As part of their project development activities, several projects identified above— Second Transbay Rail Crossing , Caltrain Business Plan, DTX, DISC, and Valley Link— are engaged in discussions about optimal governance and organizational structures for their respective corridors or systems. Tying together these governance, capital project funding plans, and delivery options will be a key and significant effort throughout the region.

Evolving the Regional Role

Beginning with Resolution No. 1876 (in 1988) and evolving to Resolution No. 3434 (in 2001), MTC has a legacy of regional collaboration to develop transit expansion programs.

MTC is in the midst of developing Plan Bay Area 2050—the Bay Area’s long-range fiscally-constrained plan. It is not feasible to include all of the proposed next generation of regional rail investments using the region’s forecasted revenues, even if new revenues become available. Fiscal constraint necessitates prioritization of investment priorities, which will be informed by MTC’s ongoing Project Performance Assessment. This effort estimates project-level benefits of the region’s most costly and transformative capital projects. MTC is currently evaluating approximately 100 project proposals with costs greater than \$250 million, and a significant share of these projects are regional rail investments. In total, the Project Performance Assessment is conducting evaluations for more than \$340 billion in project capital costs (2019\$). Draft results will be released November 2019 in time for the development of the Plan Bay Area 2050 Blueprint.

MTC must evolve its regional role to ensure customer-focused and fiscally responsible project implementation. **Attachment A** details three core areas where MTC can evolve to support the advancement of passenger rail service in the Bay Area.

1. **Prioritize Investments.** Leverage work from the Project Performance Assessment to understand which projects are most effective and most equitable, given financial constraints. Advance a successor to Resolution 3434.
2. **Promote supportive land use.** Building upon the Horizon land use strategies, consider which strategies can best support future rail projects, while reimagining and revamping the TOD policy in 2020.
3. **Optimize organization and governance.** Develop partnership/organizational options for more efficient and coordinated project delivery of the next generation regional rail investments.

Crossings

Included as part of the Project Performance Assessment framework are seven Transbay Crossing concepts. The idea of a new Transbay Crossing has captured the imagination of Bay Area residents for more than 70 years. Over the last 30 years, there have been three Bay Crossing studies, which were most recently supplemented by the 2017 Core Capacity Transit Study.

As part of the ongoing Horizon initiative, observations on the performance of these seven Transbay Crossing concepts will be profiled in an upcoming Perspective Paper to inform how Plan Bay Area 2050 might incorporate an investment of this magnitude. Highlights from the Crossings Perspective Paper findings are included in **Attachment A**. In the months ahead, BART and Capitol Corridor will embark on another second crossing study by taking an even deeper

dive into the feasibility of a new Transbay Crossing for BART and/or commuter rail.

Recommendation: None

Attachments: Attachment A: PowerPoint Presentation: Regional Rail Planning Update



Therese W. McMillan

Regional Rail Planning Update

**Evolving the Regional Role via
Prioritization, Supportive Land Use, and Governance**

**Joint MTC Planning Committee with
the ABAG Administrative Committee**

October 11, 2019



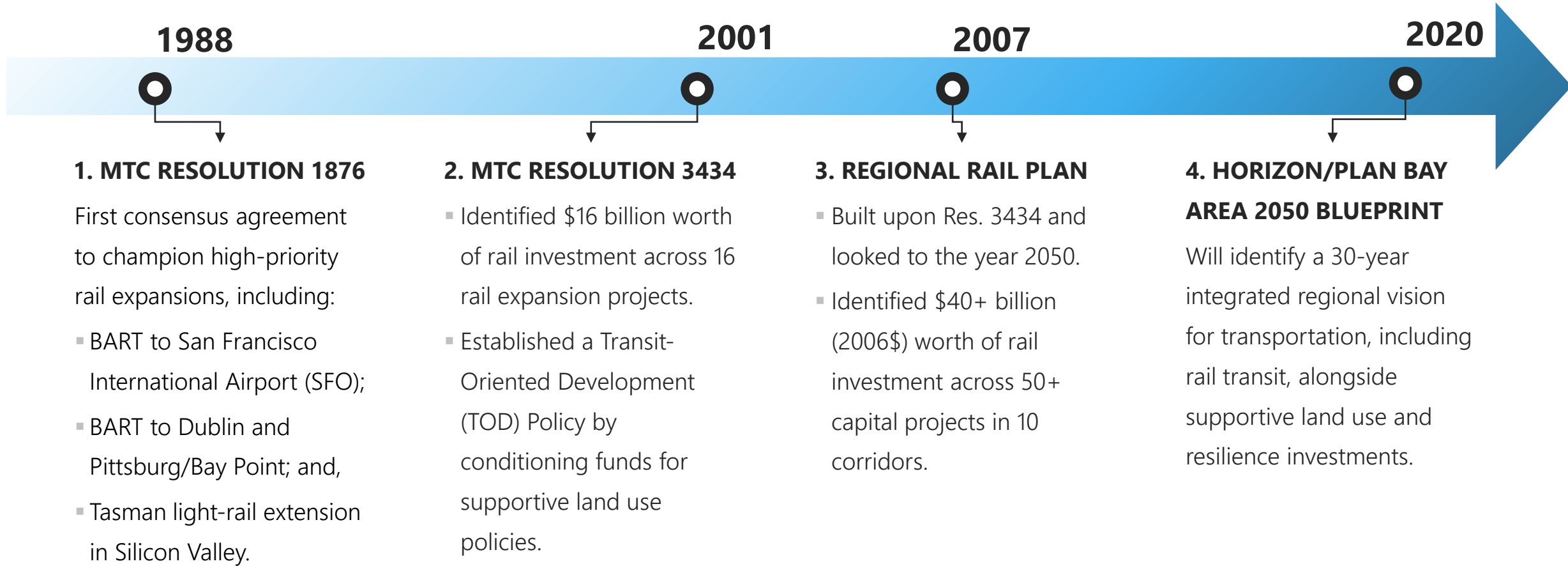
Crowded Field, A lot Going On

- **CALTRAIN BUSINESS PLAN** : Caltrain is preparing a long-term business strategy for the future of its system
- **CALTRAIN DOWNTOWN EXTENSION (DTX)**: SFCTA is conducting a governance and delivery review
- **DIRIDON INTEGRATED STATION CONCEPT (DISC) PLAN**: collaborative planning effort of future hub station and surrounding area
- **DUMBARTON RAIL**: A consortium called “Crossbay Transit Partners,” comprising Facebook and Plenary Group, working with Caltrain staff, is exploring options for a new Dumbarton Rail crossing
- **SECOND TRANSBAY RAIL CROSSING**: BART and Capitol Corridor staff are beginning planning work related to a potential future new Bay rail crossing
- **VALLEY LINK**: The recently-created Tri Valley, San Joaquin Valley Regional Rail Authority (TVSJVRRA) is currently conducting a feasibility study and environmental review process for a for a potential future “Valley Link” rail project



SUMMARY OF ACTIVE
REGIONAL RAIL
IMPROVEMENT PROJECTS

Legacy of Regional Rail Expansion Programs



2007 Regional Rail Plan (“RRP”) Vision



PRIORITIZE

- Ring the Bay With Rail
- The Right Technology Should Be Used With the Right Corridor
- The BART & Caltrain Systems are the Backbone
- The BART System’s Outward Expansion is Nearly Complete
- Rail Infrastructure Must Be Expanded to Accommodate Growth In Passenger and Freight Traffic



LAND USE

- Rail Transit and Focused Transit-Oriented Developments Must Go Hand in Hand



ORGANIZATION & GOVERNANCE

- The Bay Area Needs a Regional Rail Network
- High-Speed Rail Provides Opportunities to Enhance and Accelerate Regional Rail Improvements
- Institute a New Governance Structure for Delivery of Rail Services
- Successor to Resolution 3434 Needed to Advocate for Rail Funding

Rail **Implementation** Recent Highlights

CAPITAL PROJECTS HIGHLIGHTS

- ✓ 1. Addition of a 4th daily round trip on ACE service (2012)
- ✓ 2. Inauguration of the BART Oakland Airport Connector (2014)
- ✓ 3. Inauguration of SMART from Santa Rosa to San Rafael (2017)
- ✓ 4. Opening of BART to Warm Springs/South Fremont (2017)
- ✓ 5. Opening of the Fairfield-Vacaville Capitol Corridor Station (2017)
- ✓ 6. Inauguration of BART to Antioch (2018)
- ✓ 7. Opening of the Salesforce Transit Center (2018)
- ☐ 8. Opening of BART to Berryessa (under testing)
- ☐ 9. Opening of SMART to Larkspur Ferry (under testing)
- ☐ 10. Modernization and Electrification of Caltrain (under construction)



SUMMARY OF COMPLETED
REGIONAL RAIL
IMPROVEMENT PROJECTS

Current **Trends** for the Rail Network

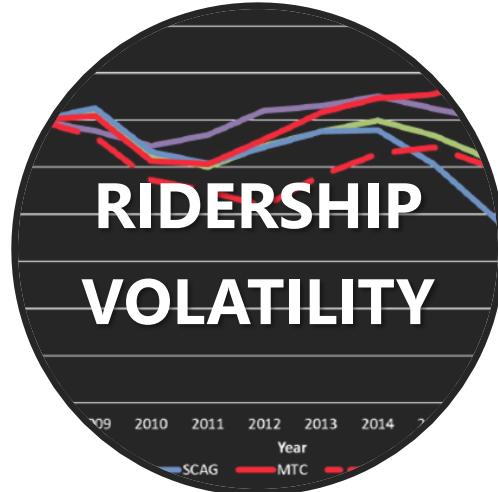


\$108 BILLION

total Plan investment thru 2040

RAIL INVESTMENTS:

26% of Plan (\$78b) to operate & maintain
10% of Plan (\$30b) to modernize & expand



2016

recent peak of ridership

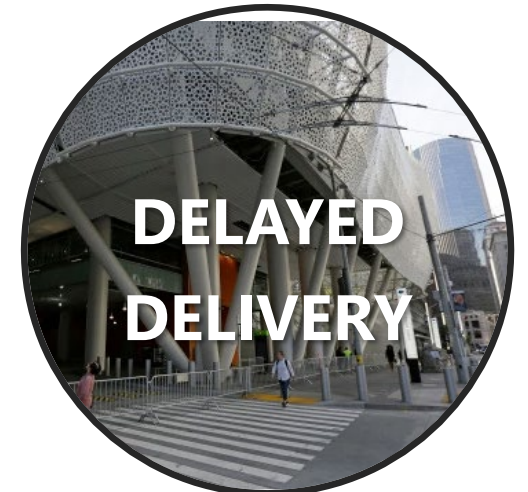
ridership is becoming more
commute-focused,
propped up by BART's
Transbay service and
Caltrain's Baby Bullet



120%

of Transbay capacity in 2018

in the Transbay corridor,
demand on BART exceeds capacity
during peak periods



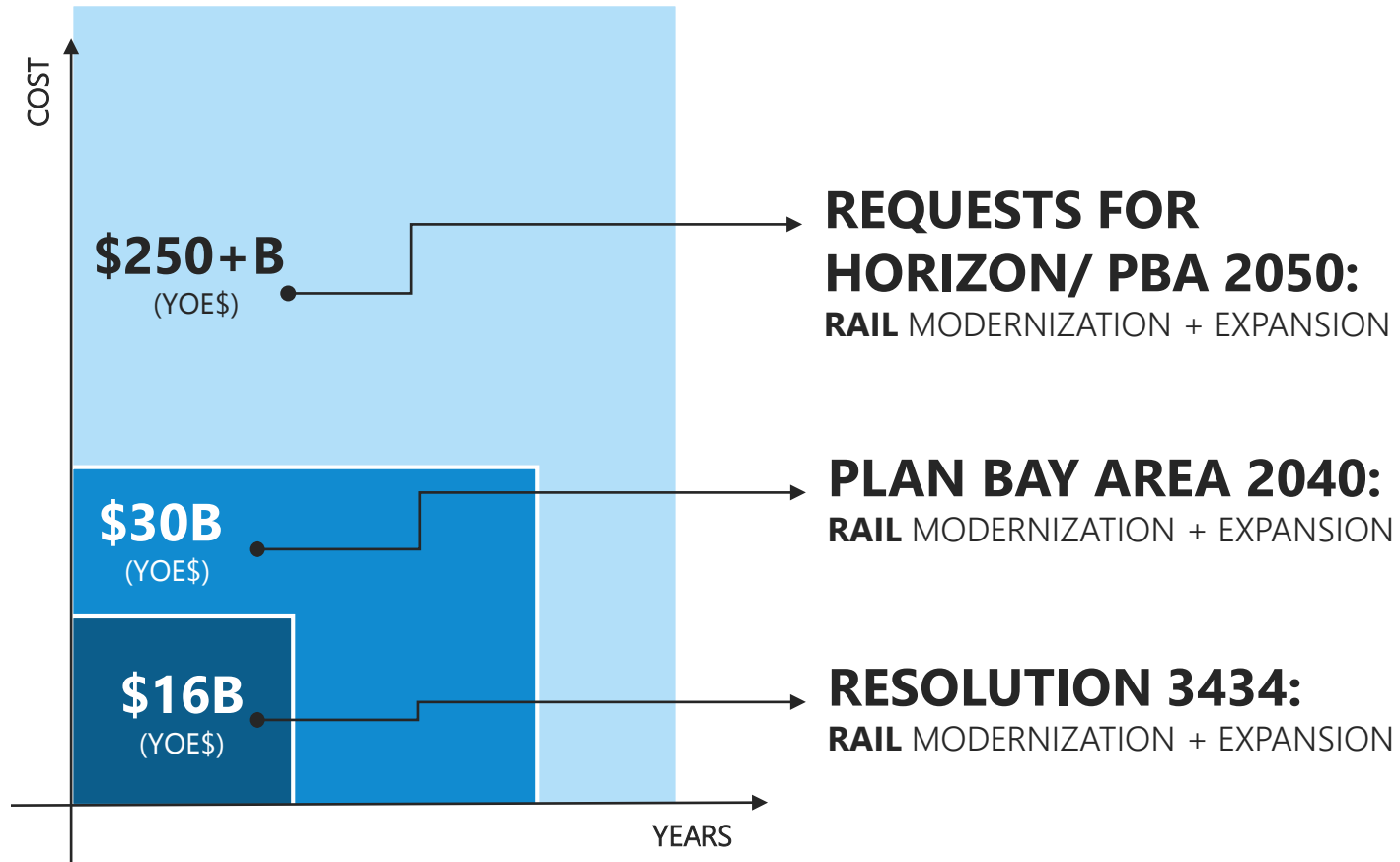
DECADES

to design, fund & build megaprojects

delays occur in all phases:
development, environmental,
design/engineering, right-of-way
acquisition, & construction

Growing Demands to Modernize + Expand

SUMMARY OF **RAIL NETWORK IMPROVEMENT** PROJECTS



Opportunities to Evolve **Regional Role**

Use
Performance to



PRIORITIZE

Promote
Supportive



LAND USE

Optimize



**ORGANIZATION
& GOVERNANCE**



Project Prioritization Framework

- Past **REGIONAL CONSENSUS AGREEMENTS** have championed high-priority rail expansions.
- A **PROJECT PERFORMANCE ASSESSMENT** is used to inform priorities and includes: 1) Benefit-cost ratio; 2) Guiding Principles assessment; and, 3) Equity score.
- The **INVESTMENT STRATEGY** for the regional plan establishes long-term priorities.

$$\text{BENEFITS} = \Sigma$$



ACCESSIBILITY



TRANSIT
CROWDING



ENVIRONMENT



HEALTH



SAFETY



FREEWAY
RELIABILITY



AUTO
OWNERSHIP

SUMMARY OF
SOCIETAL BENEFIT CATEGORIES

Project Prioritization — What's Next



PRIORITIZATION

- MTC is conducting a **PROJECT PERFORMANCE ASSESSMENT** for nearly 100 projects to inform the next long-range regional plan, **PLAN BAY AREA 2050**. Results of the assessment are anticipated to be shared beginning in **NOVEMBER 2019**.
- In **WINTER 2019/2020**, MTC will develop the draft Plan Bay Area 2050 Blueprint—resulting in a 30-year fiscally-constrained transportation investment strategy of projects and programs.
- In **SPRING 2020**, PBA 2050 will set a framework for a successor to Resolution 3434.



Supportive Land Use

GROWTH FRAMEWORK (PLAN BAY AREA):

- Consists of self-nominated Priority Development Areas (PDAs) & Priority Conservation Areas (PCAs)
- PDAs** = Frequent Transit & Planned for Housing
- PDAs account for <5% of the region's land area but take on more than 80%+ of the region's projected long-term growth

TOD POLICY (RESOLUTION # 3434):

- Conditions regional funding for transit expansion projects on having enough people living near the proposed new stations to support ridership.
- Sets minimums for the # of existing and/or permitted housing units within ½ mile of each station along the expansion corridor based on the project type.
- This policy currently only applies to BART, Light Rail, Bus Rapid Transit, Commuter Rail, and Ferry expansion projects.

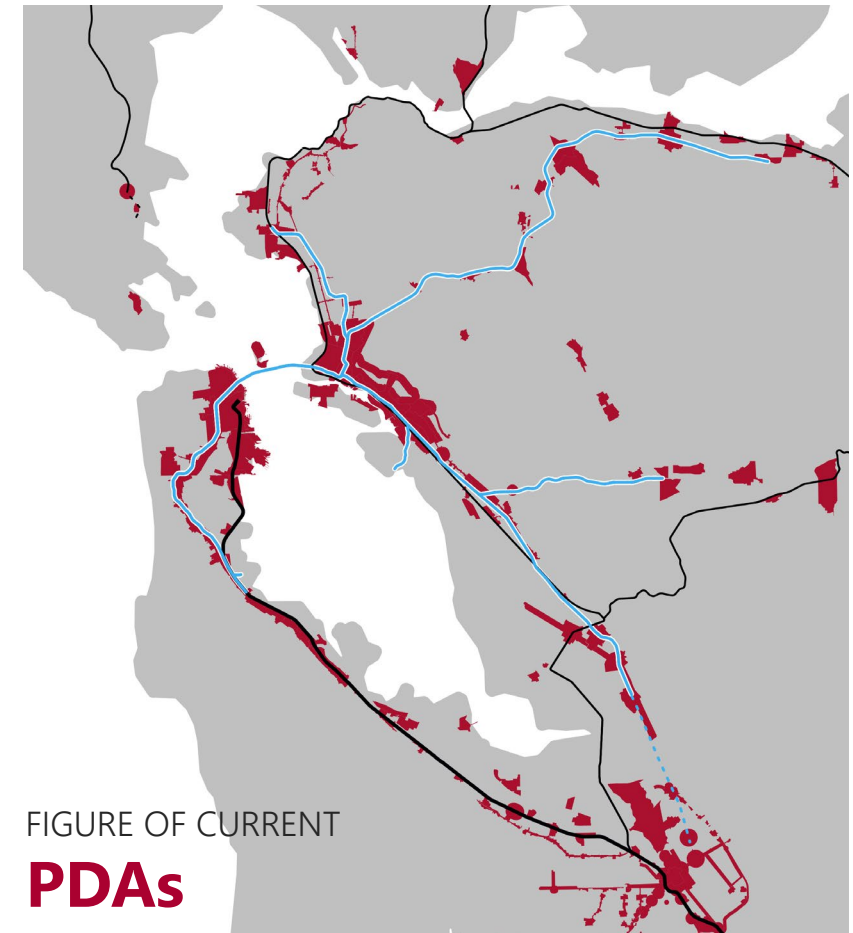


FIGURE OF CURRENT
PDAs

Supportive Land Use — What's Next



LAND USE

- In **OCTOBER 2019**, staff will share findings from Horizon's Futures Planning Round 2—which is testing strategies for consideration into Plan Bay Area 2050, including intensifying development near transit and in high-resource areas.
- In **NOVEMBER 2019**, staff will begin sharing the letters of intent for the regional growth framework of PDAs, PCAs and PPAs.
- In **WINTER 2019/2020**, MTC will develop the draft Plan Bay Area 2050 Blueprint to accommodate the region's forecasted 30-year growth.
- In **2020**, reimagine and revamp TOD policy in light of recent housing legislation, growth framework, and insights of RHNA process.



Optimize Organization & Governance

ORGANIZATION:

- More than **two dozen** agencies provide transit service in the Bay Area.
- **Five** rail services are operating within the region and **one** is under planning*,
 - COMMUTER RAIL: BART + Caltrain + SMART + Dumbarton Rail*
 - LIGHT RAIL: Muni + VTA
- Another **Five** rail services are operating within the mega-region and **two** are under planning*,
 - INTERCITY RAIL: ACE + Capitol Corridor + San Joaquins + High Speed Rail* + Valley Link*
 - INTERSTATE RAIL: California Zephyr + Coast Starlight

COORDINATION:

- Challenges integrating service, schedules, and fares.
- Challenges delivering projects in major corridors.

- Service Planning
- Fares & Information Systems
- Stations
- Major Capital Projects
- Infrastructure Maintenance
- Train Operations
- Access & Egress
- Commercial Activities
- General Admin. Services

SUMMARY OF CORE RAILWAY FUNCTIONS

Organization & Governance — What's Next



ORGANIZATION & GOVERNANCE

- In **2019/2020**, Project development and Organization/Governance activities are underway for the following projects/corridors
 - CALTRAIN CORRIDOR
 - DIRIDON STATION
 - DOWNTOWN EXTENSION
 - TRANSBAY CROSSING
 - VALLEY LINK
- In **JANUARY 2020**, staff will convene a Commission workshop to discuss partnership/organizational challenges related to efficient and coordinated project delivery of the next generation regional rail investments.

Summary of Upcoming Activities



PRIORITIZATION

- **NOVEMBER 2019:** staff will release and discuss the Project Performance Assessment results for nearly 100 projects.
- **WINTER 2019/2020:** MTC will develop the Blueprint for Plan Bay Area 2050, including a Transportation Element with a fiscally-constrained list of transportation projects.



LAND USE

- **NOVEMBER 2019:** staff will begin share information on the letters of intent submitted for new PDAs, PCAs and Priority Production Areas (PPAs).
- **WINTER 2020:** ABAG/MTC will develop the Blueprint for Plan Bay Area 2050, including the Housing and Economy Elements to accommodate the region's forecasted 30-year growth.
- **2020:** review and revamp TOD Policy.










ORGANIZATION & GOVERNANCE

- **JANUARY 2020:** staff will convene a Commission workshop to explore more efficient and coordinated project delivery.

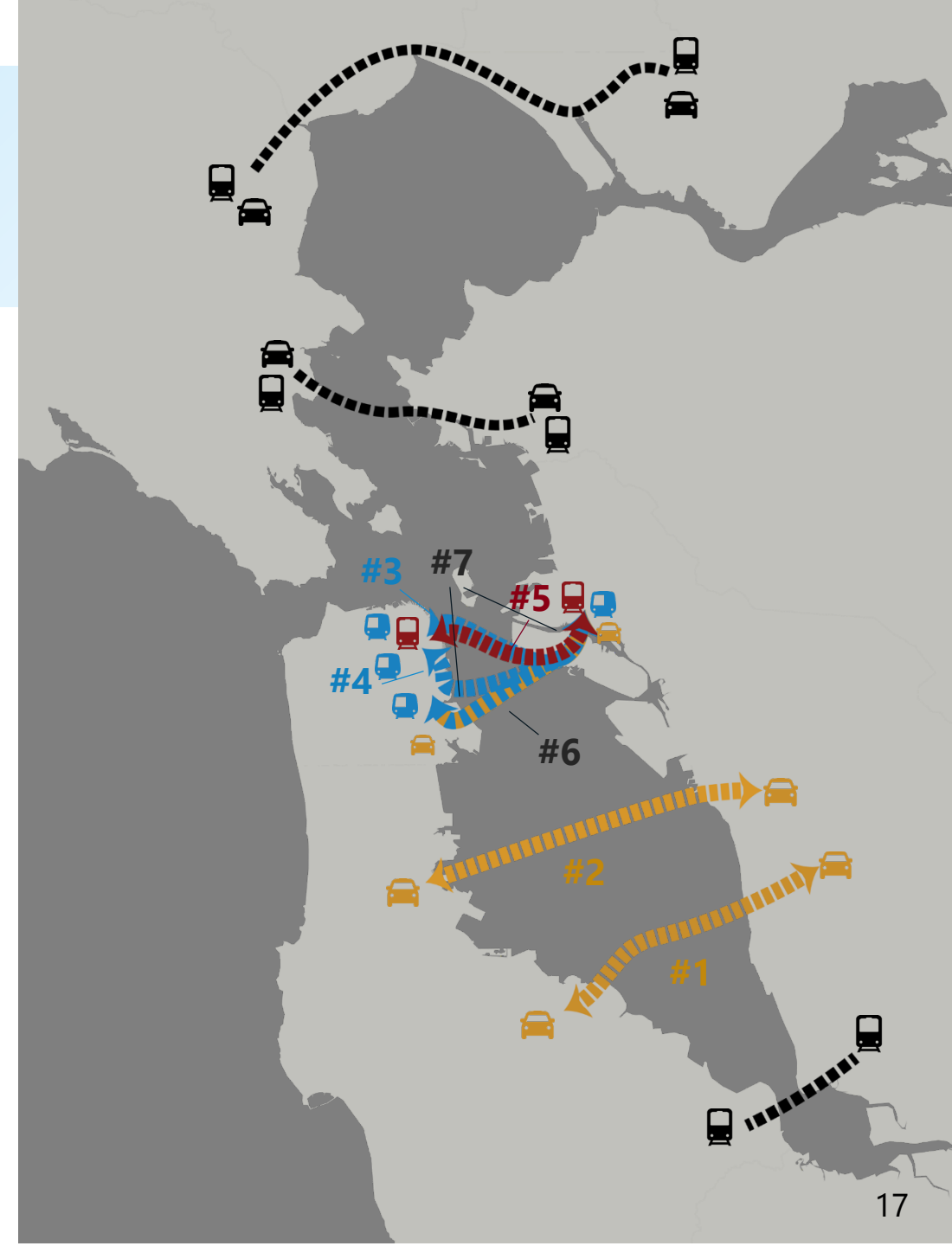
CASE STUDY → Perspective Paper #5: CROSSINGS

- An analysis of conceptual Transbay Crossing—"CROSSINGS"—is an initial effort of assessing transformative projects through the lens of uncertainty to inform Plan Bay Area 2050.
- To begin the Crossings assessment, MTC engaged partner agencies to develop multi-modal Crossing concepts that:
 - Built upon previous efforts, including the CORE CAPACITY TRANSIT STUDY (2017); and,
 - Considered Transformative Project ideas submitted via Horizon's open request.

Crossings Concepts Map

- 2x  auto only concepts
- 2x  BART only concepts
- 1x  conventional rail only concept
- 1x  +  combined auto + BART concept
- 1x  +  combined BART + rail concept

Other crossings (Dumbarton Rail Corridor, Richmond-San Rafael Bridge, SR-37) as well as ferry and Transbay bus service improvements will be assessed **as part of Plan Bay Area 2050 using the same methodology.**



Crossings Key Questions

Q1: Do Crossings accommodate Transbay demand?

Q2: Are Crossings resilient to uncertain future conditions?






Q3: Do Crossings align with the Horizon/Plan Bay Area 2050 Guiding Principles?

Q4: Do Crossings improve accessibility for low-income populations?

Q5: Do Crossing benefits outweigh their costs?

Crossings Guiding Principles Assessment

Alignment with the five Guiding Principles using specific project-focused criteria

MODE	CROSSING	AFFORDABLE	CONNECTED	DIVERSE	HEALTHY	VIBRANT
	Concept #1	-	-	-	X	
	Concept #2	-	-	-	X	X
	Concept #3	-	-	-	-	-
	Concept #4	-	-	-	-	-
	Concept #5	-	-	-	-	-
	Concept #6	-	-	X	-	-
	Concept #7	-	-	-	-	-

X Does Not Support Principle






FINDINGS:

1. Transit-only crossing concepts align with all of the Horizon/Plan Bay Area 2050 Guiding Principles.

2. Auto crossing concepts do not align with all of the Guiding Principles since they increase overall regional emissions and/or create barriers through existing communities.

Crossings Equity Scores

Measuring distributive impacts of accessibility benefits across income groups

MODE	CROSSING	RISING TIDES, FALLING FORTUNES	CLEAN AND GREEN	BACK TO THE FUTURE
	Concept #1	Impedes	Impedes	Even
	Concept #2	Even	Impedes	Even
	Concept #3	Even	Even	Even
	Concept #4	Even	Even	Even
	Concept #5	Even	Even	Even
	Concept #6	Even	Even	Even
	Concept #7	Even	Even	Even





Equity Score: **Impedes** equity: <40% | **Even** distribution: 40-60% | **Advances** equity: >60%

FINDINGS:

1. While no concept advances equity, most concepts provide benefits evenly to all population groups.
2. Companion policies would need to be considered to advance equity.

Crossings Benefit-Cost Ratios

Compares societal benefits against anticipated project costs

MODE	CROSSING	RISING TIDES, FALLING FORTUNES	CLEAN AND GREEN	BACK TO THE FUTURE
	Concept #1	● ○ ○ ○	● ○ ○ ○	● ○ ○ ○
	Concept #2	● ○ ○ ○	● ○ ○ ○	● ● ● ○
	Concept #3	● ● ○ ○	● ● ● ○	● ● ● ○
	Concept #4	● ● ○ ○	● ● ● ○	● ● ● ○
	Concept #5	● ● ○ ○	● ● ● ○	● ● ● ●
	Concept #6	● ● ○ ○	● ● ● ○	● ● ● ○
	Concept #7	● ● ○ ○	● ● ● ○	● ● ● ○

Notes:

- Benefit-Cost ratios over the time period: 2025-2080
- Discount rate: 3%, Time to Implement: 10 years
- Costs include a residual value of investment at 2080

Color Range: < 0.5 | 0.5 – 0.9 | 1.0 – 1.9 | > 1.9

FINDINGS:

1. Crossings benefits do not substantiate costs in a low-growth future.
2. Auto only crossing concepts perform poorly relative to transit crossing concepts.
3. Concept 5 has a slightly higher B/C ratio than Concepts 3 & 4, tied to high housing and job growth development forecasted in the corridor.

Crossing Conclusions



PRIORITIZATION

A. TRANSIT CROSSING CONCEPTS SHOULD BE ADVANCED FOR FURTHER ANALYSIS.

Opportunities to improve B/C ratios should be studied, e.g. land use and economic impacts. Auto-only Crossing concepts should not be advanced.

B. NEITHER BART NOR CONVENTIONAL RAIL SIGNIFICANTLY OUTPERFORMED THE OTHER.

This decision will require more detailed analysis of modal tradeoffs.



LAND USE

C. ALL FUTURE CROSSINGS ANALYSES MUST ASSESS DEVELOPMENT AND RIDERSHIP POTENTIAL.

More thorough analysis of development feasibility in station areas is needed in future Bay Crossings analyses.



ORGANIZATION & GOVERNANCE

D. THE REGION NEEDS TO WORK TOWARDS A NEW CROSSING BY DELIVERING SIGNIFICANT FOUNDATIONAL INFRASTRUCTURE IN PHASES.

There are planned and proposed transit investments that are vital to a Bay Crossing's success.

“If the Bay Area is to be preserved as a fine place to live and work, a regional rapid transit system is essential... A satisfactory solution to the Bay Area’s traffic problem cannot be reached by building freeways alone. The solution can be reached only through a system of mass rapid transit developed on the premise of moving people-not automobiles.”

—1957 RAIL PLAN FOR THE BAY AREA

