

Agenda Item 2



METROPOLITAN
TRANSPORTATION
COMMISSION

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Memorandum

TO: Bay Area Partnership Board

DATE: January 25, 2016

Partnership Technical Advisory Committee

FR: Anne Richman, Director, Programming and Allocations

RE: Region's Cap and Trade Framework

MTC staff seeks additional input from the Partnership Board on proposed revisions to the region's Cap and Trade Framework. The proposed revisions will be presented again to the Programming and Allocations Committee (PAC) on February 10, 2016, mostly but not entirely as an information item.

Due to the accelerated Caltrans deadlines for Cap and Trade Transit Operating Program (LCTOP) FY2015-16 applications, after consultation with transit operators, staff is recommending a February 2016 Commission adoption of an interim FY2015-16 LCTOP distribution.

The remaining elements of the Cap and Trade framework would be for information only in February; after further stakeholder discussion, staff intends to recommend approval of a revised Cap & Trade framework to the Commission in April 2016. A presentation summarizing the Cap and Trade programs and proposed framework revisions is attached.

We welcome your input.

Cap & Trade Framework



M T

January 2016
PTAC

Statewide Cap and Trade Programs: FY2015-16 and Beyond

Statewide Revenue Framework		FY2015-16 and Beyond Annual Funding (\$ millions)	State Agency
Total Generations	%	\$2,500	
Transit & Intercity Rail Capital Program	10%	\$250	CalSTA
Low Carbon Transit Operations Program	5%	\$125	Caltrans, CARB
Affordable Housing and Sustainable Communities Program	20%	\$500	SGC/HCD
Uncommitted Funding	40%	\$1,000	Unknown
High Speed Rail	25%	\$625	HSRA

- Assumes \$2.5 billion in statewide annual funding for FY2015-16 and beyond; actual revenues will be determined based on auctions. Programs and shares are based on current statute.



Revising the Region's Cap and Trade Framework

- **Staff proposes revising the framework based on:**
 - Higher revenue projections
 - Lessons learned from Round 1 awards
 - Additional program guidance

- **Proposed Schedule:**
 - Approve interim Low Carbon Transit Operations Program distribution at February PAC and Commission meetings
 - February/March - Input from partner agencies and interested stakeholders; monitor funding developments
 - April – PAC consideration of staff recommended LCTOP, TIRCP, AHSC framework updates, and project endorsements for TIRCP and AHSC funding applications

Regional Framework

- Plan Bay Area included \$3.1 billion in Cap & Trade Revenues over 25 year period
- Framework adopted in December 2013
- Proposed update to framework in April 2016

MTC Framework Category	MTC Framework Adopted Amount (28 years)	MTC Framework Proposed Amount (25 years)	Proposed Bay Area Share of Statewide Program
Core Capacity*	\$875	TBD	33% of TIRCP
Transit Operating	\$500	\$1,136	37% of LCTOP (54% of Rev and 19% of Pop-based)
OBAG	\$1,050	\$3,750	30% of AHSC
Climate Initiatives	\$275	TBD	TBD of 40% Uncommitted
Goods Movement	\$450	TBD	TBD of 40% Uncommitted
High Speed Rail	-	TBD	TBD of High Speed Rail
Total	\$3,150	TBD	

*24-years due to FY2015-16 advanced programming

Low Carbon Transit Operating Program

- **Current MTC approved framework is \$500 million**
- **Updated revenue estimate based on adopted state program:**

Estimated LCTOP Revenue-based funds:	\$ 835 million
Estimated LCTOP Population-based funds:	\$ 302 million
Total Estimated LCTOP Funding:	\$1,136 million

- **MTC Proposal:**
 - \$835 million revenue-based distributions to operators (formula)
 - \$302 million population-based fund distribution

Low Carbon Transit Operating Program

\$302 million population-based fund distribution options:

➤ Option 1: Maintain existing framework

- \$89 million to existing framework
- \$100 million to Invest in key transit corridors (i.e. TPI)
- \$113 million to seamless transit/regional coordination programs

➤ Option 2: Reinforce transit operating funds

- \$102 million to North Counties/ Small Operators
- \$100 million to Invest in key transit corridors (i.e. TPI)
- \$100 million to seamless transit/regional coordination programs

➤ Invest approx. **1/3** of funding to transit operators via formula, and approx. **2/3** of funding in customer focused transit improvements.

- Projects should be consistent with Transit Sustainability Project and local coordination efforts

➤ *Staff recommends Option 2 after FY2015-16*



Low Carbon Transit Operating Program

2015-16 Distribution of Population-Based Funds:

- Interim distribution needed to avoid losing region's 2015-16 funds (\$7.3 million)
- Proposal: combine elements of the two long-term distribution options
 - Maximizes distribution to each operator from the two long-term options (\$3.7 million)
 - VTA and SamTrans receive amounts from Option 1
 - North Counties/ Small Operators receive amounts from Option 2
 - Balance goes to Clipper (\$3.6 million)
- Due to February 1st Caltrans deadline, provisional applications submitted based on proposed interim distribution
- Board approvals including MTC requested in February



LCTOP Proposed Interim Fund Distribution (FY2015-16)

	Revenue-based Funding	Proposed Population-based Funding	Total Funding (Revenue-based and Pop.-based)
Operator / Entity / Program	\$ 20,890,977	\$ 7,275,276	\$ 28,166,253
ACTC - Corresponding to ACE	\$ 52,342	\$ -	\$ 52,342
Caltrain	\$ 1,089,039	\$ -	\$ 1,089,039
CCCTA	\$ 123,087	\$ 492,491	\$ 615,578
ECCTA	\$ 57,005	\$ 297,455	\$ 354,460
LAVTA	\$ 49,753	\$ 203,612	\$ 253,365
NCPTA	\$ 12,433	\$ 140,397	\$ 152,830
SamTrans	\$ 669,751	\$ 279,772	\$ 949,523
City of Union City	\$ 8,417	\$ 71,301	\$ 79,718
VTA	\$ 2,576,819	\$ 985,763	\$ 3,562,582
VTA - Corresponding to ACE	\$ 56,032	\$ -	\$ 56,032
WCCTA	\$ 64,506	\$ 65,666	\$ 130,172
WETA	\$ 264,976	\$ -	\$ 264,976
<i>Marin County</i>			
GGBHTD	\$ 964,017	\$ -	\$ 964,017
Marin Transit	\$ 179,550	\$ -	\$ 179,550
Marin County Operators (TBD)	\$ -	\$ 259,722	\$ 259,722
<i>Solano County</i>			
City of Dixon	\$ 955	\$ -	\$ 955
City of Fairfield	\$ 24,054	\$ -	\$ 24,054
City of Rio Vista	\$ 220	\$ -	\$ 220
City of Vacaville	\$ -	\$ -	\$ -
Solano County Transit	\$ 56,158	\$ -	\$ 56,158
Solano County Operators (TBD)	\$ -	\$ 422,905	\$ 422,905
<i>Sonoma County</i>			
City of Healdsburg	\$ 101	\$ -	\$ 101
City of Petaluma	\$ 2,792	\$ -	\$ 2,792
City of Santa Rosa	\$ 27,337	\$ -	\$ 27,337
Sonoma County Transit	\$ 29,599	\$ -	\$ 29,599
Sonoma County Operators (TBD)	\$ -	\$ 496,902	\$ 496,902
SUBTOTAL	\$ 6,308,943	\$ 3,715,986	\$ 10,024,929
AC Transit	\$ 1,948,597	\$ -	\$ 1,948,597
BART	\$ 4,476,845	\$ -	\$ 4,476,845
SFMTA	\$ 8,156,592	\$ -	\$ 8,156,592
SUBTOTAL	\$ 14,582,034	\$ -	\$ 14,582,034
MTC Regional Coordination Program -- Clipper	\$ -	\$ 3,559,290	\$ 3,559,290



Transit and Intercity Rail Capital

- MTC framework amount is poised for increase, but program funding level is under discussion:
 - Fall 2015 framework proposal had revenue of \$2 billion based on growing Cap and Trade revenues
 - Two new state proposals would add significant funding:
 - Governor's FY2016-17 budget would add \$800 million to current funding cycle (FY2016-17 and FY2017-18)
 - Assembly Bill 1591 (Frazier) would double TIRCP share to 20% of Cap and Trade revenues
- Near and long term funding uncertainty
 - Spring 2016 round of funding could range from \$440 million to \$1.2 billion
 - 24-year revenues to region could increase to ~\$4 billion

Transit and Intercity Rail Capital

TIRCP Projects (in \$million, 24 years)	Adopted (MTC Res. 4030)	Proposed Oct. 2015
BART: Train Control	\$126	\$250
SFMTA: Fleet Enhance & Expand	\$400	\$481
SFMTA: Facilities	\$ 67	\$ 67
AC Transit: Fleet Expansion	\$ 45	\$ 90
AC Transit: Facilities	\$162	\$162
VTA: BART to San Jose	\$ 75	\$750
Subtotal	\$875	\$1,800
Potential other projects		\$ 200
Projected Revenue*		\$2,000
* Could increase to \$4 billion		

Transit and Intercity Rail Capital

- Considerations for discussion
 - Should region revise framework, assuming a higher target based on a draft state budget and/or pending legislation?
 - Should region endorse all projects requesting \$5 million or less, to provide opportunities for smaller, near-term projects to compete?
 - How can we prepare for the upcoming 5-year TIRCP program adoption starting with FY2018-19?

Affordable Housing and Sustainable Communities Program

- Tied to One Bay Area Grant Program in current MTC framework
- Bay Area could receive estimated \$3.7 billion from AHSC over 25 years, statewide discretionary program
- Current cycle Call for projects scheduled for release in January or February
- MTC Proposal:
 - Continue to advocate for Bay Area projects and provide assistance to potential Bay Area applicants
 - Focus on affordable housing and Transit-Oriented Development-related transportation projects
 - Update MTC principles used for FY14-15 program to reflect program changes and additional funding



Climate Initiatives and Goods Movement

- **Current MTC framework includes these categories as placeholders, however, no corresponding state programs were enacted.**
- **40% of state Cap and Trade funding remains “uncommitted”**
- **Proposal:**
 - Continue to advocate for funding for specific projects or programs as opportunities arise
 - Potential guides will be Climate Pilot Program, Goods Movement Plan, and Freight Emission Reduction Plan
 - Frazier bill (AB 1591) would appropriate 20% of Cap and Trade to new program for major freight corridors



High Speed Rail

- **25% of state Cap and Trade funding for High Speed Rail**
- **High Speed Rail Authority is part of the 9-party agreement to fund the Caltrain Electrification Program through High Speed Rail bonds (Prop 1A)**
- **Proposal:**
 - Continue coordination with High Speed Rail Authority on Bay Area segment and interoperability with existing services
 - Continue to advocate for funding for specific projects or programs as opportunities arise

Next Steps

Proposed Schedule:

- Approve interim Low Carbon Transit Operations Program distribution in February
- February/March - Input from partner agencies and interested stakeholders; monitor funding developments
- April Commission consideration of LCTOP, TIRCP, AHSC framework updates, and endorsements for current TIRCP and AHSC funding rounds

Agenda Item 3



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Memorandum

TO: Bay Area Partnership Board

DATE: January 25, 2016

FR: Anne Richman, Director, Programming and Allocations

RE: One Bay Area Grant Program 2 (OBAG 2) Update

On November 18, 2015 the Commission adopted MTC Resolution No. 4202, the project selection criteria and programming policy for the second round of the One Bay Area Grant Program (OBAG 2) covering Fiscal Years 2017-18 through 2021-22. The adopted resolution can be viewed on the OBAG 2 website at: <http://www.mtc.ca.gov/our-work/fund-invest/federal-funding/obag-2>. An overview of recent developments related to the program is provided below.

1. Increased Revenue Estimates

On December 4, 2015, after the November adoption of OBAG 2, a new five-year surface transportation authorization was signed into law. Fixing America's Surface Transportation Act (FAST) establishes federal policies and funding levels for Fiscal Years 2015-16 through 2019-20. Overall, FAST maintains the core highway and transit funding programs and policies established by its predecessor, Moving Ahead for Progress in the 21st Century (MAP-21). However, the act does increase funding levels for several programs, including the two that support the OBAG 2. Preliminary estimates indicate that the Bay Area's share of these funds – the Surface Transportation Program (renamed the Surface Transportation Block Grant Program, or STBGP, under FAST) and the Congestion Mitigation and Air Quality Improvement Program (CMAQ) – will increase by approximately \$72 million through the end of OBAG 2 (see Table 1).

Table 1. OBAG 2 Revenue Estimates

\$ in millions

	FY2015-16 through FY2016-17	FY2017-18 through FY2021-22*
Original Estimates (MAP-21)	\$300	\$790
Revised Estimates (FAST)*	\$307	\$855
Difference	\$7	\$65
Total Increased Revenues	\$72	

* Assumes a 2 year extension of FAST for FY2020-21 and FY2021-22, with 2% annual escalation over FY2019-20 funding levels.

Preliminary Options

Staff is currently developing options for the use of these additional revenues to present to the Commission for consideration. In developing a set of proposals for the Commission to consider, staff is relying on the principles adopted in the OBAG 2 framework, while also balancing other regional objectives such as affordable housing and combatting climate change. Initial concepts being considered include:

- Distributing the additional revenues according to the adopted OBAG 2 framework, with 45% being directed to the county programs (\$32 million) and the remaining 55% directed to various regional programs (\$40 million).
- For the additional revenues to the regional programs, consider restoring funding for existing programs to OBAG 1 levels, augmenting certain programs related to housing affordability and climate change needs, or a combination of these options.

Staff welcomes feedback on these preliminary concepts.

As context, the program amounts for OBAG 1 and OBAG 2 are summarized in Table 2, below.

Table 2. OBAG 1 and 2 Program Amounts

\$ in millions

Program	OBAG 1	OBAG 2
Regional Planning Activities	\$8	\$10
Pavement Management Program	\$9	\$9
Priority Development Area (PDA) Planning and Implementation	\$20	\$20
Climate Initiatives Program	\$22	\$22
Priority Conservation Area (PCA)	\$10	\$16
Regional Operations Programs	\$184	\$170
Transit Priorities Program	\$201	\$189
Regional Programs	\$454	\$436
County Programs	\$372	\$354
County Programs	\$372	\$354
Total	\$827	\$790

2. Potential Anti-Displacement and Affordable Housing Approaches

Prior to adopting the OBAG 2 program, the Commission asked staff to develop potential anti-displacement and affordable housing policies for consideration. The Commission also requested that staff investigate the possibility of a housing preservation fund that could potentially be used to keep affordable units affordable, similar to the Transit-Oriented Affordable Housing (TOAH) fund. Staff has been exploring a variety of approaches to present to the Commission for consideration. The range of approaches includes an incentives approach to reward jurisdictions that address the issues of affordable housing and displacement, a regulatory approach in which jurisdictions must adopt housing policies or develop plans to address housing stability and affordability, and an investments approach to directly invest in the production and preservation of affordable housing.

MTC and the Association of Bay Area Governments (ABAG) will also convene a regional forum with local jurisdictions, residents, business organizations, and other stakeholders to further consider the role of regional agencies in addressing displacement and affordable housing. Although the forum will not focus specifically on OBAG, the discussion will inform staff's recommendation for any potential policies to incorporate into OBAG 2. ***The forum will be held on February 20, 2016 at 9:00 a.m. to 1:30 p.m. (tentative) at Oakland Marriott City Center.*** A flyer for the forum will be available at the meeting. We encourage your attendance at this event.

3. Proposed Timeline

2016
January - February
Outreach <ul style="list-style-type: none"> • Information and discussion - FAST revenues, anti-displacement/affordable housing <ul style="list-style-type: none"> ○ Bay Area Partnership Board, advisory and working groups ○ <i>Programming and Allocations Committee (PAC)</i> • February 20: MTC/ABAG Workshop on Affordable Housing and Displacement • Develop proposal based on discussions
March
Develop Draft Proposal/Options <ul style="list-style-type: none"> • Further discussion of FAST revenues, anti-displacement/affordable housing <ul style="list-style-type: none"> ○ Bay Area Partnership advisory and working groups ○ Regional Advisory Working Group (RAWG) • Refine proposal based on feedback
April
Present Draft Proposal/Options <ul style="list-style-type: none"> • Present draft proposal/options for OBAG 2 program revision for deliberation <ul style="list-style-type: none"> ○ <i>PAC, Commission</i> ○ Policy Advisory Council ○ Partnership advisory and working groups
May
Adopt OBAG 2 Revisions <ul style="list-style-type: none"> • Finalize proposed OBAG 2 program revisions <ul style="list-style-type: none"> ○ Policy Advisory Council ○ Partnership advisory and working groups • Present OBAG 2 program revisions for adoption <ul style="list-style-type: none"> ○ <i>PAC, Commission</i>

Given that the additional FAST revenues and policy discussions related to anti-displacement and affordable housing will affect the county call for projects, staff proposes to delay the schedule for project submittal. A draft revised schedule will be available at the meeting.



TO: Regional Advisory Working Group
FR: Miriam Chion, ABAG and Ken Kirkey, MTC
RE: Plan Bay Area 2040 Draft Scenario Strategies

DATE: January 19, 2016

ABAG and MTC are working to develop three land use and transportation scenarios to inform discussions about the strategic update of *Plan Bay Area*, Plan Bay Area 2040 (PBA 2040). Scenarios show different options for how the Bay Area can grow and change over time in ways that help us meet our goals for a more prosperous, sustainable, and equitable region. The scenarios will in turn be scored on the 13 performance targets adopted by the two agencies' boards in fall 2015. The purpose of this item is to update the RAWG on recent progress and provide more detail on some of the potential land use and transportation strategies to be incorporated into the scenarios.

Background

Beginning in October, ABAG and MTC held scenario workshops to present the scenario development approach and discuss three draft scenario concepts. The purpose of the workshops was to receive feedback on the initial concepts, as well as specific strategies for how to maximize their effectiveness. The feedback was summarized (**Attachment 1**) and presented alongside the scenario approach and initial concepts at the November joint meeting of ABAG's Administrative Committee and MTC's Planning Committee.

Based on the feedback to date, staff has worked to adjust some aspects of the initial scenario concept narratives. Furthermore, staff has provided more detail on some of the specific land use policy and transportation investment strategies that underpin each scenario's growth pattern. See **Attachment 2** for this detail. Broadly speaking, the more significant changes to the scenarios can be summarized as follows:

- Automation and connected vehicles – all the scenarios will assume a level of automation, connected vehicles and other technologies commensurate with the Bay Area's history of early adoption and leadership in the development of new technologies during the plan horizon. Previously, these strategies were only assumed to emerge in Scenario 1.
- Regional equity emphasis – Recognition of high-opportunity areas, access to jobs and other funding strategies.
- Greenfield development – Scenario 2 removes a reference to “small amount of greenfield growth,” and focuses on infill development.
- Transit Priority Areas (TPAs) – Recognition of TPAs along with PDAs.

Scenario Development

Attachment 2 provides the narrative of each scenario presented at the scenario workshops as well as a preliminary snapshot of each scenario's potential land use and transportation investment strategies. The transportation investment strategies represent an illustrative list and reflect only a subset of the major projects submitted through the MTC Call for Projects process. For each scenario, staff is working to include a more extensive set of transportation and land use strategies, policies and investments. Staff will present more detailed scenario descriptions, as well as evaluations of each scenario against the adopted regional goals and targets, in spring 2016.

Land Use

The land use strategies described in **Attachment 2** show different combinations of policies that can be used to accommodate future population, households, and employment in ways that are consistent with the growth pattern described in each scenario concept. The strategies included generally affect land use patterns by changing a community’s capacity for new development or incentivizing a particular type or location of growth. Each scenario builds on the Bay Area’s existing land use pattern and transportation network, while also taking into account local plans for growth, historical trends, the results of the most recent PDA Assessment, output from the UrbanSim model, as well as the growth envisioned in Plan Bay Area 2013. While the scenarios are designed to be realistic from a policy perspective, they also bundle policies in ways that provide substantial and meaningful contrasts for policy makers.

Transportation Investment Strategies

The transportation investment strategies included in **Attachment 2** exemplify the types of major projects likely to be included under each scenario. These focus primarily on some of the major investments submitted by project sponsors through the MTC Call for Projects process, and reflect the types of transportation investments most likely to impact a regional scenario’s performance. Additionally, each scenario will also assume a baseline comprising the existing network and committed projects, and include other transportation strategies and policies to accommodate the growth pattern. The transportation investments will be balanced across scenarios, each representing a financially constrained set of investments.

The following table summarizes the potential “intensity” of transportation investments across the three scenarios, by purpose, mode, and geography.

Draft Investment Summary		Scenario #1	Scenario #2	Scenario #3	
by Purpose and Mode	Streets & Highways	State of Good Repair	● ● ●	● ●	●
		Efficiency	● ● ●	● ● ●	● ●
		Expansion / Extension	● ● ●	● ●	●
	Transit	State of Good Repair	● ● ●	● ●	●
		Efficiency / Operations	● ●	● ● ●	● ● ●
		Expansion / Extension	●	● ●	● ● ●
	Bicycle / Pedestrian		● ●	● ●	● ●
Climate Program		● ● ●	● ● ●	● ● ●	
by Geography	Big 3 Cities		●	● ●	● ● ●
	Bayside		●	● ●	●
	Inland		● ● ●	●	●

Preferred Scenario Development Process

The scenarios and their respective strategies do not constitute staff proposals or recommendations. Rather, these strategies are presented to illustrate tradeoffs between alternatives and serve as a building block for identifying the preferred scenario, which will incorporate some of the best ideas from each scenario alternative. The preferred scenario will strive to achieve the adopted PBA 2040 goals and performance targets, and will be informed by numerous ongoing efforts, including the:

- Local government efforts related to Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs)
- Regional Jobs, Housing & Population Forecast;
- Regional Transportation Revenue Forecast;
- Project Performance Assessment and Call for Projects;
- Transportation System Operations and Maintenance Needs Assessments; and,
- Public Workshops and Stakeholder Feedback.

Other Policies and Strategies

It is important to recognize that Plan Bay Area 2040's scenario process uses a relatively modest set of land use and transportation strategies to show different options for future land use patterns and the transportation investments and policies needed to support these distributions of future housing and employment growth. The combinations of strategies in the scenarios are included to enable a discussion about regional priorities, and do not represent all of the potential public policy interventions that regional, state, or local governments could use to accomplish the Plan's goals. For instance, the specific structure of many potential state and local tax and regulatory policies falls largely outside the analytic scope of the scenario process, and requires a separate, more robust public policy analysis to determine costs and benefits. Once the preferred scenario is adopted, the final Plan Bay Area 2040 document will describe a wider range of policies to support the Plan's goals.

Next Steps

The scenarios will continue to be refined over the next several months, and then will be evaluated to understand the effects of the different combinations of land use and transportation strategies on our shared goals and targets. Key milestones include the release of the scenario evaluation planned in spring 2016, with public workshops immediately following. The adoption of a preferred scenario is expected to occur in late summer 2016. The scenario planning process is summarized in **Attachment 3**.

Attachments: Workshop Comments Summary
Draft Scenario Strategies
Scenario Development Process
Presentation



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What We Heard from RAWG & RPC

Goals and Aspirations for Scenario Planning

- Plan for diverse, inclusive and supportive communities
- Preserve what is unique about each community
- Focus on vibrant downtowns and neighborhoods with clean, safe and attractive streets; more walking and activity on the streets; great parks, schools and lots of services
- Promote equitable community development that brings new life to neighborhoods without displacement
- Plan to improve public health and improve the health of the natural environment

General Comments: Scenario Development Process

- Appreciated ability to provide early input in the scenario process
- Include social equity as a guiding theme in each scenario
- Concern about achieving greenhouse gas (GHG) reduction and housing goals under any scenario
- Concern that policies to promote compact growth could lead to segregation
- Solutions to region's challenges will be different in every city; need scalable solutions
- Provide examples of how the type of development discussed in each scenario concept worked in other regions
- Consider changing demographics (race, age, and lifestyle preferences such as young people driving significantly less)
- Priorities for unincorporated communities and/or smaller communities are not reflected in the scenarios.
- Consider discussing tradeoffs what will the region gain and what is the region willing to give up?
- Provide the general public with an opportunity to have a discussion about scenario concepts before scenarios are solidified

Plan Bay Area 2040: Scenario Draft Concept #1

Housing

- Requires suburban co-location of jobs/housing
- Affordable housing will be harder to produce in less dense areas; requires more subsidy
- Consider housing subsidies for low-income residents; more funds for affordable housing
- Encourage density bonuses
- Could help smaller cities become complete communities while still maintaining their character

Transportation

- Consider transit subsidies for low income residents; public shuttles; toll roads
- Last mile connection still an issue
- Regional bus system and high occupancy toll/express lane network important to this scenario (24/7)
- Scenario requires expanded roadways, leaving less funding for transit
- Greater need for transit infrastructure (transit in suburbs) with dispersed development
- Consider parking policy reform

- Invest more in goods movement
- Scenario is heavy on technology but the innovations aren't here yet; be cautious when planning

Equity

- Scenario could lead to displacement; need renters' protection
- Explicitly include inclusionary zoning as a policy solution

Economy

- Need more employment growth in the dispersed areas
- Consider how to disperse jobs
- Need transportation demand management strategies to encourage working remotely

Environment

- This scenario could encourage greenfield development and sprawl
- This scenario could be detrimental to preserving open space
- Consider better coordination between Bay Area Air Quality Management District and Bay Conservation and Development Commission and ABAG and MTC as policies are moving in opposite direction than priority development areas (PDAs)
- Vehicle miles traveled will increase under this scenario; won't achieve GHG target
- Could achieve GHG target with zero emissions vehicles
- Keep some lots for urban agriculture
- Maintain urban growth boundaries
- Implement indirect source review

Other

- Congestion pricing to raise money to pay for roadways; development fees for transit
- Consider providing funding for areas outside of PDAs; many cities cannot accommodate all growth within PDAs.
- One Bay Area Grants (OBAG) could expand the definition of PDAs and provide incentives if close to transit

Plan Bay Area 2040: Scenario Draft Concept #2

Housing

- Need anti-displacement policies, both carrots and sticks
- Need more incentives to get needed densities to support more affordable housing
- Convert older office parks to low-income housing and provide needed transit
- Need for senior housing near transit given changing demographics
- Clarify and specify PDA criteria about PDAs with respect to housing
- Smaller cities will need technical support to plan in a way that supports this scenario

Transportation

- First/last mile transportation will be key with this scenario
- Scenario will require significant investment in rail/fixed-guideway transit, but that only works in the core
- Consider new types of transit or Transportation Demand Management for suburbs
- Support mobility-management programs for seniors
- Consider bicycle/pedestrian improvements

- Scenario doesn't offer enough for small suburban or rural communities

Equity

- This scenario offers potential for most equitable growth
- This scenario will need to address suburbanization of poverty; lower income communities will increasingly have longer commutes, less access to services
- Consider policies to provide living wage
- Consider non-work transit trips (many other needs - school, recreation, medical, shopping)
- Don't just focus on housing; look at location of and access to jobs

Economy

- Pay equal attention to jobs and housing
- Policies should promote more working remotely
- Promote job creation, especially in PDAs (though some wanted jobs outside PDAs to increase accessibility to lower income residents)
- Need more clarity and specificity about PDA policies with respect to jobs
- Need more California Environmental Quality Act relief/regulatory streamlining

Environment

- This scenario encourages greenfield development and sprawl
- Would require enormous investments in transit (esp. rail or bus-rapid transit) to avoid sprawl
- Need to address hazards like fault lines and sea-level rise with this scenario
- Ensure that PDA policies are not weakened or the region will not be able to realize environmental benefits from concentrated growth
- Commuter Benefit Ordinances could be helpful to making this scenario work

Other

- Would require new regional sales tax for bus service as well as a regional gas tax
- OBAG should go to all "red dot" areas (outside PDAs as well as within)

Plan Bay Area 2040: Scenario Draft Concept #3

Housing

- Exacerbates displacement and affordability; more stress regarding displacement if jobs are focused in urban core
- The three cities are already behind in their jobs/housing balance
- Would need to incentivize affordable housing, but land costs will be a huge barrier
- Needs anti-displacement policies
- Needs inclusionary zoning
- Consider a housing trust fund
- Missed opportunity to consider infill in smaller cities

Transportation

- Transit will need large investments plus operating funds
- Transit could not handle this scenario; already at capacity now
- Transit investments needed in other parts of the region; need to support smaller cities and suburbs too.

Equity

- Least equitable scenario
- This scenario provides least amount of choice
- There will be the highest pressures on displacement under this scenario
- Who could afford to live in the cities?

Economy

- The kind of growth discussed in the scenario is already happening so let's make it successful by investing in cities
- Infrastructure in other areas will deteriorate, and so will economic vitality
- Goods movement in and out of these corridors will be a challenge
- How will we fund regional initiatives if benefits only flow to big cities?

Environment

- Only this scenario will help us reach targets; most environmentally sustainable
- This scenario will be hard to implement due to economic and political realities
- Change urban growth boundaries to change development

Other

- Other cities need investments in order to be walkable, complete, equitable and green; creates "have" vs "have nots"
- Need to address other areas such as schools, safety, parks to improve quality of life in three big cities
- Three big cities enjoy economies of scale and are better able to address major issues
- Consider creating incentives for public-private partnerships

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Draft Scenario Alternative #1

Description

Scenario 1 targets future population and employment growth to the downtowns of every city in the Bay Area to foster a region of moderately-sized, integrated town centers. This scenario emphasizes a dispersed distribution of households and jobs and limited growth in San Jose, San Francisco, and Oakland. As a result, a number of the region's cities would experience significant growth and different types of development compared to existing patterns. As in the other scenarios, most growth will be in locally-identified PDAs, but this scenario offers the most dispersed growth pattern, meaning that cities outside the region's core are likely to see higher levels of growth. Within cities, more growth will be accommodated outside of PDAs than in other scenarios, with an emphasis on high opportunity areas that have higher levels of educational opportunities, economic mobility, and neighborhood services.

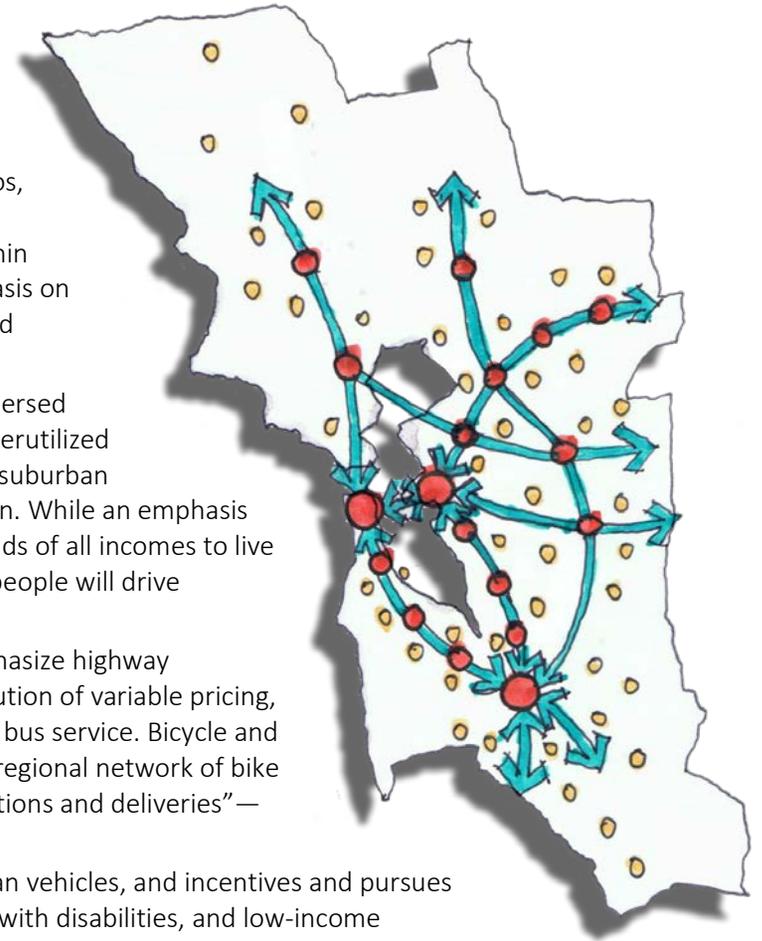
To accommodate this growth, investments, including resources for affordable housing, will be dispersed across PDAs, Transit Priority Areas (TPAs), other transit-proximate locations outside PDAs, and underutilized transportation corridors across the region. This scenario comes closest to resembling a traditional suburban pattern, with an increase in greenfield development to accommodate the dispersed growth pattern. While an emphasis on multi-family and mixed-use development in downtowns will provide opportunities for households of all incomes to live near a mix of jobs, shopping, services, and other amenities, this scenario also assumes that many people will drive significant distances by automobile to get to work.

To support this scenario's dispersed growth pattern, transportation investment priorities will emphasize highway strategies, including the expansion of high-occupancy toll lanes on all regional highways, the institution of variable pricing, and highway widening at key bottlenecks. The scenario will also emphasize expansion of suburban bus service. Bicycle and pedestrian infrastructure will create a network of regional trails and bike lanes, including a robust regional network of bike sharing. To support industry and goods movement, the scenario will focus largely on "smart operations and deliveries" — technology and operations to reduce congestion and increase safety on urban and rural roads.

To reach our climate goals, this scenario sees heavy investments in technology advancements, clean vehicles, and incentives and pursues near-zero and zero emissions strategies wherever feasible. The mobility needs of seniors, persons with disabilities, and low-income communities will be addressed most centrally by "mobility management" solutions to link individuals to travel options that meet their specific needs, as well as the provision of demand-responsive strategies by the public, non-profit, and private sectors.

Strategies

The transportation investment strategies listed below exemplify the types of major projects likely to be included under this scenario. These focus primarily on some of the major investments submitted by project sponsors through the MTC Call for Projects process. This scenario will include a larger set of transportation and land use strategies, policies, and investments to reflect the scenario description.



Land Use

In this scenario, land use strategies emphasize a more dispersed growth pattern, with capacity increases to accommodate both population and employment growth directed to PDAs, TPAs, and the downtowns of every city in the region. Compared to the other scenarios, cities outside the region's core are likely to see higher levels of growth and, within cities, more growth will be accommodated outside PDAs, with an emphasis on high opportunity areas.

- Strategy 1A: Encourage new housing development by increasing residential development capacity in PDAs in cities throughout the region, with limited growth and investments in San Jose, San Francisco, and Oakland.
- Strategy 1B: Encourage expansion of commercial development in areas outside the region's core. Potential strategies include:
 - Increasing commercial density in select high accessibility existing clusters in each county in areas outside of the El Camino Real and East Bay Corridors.
 - Limit commercial capacity in jurisdictions in the region's core.
- Strategy 1C: Protect the region's most critical natural resources by avoiding development on adopted Priority Conservation Areas (PCAs), but allow urban growth boundaries to expand faster than expected compared to past trends to accommodate more dispersed growth.
- Strategy 1D: Encourage additional housing choices by allowing second units in all jurisdictions and reducing parking minimums in PDAs along regional rail transit (such as BART, Caltrain, Amtrak, Altamont Corridor Express, and SMART).
- Strategy 1E: Encourage more affordable housing choices in jurisdictions with at least one PDA by promoting policies to retain existing affordable housing and pursuing funding strategies such as inclusionary zoning, tax increment financing, a regional housing trust fund, etc.

Transportation Investments

Investments to increase the frequency of suburban bus operations, manage travel demand, and expand the capacity of our highway network will be critical to enable this pattern of growth. Since job growth will be spread throughout the region, major public transit expansions or extensions such as fixed-guideway extensions and core capacity enhancements will be a lower priority.

- Strategy 1A: Pursue strategic transit investments, especially bus improvements, to provide access to increasingly dispersed job centers. Key projects include:
 - Local Suburban Bus Frequency Increases (focused on North Bay, East Bay and Peninsula)
 - Express Bus Network along Express / Managed Lane Corridors
 - Muni Forward Program and Geary Boulevard Bus Rapid Transit (BRT)
- Strategy 1B: Leverage technological advances to use roadway capacity more efficiently, while emphasizing freeway-focused pricing like Express Lanes / Managed Lanes as complementary strategies. Key projects include:
 - Express Lanes Full Buildout (including Managed Lane Network)
 - Columbus Day Initiative (including Adaptive Ramp Metering and Arterial Signal Prioritization)
- Strategy 1C: Invest in strategic highway capacity increases to accommodate this scenario's growth pattern. Key example projects include:
 - SR-84 and SR-262 Widening in Alameda County
 - US-101 Marin-Sonoma Narrows Widening
 - Major I-680 Interchange Improvements and Widening at I-80, SR-4, and SR-84
 - SR-4 Widening and TriLink Tollways in Contra Costa County
- Strategy 1D: Emphasize investment of remaining funds into both state of good repair (particularly for highways and local streets across all nine counties) and localized active transportation projects to support short-distance sustainable transport; leverage innovative technologies to reduce expenditures for transit operations and maintenance in low-density environments when feasible (e.g., autonomous buses, flexible shuttles, etc.).

Draft Scenario Alternative #2

Description

Scenario 2 targets future population and employment growth to locally-identified PDAs along major corridors, with an emphasis on growth in medium-sized cities with access to the region's major rail services, such as BART and Caltrain. Outside the PDAs, this scenario sees modest infill development, especially in high opportunity areas. As these communities grow over the next 25 years, compact development and strategic transportation investments will provide residents and workers access to a mix of housing, jobs, shopping, services, and amenities in proximity to transit traditionally offered by more urban environments. Resources for affordable housing will be dispersed across the Bay Area, with some concentration in PDAs to support the development of affordable housing where the most population and employment growth is targeted.

To support this scenario's growth pattern, transportation investments will prioritize maintenance of existing infrastructure. The region's transit system will be modernized and expanded along key corridors to improve commutes and add capacity. Investments in bicycle and pedestrian infrastructure, including the regional bike sharing network, will support the creation of more walkable and bikeable downtowns. While this scenario would see limited expansion of the region's roadways, it will use travel demand strategies, including an expansion of the regional express lanes network, to use existing roadways more efficiently. To support industry and goods movement, particularly the industrial lands clustered along the major corridors, this scenario will support environmentally sustainable investments at our key global gateways to create local jobs, protect the community, and attract international commerce.

To protect the climate, this scenario prioritizes a number of innovative transportation initiatives, including car sharing and near-zero and zero emission goods movement technologies. The mobility and accessibility needs of seniors, persons with disabilities, and low-income communities will be addressed through continued investments in transit operations, transit capital, and a continued focus on "mobility management" solutions to link individuals to travel options that meet their specific needs.

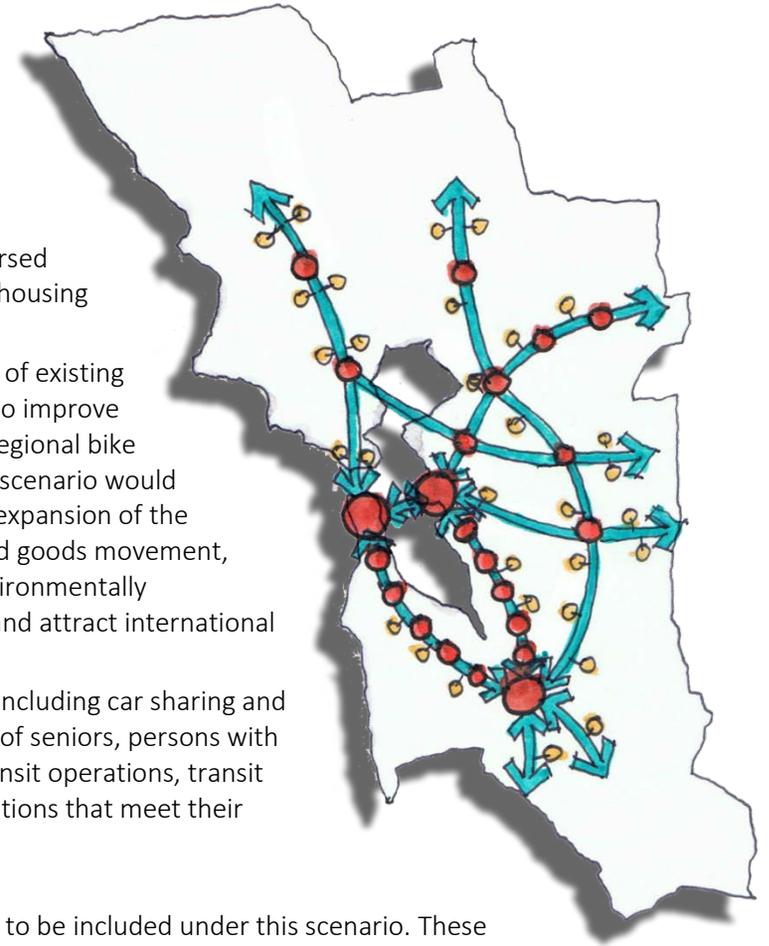
Strategies

The transportation investment strategies listed below exemplify the types of major projects likely to be included under this scenario. These focus primarily on some of the major investments submitted by project sponsors through the MTC Call for Projects process. This scenario will include a larger set of transportation and land use strategies, policies and investments to reflect the scenario description.

Land Use

In this scenario, land use strategies target capacity increases for population and employment growth to PDAs along major corridors, with an emphasis on growth in medium-sized cities with access to the region's major rail services.

- Strategy 2A: Encourage new housing development by increasing residential development capacity in PDAs based on locally identified PDA place type.
- Strategy 2B: Enable more commercial development along major corridors connecting the three largest cities.



- Strategy 2C: Protect the region’s natural resources by avoiding development on adopted PCAs and accommodating all new growth within existing urban growth boundaries or urban limit lines, using city boundaries as a limit when a jurisdiction has no expansion limit.
- Strategy 2D: Encourage additional housing choices by allowing second units in all jurisdictions along the El Camino Real and East Bay Corridors, and reducing parking minimums in PDAs with high levels of transit access along those corridors.
- Strategy 2E: Encourage more affordable housing choices in jurisdictions along the El Camino Real and East Bay Corridors by promoting policies to retain existing affordable housing and pursuing funding strategies such as inclusionary zoning, tax increment financing, a regional housing trust fund, etc.

Transportation Investments

Urban growth patterns will require increased investment in our regional rail systems like BART and Caltrain, as well as the expansion of express bus services, including bus rapid transit (BRT) to connect inner-ring suburban communities to major job centers. At the same time, a smaller share of suburban and exurban residents will continue to drive, necessitating sustained investment in freeways and arterials.

- Strategy 2A: Prioritize transit efficiency investments to improve frequencies and reduce travel times on core transit lines across the region. Key projects include:
 - BART Metro Program
 - Core Bus Rapid Transit (BRT) Lines in San Francisco, San Jose, Oakland/Berkeley/Richmond, and the Peninsula
 - Managed Lanes Express Bus Network
 - Local Suburban Bus Frequency Increases (focused on North Bay, East Bay, and Peninsula)
 - High Performing Core Capacity and Core Connectivity investments
- Strategy 2B: Focus on a limited set of high performing highway efficiency investments, including strategic highway capacity improvements to address bottlenecks and provide reliever routes to freeways within the urban core. Key projects include:
 - Columbus Day Initiative
 - Express Lanes “Limited and Focused” Buildout (including Managed Lanes Network)
 - SR-84 and SR-262 Widening in Alameda County
 - US-101 Marin-Sonoma Narrows Widening
- Strategy 2C: Fund the most cost-effective transit expansion projects that support the region’s highest-growth PDAs. Key projects include:
 - BART to Silicon Valley
 - Caltrain Electrification and Extension to Transbay Transit Center
- Strategy 2D: Balance state of good repair needs with expansion and efficiency priorities for all modes; identify opportunities to align state of good repair to support PDA growth by repaving streets and upgrading buses that serve these communities.

Draft Scenario Alternative #3

Description

Scenario 3 concentrates future population and employment growth in the locally-identified PDAs and TPAs within the Bay Area's three largest cities: San Jose, San Francisco, and Oakland. Neighboring cities that are already well-connected to these three cities by transit will see moderate increases in population and employment growth, particularly in their locally-identified PDAs and high opportunity areas. The amount of growth outside these areas is minimal, with limited infill development in PDAs and no greenfield development. Growth in the three biggest cities will require substantial investment to support transformational changes to accommodate households of all incomes. This scenario will prioritize strategies to make these existing urban neighborhoods even more compact and vibrant, and enable residents and workers to easily take transit, bike or walk to clusters of jobs, stores, services, and other amenities. Resources for affordable housing will likewise be directed to the cities taking on the most growth.

To support this scenario's big city-focused growth pattern, the transportation infrastructure within and directly serving the region's core will be maintained to a state of good repair, modernized to boost service and improve commutes and capacity, and expanded to meet increased demand. While these transit investments will take priority, the roadway network will also require significant investments, such as a regional express lane network to prioritize direct access to the three biggest cities and regional express bus service to increase connections to the region's core. Bicycle and pedestrian infrastructure will be dramatically expanded in these cities, including a robust network of bike sharing. To support industry and goods movement, investments at the Port of Oakland will be ramped up quickly to enable more efficiency and to mitigate the impacts of Port activities on nearby communities.

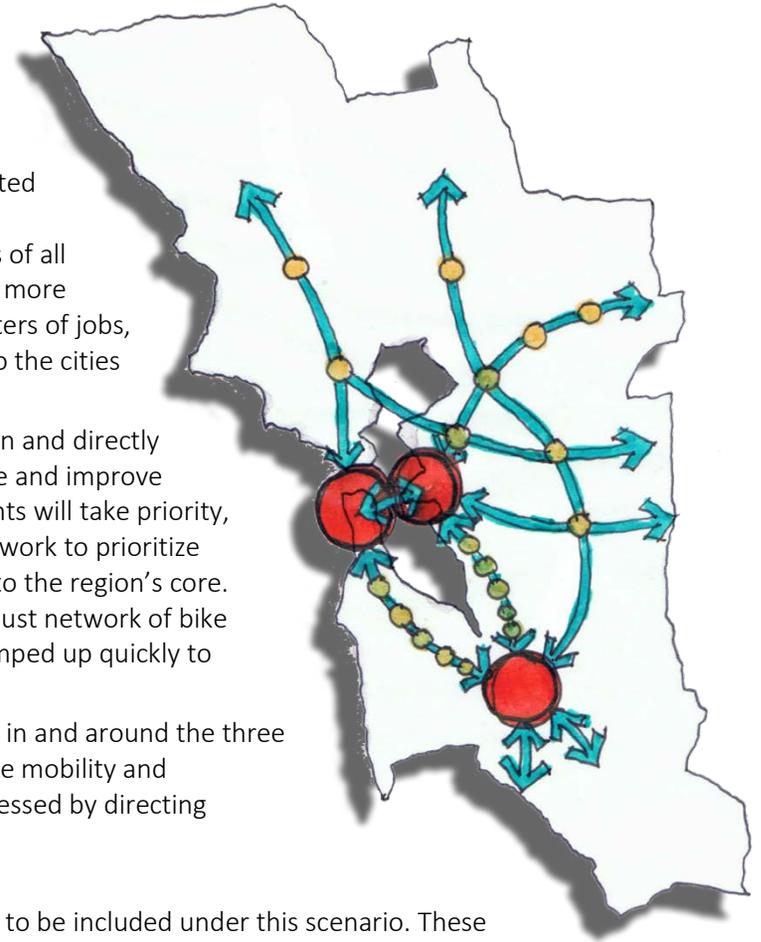
To reach our climate goals, this scenario will focus technological and financial incentive strategies in and around the three biggest cities, which will accommodate a significant increase in population and travel demand. The mobility and accessibility needs of seniors, persons with disabilities, and low-income communities will be addressed by directing resources for a robust increase in transit operations and capital within the region's core.

Strategies

The transportation investment strategies listed below exemplify the types of major projects likely to be included under this scenario. These focus primarily on some of the major investments submitted by project sponsors through the MTC Call for Projects process. This scenario will include a larger set of transportation and land use strategies, policies and investments to reflect the scenario description.

Land Use

In this scenario, it is assumed that most of the region's population and employment growth will be located in San Francisco, San Jose, and Oakland—with the remainder primarily in cities directly proximate to the three biggest cities and areas well served by transit. Capacity for growth in these cities is emphasized in PDAs, TPAs, and other areas that are well served by transit.



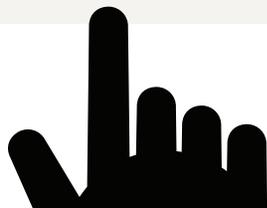
- Strategy 3A: Increase development capacity in San Jose, San Francisco, Oakland, and their neighbors by increasing residential densities in key PDAs and select opportunity sites. Generally speaking, strategies include:
 - For San Jose, San Francisco, and Oakland, increase residential density in PDAs.
 - For cities along the El Camino Real and the East Bay Corridors, modestly increase residential density in PDAs with high levels of transit service.
 - Increase density on opportunity sites (e.g., large corporate campuses, shopping centers) along the Peninsula.
- Strategy 3B: Enable more commercial development in San Francisco and San Jose by removing development caps.
- Strategy 3C: Protect the region’s natural resources by avoiding development on adopted PCAs and accommodating all new growth within existing urban growth boundaries or urban limit lines, using city boundaries as a limit when a jurisdiction has no expansion limit.
- Strategy 3D: Encourage additional housing choices by allowing second units in San Francisco, San Jose, and Oakland; reducing parking minimums in these cities as well as PDAs with high levels of transit service in cities along the El Camino Real and East Bay Corridors; and directing affordable housing resources to retain and expand housing affordability in the three big cities.
- Strategy 3E: Use tax policies in San Francisco, San Jose, and Oakland to encourage higher-intensity urban uses and consider the application of regional fee structures to subsidize growth in lower VMT areas.

Transportation

In order to make this high-density growth pattern feasible without significantly worsening traffic congestion or overloading existing transit systems, transit capacity improvements and demand management strategies will be prioritized to accommodate travel to, from, and within the core cities.

- Strategy 3A: Pursue expansion of the South Bay transit system to support high-density development across Silicon Valley, while at the same time prioritizing investment in core capacity projects in San Francisco and Oakland to enable high-density development. Key projects include:
 - 19th Avenue Subway and Downtown San Jose Subway
 - Full San Francisco BRT Network Buildout
 - VTA Light Rail Extensions in Mountain View, Sunnyvale, and East San Jose
 - Service Frequency Boosts for “Big 3” Cities’ Transit Operators
 - Other Core Capacity and Core Connectivity investments
- Strategy 3B: Link regional rail systems into the heart of the Bay Area’s two largest cities – San Francisco and San Jose – while boosting service frequencies to support increasingly-urban commute patterns. Key projects include:
 - BART to Silicon Valley
 - Caltrain Electrification and Extension to Transbay Transit Center
 - BART Metro Program
 - Enhanced Express Bus Services to/from “Big 3” Cities (Managed Lanes, Golden Gate, etc.)
- Strategy 3C: Convert HOV and general-purpose lanes to express lanes in lieu of all freeway expansion projects; support urban development in San Francisco by implementing cordon pricing and leveraging motorists’ tolls to pay for robust and time-competitive transit services.
 - Conversion-Only Express Lane Network (including Managed Lanes Network)
 - San Francisco Congestion Pricing
 - Increase toll rates on the Bay Bridge to manage congestion and fund supportive transit projects improving access to the Core.
- Strategy 3D: Align operating and maintenance funds to prioritize investments into high-growth cities and high-ridership systems; maximize shift of future toll revenue towards funding critical transit expansion/efficiency and active transportation projects in high-growth communities.

Scenario Development Process





Alternative Scenarios

Regional Advisory Working Group

Miriam Chion, Planning & Research Director, ABAG
Ken Kirkey, Planning Director, MTC
January 26, 2016

- Scenarios show different options for how the Bay Area can grow and change over time in ways that help us meet our goals for a more prosperous, sustainable, and equitable region.
- The alternative scenarios combine different strategies to highlight potential differences in the region's development pattern and transportation system.



SCENARIOS APPROACH

- Develop 3 scenarios
- Construct a preferred scenario
- Balance sophistication with simplicity



SCENARIO DEVELOPMENT PROCESS



SCENARIO CONCEPTS

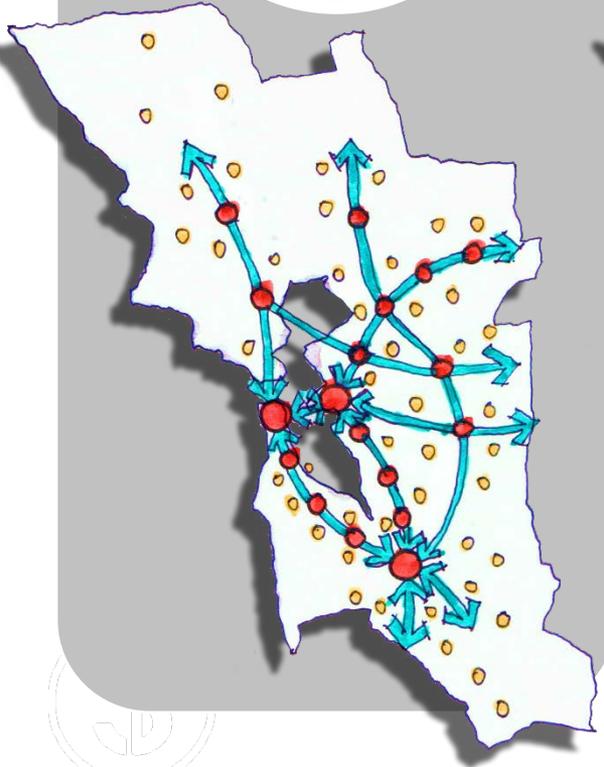
Keep in mind:

- Alternative scenarios are required as part of Plan Bay Area 2040
- Our goal today is to improve the three scenario concepts via policy strategies that preserve the character of our diverse communities while adapting to the challenges of future population growth.
- Common assumptions for all three scenarios concepts:
 - Plan Bay Area 2040 goals and targets
 - Regional Forecast totals
 - Regional Housing Need Allocation (RHNA)
 - Regional PDAs and PCAs Framework
 - Regional Transportation Revenue Sources
 - Regional Committed Transportation Network

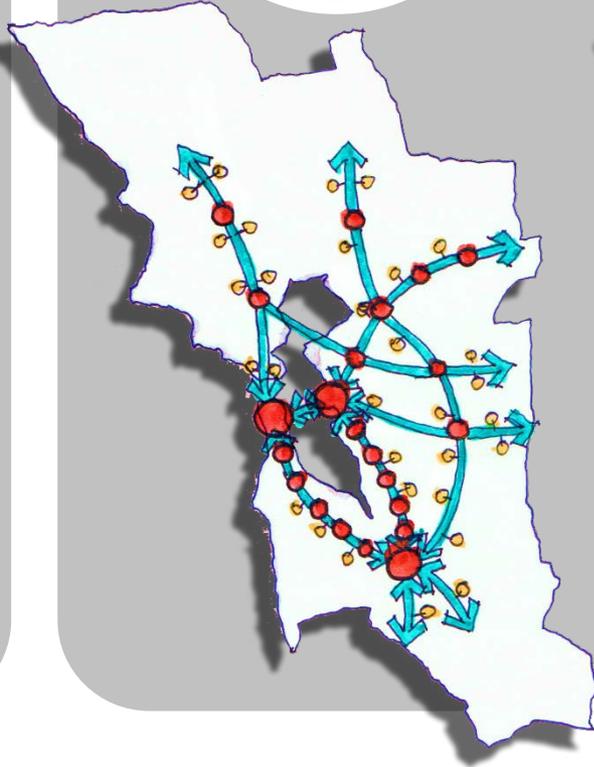


SCENARIO CONCEPTS

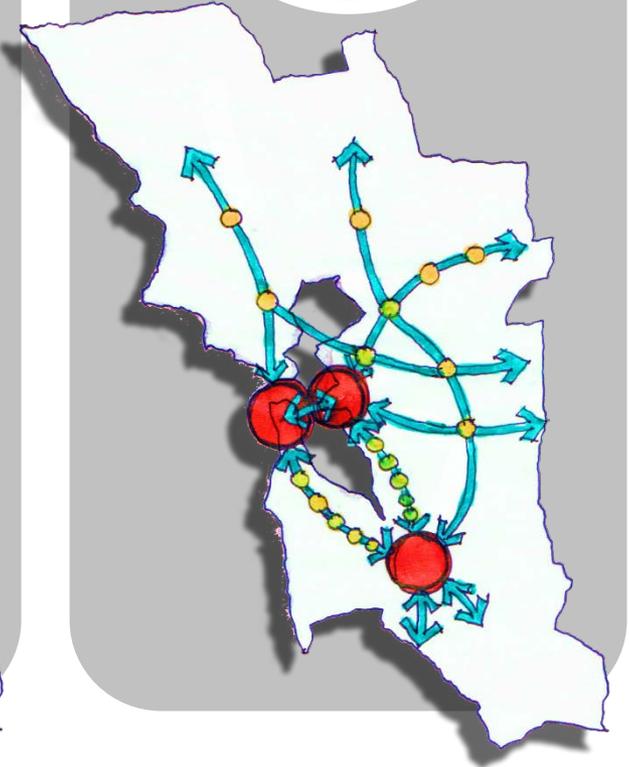
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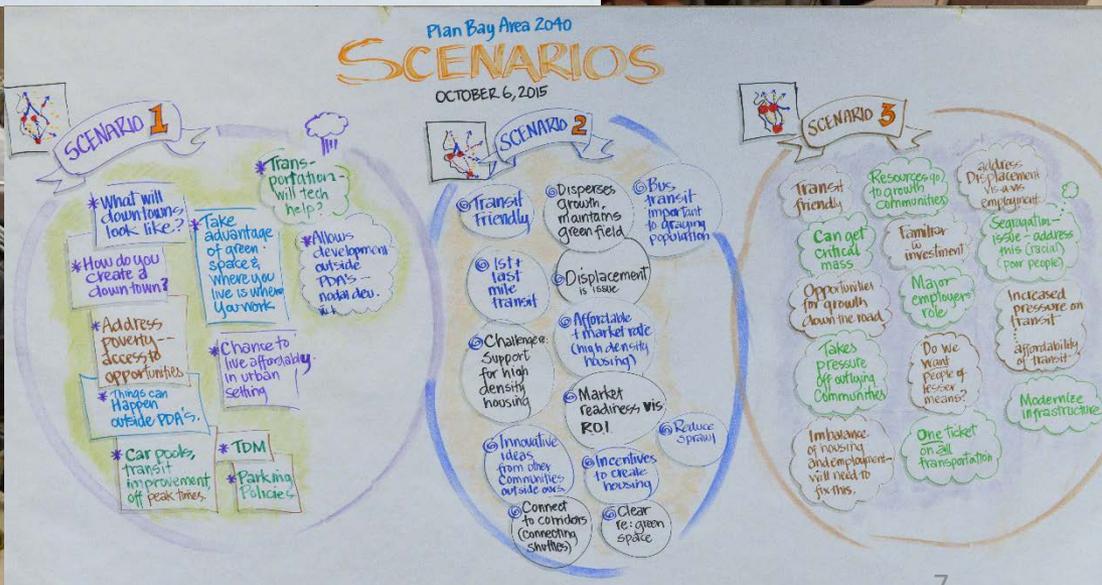
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#3

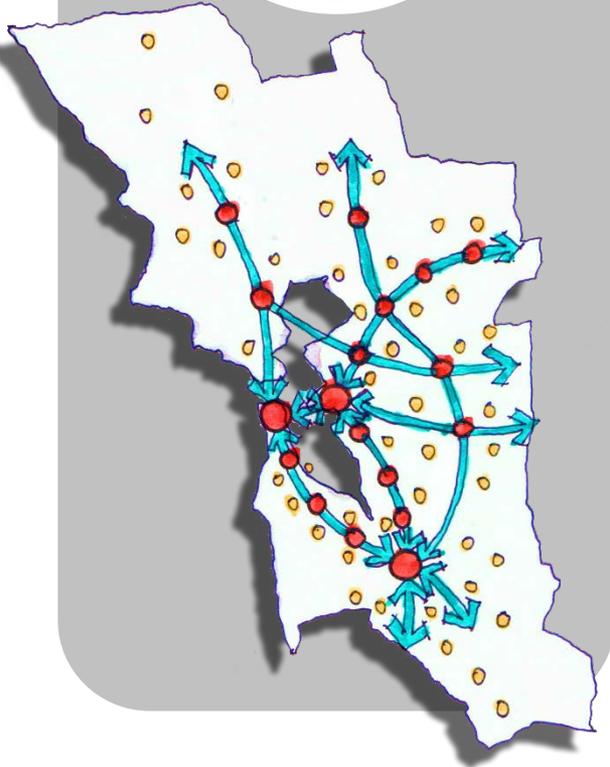


SCENARIO WORKSHOPS



- Preliminary snapshot of each scenario's potential land use and transportation investment strategies
- Each scenario combines land use strategies to achieve different growth patterns
- Transportation investment strategies exemplify the types of major projects likely to be included under each scenario

#1



1A: More housing in PDAs around region

- Increase residential capacity in PDAs region-wide
- Limited growth and investments in 3 Big Cities

1B: Disperse commercial development

- More jobs in accessible clusters outside major corridors
- Limit commercial capacity in region's core

1C: Protect critical natural resources

- No development on PCAs
- Allow urban growth boundaries to expand faster

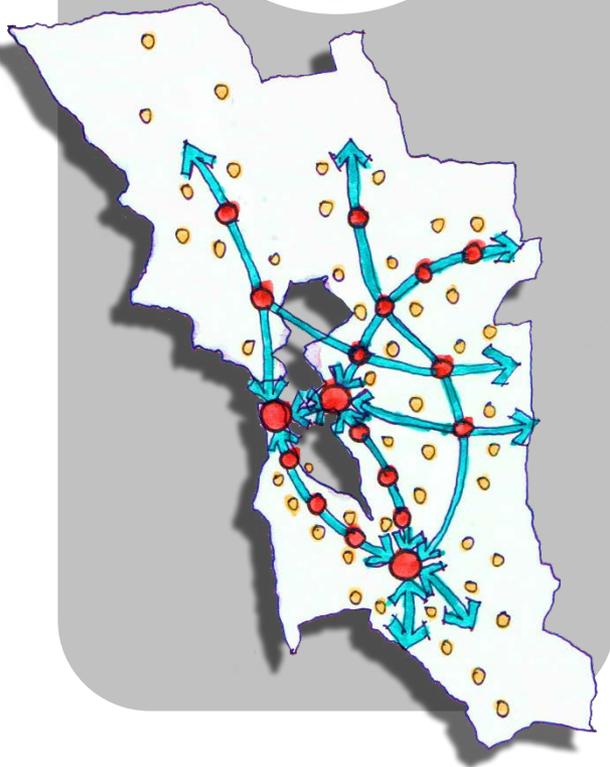
1D: Encourage housing choices

- Allow second units in all jurisdictions
- Reduce parking minimums in PDAs along regional rail

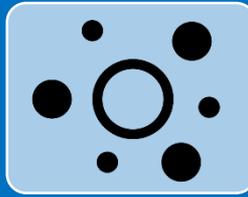
1E: Support affordable housing in PDAs

- Retain existing affordable housing in PDA jurisdictions
- Inclusionary zoning, tax increment financing, regional housing trust fund, etc. in PDA jurisdictions

#1



Example projects shown below.



1A: Transit to Dispersed Jobs

Local Suburban Bus Frequency Increases
Express Buses on Managed Lane Network



1B: Expanded ITS and Express Lanes

- Full Buildout of Express Lanes + Managed Lane Network
- Columbus Day Initiative



1C: Strategic Highway Capacity

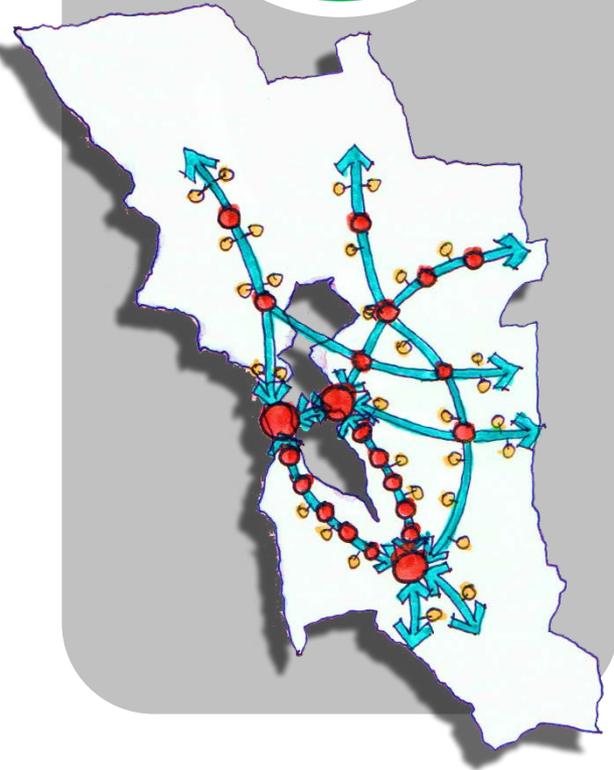
- SR-4 Widening + TriLink Tollways
- Marin-Sonoma Narrows + SR-37 Tollway
- I-680 Interchange Improvements & Widening



1D: Robust Funding for Maintenance

- Full Funding for Highways and Streets Maintenance
- Significant Funding for All Operators' Maintenance

#2



2A: More housing in PDAs around region

- Increase residential development capacity in PDAs based on identified PDA place type

2B: More jobs on corridors

2C: Protect critical natural resources

- No development on PCAs
- All growth within urban growth boundaries/limit lines

2D: Encourage housing choices

- Allow second units along major corridors
- Reduce parking minimums in PDAs along corridors with high levels of transit

2E: More affordable housing choices

- Retain affordable housing along major corridors
- Inclusionary zoning, tax increment financing, regional housing trust fund, etc. in jurisdictions along major corridors

#2

Example projects shown below.



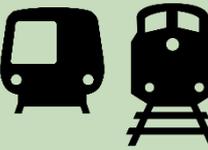
2A: Transit Efficiency Emphasis

- BART Metro Program
- Core BRT Lines in SF, South Bay, and East Bay
- Bus Frequency Increases in High-Opportunity Areas



2B: Bottlenecks and Reliever Routes

- Scaled-Back Express Lanes + Managed Lane Network
- Marin-Sonoma Narrows + SR-37 Tollway
- SR-84 and SR-262 Widening

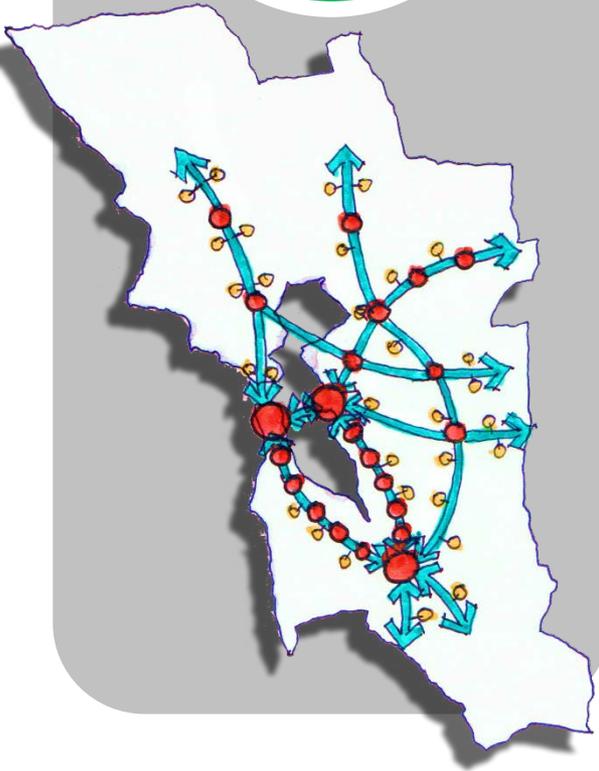


2C: High-Performing Transit Expansion

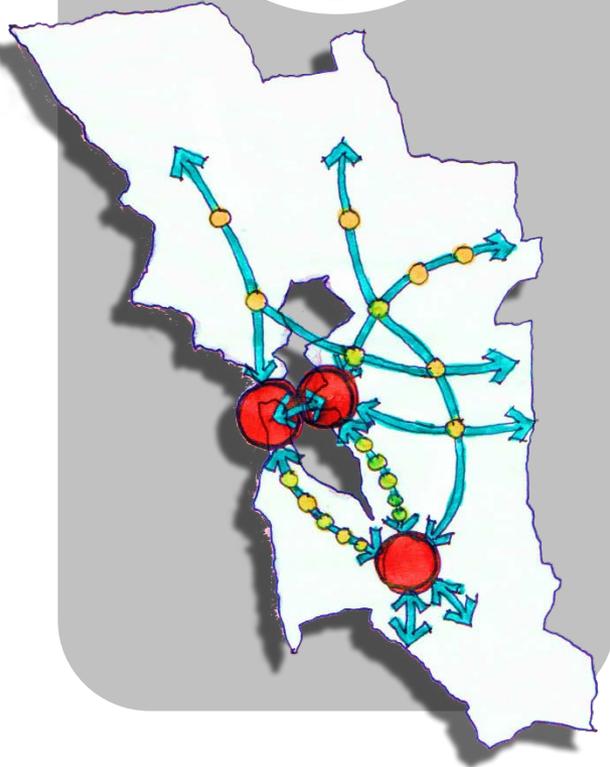
- BART to Silicon Valley
- Caltrain Electrification + Downtown Extension



2D: PDA-Focused Maintenance



#3



3A: More housing in Big 3 and neighbors

- Increase density in PDAs in Big 3 Cities
- Increase density in corridor PDAs with high transit
- Increase density on opportunity sites along Peninsula

3B: Enable more jobs in Big 3 Cities

- Remove development caps in San Francisco and San Jose

3C: Protect critical natural resources

- No development on PCAs
- All growth within urban growth boundaries/limit lines

3D: Encourage housing choices

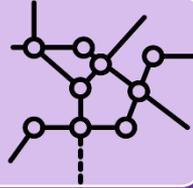
- Allow second units in Big 3 Cities
- Reduce parking minimums in Big 3 and PDAs with high transit along corridors
- Retain and expand housing affordability in Big 3

3E: Promote higher-intensity uses in Big 3

- Change tax policies, use regional fees to subsidize growth in low-VMT areas

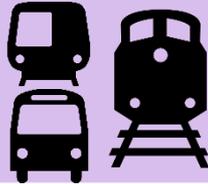
#3

Example projects shown below.



3A: “Big 3” High-Capacity Urban Transit

- 19th Avenue Subway + San Francisco BRT Network
- Downtown San Jose Subway + New LRT Lines
- Core Capacity Investments + Core Frequency Boosts



3B: Regional Rail & Bus to “Big 3”

- BART to Silicon Valley + BART Metro
- Caltrain Electrification + Downtown Extension
- Enhanced Express Bus Services to “Big 3” Cities



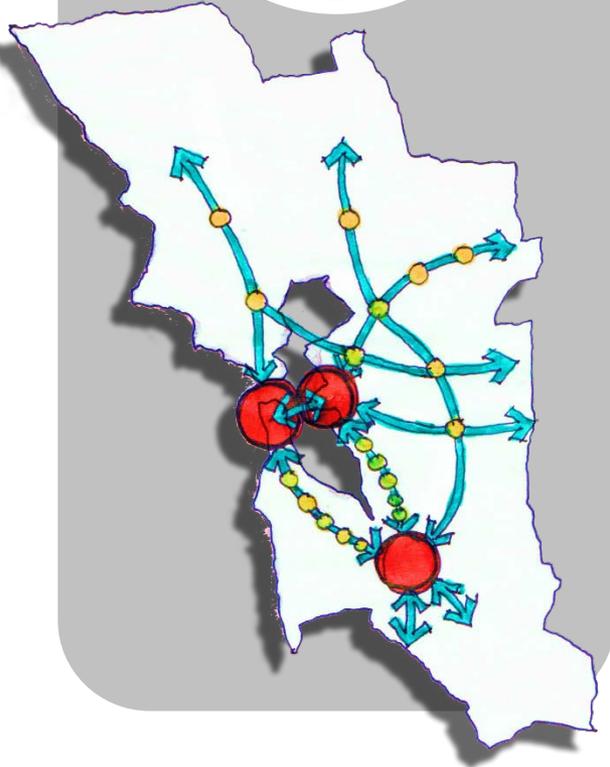
3C: Pricing in Lieu of Highway Widening

- Conversion-Only Express Lane Network
- San Francisco Congestion Pricing Programs



3D: Constrained Maintenance Funding

- O&M Funding Priority for High-Growth Cities



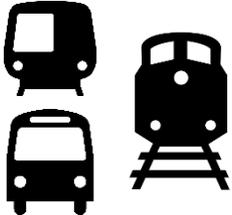
INVESTMENT STRATEGIES

by Mode and Purpose

#1

#2

#3

Streets & Highways	State of Good Repair	● ● ●	● ●	●
	Efficiency	● ● ●	● ● ●	● ●
	Expansion / Extension	● ● ●	● ●	●
Public Transit	State of Good Repair	● ● ●	● ●	●
	Efficiency / Operations	● ●	● ● ●	● ● ●
	Expansion / Extension	●	● ●	● ● ●
	Bicycle / Pedestrian	● ●	● ●	● ●
	Climate Strategies	● ● ●	● ● ●	● ● ●

INVESTMENT STRATEGIES

by Geography

#1

#2

#3



“Big 3”
Cities

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Bayside

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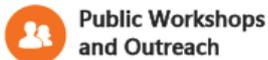
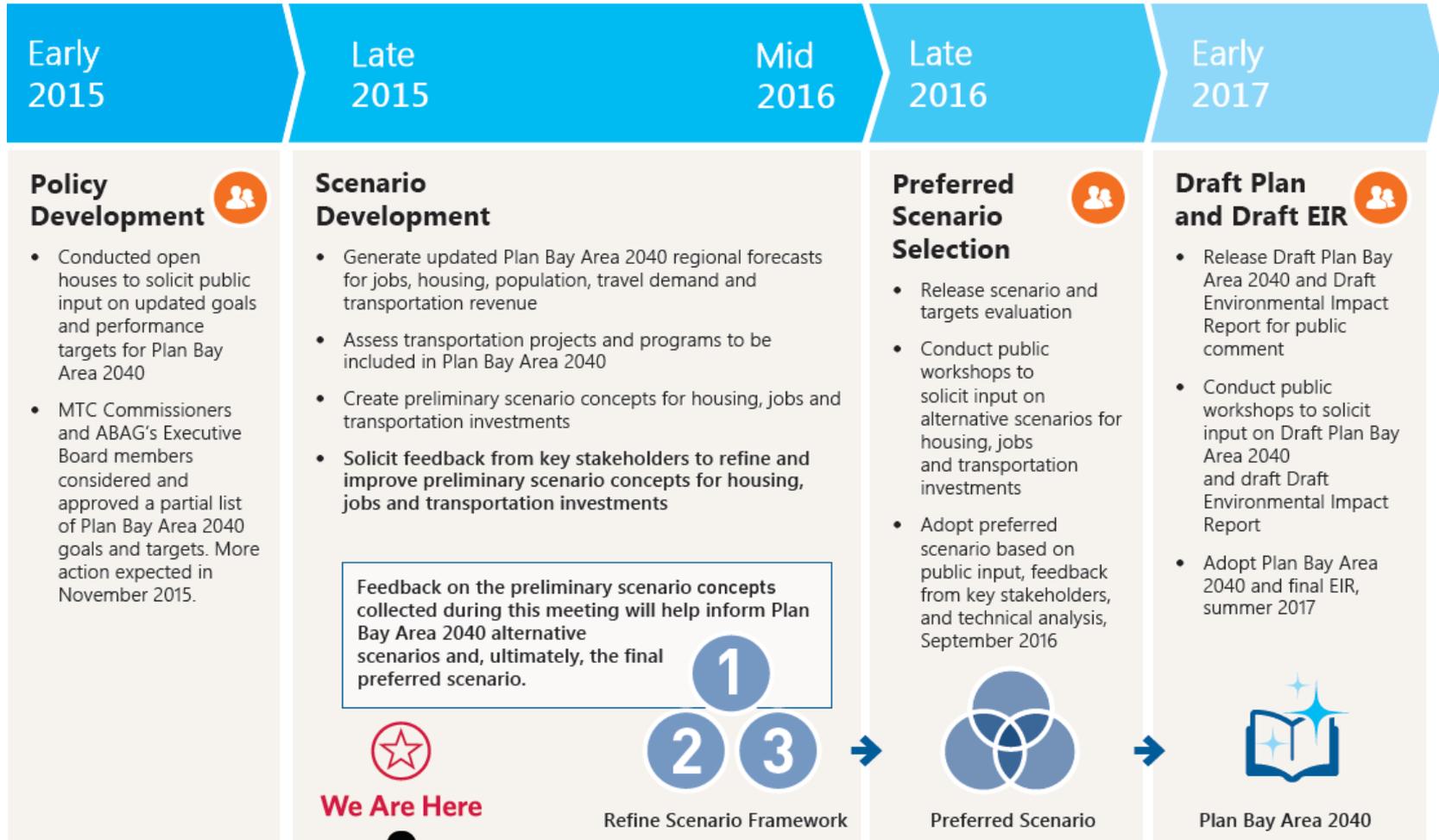
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Revised January 2016

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Thank You





**METROPOLITAN
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Memorandum

TO: Partnership Technical Advisory Committee

DATE: January 25, 2016

FR: Theresa Romell

RE: Plan Bay Area 2040 Needs Assessment Update

Background

One element in the development of Plan Bay Area 2040 is the estimation of costs and available revenues for the preservation of the existing transportation system. MTC staff has produced draft needs assessments for the capital maintenance of the Bay Area's local street and road network and the state highway system, as well as the capital maintenance and operating needs of the region's public transit system. The needs assessments span the 24 year period from fiscal years 2017 through 2040 and are in nominal (escalated) dollars.

MTC staff presented on the Plan Bay Area 2040 Needs Assessment at the December 2015 and January 2016 Partnership Technical Advisory Committee meetings. These presentations and the accompanying memos detailed the methodologies used to prepare the needs assessments for all modes. The purpose of this memo is to summarize the draft results of the needs assessment and provide information on key findings that have arisen from the analyses.

Regional Summary

As shown in the table below, to reach a state of good repair, in which all roads are maintained at their optimal levels and transit assets are replaced at the end of their useful lives, in addition to being able to maintain existing service levels for public transit, the region will need to spend an estimated total of \$229 billion over the next 24 years. Currently, draft estimates of revenue available for the operation and maintenance of the existing system total \$168 billion, leaving a remaining need of approximately \$61 billion. To maintain *existing* conditions on our region's roadways and the existing state of repair of transit assets and service levels, the region would need to spend approximately \$206 billion over the next 24 years, about \$38 billion more than forecasted revenue.

Total transportation revenue forecasted for Plan Bay Area 2040 is approximately \$287 billion. The vast majority of which is funding for committed projects and programs. Approximately 15 percent of the total Plan revenue is expected to be available for discretionary purposes.

Draft Plan Bay Area 2040 Needs Assessment (In Millions)

Mode	Revenue	Need (State of Good Repair)	Need (Maintain Conditions)	Remaining Need (State of Good Repair)	Remaining Need (Maintain Conditions)
Local Streets & Roads	\$13,192	\$36,236	\$30,261	\$23,044	\$17,069
State Highways ¹	\$13,751	\$19,209	\$19,209	\$5,458	\$5,458
Transit Capital ^{2,3}	\$19,000	\$47,618	\$30,468	\$28,618	\$11,468
Transit Operating ⁴	\$122,103	\$125,619	\$125,619	\$3,516	\$3,516
Total	\$168,046	\$228,682	\$205,557	\$60,636	\$37,511

Notes:

- 1) Needs associated with maintaining existing condition levels is not available for the state highway system
- 2) The transit operating needs assessment only considers what is needed to maintain existing service levels, therefore transit operating needs are the same for both State of Good Repair and Maintain Conditions
- 3) Transit operating revenue is net of surplus revenue available to meet operating needs
- 4) Transit capital revenue is a rough estimate and will be updated to conform to Federal FAST Act funding level changes and other fine tuning of estimated revenue availability for transit capital maintenance.

Overall Findings

- For local streets and roads, total capital maintenance needs have decreased by \$8.1 billion as compared to 2013 Plan Bay Area. On an annualized basis, the needs assessment for Plan Bay Area 2040 reveals an approximate 5% decrease in capital maintenance need and an increase of approximately 2% in revenue identified to meet that need, as compared to the 2013 Plan.
- The draft needs assessment for state highways is consistent with 2013 Plan Bay Area for which the estimated state highway capital maintenance needs was \$22.4 billion, over a 28-year period. On an annualized basis, SHOPP revenue projected to be available to meet the state highway needs have increased by approximately 15% as compared to the 2013 Plan.
- For transit operations, service levels for the existing system are projected to increase from 11.8 million hours per fiscal year as shown in the 2013 Plan Bay Area to 12.6 million hours per fiscal year in Plan Bay Area 2040. This represents a 7% increase in annual service hours since the needs assessment was conducted for the 2013 Plan.
- The total Bay Area transit system operating cost over the Plan period is projected to increase by \$13 billion, from \$114 billion to \$127 billion. On an annualized basis, operating costs have increased by approximately 30% as compared to the 2013 Plan.
- Under the State of Good Repair scenario there is an increase of approximately \$1 billion in total need as compared to \$46.5 billion in the 2013 Plan Bay Area SGR. On an annualized basis, the transit capital maintenance need has increased by approximately 19% as compared to the 2013 Plan.

Next Steps

Staff will make updates to the needs assessments based on input from stakeholders and refinements to the estimation process, and as adjustments to the Plan Bay Area 2040 revenue forecast are made. Updates on the needs assessments will be brought forward to the appropriate Partnership Board working groups and MTC Committees periodically. Although finalization of the needs assessments will not occur until just prior to the adoption of Plan Bay Area 2040, the

assessments, in their draft forms, will be used to provide input into development of the Preferred Scenario and Investment Strategy components of the Plan.

If you have questions or would like to provide feedback on the needs assessment, please contact the following staff:

Transit Operating: William Bacon – wbacon@mtc.ca.gov

Transit Capital: Nicholas Richter – nrichter@mtc.ca.gov / Shruti Hari – shari@mtc.ca.gov

Local Streets and Roads, Highways, and Bridges: Theresa Romell – tromell@mtc.ca.gov

Attachment A

Plan Bay Area 2040 -- DRAFT 24-Year Local Street and Road System Preservation Needs and Available Revenue
1/25/2016

STATE OF GOOD REPAIR (BEST MANAGEMENT PRACTICES)

Jurisdiction	Total Preservation Needs	Revenue Available for System Preservation	Remaining Needs for System Preservation
County of Alameda	\$ 368,240,906	\$ 368,240,906	\$ -
Alameda	\$ 304,043,998	\$ 185,600,000	\$ 118,443,998
Albany	\$ 73,663,932	\$ 37,600,000	\$ 36,063,932
Berkeley	\$ 499,374,713	\$ 459,000,000	\$ 40,374,713
Dublin	\$ 185,641,674	\$ 62,000,000	\$ 123,641,674
Emeryville	\$ 38,469,103	\$ 38,469,103	\$ -
Fremont	\$ 992,417,033	\$ 259,700,000	\$ 732,717,033
Hayward	\$ 633,472,850	\$ 172,300,000	\$ 461,172,850
Livermore	\$ 421,009,839	\$ 99,700,000	\$ 321,309,839
Newark	\$ 189,575,509	\$ 50,100,000	\$ 139,475,509
Oakland	\$ 1,834,745,511	\$ 618,300,000	\$ 1,216,445,511
Piedmont	\$ 49,459,532	\$ 19,600,000	\$ 29,859,532
Pleasanton	\$ 325,618,790	\$ 160,400,000	\$ 165,218,790
San Leandro	\$ 418,736,707	\$ 152,700,000	\$ 266,036,707
Union City	\$ 256,934,221	\$ 55,500,000	\$ 201,434,221
COUNTY TOTAL	\$ 6,591,404,318	\$ 2,739,210,009	\$ 3,852,194,310

Jurisdiction	Total Preservation Needs	Revenue Available for System Preservation	Remaining Needs for System Preservation
County of Contra Costa	\$ 468,836,144	\$ 294,700,000	\$ 174,136,144
Antioch	\$ 494,764,992	\$ 207,900,000	\$ 286,864,992
Brentwood	\$ 210,086,801	\$ 74,800,000	\$ 135,286,801
Clayton	\$ 47,040,838	\$ 11,400,000	\$ 35,640,838
Concord	\$ 593,225,059	\$ 161,600,000	\$ 431,625,059
Danville	\$ 197,442,899	\$ 90,700,000	\$ 106,742,899
El Cerrito	\$ 79,508,593	\$ 37,800,000	\$ 41,708,593
Hercules	\$ 94,373,323	\$ 14,400,000	\$ 79,973,323
Lafayette	\$ 100,733,813	\$ 44,500,000	\$ 56,233,813
Martinez	\$ 211,042,947	\$ 67,300,000	\$ 143,742,947
Moraga	\$ 85,873,857	\$ 27,800,000	\$ 58,073,857
Oakley	\$ 172,102,715	\$ 25,600,000	\$ 146,502,715
Orinda	\$ 112,460,646	\$ 24,500,000	\$ 87,960,646
Pinole	\$ 88,881,656	\$ 22,800,000	\$ 66,081,656
Pittsburg	\$ 283,865,382	\$ 116,100,000	\$ 167,765,382
Pleasant Hill	\$ 161,866,712	\$ 125,400,000	\$ 36,466,712
Richmond	\$ 490,887,044	\$ 200,500,000	\$ 290,387,044
San Pablo	\$ 98,680,577	\$ 28,300,000	\$ 70,380,577
San Ramon	\$ 304,733,471	\$ 246,800,000	\$ 57,933,471
Walnut Creek	\$ 342,983,407	\$ 38,400,000	\$ 304,583,407
COUNTY TOTAL	\$ 4,639,390,875	\$ 1,861,300,000	\$ 2,778,090,875

Jurisdiction	Total Preservation Needs	Revenue Available for System Preservation	Remaining Needs for System Preservation
County of Marin	\$ 442,083,007	\$ 140,500,000	\$ 301,583,007
Belvedere	\$ 8,184,776	\$ 3,600,000	\$ 4,584,776
Corte Madera	\$ 44,727,361	\$ 7,200,000	\$ 37,527,361
Fairfax	\$ 34,964,541	\$ 8,800,000	\$ 26,164,541
Larkspur	\$ 73,898,258	\$ 12,800,000	\$ 61,098,258
Mill Valley	\$ 80,121,654	\$ 51,000,000	\$ 29,121,654
Novato	\$ 254,372,766	\$ 91,300,000	\$ 163,072,766
Ross	\$ 10,989,046	\$ 3,600,000	\$ 7,389,046
San Anselmo	\$ 59,310,217	\$ 14,800,000	\$ 44,510,217

STATE OF GOOD REPAIR (BEST MANAGEMENT PRACTICES)

Jurisdiction
San Rafael
Sausalito
Tiburon
COUNTY TOTAL

Total Preservation Needs
\$ 263,867,712
\$ 33,695,598
\$ 38,345,932
\$ 1,344,560,869

Revenue Available for System Preservation
\$ 83,300,000
\$ 5,900,000
\$ 31,400,000
\$ 454,200,000

Remaining Needs for System Preservation
\$ 180,567,712
\$ 27,795,598
\$ 6,945,932
\$ 890,360,869

Jurisdiction
County of Napa
American Canyon
Calistoga
Napa
St Helena
Yountville
COUNTY TOTAL

Total Preservation Needs
\$ 444,913,221
\$ 101,377,938
\$ 29,565,829
\$ 406,192,679
\$ 40,083,105
\$ 12,882,113
\$ 1,035,014,884

Revenue Available for System Preservation
\$ 149,300,000
\$ 44,500,000
\$ 11,800,000
\$ 292,200,000
\$ 21,000,000
\$ 12,882,113
\$ 531,682,113

Remaining Needs for System Preservation
\$ 295,613,221
\$ 56,877,938
\$ 17,765,829
\$ 113,992,679
\$ 19,083,105
\$ -
\$ 503,332,771

Jurisdiction
City and County of San Francisco

Total Preservation Needs
\$ 4,010,986,855

Revenue Available for System Preservation
\$ 2,095,900,000

Remaining Needs for System Preservation
\$ 1,915,086,855

Jurisdiction
County of San Mateo
Atherton
Belmont
Brisbane
Burlingame
Colma
Daly City
East Palo Alto
Foster City
Half Moon Bay
Hillsborough
Menlo Park*
Millbrae
Pacifica
Portola Valley
Redwood City
San Bruno
San Carlos
San Mateo
South San Francisco
Woodside
COUNTY TOTAL

Total Preservation Needs
\$ 208,596,899
\$ 38,424,770
\$ 128,900,426
\$ 25,910,755
\$ 124,008,838
\$ 8,978,984
\$ 354,261,149
\$ 124,104,417
\$ 107,697,808
\$ 51,354,381
\$ 65,358,501
\$ 137,708,751
\$ 114,385,628
\$ 197,546,582
\$ 24,282,554
\$ 306,026,698
\$ 196,801,073
\$ 152,783,832
\$ 363,811,154
\$ 271,370,970
\$ 38,506,670
\$ 3,040,820,842

Revenue Available for System Preservation
\$ 204,300,000
\$ 25,600,000
\$ 95,500,000
\$ 6,700,000
\$ 38,000,000
\$ 4,700,000
\$ 78,100,000
\$ 26,400,000
\$ 45,000,000
\$ 19,700,000
\$ 23,900,000
\$ 120,300,000
\$ 20,300,000
\$ 36,200,000
\$ 17,900,000
\$ 95,500,000
\$ 33,500,000
\$ 26,600,000
\$ 138,000,000
\$ 54,600,000
\$ 7,400,000
\$ 1,118,200,000

Remaining Needs for System Preservation
\$ 4,296,899
\$ 12,824,770
\$ 33,400,426
\$ 19,210,755
\$ 86,008,838
\$ 4,278,984
\$ 276,161,149
\$ 97,704,417
\$ 62,697,808
\$ 31,654,381
\$ 41,458,501
\$ 17,408,751
\$ 94,085,628
\$ 161,346,582
\$ 6,382,554
\$ 210,526,698
\$ 163,301,073
\$ 126,183,832
\$ 225,811,154
\$ 216,770,970
\$ 31,106,670
\$ 1,922,620,842

Jurisdiction
County of Santa Clara
Campbell
Cupertino
Gilroy
Los Altos
Los Altos Hills
Los Gatos
Milpitas
Monte Sereno

Total Preservation Needs
\$ 771,168,618
\$ 182,079,533
\$ 275,645,819
\$ 254,533,959
\$ 122,774,770
\$ 44,659,040
\$ 159,269,448
\$ 312,536,066
\$ 18,486,440

Revenue Available for System Preservation
\$ 449,600,000
\$ 63,000,000
\$ 77,700,000
\$ 68,400,000
\$ 76,200,000
\$ 42,200,000
\$ 41,000,000
\$ 63,800,000
\$ 4,800,000

Remaining Needs for System Preservation
\$ 321,568,618
\$ 119,079,533
\$ 197,945,819
\$ 186,133,959
\$ 46,574,770
\$ 2,459,040
\$ 118,269,448
\$ 248,736,066
\$ 13,686,440

STATE OF GOOD REPAIR (BEST MANAGEMENT PRACTICES)

Jurisdiction
Morgan Hill
Mountain View
Palo Alto
San Jose*
Santa Clara
Saratoga
Sunnyvale
COUNTY TOTAL

Total Preservation Needs
\$ 212,453,160
\$ 321,448,244
\$ 330,975,997
\$ 4,608,754,632
\$ 517,464,080
\$ 181,952,674
\$ 581,636,658
\$ 8,895,839,139

Revenue Available for System Preservation
\$ 52,500,000
\$ 126,800,000
\$ 151,900,000
\$ 1,150,800,000
\$ 308,100,000
\$ 22,500,000
\$ 368,300,000
\$ 3,067,600,000

Remaining Needs for System Preservation
\$ 159,953,160
\$ 194,648,244
\$ 179,075,997
\$ 3,457,954,632
\$ 209,364,080
\$ 159,452,674
\$ 213,336,658
\$ 5,828,239,139

Jurisdiction
County of Solano
Benicia
Dixon
Fairfield
Rio Vista
Suisun City
Vacaville
Vallejo
COUNTY TOTAL

Total Preservation Needs
\$ 299,230,031
\$ 178,103,449
\$ 101,542,521
\$ 562,164,905
\$ 43,290,384
\$ 163,947,191
\$ 494,816,041
\$ 766,359,485
\$ 2,609,454,007

Revenue Available for System Preservation
\$ 123,300,000
\$ 15,500,000
\$ 8,900,000
\$ 101,600,000
\$ 3,200,000
\$ 22,000,000
\$ 97,600,000
\$ 56,200,000
\$ 428,300,000

Remaining Needs for System Preservation
\$ 175,930,031
\$ 162,603,449
\$ 92,642,521
\$ 460,564,905
\$ 40,090,384
\$ 141,947,191
\$ 397,216,041
\$ 710,159,485
\$ 2,181,154,007

Jurisdiction
County of Sonoma
Cloverdale
Cotati
Healdsburg
Petaluma
Rohnert Park
Santa Rosa
Sebastapol
Sonoma
Windsor
COUNTY TOTAL

Total Preservation Needs
\$ 1,869,179,471
\$ 56,678,534
\$ 52,425,936
\$ 90,092,458
\$ 465,395,808
\$ 228,713,256
\$ 1,061,128,111
\$ 45,932,435
\$ 61,172,277
\$ 138,232,026
\$ 4,068,950,311

Revenue Available for System Preservation
\$ 412,900,000
\$ 10,500,000
\$ 6,700,000
\$ 34,100,000
\$ 31,500,000
\$ 35,700,000
\$ 305,000,000
\$ 7,400,000
\$ 9,300,000
\$ 42,400,000
\$ 895,500,000

Remaining Needs for System Preservation
\$ 1,456,279,471
\$ 46,178,534
\$ 45,725,936
\$ 55,992,458
\$ 433,895,808
\$ 193,013,256
\$ 756,128,111
\$ 38,532,435
\$ 51,872,277
\$ 95,832,026
\$ 3,173,450,311

County
Alameda
Contra Costa
Marin
Napa
San Francisco
San Mateo
Santa Clara
Solano
Sonoma
REGION

Total Preservation Needs
\$ 6,591,404,318
\$ 4,639,390,875
\$ 1,344,560,869
\$ 1,035,014,884
\$ 4,010,986,855
\$ 3,040,820,842
\$ 8,895,839,139
\$ 2,609,454,007
\$ 4,068,950,311
\$ 36,236,422,102

Revenue Available for System Preservation
\$ 2,739,210,009
\$ 1,861,300,000
\$ 454,200,000
\$ 531,682,113
\$ 2,095,900,000
\$ 1,118,200,000
\$ 3,067,600,000
\$ 428,300,000
\$ 895,500,000
\$ 13,191,892,121

Remaining Needs for System Preservation
\$ 3,852,194,310
\$ 2,778,090,875
\$ 890,360,869
\$ 503,332,771
\$ 1,915,086,855
\$ 1,922,620,842
\$ 5,828,239,139
\$ 2,181,154,007
\$ 3,173,450,311
\$ 23,044,529,980

Attachment A

Plan Bay Area 2040 -- DRAFT 24-Year Local Street and Road System Preservation Needs and Available Revenue
1/25/2016

MAINTAIN EXISTING CONDITIONS

Jurisdiction
County of Alameda
Alameda
Albany
Berkeley
Dublin
Emeryville
Fremont
Hayward
Livermore
Newark
Oakland
Piedmont
Pleasanton
San Leandro
Union City
COUNTY TOTAL

Total Preservation Needs
\$ 363,376,990
\$ 272,128,135
\$ 50,277,408
\$ 315,432,223
\$ 250,243,422
\$ 53,372,541
\$ 856,018,905
\$ 545,567,130
\$ 487,508,075
\$ 217,899,877
\$ 1,283,705,412
\$ 44,709,857
\$ 385,246,864
\$ 263,905,350
\$ 337,115,052
\$ 5,726,507,241

Revenue Available for System Preservation
\$ 363,376,990
\$ 185,600,000
\$ 37,600,000
\$ 315,432,223
\$ 62,000,000
\$ 53,372,541
\$ 259,700,000
\$ 172,300,000
\$ 99,700,000
\$ 50,100,000
\$ 618,300,000
\$ 19,600,000
\$ 160,400,000
\$ 152,700,000
\$ 55,500,000
\$ 2,605,681,754

Remaining Needs for System Preservation
\$ -
\$ 86,528,135
\$ 12,677,408
\$ -
\$ 188,243,422
\$ -
\$ 596,318,905
\$ 373,267,130
\$ 387,808,075
\$ 167,799,877
\$ 665,405,412
\$ 25,109,857
\$ 224,846,864
\$ 111,205,350
\$ 281,615,052
\$ 3,120,825,487

Jurisdiction
County of Contra Costa
Antioch
Brentwood
Clayton
Concord
Danville
El Cerrito
Hercules
Lafayette
Martinez
Moraga
Oakley
Orinda
Pinole
Pittsburg
Pleasant Hill
Richmond
San Pablo
San Ramon
Walnut Creek
COUNTY TOTAL

Total Preservation Needs
\$ 496,932,601
\$ 444,550,520
\$ 259,597,430
\$ 68,487,967
\$ 512,891,745
\$ 200,192,274
\$ 101,353,358
\$ 98,486,328
\$ 130,616,338
\$ 118,987,252
\$ 67,543,195
\$ 181,660,925
\$ 56,045,352
\$ 77,714,046
\$ 269,896,004
\$ 140,561,811
\$ 383,471,078
\$ 144,106,035
\$ 407,563,562
\$ 378,511,596
\$ 4,539,169,419

Revenue Available for System Preservation
\$ 294,700,000
\$ 207,900,000
\$ 74,800,000
\$ 11,400,000
\$ 161,600,000
\$ 90,700,000
\$ 37,800,000
\$ 14,400,000
\$ 44,500,000
\$ 67,300,000
\$ 27,800,000
\$ 25,600,000
\$ 24,500,000
\$ 22,800,000
\$ 116,100,000
\$ 125,400,000
\$ 200,500,000
\$ 28,300,000
\$ 246,800,000
\$ 38,400,000
\$ 1,861,300,000

Remaining Needs for System Preservation
\$ 202,232,601
\$ 236,650,520
\$ 184,797,430
\$ 57,087,967
\$ 351,291,745
\$ 109,492,274
\$ 63,553,358
\$ 84,086,328
\$ 86,116,338
\$ 51,687,252
\$ 39,743,195
\$ 156,060,925
\$ 31,545,352
\$ 54,914,046
\$ 153,796,004
\$ 15,161,811
\$ 182,971,078
\$ 115,806,035
\$ 160,763,562
\$ 340,111,596
\$ 2,677,869,419

Jurisdiction
County of Marin
Belvedere
Corte Madera
Fairfax
Larkspur
Mill Valley
Novato
Ross
San Anselmo
San Rafael
Sausalito
Tiburon
COUNTY TOTAL

Total Preservation Needs
\$ 285,002,182
\$ 13,005,726
\$ 49,240,110
\$ 30,877,190
\$ 29,651,468
\$ 56,682,459
\$ 237,894,442
\$ 12,358,960
\$ 36,610,356
\$ 271,624,962
\$ 29,519,163
\$ 40,449,879
\$ 1,092,916,898

Revenue Available for System Preservation
\$ 140,500,000
\$ 3,600,000
\$ 7,200,000
\$ 8,800,000
\$ 12,800,000
\$ 51,000,000
\$ 91,300,000
\$ 3,600,000
\$ 14,800,000
\$ 83,300,000
\$ 5,900,000
\$ 31,400,000
\$ 454,200,000

Remaining Needs for System Preservation
\$ 144,502,182
\$ 9,405,726
\$ 42,040,110
\$ 22,077,190
\$ 16,851,468
\$ 5,682,459
\$ 146,594,442
\$ 8,758,960
\$ 21,810,356
\$ 188,324,962
\$ 23,619,163
\$ 9,049,879
\$ 638,716,898

MAINTAIN EXISTING CONDITIONS

Jurisdiction
County of Napa
American Canyon
Calistoga
Napa
St Helena
Yountville
COUNTY TOTAL

Total Preservation Needs
\$ 271,848,895
\$ 84,278,092
\$ 16,833,757
\$ 279,407,354
\$ 21,635,052
\$ 12,628,595
\$ 686,631,743

Revenue Available for System Preservation
\$ 149,300,000
\$ 44,500,000
\$ 11,800,000
\$ 279,407,354
\$ 21,000,000
\$ 12,628,595
\$ 518,635,948

Remaining Needs for System Preservation
\$ 122,548,895
\$ 39,778,092
\$ 5,033,757
\$ -
\$ 635,052
\$ -
\$ 167,995,795

Jurisdiction
City and County of San Francisco

Total Preservation Needs
\$ 3,228,397,782

Revenue Available for System Preservation
\$ 2,095,900,000

Remaining Needs for System Preservation
\$ 1,132,497,782

Jurisdiction
County of San Mateo
Atherton
Belmont
Brisbane
Burlingame
Colma
Daly City
East Palo Alto
Foster City
Half Moon Bay
Hillsborough
Menlo Park*
Millbrae
Pacifica
Portola Valley
Redwood City
San Bruno
San Carlos
San Mateo
South San Francisco
Woodside
COUNTY TOTAL

Total Preservation Needs
\$ 198,298,644
\$ 45,653,605
\$ 70,381,411
\$ 36,533,467
\$ 139,030,264
\$ 10,258,521
\$ 398,549,516
\$ 79,379,926
\$ 177,526,243
\$ 38,373,765
\$ 70,291,119
\$ 144,527,675
\$ 55,692,704
\$ 105,121,575
\$ 34,071,571
\$ 378,013,956
\$ 145,169,509
\$ 98,094,178
\$ 388,140,301
\$ 254,837,130
\$ 34,554,668
\$ 2,902,499,747

Revenue Available for System Preservation
\$ 198,298,644
\$ 25,600,000
\$ 70,381,411
\$ 6,700,000
\$ 38,000,000
\$ 4,700,000
\$ 78,100,000
\$ 26,400,000
\$ 45,000,000
\$ 19,700,000
\$ 23,900,000
\$ 120,300,000
\$ 20,300,000
\$ 36,200,000
\$ 17,900,000
\$ 95,500,000
\$ 33,500,000
\$ 26,600,000
\$ 138,000,000
\$ 54,600,000
\$ 7,400,000
\$ 1,087,080,055

Remaining Needs for System Preservation
\$ -
\$ 20,053,605
\$ -
\$ 29,833,467
\$ 101,030,264
\$ 5,558,521
\$ 320,449,516
\$ 52,979,926
\$ 132,526,243
\$ 18,673,765
\$ 46,391,119
\$ 24,227,675
\$ 35,392,704
\$ 68,921,575
\$ 16,171,571
\$ 282,513,956
\$ 111,669,509
\$ 71,494,178
\$ 250,140,301
\$ 200,237,130
\$ 27,154,668
\$ 1,815,419,692

Jurisdiction
County of Santa Clara
Campbell
Cupertino
Gilroy
Los Altos
Los Altos Hills
Los Gatos
Milpitas
Monte Sereno
Morgan Hill
Mountain View
Palo Alto
San Jose*
Santa Clara
Saratoga
Sunnyvale
COUNTY TOTAL

Total Preservation Needs
\$ 685,643,384
\$ 188,508,833
\$ 222,475,310
\$ 239,205,248
\$ 171,257,002
\$ 50,790,023
\$ 118,257,760
\$ 286,890,765
\$ 15,478,396
\$ 196,548,714
\$ 325,343,504
\$ 350,910,028
\$ 3,620,256,076
\$ 557,375,631
\$ 164,345,099
\$ 674,529,241
\$ 7,867,815,014

Revenue Available for System Preservation
\$ 449,600,000
\$ 63,000,000
\$ 77,700,000
\$ 68,400,000
\$ 76,200,000
\$ 42,200,000
\$ 41,000,000
\$ 63,800,000
\$ 4,800,000
\$ 52,500,000
\$ 126,800,000
\$ 151,900,000
\$ 1,150,800,000
\$ 308,100,000
\$ 22,500,000
\$ 368,300,000
\$ 3,067,600,000

Remaining Needs for System Preservation
\$ 236,043,384
\$ 125,508,833
\$ 144,775,310
\$ 170,805,248
\$ 95,057,002
\$ 8,590,023
\$ 77,257,760
\$ 223,090,765
\$ 10,678,396
\$ 144,048,714
\$ 198,543,504
\$ 199,010,028
\$ 2,469,456,076
\$ 249,275,631
\$ 141,845,099
\$ 306,229,241
\$ 4,800,215,014

MAINTAIN EXISTING CONDITIONS

Jurisdiction
County of Solano
Benicia
Dixon
Fairfield
Rio Vista
Suisun City
Vacaville
Vallejo
COUNTY TOTAL

Total Preservation Needs
\$ 384,644,744
\$ 115,999,441
\$ 99,021,863
\$ 568,654,975
\$ 22,396,524
\$ 92,803,455
\$ 487,113,331
\$ 290,306,727
\$ 2,060,941,060

Revenue Available for System Preservation
\$ 123,300,000
\$ 15,500,000
\$ 8,900,000
\$ 101,600,000
\$ 3,200,000
\$ 22,000,000
\$ 97,600,000
\$ 56,200,000
\$ 428,300,000

Remaining Needs for System Preservation
\$ 261,344,744
\$ 100,499,441
\$ 90,121,863
\$ 467,054,975
\$ 19,196,524
\$ 70,803,455
\$ 389,513,331
\$ 234,106,727
\$ 1,632,641,060

Jurisdiction
County of Sonoma
Cloverdale
Cotati
Healdsburg
Petaluma
Rohnert Park
Santa Rosa
Sebastapol
Sonoma
Windsor
COUNTY TOTAL

Total Preservation Needs
\$ 836,780,627
\$ 34,165,401
\$ 29,021,348
\$ 41,789,163
\$ 169,562,320
\$ 159,097,991
\$ 717,025,814
\$ 27,528,456
\$ 37,438,371
\$ 103,315,792
\$ 2,155,725,285

Revenue Available for System Preservation
\$ 412,900,000
\$ 10,500,000
\$ 6,700,000
\$ 34,100,000
\$ 31,500,000
\$ 35,700,000
\$ 305,000,000
\$ 7,400,000
\$ 9,300,000
\$ 42,400,000
\$ 895,500,000

Remaining Needs for System Preservation
\$ 423,880,627
\$ 23,665,401
\$ 22,321,348
\$ 7,689,163
\$ 138,062,320
\$ 123,397,991
\$ 412,025,814
\$ 20,128,456
\$ 28,138,371
\$ 60,915,792
\$ 1,260,225,285

County
Alameda
Contra Costa
Marin
Napa
San Francisco
San Mateo
Santa Clara
Solano
Sonoma
REGION

Total Preservation Needs
\$ 5,726,507,241
\$ 4,539,169,419
\$ 1,092,916,898
\$ 686,631,743
\$ 3,228,397,782
\$ 2,902,499,747
\$ 7,867,815,014
\$ 2,060,941,060
\$ 2,155,725,285
\$ 30,260,604,189

Revenue Available for System Preservation
\$ 2,605,681,754
\$ 1,861,300,000
\$ 454,200,000
\$ 518,635,948
\$ 2,095,900,000
\$ 1,087,080,055
\$ 3,067,600,000
\$ 428,300,000
\$ 895,500,000
\$ 13,014,197,757

Remaining Needs for System Preservation
\$ 3,120,825,487
\$ 2,677,869,419
\$ 638,716,898
\$ 167,995,795
\$ 1,132,497,782
\$ 1,815,419,692
\$ 4,800,215,014
\$ 1,632,641,060
\$ 1,260,225,285
\$ 17,246,406,431

Preliminary Results for Regional Transit Capital Needs Projections

Agency	Transit Capital Need – State of Good Repair	Transit Capital Need – Maintain Current Condition
AC Transit	\$ 2,933,531,869.01	\$ 1,337,269,207.65
ACE	\$ 290,878,716.90	\$ 170,043,227.90
BART	\$ 18,120,830,053.91	\$ 12,926,706,351.75
CalTrain	\$ 3,634,260,415.00	\$ 1,988,412,972.91
CCCTA County Connection	\$ 263,018,739.53	\$ 204,877,206.52
Clipper	\$ 568,174,066.90	\$ 397,198,361.29
Delta Breeze	\$ 9,069,217.70	\$ 2,637,280.20
Dixon	\$ 7,553,587.97	\$ 3,056,254.00
ECCTA Tri Delta Transit	\$ 134,117,185.33	\$ 87,213,949.73
FAST	\$ 94,509,699.71	\$ 54,603,552.71
GGBHTD	\$ 990,139,781.25	\$ 538,152,874.30
LAVTA	\$ 183,151,603.36	\$ 96,052,668.93
Marin Transit	\$ 147,412,593.07	\$ 79,561,941.72
NCTPA	\$ 82,165,639.35	\$ 60,840,809.15
Petaluma Transit	\$ 32,028,794.32	\$ 18,283,434.91
SamTrans	\$ 1,208,095,570.23	\$ 575,317,327.17
Santa Rosa CityBus	\$ 72,109,195.33	\$ 54,256,557.63
SCT	\$ 197,444,111.80	\$ 75,919,214.86
SFMTA	\$ 12,664,471,103.66	\$ 7,895,363,904.13
SMART	\$ 628,851,598.53	\$ 420,212,353.99
SolTrans	\$ 239,538,822.10	\$ 105,902,421.31
UCT	\$ 32,402,242.52	\$ 25,137,442.50
Vacaville City Coach	\$ 53,770,147.17	\$ 14,892,237.32
VTA	\$ 3,495,406,504.05	\$ 2,071,013,190.08
WestCAT	\$ 92,458,728.04	\$ 46,728,910.08
WETA	\$ 1,442,291,641.22	\$ 1,218,121,077.64
Grand Total	\$ 47,617,681,627.96	\$ 30,467,774,730.38

Preliminary Plan Bay Area 2040 Transit Operating Needs Assessment (Dollars are in Millions)

Transit Operator	24 Year Total Service Levels (all modes, in revenue vehicle hours)	24 Year Total Costs (all modes)	24 Year Total Revenue (all modes)	24 Year Total Operating Surplus/Shortfall
ACE	1,117,485	\$1,300	\$1,218	(\$82)
AC Transit	40,513,851	\$13,445	\$13,672	\$227
BART	49,139,746	\$33,112	\$32,935	(\$177)
Caltrain	5,483,781	\$5,484	\$5,642	\$159
CCCTA	7,125,552	\$1,093	\$1,053	(\$39)
City of Dixon	186,291	\$46	\$48	\$2
ECCTA	5,307,150	\$536	\$694	\$158
City of Fairfield	2,287,392	\$355	\$410	\$55
GGBHTD	6,908,679	\$3,915	\$3,903	(\$12)
LAVTA	3,366,264	\$522	\$529	\$7
Marin Transit	6,059,722	\$1,071	\$1,066	(\$4)
NCPTA	2,647,608	\$310	\$291	(\$19)
City of Petaluma	710,836	\$82	\$100	\$18
City of Rio Vista	96,000	\$15	\$10	(\$4)
SFMTA	91,585,085	\$39,348	\$37,463	(\$1,884)
SamTrans	16,272,000	\$6,331	\$5,008	(\$1,323)
SMART	245,316	\$713	\$1,282	\$569
City of Santa Rosa	2,481,912	\$536	\$621	\$85
Solano County Transit	2,623,440	\$455	\$328	(\$126)
Sonoma County Transit	3,069,116	\$473	\$496	\$23
Union City Transit	2,245,249	\$211	\$180	(\$31)
City of Vacaville	1,120,654	\$226	\$198	(\$28)
VTA	49,893,621	\$15,734	\$16,725	\$992
WCCTA	2,578,325	\$312	\$410	\$98
WETA	404,701	\$1,413	\$1,336	(\$77)
TOTAL	303,469,777	\$127,035	\$125,619	(\$3,515)*

*Represents total shortfall of all operators. Note that surpluses from one operator cannot be transferred to other operators.

Approach

As the state of good repair performance assessment is designed to complement both the existing project performance and needs assessments, it builds off of the existing frameworks used in prior Plans. Like the project performance assessment, state of good repair performance will be evaluated based on two primary scores:

- **Benefit-cost ratio.** By exploring how asset conditions (forecasted by StreetSaver and TERM-Lite) affect system operations, Travel Model One simulates how system users respond to improved or degraded infrastructure. These benefits are monetized and compared to the costs of SGR investments as part of a benefit-cost assessment.
In other words, if a system deteriorates to the point that it costs a user either time or money, how will the user react – will they shift modes? travel less? pay more? This behavior can then be modeled on a regional scale to see what the major impacts would be.
- **Targets scores.** State of good repair investments can also be evaluated qualitatively against performance targets in the same manner as expansion projects. This is consistent with the approach taken in Plan Bay Area, albeit with the new Plan Bay Area 2040 targets (adopted in Resolution No. 4204, Revised; shown in **Attachment 1**).
- **Other supplemental data.** Several supplemental assessments being conducted for the project performance assessment will also be made available for state of good repair, including an examination of equity impacts, a confidence assessment of benefit-cost results, and sensitivity testing of the final results.

Given the thousands of assets that need to be replaced over the course of the Plan cycle, it is not possible to conduct a performance assessment of each asset individually. Instead, MTC is assessing performance at a modal and system level, looking at the impacts of different funding levels on operations and ultimately system users. Benefit-cost ratios and target scores will be calculated both for the maintenance of existing systems (preserving current conditions) and for the achievement of the ideal state of good repair. Key systems under evaluation in the state of good repair performance assessment include: local streets and roads, state highways, Muni bus, Muni rail, BART, AC Transit, VTA bus, VTA rail, Caltrain, SamTrans, Golden Gate bus, and small transit operators.

Brief Overview of Technical Methodology

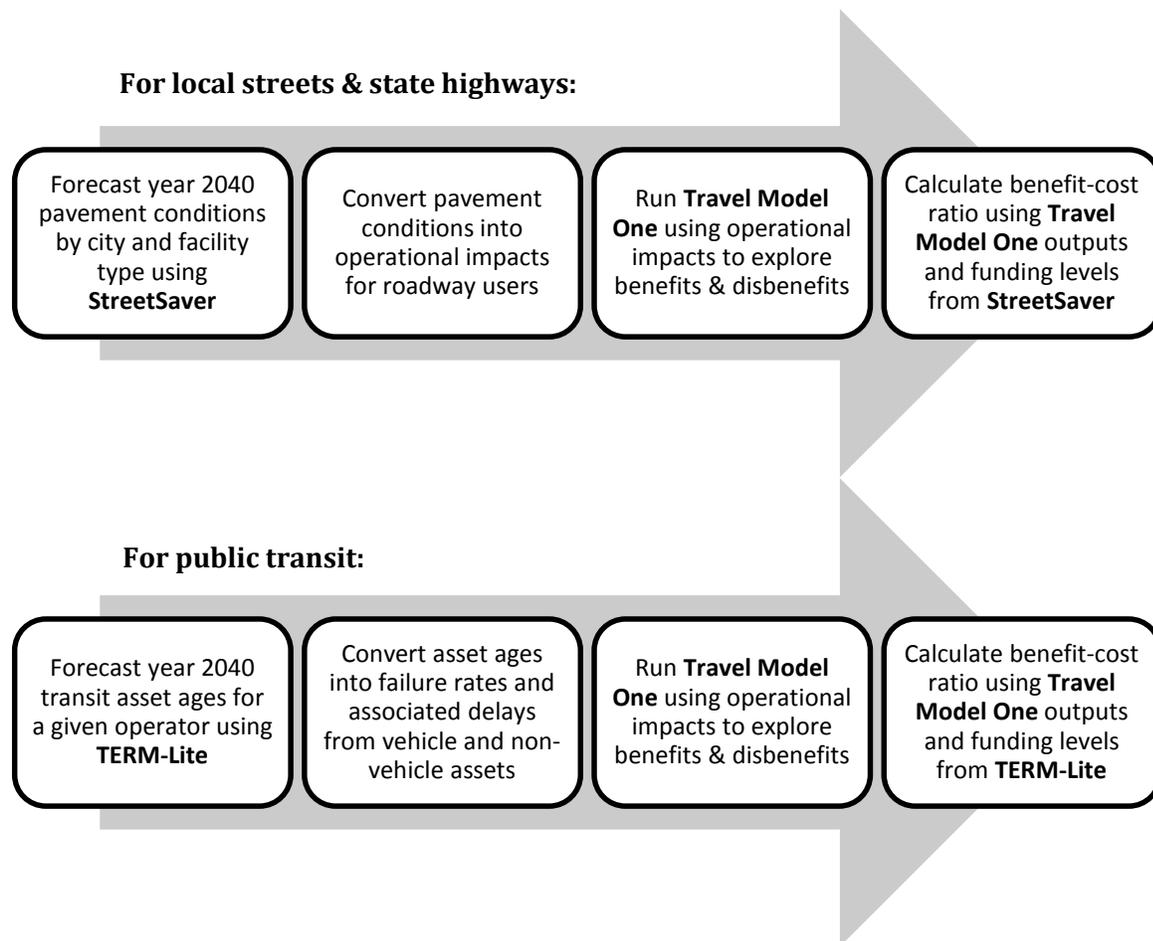
State of good repair investments are being evaluated through the same benefit-cost framework as expansion investments, leveraging Travel Model One and the MTC COBRA benefit-cost tool. However, in order to link asset conditions (the output of asset management models) and operational impacts (the input to travel demand models), staff developed new methodologies for roads and transit state of good repair, which were published in peer-reviewed journals in 2015. While the methodologies are merely the first iteration of such work – and as such have known limitations that will be fully documented in the confidence assessment – staff believes they can provide an order-of-magnitude evaluation of cost-effectiveness which is sufficient to identify high-, medium- or low-performer status.

More information on the preliminary analytical methodologies can be found in the *Journal of Public Transportation*¹ and the *Transportation Research Board Compendium of Papers*²; the final methodologies will be documented in the Plan Bay Area 2040 Performance Report (to be published later in 2016). Staff has presented these methodologies to Partnership working groups in 2015 and will meet with them on an ongoing basis over the coming months as results become available.

Without getting into the technical minutiae, the graphics on the following page highlight how asset management and performance assessment are integrated to evaluate system maintenance investments:

¹ <http://scholarcommons.usf.edu/jpt/vol18/iss3/2/>

² <http://trid.trb.org/view.aspx?id=1336990>



Preliminary Findings

While the assessment is not yet complete – several more months of calibration and analysis remain before preliminary results will be available – three key findings have begun to emerge from the analysis so far:

- **Preserving and improving the pavement condition of the region’s highway system would yield significant benefits for Bay Area residents.** Bringing the state highway system to a state of good repair is likely one of the most cost-effective investments under consideration for Plan Bay Area 2040.
- **Investment in local streets and road pavement preservation is also beneficial and cost-effective for roadway users, outperforming many of the region’s expansion and efficiency investments.** However, the lower traffic volumes on many of these facilities – in particular, lightly-used residential streets – means that state highway maintenance yields more bang per buck on a relative scale.
- **While maintenance of our region’s transit infrastructure strongly supports the performance targets for Plan Bay Area 2040, cost-effectiveness will likely vary widely across operators and modes and generally is lower than investments in local roads and state highways.** While many factors affect the benefit-cost ratio for transit state of good repair, systems with high utilization and infrequent service appear to benefit the most from state of good repair investments (i.e., a full bus with 30-minute headways generates more significant adverse impacts from a vehicle breakdown than an underutilized bus with 10-minute headways).

Stakeholder Engagement and Next Steps

Over the course of 2015, staff presented the overall framework for the state of good repair performance assessment to stakeholders at a number of forums, including the Local Streets and Roads Working Group, the Transit Finance Working Group, the Transit Asset Management Working Group, and the Plan Bay Area 2040 Performance Working Group. In addition, staff met with representatives from the region’s major transit agencies to discuss the analysis framework and seek system-specific operational impact data for model calibration.

As we prepare to roll out results this spring, staff will return to the various working groups to update them on progress, discuss findings, and seek feedback on the draft results. **Table 1** below highlights upcoming meetings with stakeholders and policymakers for both the state of good repair and project performance assessments. If you have any questions, comments, or concerns, please contact David Vautin (dvautin@mtc.ca.gov) over the coming months.

Table 1: Upcoming Meetings on Performance Methodologies & Results

	State of Good Repair Performance Assessment	Project Performance Assessment
January	<p>Topic: assessment overview 1/25 - PTAC 1/29 - Partnership Board</p>	
February	<p>Topic: refresher & methodology 2/5 - CMAs 2/11 - LSRWG TBD - TAMWG</p>	
March	<p>Topic: assessment overview 3/1 - RAWG 3/9 - Policy Advisory Council</p> <p>Topic: preliminary results TBD - TAMWG 3/21 - LSRPDWG 3/21 - PTAC TBD - CMAs + Sponsors TBD - PWG</p>	<p>Topic: preliminary results TBD - CMAs + Sponsors TBD - PWG TBD - Partnership Board</p>
April	<p>Topic: public draft results 4/1 - CMAs + Sponsors 4/5 - RAWG 4/8 - Planning (<i>information item</i>) 4/13 - Policy Advisory Council 4/14 - LSRWG TBD - TAMWG 4/18 - PTAC TBD - Partnership Board</p>	<p>Topic: public draft results 4/1 - CMAs + Sponsors 4/5 - RAWG 4/8 - Planning (<i>information item</i>) 4/13 - Policy Advisory Council 4/18 - PTAC</p>

Attachment 1: Plan Bay Area 2040 Adopted Goals and Targets

Goal	#	Performance Target
Climate Protection	1	Reduce per-capita CO ₂ emissions from cars and light-duty trucks by 15%
Adequate Housing	2	House 100% of the region’s projected growth by income level without displacing current low-income residents and with no increase in in-commuters over the Plan baseline year
Healthy and Safe Communities	3	Reduce adverse health impacts associated with air quality, road safety, and physical inactivity by 10%
Open Space and Agricultural Preservation	4	Direct all non-agricultural development within the urban footprint (existing urban development and UGBs)
Equitable Access	5	Decrease the share of lower-income residents’ household income consumed by transportation and housing by 10%
	6	Increase the share of affordable housing in PDAs, TPAs, or high-opportunity areas by 15%
	7	Do not increase the share of low- and moderate-income renter households in PDAs, TPAs, or high-opportunity areas that are at risk of displacement
Economic Vitality	8	Increase by 20% the share of jobs accessible within 30 minutes by auto or within 45 minutes by transit in congested conditions
	9	Increase by 35% the number of jobs in predominantly middle-wage industries
	10	Reduce per-capita delay on the Regional Freight Network by 20%
Transportation System Effectiveness	11	Increase non-auto mode share by 10%
	12	Reduce vehicle operating and maintenance costs due to pavement conditions by 100%
	13	Reduce per-rider transit delay due to aged infrastructure by 100%