TO: Regional Advisory Working Group DATE: August 26, 2015

FR: Dave Vautin, MTC and Pedro Galvao, ABAG

RE: Plan Bay Area 2040 Goals & Targets – Revised Staff Recommendation

This memorandum presents the revised staff recommendation for goals and performance targets for Plan Bay Area 2040. Building upon the draft staff recommendation that incorporated feedback received from the Performance Working Group and from public meetings, the revised staff recommendation reflects revisions to the performance targets based on input from policymakers at the July joint meeting of the MTC Planning and ABAG Administrative committees. Staff will be seeking action by the committees to refer the goals and targets for final approval by the ABAG Executive Board on September 17 and the MTC Commission on September 24.

Background

Performance-based planning is a central element of the long-range planning process for MTC and ABAG. Plan Bay Area, the region's first integrated Regional Transportation Plan/Sustainable Communities Strategy, included a set of ten performance targets that were used to evaluate over a dozen different scenarios and hundreds of transportation projects. In line with the limited and focused nature of this update to Plan Bay Area, the goals and performance targets build upon the foundation of the prior Plan; the revised staff recommendation preserves the goals in full from Plan Bay Area and also carries over four of the ten performance targets from the last Plan.

The proposed eleven performance targets for Plan Bay Area 2040 will be used to compare Plan scenarios, highlight tradeoffs between policy goals, analyze proposed investments, and flag issue areas where the Plan may fall short. Regional performance targets will guide Plan development and will be supplemented in the future by required federal performance measures.

Goals and Performance Targets: Feedback Received in July

Staff received a wide array of feedback from policymakers and stakeholders during July meetings of the Regional Advisory Working Group, Policy Advisory Council, and joint meeting of the MTC Planning / ABAG Administrative Committee. By far the most common concern amongst policymakers was the limited reflection of displacement as a key regional planning concern in the draft performance targets. Although the proposed affordable housing target was designed to be reflective of key policy interventions that could help to mitigate the risk of displacement, members of the committees indicated that they wanted additional information on this issue for their September meeting. Refer to the displacement item in this packet for more information. Members of the Policy Advisory Council had similar concerns about displacement and recommended that the affordable housing target should at the very least be expanded beyond Priority Development Areas to incorporate a broader geography for production of affordable units.

Moving beyond displacement and affordable housing, stakeholders also expressed concern about the Economic Vitality target – ranging from interest in having a greater focus on living-wage jobs to a desire to pursue a more traditional congestion measure instead. Other stakeholders sought the incorporation of targets on specific issue areas, such as transit crowding, goods movement, or highway safety. Staff responses to the most commonly-received comments can be found in **Attachment A**.

Goals and Performance Targets: Revisions Incorporated into Staff Recommendation

Given the strong interest in reflecting concerns about displacement in the Plan performance targets, staff is recommending several revisions to the targets recommendation presented in July to more prominently address this key regional issue:

1. Staff is proposing to include anti-displacement language in the Adequate Housing target, regardless of which target proposal (MTC or ABAG) is identified as the preferred measure.
2. Staff is proposing to expand the geography of the affordable housing target to include not only Priority Development Areas (PDAs), but also Transit Priority Areas (TPAs) transit-served areas defined under SB 375 and high-opportunity areas, as a means to mitigate displacement risk.
3. Staff is proposing to add a displacement risk target that captures the changes in displacement pressures on lower-income households as a result of housing growth, employment proximity, and fixed-guideway transit investments.

It is important to note that the displacement risk target is focused specifically on risk based upon the Regional Early Warning System for Displacement developed by UC Berkeley, as future displacement cannot be forecasted with models currently available. Given its focus on displacement pressures, it does not reflect the benefits from anti-displacement policies such as rent control. However, it does serve as a useful barometer of how growth patterns and transportation investments may result in a greater need for such policies. Staff will continue to work with UC Berkeley researchers on the Regional Early Warning System to allow for forecasting of displacement in future long-range plans. For more information about the definition of displacement and the methodology associated with the displacement risk target, refer to the memorandum for the displacement item in today's meeting packet.

Staff also heard concerns from transportation stakeholders that the proposed access to jobs performance target does not adequately reflect the regional issue of traffic congestion. However, staff recommends preserving the access to jobs target as the best measure of why we seek to reduce congestion. Rather than simply measuring the number of minutes of delay, the proposed target quantifies the economic impact of such delay on residents' ability to access jobs across the region. Note that the proposed target measures access for both motorists and transit users during the AM peak period and therefore reflects the impacts of traffic congestion. Finally, the access to jobs target captures a broader suite of policy actions beyond highway expansion that can be implemented to combat congestion – including transit improvements and land use actions that bring housing and jobs closer together – which would not necessarily be captured by a congestion delay target.

The full set of goals and performance targets included in the revised staff recommendation can be found in **Attachment B**; the criteria used to identify targets can be found in **Attachment C** for reference purposes. In addition to target revisions above, staff has identified numeric values for several performance targets that previously incorporated placeholders. Additional discussion of target methodologies and the justification for the numeric targets identified can be found in **Attachment D**.

Finally, while a number of targets have been updated based on feedback from policymakers and stakeholders in July, there remain two alternative proposals on the table for target #2 related to Adequate Housing. As a result of the changes outlined above related to displacement, the sole

remaining inconsistency between the MTC and ABAG proposals is the language related to in-commuting. To ensure compliance with the Building Industry Association settlement agreement, MTC proposes to use the phrase "with no increase in in-commuters over the Plan baseline year" in the target, while ABAG is proposing the phrase "using a Regional Housing Control Total with no increase in in-commuters over the Plan baseline year." Staff is seeking direction from policymakers on what language should be adopted as the final Adequate Housing target.

Next Steps

- **September 2015:** Seek approval of Plan Bay Area 2040 goals & targets (ABAG Executive Board and MTC Commission adoption)
- **Fall 2015:** Define scenarios for evaluation in Plan Bay Area 2040
- **Winter 2015:** Release project performance assessment results for public review
- **Spring 2016:** Release scenario performance assessment results for public review

ATTACHMENT A: DISCUSSION OF KEY FEEDBACK RECEIVED

Comment: The performance targets do not sufficiently address displacement, a key regional policy issue.
Response: Refer to discussion in the memo above; staff is recommending several changes to the targets to more explicitly reflect displacement concerns under Adequate Housing and Equitable Access.

Comment: The affordable housing target is too narrowly focused on Priority Development Areas (PDAs) and should be expanded to include Transit Priority Areas (TPAs) or high-opportunity areas.
Response: Refer to discussion in the memo above; staff is recommending to incorporate the language proposed by the Policy Advisory Council to reflect a more expansive definition of where affordable housing should be prioritized in the region.

Comment: The access to jobs target does not reflect key economic concerns, such as those related to the creation of living-wage jobs.
Response: Given that the Plan is specifically focused on policy levers related to transportation and land use, and given that economic factors such as job creation and unemployment do not differ between scenarios, these measures are not the best way to compare scenarios. Rather, staff recommend preserving the access to jobs target as the best possible measure to consider how transportation and land use policy provide the opportunity for economic advancement – by increasing the share of job opportunities available to the average resident of the region. As discussed in **Attachment D**, research has shown that increasing access to jobs correlates with growth in wages, evidence of the nexus between the proposed target and the goal of Economic Vitality.

Comment: The access to jobs target does not sufficiently address the issue of traffic congestion.
Response: Refer to discussion in the memo above.

Comment: The access to jobs target prioritizes highway expansion as a means of reducing congestion and increasing access to jobs.
Response: While the proposed access to jobs target does incorporate access by autos as a critical component of getting Bay Area residents to work, highway expansion projects are just one potential policy action that could be advanced to move towards the target. As discussed above, expansion or enhancement of the region's public transit network also would result in progress towards this target; smart growth land use policies could also result in measurable benefits. The proposed target allows the broadest suite of policy actions to make progress, which is critical given how difficult it is to combat congestion in our growing and vibrant region.

Comment: There are no specific targets explicitly focused on issues such as goods movement, transit crowding or road safety.
Response: Given that this is intended to be a limited set of performance targets that reflect the region's top priorities, not every target made the final cut after discussion with the Performance Working Group. With regards to goods movement or transit crowding, existing models are quite limited in terms of quantifying impacts, making it difficult to differentiate between scenarios. Other measures have been merged into unified targets; for example, road safety is one component of the unified health and safety target for Plan Bay Area 2040. Given that the overall goal of all three components is to save lives, the vast majority of stakeholders agreed that it was appropriate to measure the combined impact as the performance target. Note the individual components of this target will be reported separately in technical documentation for interested stakeholders.

Comment: Plan Bay Area targets for state of good repair, which focused on asset condition rather than impacts to the public, should be preserved for the sake of consistency.
Response: Traditional state of good repair measures, such as pavement condition index (PCI), will continue to be reported in the Plan Bay Area 2040 Needs Assessment for more technical subject area experts. Staff believes that the proposed performance targets for Plan Bay Area 2040 are more tangible and more meaningful to the public, focusing on the impact of asset condition on their day-to-day experience driving

on bumpy roads or waiting for delayed transit vehicles. More information about the target methodologies can be found in **Attachment D**.

ATTACHMENT B: REVISED STAFF RECOMMENDATION FOR PLAN BAY AREA 2040 GOALS AND TARGETS

Proposed Goal	#	Proposed Target*	Same Target as PBA?
Climate Protection	**1**	Reduce per-capita CO_2 emissions from cars and light-duty trucks by **15%**	✓
Adequate Housing	**2**	*ABAG Proposal*: House **100%** of the region's projected growth by income level without displacing current low-income residents **using a Regional Housing Control Total with no increase in in-commuters over the Plan baseline year** **-- OR --** *MTC Proposal*: 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	**Reduce the share of households at risk of displacement to 0%**	
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	
Transportation System Effectiveness	**9**	Increase non-auto mode share by **10%**	✓
	10	Reduce vehicle operating and maintenance costs due to pavement conditions by **100%**	
	11	Reduce per-rider transit delay due to aged infrastructure by **100%**	

* = **text marked in blue** represents target language revision from July draft staff recommendation

ATTACHMENT C: PRIMARY TECHNICAL CRITERIA FOR SELECTING PERFORMANCE TARGETS

#	Criterion for an Individual Performance Target
1	**Targets should be able to be forecasted well.** A target must be able to be forecasted reasonably well using MTC's and ABAG's models for transportation and land use, respectively. This means that the target must be something that can be predicted with reasonable accuracy into future conditions, as opposed to an indicator that can only be observed.
2	**Targets should be able to be influenced by regional agencies in cooperation with local agencies.** A target must be able to be affected or influenced by policies or practices of ABAG, MTC, BAAQMD and BCDC, in conjunction with local agencies. For example, MTC and ABAG policies can have a significant effect on accessibility of residents to jobs by virtue of their adopted policies on transportation investment and housing requirements.
3	**Targets should be easy to understand.** A target should be a concept to which the general public can readily relate and should be represented in terms that are easy for the general public to understand.
4	**Targets should address multiple areas of interest.** Ideally, a target should address more than one of the three "E's" – economy, environment, and equity. By influencing more than one of these factors, the target will better recognize the interactions between these goals. Additionally, by selecting targets that address multiple areas of interest, we can keep the total number of targets smaller.
5	**Targets should have some existing basis for the long-term numeric goal.** The numeric goal associated with the target should have some basis in research literature or technical analysis performed by MTC or another organization, rather than being an arbitrarily determined value.

#	Criterion for the Set of Performance Targets
A	**The total number of targets selected should be relatively small.** Targets should be selected carefully to make technical analysis feasible within the project timeline and to ensure that scenario comparison can be performed without overwhelming decision-makers with redundant quantitative data.
B	**Each of the targets should measure distinct criteria.** Once a set of targets is created, it is necessary to verify that each of the targets in the set is measuring something unique, as having multiple targets with the same goal unnecessarily complicates scenario assessment and comparison.
C	**The set of targets should provide some quantifiable metric for each of the identified goals.** For each of the seven goals identified, the set of performance measures should provide some level of quantification for each to ensure that that particular goal is being met. Multiple goals may be measured with a single target, resulting in a smaller set of targets while still providing a metric for each of the goals.

ATTACHMENT D: PROPOSED PERFORMANCE TARGETS – BACKGROUND INFORMATION & METHODOLOGIES

Unless otherwise specified, performance targets rely upon a baseline year of 2005 and a horizon year of 2040 for forecasting and analysis purposes.

Performance Target #1: Climate Protection
Proposed Target Language: Reduce per-capita CO_2 emissions from cars and light duty trucks by 15%

Background Information

Under California Senate Bill 375, major metropolitan areas in the state are required to develop a Sustainable Communities Strategy as part of their Regional Transportation Plan. This means that the adopted Plan must achieve per-capita greenhouse gas reduction targets as established by the California Air Resources Board (CARB). CARB established two climate protection targets for the San Francisco Bay Area in 2010, which have incorporated into both Plan Bay Area and Plan Bay Area 2040:

- Per-capita reduction of greenhouse gas emissions by 7 percent by year 2020
- Per-capita reduction of greenhouse gas emissions by 15 percent by year 2035

This is a statutory target and therefore must be reflected in the set of Plan performance targets. Under Senate Bill 375, the Plan must meet state-identified greenhouse gas reduction targets to comply without the adoption of a separate Alternative Planning Strategy (APS).

Past Experience

This target is fully consistent with Plan Bay Area; no changes have been made to the target as originally adopted in 2011. Before the passage of Senate Bill 375, previous MTC long-range plans, including Transportation 2035, included non-statutory targets to reduce greenhouse gas emissions.

Plan Bay Area exceeded the greenhouse gas emissions target, achieving a 16 percent reduction for year 2035 and an 18 percent reduction in emissions between 2005 and 2040, while at the same time also exceeding its 2020 interim target. The target performance results incorporate both the emissions reduction from transportation, land use and demographics (from Travel Model One and EMFAC), in addition to the emissions reductions associated with the Regional Climate Program (based on off-model assessments).

Evaluation Methodology

The statutory Climate Protection target reflects greenhouse gas emissions reductions, focusing specifically on carbon dioxide emissions per statewide modeling guidance. Travel Model One – the region's activity-based travel demand model – will be used to forecast emissions reductions as a result of various scenarios. Travel Model One analyzes daily travel patterns as a result of scenarios' transportation investments and land use patterns, making possible the calculation of vehicle miles traveled (VMT) and speed of travel. The California Air Resources Board's EMFAC air quality model will then be used to calculate the pounds of carbon dioxide emissions associated with the forecasted levels of regional travel.

For off-model Climate Initiatives, which may include efforts like regional electric vehicle incentives, greenhouse gas emissions reductions will be calculated by estimating the direct greenhouse gas emissions reduction of specific funded programs, rather than forecasting travel impacts in the model. This is appropriate as many of the programs are not designed to necessarily reduce VMT, but instead reduce emissions through cleaner vehicles and improved driving habits. These greenhouse gas emission reductions are added to the model calculations, resulting in combined greenhouse gas emission reductions from the Plan as a whole. Reductions are normalized based on relevant population forecasts developed by ABAG. Refer to additional information on the forecasting methodology in the Plan Bay Area Travel Model One Data Summary, which will likely be updated later in this planning cycle for Plan Bay Area 2040.

Note that the target relies upon a horizon year of 2035 instead of the standard 2040 horizon year used for other performance targets to ensure consistency with the CARB target.

Performance Target #2: Adequate Housing
Proposed Target Language (ABAG): House 100% of the region's projected growth by income level without displacing current low-income residents using a Regional Housing Control Total with no increase in in-commuters over the Plan baseline year
– OR –
Proposed Target Language (MTC): 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

Background Information

Similar to the greenhouse gas reduction target, California Senate Bill 375 requires Plan Bay Area to house all of the region's growth. This is an important regional issue given that long interregional trips – which typically have above-average emission impacts – can be reduced by planning for sufficient housing in the region.

Past Experience

A similar version of this target was included in Plan Bay Area, although both proposals for Plan Bay Area 2040 incorporate language clarifying how the in-commute and the regional housing control total will be calculated as agreed to by MTC, ABAG, and the Building Industry Association as part of a 2014 legal settlement. Although the target language was slightly different, Plan Bay Area met the Adequate Housing target. Plan Bay Area housed 100% of the region's projected growth as defined under the adopted language from 2011.

Evaluation Methodology

Evaluation of this performance target will utilize the methodology relating to the Regional Forecast agreed to by both agencies. See "Plan Bay Area 2040 Regional Forecast Approach" memo dated July 2, 2015.

Performance Target #3: Healthy and Safe Communities
Proposed Target Language: Reduce adverse health impacts associated with air quality, road safety, and physical inactivity by 10%

Background Information

This target focuses on the issue of public health by evaluating the net impacts of air quality, road safety and physical activity improvements. By creating a unified target that directly measures the net health impact of scenarios, Plan Bay Area 2040 elevates this issue when compared to prior planning cycles. Rather than adopting separate targets for air quality, road safety, and physical activity, this proposed target focuses on the combined impact of the transportation and land use policies that move the region towards a common goal of improved health outcomes. Adverse health impacts are measured in disability-adjusted life-years of impact (DALYs) on a per-capita basis. Note that the individual impacts on all three issue areas will be reported separately in technical documentation for subject area experts interested in how the Plan benefits a specific issue. However, the target will be focused on the combined impact (i.e., progress towards a goal of improved health).

The numeric target was selected based on an analysis by Neil Maizlish, et al. entitled "Health Cobenefits and Transportation-Related Reductions in Greenhouse Gas Emissions in the San Francisco Bay Area", published in the *American Journal of Public Health*. In that paper, Maizlish et al. conducted an analysis of the Bay Area to see how an aggressive scenario focused on increased bicycle and pedestrian mode shares might move the needle for public health. When the net impact of such a policy (versus a business-as-usual scenario) is compared to the total disability-adjusted life-year impacts to the region from MTC model runs, the region yielded a reduction of just over five percent. While active transportation is the largest component of health benefits, road safety and air quality focused investments in the Plan can also move the needle. Given that, it is recommended that a slightly more aggressive target of 10 percent reduction be used for this performance target.

Past Experience

This is a new target for Plan Bay Area 2040 that incorporates components of multiple Plan Bay Area targets into a single integrated target. It reflects one of the top priorities of the Performance Working Group in terms of advancing public health as a key element of the long-range planning process.

Evaluation Methodology
To calculate the health impacts of a given scenario, staff will run the Integrated Transportation and Health Impact Model (ITHIM), which has been calibrated for the Bay Area by the California Department of Public Health. The run

requires inputs from Travel Model One, which include travel activity patterns for walking and biking as well as rates related to collisions and air quality. ITHIM then translates those inputs into a detailed suite of health impact measures, including disability-adjusted life-year impacts. The impacts will be normalized based upon population to take into account the overall growth expected in the region between 2005 and 2040.

Performance Target #4: Open Space and Agricultural Preservation
Proposed Target Language: Direct all non-agricultural development within the urban footprint (existing urban development and UGBs)

Background Information

This performance target is focused very specifically on the protection of open space and agricultural lands. In order to move towards this goal, the target seeks to limit development to publicly-defined urban areas. SB 375 legislation asks regions to consider the best available data on resource lands. Special resource lands and farmland are specifically defined in SB 375 and include:

- Publicly owned parks and open space;
- Open space and habitat areas protected by natural resource protection plans;
- Species habitat protected federal or state Endangered Species Acts;
- Lands subject to conservation or agricultural easements by local governments, districts, or non-profits
- Areas designated for open space/agricultural uses adopted in elements of general plans;
- Areas containing biological resources described in CEQA that may be significantly affected by a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS);
- Areas subject to flooding as defined by the National Flood Insurance Program; and
- Lands classified as prime/unique/state-significant farmland or lands classified by a local agency meeting or exceeding statewide standards that are outside of existing city spheres of influence/city limits.

One key difference between this target and the Adequate Housing target is that this measure is not statutory and therefore some scenarios may fall short in achieving the target.

Past Experience

This target is fully consistent with Plan Bay Area, which was the first regional plan in the Bay Area to include such a target related to greenfield protection. Plan Bay Area met the target with 100% of non-agricultural development focused in the urban footprint.

Evaluation Methodology

Using the localized development pattern forecasted by the UrbanSim land use model for each scenario, staff will calculate the number of acres of new development, as well as significant redevelopment, across the entire region. Once identified, staff will then identify each development as occurring within the urban footprint or outside the 2010 urban footprint. The number of acres of development within the urban footprint will be divided by the total acres of development across the region to calculate this target.

Note that the target relies upon the 2010 urban footprint instead of the standard year 2005 baseline used for other performance targets, per policy action taken during the adoption of Plan Bay Area targets in 2011.

Performance Target #5: Equitable Access (Affordability)
Proposed Target Language: Decrease the share of lower-income residents' household income consumed by transportation and housing by 10%

Background Information

As an affordability target, decreasing the combined costs of housing and transportation for lower-income residents as a share of their income addresses a key challenge for them when they consider where to live and how far to travel to get to work, services and amenities. Often low-income households are not able to afford housing close to where they currently work, or where they may have access to a range of job opportunities and amenities. Being priced out of these high-opportunity areas may result in lower household income (as opportunity costs rise) and higher travel costs.

In the end, a household that can afford to live close to work and use transit or other affordable transportation options, may spend a similar or even lower share of its household income on the combined cost of housing and transportation.

Reducing these costs across the region will increase affordability and boost economic opportunities for lower-income residents.

The numeric target was adapted from a 2006 report by the Center for Housing Policy ("A Heavy Load: The Combined Housing and Transportation Burdens of Working Families"). According to that report, Bay Area families with annual incomes under $70,000 spend a combined average of 61% of earnings on housing (39%) and transportation (22%). This share of 61% of earnings is approximately 10% above the national average share spent by lower-income households. Therefore, this target is set to improve transportation and housing affordability to approximately match the national average by 2040.

Past Experience

This target was included in Plan Bay Area, but the methodology for estimating housing costs has been improved as described below. Under Plan Bay Area, the region was forecasted to move in the opposite direction of this target, with housing and transportation costs as a share of income rising by 3% between 2005 and 2040. This reflects the difficulty of increasing affordability in an economically vibrant region, particularly given the forecasted future costs of housing.

Evaluation Methodology

The share of household income consumed by both transportation and housing will be forecasted by combining results from the transportation model (for future transportation costs) and land use model (for future housing costs). Both models are adjusted to identify costs for low-income households. Note that lower-income households are defined as households earning less than $60,000 in year 2000 dollars, roughly reflecting the lower two quartiles of the income spectrum.

For the transportation model, user costs account for the cost of maintaining and owning an automobile, purchasing transit fares and passes, and paying bridge and roadway tolls, etc. These costs are forecasted using Travel Model One using observed travel behavior for low-income and lower-middle-income residents; and assumptions about gas prices, toll fees, and transit fares, etc. For more information on the travel model and details on assumptions, refer to the Plan Bay Area Travel Model One Data Summary, which will likely be updated later in this planning cycle for Plan Bay Area 2040.

UrbanSim, the land use model developed for use in Plan Bay Area 2040, calculates the portion of income spent on housing by forecasting a detailed micro-database of individual housing units and estimating their prices in year 2040. Similarly, UrbanSim incorporates control total forecasts developed by ABAG and estimates the occupancy of such units by households with forecasted incomes. In each forecast year, the model assigns additional households that enter the housing market to units based on household characteristics (including income) and housing availability.

If unit demand exceeds supply in particular locations, prices in that location increase. The real estate development model then assesses parcels and builds new units if they are profitable under prevailing prices, zoning, interest rates, and construction costs. UrbanSim also accounts for deed restrictions on specific housing units. Combining the forecasted price of each unit for each forecast year with census-derived annual ownership costs provides an estimate of cost burden for future years.

Overall size and growth in regional population, regional income and wealth, and housing market leakage beyond the nine counties are all expected to influence housing prices in the long run. To account for these macroeconomic factors, UrbanSim results are compared to a national model to evaluate the median forecasted price and adjusted as needed. Grounding UrbanSim within an estimate of macro factors provides both a reasonable estimate of the region's median housing price and the housing burden for a low-income household in the region.

Performance Target #6: Equitable Access (Affordable Housing)
Proposed Target Language: Increase the share of affordable housing in PDAs, TPAs, or high-opportunity areas by 15%

Background Information

The provision of affordable housing is one of the Bay Area's most pressing issues. This target addresses the region's need to increase its overall share of housing that is affordable to lower-income households, focusing particularly on communities with strong transit access and communities with high levels of opportunity. The target has a nexus with

anti-displacement efforts, as preservation and expansion of affordable housing in these communities helps to mitigate the risk of displacement for lower-income households.

As of 2010, approximately 15 percent of housing units in these communities have been identified as affordable; the proposed performance target would double this share to approximately 30 percent of housing units, an increase of 15 percentage points. As 2005 data is not available, it is assumed that this percent increase would be comparable between the 2005 baseline and the 2040 horizon year. Relying upon ballpark calculations using Plan Bay Area growth forecasts, this would be the equivalent of locating all affordable housing in PDAs, TPAs or high opportunity areas while still allowing for 80 percent of all market-rate housing to be constructed in these zones as well.

Several definitions are critical for the evaluation of this target:

- Affordable Housing: refers to housing that is affordable to lower income households (moderate income making 80-120% AMI, low income making 50%-80% AMI, very low income making 0-50% AMI) that is either deed-restricted or produced by the market (non-deed-restricted).
- Priority Development Areas (PDAs): refers to locally-designated areas that are planned to accommodate 78% of the region's projected housing growth and 62% of its jobs under Plan Bay Area.
- Transit Priority Areas (TPAs): refers to an area within a ½-mile of high quality transit (i.e., rail stop or a bus corridor that provides or will provide at least 15-minute frequency service during peak hours by the year 2035).
- High-Opportunity Areas: refers to areas that score highly in a composite score of 18 indicators, developed by the Kirwan Institute of Race and Ethnicity[1], pertaining to education, economic mobility, and neighborhood and housing quality.

Past Experience

This target was not included in Plan Bay Area and represents an expansion of Equitable Access targets to focus specifically on affordable housing development.

Evaluation Methodology

Baseline and future performance for this target will be calculated using UrbanSim, the regional land use model, which will evaluate housing costs to identify affordable units available. UrbanSim incorporates deed restrictions into its analysis and thus reflects both deed-restricted and non-deed-restricted units in its calculations. GIS layers pertaining to PDAs, TPAs, and high-opportunity areas will then be merged and overlaid on top of that baseline to determine the existing share of housing affordable to moderate to very low-income households in the Bay Area residing in those respective geographies.

Performance Target #6: Equitable Access (Risk of Displacement)
Proposed Target Language: Reduce the share of households at risk of displacement to 0%

Background Information

Displacement has been identified as a major issue in the Bay Area. While there is currently no precise way of actually measuring and forecasting displacement on a regional scale, displacement risk can be quantified by analyzing recent trends. This builds upon the work of the Regional Early Warning System for Displacement (REWS)[2].

Risk of displacement indicates that a neighborhood is particularly subject to displacement pressures. With a displacement target of 0% ABAG and MTC aim to fully mitigate potential displacement pressures that might be a direct result of the Plan. Displacement is defined as occurring when a household is forced to move from its place of residence due to conditions beyond its ability to control. These conditions may include unjust-cause eviction, rapid rent increase, or relocation due to repairs of demolition.

Note that once baseline conditions for risk of displacement are calculated for year 2005, the numeric target will be translated to a percent change from 2005 baseline conditions to maximize consistency with other performance targets.

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[1] The Kirwan Institute for the Study of Race and Ethnicity is a nationally recognized research center of Ohio State University. It has partnered with regions across the country to craft more equitable regional planning tools, including PolicyLink, the Puget Sound Regional Council (PSRC) in Seattle, and the Capital Area Council of Governments in Texas.

[2] See: http://iurd.berkeley.edu/uploads/CCI_Final_Report_07_23_15.pdf. The Regional Early Warning System for Displacement Study was funded in part by the Bay Area Regional Prosperity Plan and California Air Resources Board.

Past Experience

This target is new to Plan Bay Area 2040, although it represents a more refined version of the displacement risk measure using the Plan Bay Area Equity Analysis. That work identified that Plan Bay Area increased the regional risk of displacement to 36% in Communities of Concern and 8% elsewhere in the region. It reflects an issue of increasing policy concern over the past few years, thus justifying its inclusion as a performance target for this planning cycle.

Evaluation Methodology

In order to forecast risk of displacement, baseline and future conditions will be analyzed by relying upon population forecasts, employment forecasts, and infrastructure investment information. Each analysis zone – most likely, traffic analysis zones which are the finest geography provided by ABAG forecasts – will be classified as at risk of displacement or not at risk of displacement using the following criteria:

Criteria	Definition	Thresholds and Application
Concentration of lower-income households AND	Households making below 80% of the regional median income	Share of low income households exceeds the regional median by half of a standard deviation
Concentration of new residential development	Focused residential growth in a given neighborhood	Residential growth exceeds the regional mean by half of a standard deviation
OR Proximity or access to job centers (job density)	Neighborhoods in proximity, or with a direct access to jobs	Employment density exceeds the regional mean by half of a standard deviation
OR Planned or existing fixed guide-way transit station	Quality transportation infrastructure attracts new investment to a neighborhood by improving access to jobs and amenities	Presence or plan for a fixed guideway transit station

Inputs to and outputs from UrbanSim and Travel Model One will be used to calculate each of the measures listed. Housing and jobs will come from ABAG forecasts, which rely upon UrbanSim for distribution to traffic analysis zones. The presence of existing fixed guideway transit stations is determined through historical data, while the future presence of fixed guideway transit stations will be determined by identifying such investments selected for each scenario in Plan Bay Area 2040.

Performance Target #8: Economic Vitality
Proposed Target Language: Increase by 20% the share of jobs accessible within 30 minutes by auto or within 45 minutes by transit in congested conditions (see Attachment B).

Background Information

Given that economic forecasts for the Plan are consistent across scenarios, the Plan's greatest potential to affect the region's economic vitality can be measured via access to jobs. The general consensus amongst economists is that a higher number of jobs a worker can access within a reasonable commute shed leads to greater prospects for employment and greater potential for economic advancement. This performance measure is designed to capture the ability of workers to get to jobs in congested conditions, reflecting the economic impact of traffic congestion on the region's economy. Rather than a "pure" measure of congestion (such as minutes of delay), which primarily captures the benefit of highway projects and fails to recognizes the underlying economic justification for projects that tackle this regional issue, this performance measure reflects the full suite of policy tools that can be used to improve access to jobs during congested times of day. These include highway expansion, highway operational improvements, transit expansion, transit operational improvements, and land use strategies to bring workers and jobs closer together (i.e., jobs-housing balance).

Congested conditions are defined as the AM peak period, the most common time of day for commuting to work. The 30 minute and 45 minute thresholds for each mode of transport approximately reflect the average regional door-to-door commute time for each mode per Vital Signs data originally tabulated by the U.S. Census Bureau in 2013. The performance target focuses on all residents connecting to all jobs, given that this is a measure of the region's overall economy (rather than a specific industry or economic class). It is not possible to measure jobs-housing fit as ABAG does not forecast jobs by income level, making it impossible to link residents and jobs based on income classification for future years (e.g. year 2040).

The proposed numeric target was developed relative to the baseline conditions in 2005, at which point one in five (approximately 20%) regional jobs was accessible to the average Bay Area resident within the time and congestion criteria identified above. The numeric target represents an approximate doubling of this level of jobs access from roughly 20% to 40% by year 2040; this is reflected in the target as an increase in jobs access by 20 percentage points. The target was inspired by research incorporated in the "Access to Destinations" report produced by the University of Minnesota Center for Transportation Studies, which cites a 2012 Transportation Research Board paper on productivity effects from accessibility (Melo et al., 2012). The report identified that doubling jobs access correlates to real average wage growth of 6.5 percent for the average U.S. metro area. This linkage between the proposed target and wage growth highlights how improved access to jobs can result in real-world economic benefits for workers.

Past Experience

This target is new to Plan Bay Area 2040, as it was not included as a performance target in Plan Bay Area. However, long-range plans developed by MTC in the past have used access to jobs as an economic performance target. The proposed target expands upon that past work by specifically incorporating congestion into the target to highlight the importance of congestion reduction as a regional economic concern. The prior Plan's economic target of gross regional product was removed as a performance target as it will not differ between scenarios, making it a poor target to compare scenarios focused on differing transportation investments and land use patterns.

Evaluation Methodology

This performance target relies upon the Travel Model One "skims" for zone-to-zone congested travel times both for single-occupant vehicles and public transit. Using a Python script developed to evaluate accessibility, the "skim" matrices are loaded into the script, which then calculates for each zone which other zones it can reach either within 30 minutes by auto or within 45 minutes by transit. It is assumed that auto users are single-occupant vehicle drivers who decline the use of Express Lanes; the job access target looks specifically at the AM peak period, when the greatest share of the region's residents are commuting to work. By focusing on the AM peak, both auto and transit travel times reflect the impact of congestion on job access. Once the script has calculated which zones are accessible, the number of jobs accessible for the zone is summed and divided by the total jobs in the region. Using the share of jobs accessible for each zone, a regional share is calculated using a weighted average of all 1454 zones based on the number of residents in each zone. The result is a reflection of the average share of jobs accessible to the average number in the Bay Area.

Performance Target #9: Transportation System Effectiveness (Mode Share)
Proposed Target Language: Increase non-auto mode share by 10%

Background Information

This target reflects the overall efficiency of the transportation system by capturing the share of trips taken by non-auto modes – public transit, walking and bicycling. By aiming to increase the share of trips taken without a car by 10 percentage points, the target reflects a given scenario's ability to make non-auto modes more convenient and accessible for all. While this target is in many ways a proxy for the benefits associated with sustainable modes of transport, it reflects key policy goals related to modal shift in support of sustainable communities and transport efficiency.

Unlike other performance targets, there was not a strong foundation for this specific target at the time of its identification in Plan Bay Area, as it was a result of target modifications after initial adoption by MTC/ABAG in 2011. The initial target was related to non-auto travel time reduction, which proved problematic given that modal shift tended to increase rather than decrease travel times. However, the performance target does align to a certain extent with the aggressive targets established by the California Department of Transportation (Caltrans) in 2015, which seek to double mode shares for walking and public transit and triple mode share for target. The proposed Plan Bay Area 2040 target would nearly double non-auto mode share, albeit over a more achievable time period (between 2005 and 2040) when compared to Caltrans' goal to increase mode shares within the next five years (between 2015 and 2020).

Past Experience

This target is fully consistent with Plan Bay Area; no changes have been made to the target as originally adopted in 2011. Plan Bay Area fell short on this performance target, achieving only a 4 percentage point increase in non-auto mode share (an increase from 16% non-auto mode share in 2005 to 20% non-auto mode share in 2020). This reflects the difficulty of achieving significant modal shifts in a mature region without more aggressive transportation and land use interventions. While non-auto mode share is particularly strong in the center of the region, a significant share of Bay Area residents live in lower-density communities without time-competitive alternatives to the automobile.

Evaluation Methodology

Non-auto mode share is a direct output of Travel Model One. The region's mode share is based on all trips made by Bay Area residents, rather than a narrow focus on commute trips. To calculate non-auto mode share, all non-auto trips (transit, bicycle and pedestrian) trips are first summed. They are then divided by the total number of regional trips (which includes the aforementioned modes but also adds in single-occupant and multi-occupant vehicle trips), which results in the percentage of trips utilizing non-auto modes.

Performance Target #10: Transportation System Effectiveness (State of Good Repair for Roads)
Proposed Target Language: Reduce vehicle operating and maintenance costs due to pavement conditions by 100%

Background Information

This target focuses on the user impacts as a result of road maintenance for the region's freeways, arterials, and local streets. In a reflection of the region's "Fix It First" policy, the proposed performance target seeks to bring all roads to a state of good repair and thus reduce the extra vehicle operating and maintenance costs associated with rough roads to zero. This would result in a 100% decrease in such costs between 2005 and 2040.

The proposed target combines two separate targets from Plan Bay Area into a single target, while still respecting the importance of preserving all streets and continuing MTC's long-standing commitment to infrastructure preservation as a top priority. The target incorporates the monetary impacts to drivers, regardless of the facility type in question. Furthermore, it reflects the miles traveled on each type of road – the greater the traffic volumes, the greater the impact on vehicle operating and maintenance costs.

Past Experience

This target is new to Plan Bay Area 2040, as it was not included as a performance target in Plan Bay Area. However, every long-range transportation plan adopted by MTC over the past decade has included some measure of road and/or freeway state of good repair as a performance target, reflecting the high-priority nature of this transportation issue area. The proposed target works to quantify the impacts of road maintenance funding levels in terms an average citizen can understand – additional vehicle maintenance costs as a result of system condition – regardless of the facility type the driver chooses to use to get from point A to point B.

Evaluation Methodology

This performance target will be calculated using MTC's StreetSaver tool, Caltrans pavement forecasts, and Travel Model One. The specific methodology, which is detailed in the 2015 Transportation Research Board *Annual Meeting Compendium of Papers* (Paterson and Vautin, 2015), relies upon pavement condition index and international roughness index to calculate increased vehicle operating and maintenance costs as a result of rough roads. In general, roads with a PCI greater than 60 and freeways with IRI less than 95 are considered to be in fair, good, or excellent condition and therefore in a state of good repair. The target will be calculated by calculating extra vehicle operating and maintenance costs in Travel Model One for both baseline and horizon year conditions to determine whether cost burdens on drivers increase or decrease over this period. The methodology incorporates all motor vehicles, including trucks; while it does not capture bike or pedestrian impacts, it serves as a useful proxy for potential safety disbenefits on these users due to potholes or other impacts of disrepair.

Performance Target #11: Transportation System Effectiveness (State of Good Repair for Public Transit)
Proposed Target Language: Reduce per-rider transit delay due to aged infrastructure by 100%

Background Information

MTC has consistently prioritized a "Fix It First" policy in past regional transportation plans, in which preservation of the existing system takes priority over expansion projects. In the past, transit asset condition has been measured with an index known as PAOUL (percent of transit assets over their useful life) – with a goal of replacing all transit assets on time. For Plan Bay Area 2040, the proposed performance target focuses on the impacts of replacing (or not replacing) transit assets on time, with a goal of replacing delay impacts on riders due to aged assets by 100 percent (e.g., achieve zero delays due to aged buses, trains, tracks, etc. failing and thus affecting transit riders).

The numeric target was selected to align the target with the Plan Bay Area PAOUL target (same goal of replacing assets on time) and to reflect the "Fix It First" policy. Given that objective, it seems appropriate to set this aggressive target to bring the entire transit system to a state of good repair. Note that per-rider transit delay will be measured in minutes for Bay Area transit riders.

Past Experience

This target is new to Plan Bay Area 2040, as it was not included as a performance target in Plan Bay Area. However, every long-range transportation plan adopted by MTC over the past decade has included some measure of transit state of good repair as a performance target, reflecting the high-priority nature of this transportation issue area. The proposed target works to quantify the impacts of transit maintenance funding levels in terms an average citizen can understand – minutes of delay impacting their commute (or non-commute) onboard public transit as a result of system condition.

Evaluation Methodology

This performance target will be calculated using the Regional Transit Capital Inventory, the Federal Transit Administration's TERM-Lite transit asset prioritization tool, and Travel Model One. This methodology, which is detailed in *The Journal of Public Transportation* (Paterson and Vautin, 2015), relies upon asset ages to calculate failure rates for vehicle and non-vehicle infrastructure. These failure rates are translated into per-boarding and per-mile delay rates that affect passengers. To calculate a regional impact, the delays for each system will be weighted by the number of passengers experiencing such delay to identify the average delay for the typical transit rider in the Bay Area as a whole.

Delays from assets still within their useful life will not be reflected in the performance target, as the target focuses specifically on "aged infrastructure" – that is, infrastructure past its useful life.

Plan BayArea 2040

Final Staff Recommendation for Goals & Targets

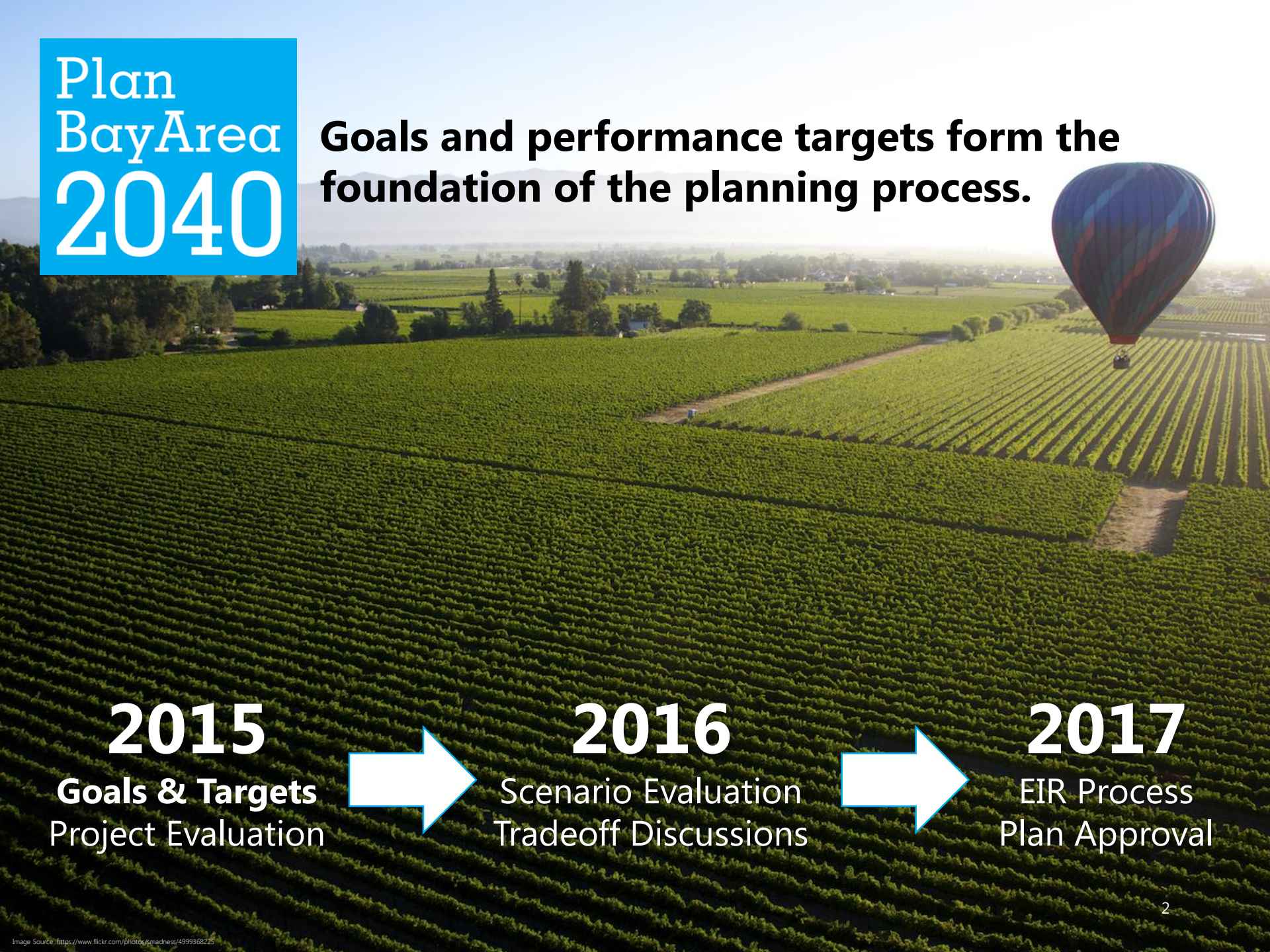
Image Source: https://www.flickr.com/photos/parksjd/5788858929

Regional Advisory Working Group

September 1, 2015

Plan BayArea 2040

Goals and performance targets form the foundation of the planning process.



2015
Goals & Targets
Project Evaluation

2016
Scenario Evaluation
Tradeoff Discussions

2017
EIR Process
Plan Approval

Image Source: https://www.flickr.com/photos/smadness/4999368225

Plan BayArea 2040

Concerns about displacement were elevated as a high-priority issue for Plan Bay Area 2040.

Target revisions made in response to feedback:

- New target added measuring risk of displacement
- Affordable housing target expanded to Transportation Priority Areas & high-opportunity areas
- Anti-displacement language restored in housing production target

Image Source: https://www.flickr.com/photos/kurafire/8501175681

Plan BayArea 2040

In addition to displacement, staff heard concerns from stakeholders that congestion is not being adequately captured.

Goal:	**Issue Area:**	**Proposed Target:**
Economic Vitality	Congestion Reduction & Access to Jobs	Increase by **20%** the share of jobs accessible within 30 minutes by auto or within 45 minutes by transit in congested conditions

Why is this target recommended?

- Best captures why we want to reduce congestion (to provide access to destinations)
- Has a direct nexus with increased economic opportunity and growth
- Allows for multimodal solutions to the challenge of regional traffic congestion

Image Source: https://www.flickr.com/photos/tq2cute/4508988227

Revised Staff Recommendation: Goals & Performance Targets

Plan BayArea 2040

CLIMATE PROTECTION

1 Reduce per-capita CO_2 emissions from cars and light-duty trucks by **15%****

ADEQUATE HOUSING

2 *ABAG Proposal:* House **100%** of the region's projected growth by income level without displacing current low-income residents **using a Regional Housing Control Total with no increase in in-commuters over the Plan baseline year**

– or –

MTC Proposal: 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

Text marked in blue indicates that the target was revised since the July draft staff recommendation.
Text marked with ** indicates that the target was rolled over from Plan Bay Area.

Revised Staff Recommendation: Goals & Performance Targets

Plan BayArea 2040

Healthy & 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 **Reduce the share of households at risk of displacement to 0%**

Text marked in blue indicates that the target was revised since the July draft staff recommendation.
Text marked with ** indicates that the target was rolled over from Plan Bay Area.

Revised Staff Recommendation: Goals & Performance Targets

Plan BayArea 2040

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

Transportation System Effectiveness

9 Increase non-auto mode share by **10%****

10 Reduce vehicle operating and maintenance costs due to pavement conditions by **100%**

11 Reduce per-rider transit delay due to aged infrastructure by **100%**

Text marked in blue indicates that the target was revised since the July draft staff recommendation.
Text marked with ** indicates that the target was rolled over from Plan Bay Area.

Image Source: https://www.flickr.com/photos/asherisbrucker/12929881895

Next Steps

Plan BayArea 2040

Goals & Targets

September 1:
RAWG **(information)**

September 9:
Policy Advisory Council **(information)**

September 11:
MTC Planning/ABAG Admin **(action)**

September 17:
ABAG Executive Board **(final approval)**

September 23:
MTC Commission **(final approval)**

Project Performance

Fall: Conduct evaluation
Winter: Release performance results
Spring: Identify high- & low-performers

Scenario Development

Fall: Define scenarios
Winter: Release performance results
Spring: Develop preferred scenario

Identify Preferred Scenario

June 2016