



Regional Airport Planning Committee

To: Regional Airport Planning Committee
Fr: RAPC Staff
Re: Revised Target Analysis Approach

October 23, 2009

Background

At your September meeting, staff outlined an approach for evaluating strategies to help the region address long-term aviation demand by using a set of performance measures and targets, which would represent desired planning outcomes. This is similar to the approach developed for MTC's latest long-range Regional Transportation Plan, of which RAPC's regional aviation analysis is a part. There was considerable discussion about this approach, and based on comments to date, this memo offers additional thoughts and suggestions. As you recall, the evaluation will be focusing on six scenarios (listed again in Attachment A), and how these scenarios are projected to perform in 2035 in relation to the performance measure targets.

Specific comments from the last RAPC meeting were:

A target is needed that addresses the economy and the connection between being able to serve passenger demand and a healthy economy.

Ground access emissions from vehicle trips to/from the airports needs to be added to the estimation of Greenhouse Gases and criteria pollutants (NOx and HC).

Estimating average aircraft delay does not capture all the aspects of how well the scenarios are serving air passengers. Another target is necessary to ensure that the airport system can provide adequate travel opportunities and choices for future air passengers (frequency, destinations, costs, etc.).

Based on this input, staff is proposing a revised set of measures and targets, as well as a set of goals that provide context for the targets and help to identify more clearly desired outcomes.

- Attachment B compares the first draft and proposed new measures and targets.
- Attachment C provides some comments on the measures to provide additional context.
- The Powerpoint presentation on the target approach from the September 25 RAPC meeting is also included in this memo to provide continuity for RAPC members.

Staff has sent the revised target analysis approach out to the Task Force for review and will advise the Committee of comments that are received prior to the October RAPC meeting.

Next Steps

Based on further input from RAPC, staff will continue to make revisions to the measures prior to applying them to the scenarios.

Attachment A
-Phase 2 Study Scenarios-

As outlined in the adopted Work Scope for the study, potential approaches for addressing the region's long-range airport capacity problems are identified as six different scenarios. Each scenario will be analyzed relative to the trend line, which is how we expect the airport system to perform in 2035 using the Base Case forecasts of airport activity. The six scenarios that will be analyzed are:

Scenario 1. This scenario is based on a redistribution of airline service among the three major airports to take advantage of unused runway capacity at less congested airports.

Scenario 2. This scenario assumes some air passenger and air cargo demand will be served at alternate airports (e.g ., Travis AFB, Moffett Federal Airfield, smaller general aviation airports, and out-of-region airports such as Sacramento International, Stockton, and Monterey).

Scenario 3. This scenario shifts some business jet operations from the air carrier runways to reliever general aviation airports around the region.

Scenario 4. This scenario assumes construction of a new California High Speed Rail (HSR) system which diverts some air passengers to rail.

Scenario 5. This scenario assumes implementation of new air traffic control (ATC) technologies to improve runway and airspace capacity in good and bad weather.

Scenario 6. This scenario assumes airports adopt demand management strategies to better balance airline flights with available runway capacity.

While these distinct scenarios are being analyzed separately during the initial analysis and public outreach (scheduled for February/March 2010), elements of the various scenarios will be combined later following Mid-Point Screening. This will enable staff and the Consultant to focus the remainder of the work on 2-3 main scenarios which best address the region's capacity problems and have demonstrated the potential to provide an approach that reaches a regional consensus.

Attachment B
-Old and New Measures/Targets-

Old Measure/Target	New Measure/Target
<p><u>Goal: A Healthy Economy</u> None</p>	<p><u>Goal: A Healthy Economy</u> <i>New Measure:</i> Economy-Whether a Scenario can serve projected demand (based on delay analysis) <i>Target:</i> Meets demand-rating is “Good” Doesn’t meet demand: rating is “Poor”</p>
<p><u>Goal: Reliable Runways</u> <i>Measure:</i> Average Annual Aircraft Delay <i>Target:</i> Less than 12 minutes per airport</p>	<p><u>Goal: Reliable Runways</u> Old measure/target, plus: <i>New Measure:</i> <u>Average aircraft delay during busiest three hours</u> at each airport <i>Target:</i> TBD from capacity/delay models</p>
<p><u>Goal: Good Airline Service</u> None</p>	<p><u>Goal: Good Airline Service</u> <i>New Measure:</i> Quality of Airline Service- <u>Flights per Capita in Top 15 Markets</u> <i>Target:</i> As good or better than today</p>
<p><u>Goal: Convenient Airports</u> None</p>	<p><u>Goal: Convenient Airports</u> <i>Measure:</i> Airport Accessibility-<u>Average Ground Access Time and Costs to Airports</u> <i>Target:</i> reduce ground access time/cost by x% (TBD)</p>
<p><u>Goal: Climate Protection</u> <i>Measure:</i> Greenhouse Gases-Daily Tons of CO2 from aircraft <i>Target:</i> AB32-40% reduction from 1990 levels needed to stabilize climate</p>	<p><u>Goal: Climate Protection</u> Old measure/target plus- include CO2 from airport ground access trips</p>
<p><u>Goal: Clean Air</u> <i>Measure:</i> Daily Tons of NO x and HC from aircraft <i>Target:</i> Same as or lower than today</p>	<p><u>Goal: Clean Air</u> Old measure/target plus- include emissions from airport ground access trips</p>
<p><u>Goal: Livable Communities</u> <i>Measure:</i> Regional population inside 65 CNEL contour <i>Target:</i> No increase from today</p>	<p><u>Goal: Livable Communities</u> Old measure/target plus- perform same population analysis for 55 CNEL contour</p>
<p><u>Other Measures</u> None</p>	<p><u>Other Measures</u> -still seeking input</p>

Attachment C

-Comments on Revised Target Analysis-

Goal: A Healthy Economy

Economy (New):

RAPC requested a measure that looks at the economic benefits of airports.

Visitors coming to the Bay Area for tourism, conventions, and regular business meetings support the regional economy through money spent on goods and services. They also generate local tax revenue and help sustain and increase local jobs (see SF Convention and Visitor Bureau and other sources).

Residents traveling by air support the economy through business developed through air travel, expenditures on airport access, hotels, parking and other goods and services.

Air cargo is a source of jobs and expenditures in the local economy.

The forecasts assume growth in air travel and air cargo and the associated economic benefits that would accrue from this activity. The measure for this target will be whether or not a scenario could accommodate the projected number of flights. In this context, lost flights equate to lost economic activity.

If a scenario can accommodate projected demand (based on estimates of aircraft delay), it would support economic growth and receive a “Good” rating; if not, a “Poor” rating.

Note: this measure will look at the ability of each airport to serve demand at acceptable levels of delay in 2035. The rating for each Scenario will largely be based on SFO’s performance, since this airport is “over capacity” in the 2035 Base Case forecasts.

Goal: Reliable Runways

Average Aircraft Delay

The original proposed measure was average annual aircraft delay, and this would be retained.

Average aircraft delay is calculated directly from the Consultant’s runway capacity models, and is independent from how the FAA collects and reports delays for the national airport system.

The Task Force and RAPC proposed a measure that would look at average aircraft delays during peak periods, as poor schedule reliability would have a disproportionately large effect on passengers traveling at this time and on the airline schedules. The analysis reflects delays due to Bay Airport capacity, not delays that are generated at other airports (i.e., propagated delays where delays at another airport cause delays at the Bay Area airports).

Proposed additional measure: Average aircraft delay during busiest three hours at each airport (an output of capacity and delay model).

The peak period in terms of scheduled airline arrivals and departures may not be the same as the period with the most delays, as delays accumulate over time if aircraft cannot arrive or depart at their scheduled time. The Consultants are reviewing this issue.

Target for 2035: TBD

Goal: Good Airline Service

Quality of Service (New)

RAPC and the Task Force have suggested a metric that addresses the quality of future airline service for the passenger, as aircraft delay does not fully capture this (i.e., ensuring airline competition, interest in keeping fares low, desire for frequent service, desire for non-stop service to new destinations, etc.); a related concern by some is that some scenarios, like demand management, may reduce the quality of service.

This is a core regional airport planning concern; how to address both growing demand, with possible capacity limitations at airports, while also meeting passenger expectations for good airline service.

Proposed new measure: Number of flights per capita in top 15 markets (15 markets constitute 70% of all Domestic passengers and include all Southern California destinations). These are the markets most likely to be affected by the scenarios under review.

Proposed target: Number of flights per capita equal to or better than today (summed up for all Bay Area airports). Changes between scenarios would reflect the types of aircraft serving each airport and load factors (the HSR scenario would include adjustments for trains serving diverted air passengers).

Finally, it has been suggested that there should be a measure for future air fares (with the target being to keep air fares low). However, this measure would be similar to average aircraft delay as air fares would tend to increase with higher delays as airlines attempt to recover the cost of delays (fuel, extra crew time, etc.) through higher fares.

Goal: Convenient Airports

Airport Accessibility (New)

Airport access is a traditional regional planning focus, but was not included in the original set of performance measures.

Airport access is one of the few elements of regional airport plans that can be controlled locally.

Proposed target: Average ground access time and cost for air passengers using Bay Area airports.

Metric would be average ground access time and cost for air passengers, which would reflect both the choice of airports as well as choice of ground access mode (weighted for auto and transit access times).

Target for 2035 would be to reduce average ground access time/cost by x% (TBD).

Scenarios that redistribute traffic among the primary and alternate airports would likely show the most variation.

Goal: Climate Protection

Greenhouse Gases

Current proposal only addresses emissions from aircraft operations.

RAPC suggested adding CO₂ from vehicle ground access trips to airports.

Proposed additional measure: Daily tons of CO₂ from air passenger vehicle trips to/from airports.

Report CO₂ separately for aircraft and ground access emissions as well as combined to show magnitude of each and trends for each.

No change in Target (40% below 1990 levels in 2035)

Goal: Clean Air

Aircraft Emissions (NO_x, HC)

Current proposal only addresses emissions from aircraft operations.

RAPC suggested adding emissions from vehicle ground access trips to airports.

Proposed additional measure: Daily tons of NO_x/HC from air passenger vehicle trips to/from airports.

Report emissions separately for aircraft and ground access emissions as well as combined to show magnitude for each and trends for each.

No change in Target (2035 emissions no greater than in 2007)

Goal: Livable CommunitiesAircraft Noise

Current proposal: estimate regional population within 65 CNEL Contour.

Task Force has proposed an additional measure: population within 55 CNEL contour. The rationale for evaluating population inside 55 CNEL is that community noise issues often extend beyond the 65 CNEL noise standard adopted by the State to guide compatible land use planning.

Consultants are checking to see if 55 CNEL data is available for each airport.

Target for 55 CNEL contour would be same as for 65 CNEL, i.e., no change in regional population within contours for 2007 and 2035.

Task Force also suggested other metrics (number of aircraft events louder than a certain noise threshold, time noise levels are above a certain threshold), but these would not be practical at the regional level as they would require new airport noise modeling for individual airports, which is beyond the scope and budget.

Others have suggested looking at the noise footprint for the loudest aircraft using each airport, and the population within this contour. Again, this would be problematic given the work scope and budget.

Other Possible Measures to Compare Scenarios

In discussions about the Target Analysis, various other measures have been mentioned, such as whether new land beyond the airport boundaries would be needed, whether air service at some alternate airports might be considered growth inducing or contribute to sprawl, or whether there are other significant environmental impacts that might not be captured in the proposed performance measures.

In general, these issues are largely associated with the alternative airport and reliever airport scenarios and can be addressed after public input and the final airports are identified for further analysis.

Staff can still evaluate other suggestions, as time and budget allow.