

BRIEFING MEMO

AC TRANSIT DISTRICT
Board of Directors
Executive Summary

GM Memo No. 07-185(a)

Meeting Date: November 14, 2007

Committees:

- | | | | |
|----------------------------|-------------------------------------|------------------------------|--------------------------|
| Planning Committee | <input checked="" type="checkbox"/> | Finance Committee | <input type="checkbox"/> |
| External Affairs Committee | <input type="checkbox"/> | Operations Committee | <input type="checkbox"/> |
| Rider Complaint Committee | <input type="checkbox"/> | Paratransit Committee | <input type="checkbox"/> |
| Board of Directors | <input type="checkbox"/> | Financing Corporation | <input type="checkbox"/> |

SUBJECT:
Consider Proposed Revisions to Board Policy 550: Service Standards and Design

RECOMMENDED ACTION:

- Information Only Briefing Item Recommended Motion
-

Fiscal Impact:
None at this time

Background/Discussion:
Board Policy 550 (Service Standards and Design Policy) was adopted by the AC Transit Board in June 1994, and was most recently amended in July 2004. In December 2004, staff provided the first of a series of Briefing Memos to the Board on the Transit Capacity and Quality of Service Manual (TCQSM), a publication of the Transit Cooperative Research Program (TCRP).

The Board indicated an interest in applying some of the concepts contained in the TCQSM to selected Board Policies. The first policy chosen for that exercise was Board

BOARD ACTION: **Approved as Recommended** [] **Other** []
 Approved with Modification(s) []

[To be filled in by District Secretary after Board/Committee Meeting]

The above order was passed on _____, 2007.

Linda Nemeroff, District Secretary
By _____

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Policy 550. Beginning in October 2006, staff presented the Board with proposed revisions to Policy 550 (GM Memo 06-228). Consideration of proposed changes has continued since that time, and over the course of the past year, additional revisions have been suggested. In August 2007, the Planning Committee considered the most recent proposed revisions to the policy (GM Memo 07-185), and additional Board direction was provided. Accordingly, this GM Memo provides the most current recommendations for a revised Policy 550, including both staff and Board input. Revisions to the text of the earlier GM Memo are indicated in **bold typeface** below. It is presented for Board consideration.

Guiding Principles

The Guiding Principles were adopted by the Board in September 2000, to assist in the development of service policies. Revisions to the document were discussed by the Planning Committee earlier this year (GM Memo 07-187). **Subsequently, the Board President agendized review of the Guiding Principles document at the October 31, 2007 Board Retreat. Based on substantial Board input at the retreat, staff made further revisions to the document. The revised Guiding Principles will be presented to the AC Transit Board as a recommended motion on November 14; anticipating approval, those revised principles will be incorporated into the final re-write of Board Policy 550.**

Glossary of Terms

Staff presented an AC Transit Glossary of Terms document (GM Memo 07-143(a)) to the Planning Committee at the July 25, 2007 meeting for consideration and approval. Based on comments from the Planning Committee, a final Glossary was developed, and was approved by the full Board on August 15, 2007. Staff notes that the language used in the proposed revisions to Board Policy 550 will conform to the definitions provided in the Glossary.

Service Design Metrics

The first policy question for the Board to consider is whether or not the Level of Service (LOS) ranking metrics from the TCQSM document should be applied to a revised Board Policy 550. **This concept was discussed comprehensively at the August 15, 2007 Planning Committee meeting. As the Committee will recall, the recommendation from the August meeting was to apply those LOS metrics to AC Transit's service standards.**

The tables below provide A to F ratings for Service Provision, Load Factor, and Service Span, for inclusion in revised Policy 550:

Figure 1: Service Provision

LOS	Average Headway	Comments
A	<10 min	Passengers do not need schedules
B	10-14 min	Frequent service, passengers consult schedules
C	15-20 min	Maximum desirable time to wait if bus/train missed
D	21-30 min	Service exceeds maximum desirable wait time
E	31-60	Service available during the hour
F	>60	Service unattractive to all riders

Figure 2: Load Factor

LOS	Load Factor (pax/seat)	Comments
A	0.00--0.50	No passenger need sit next to another
B	0.51--0.75	Passengers can choose where to sit
C	0.76--1.00	All passengers can sit
D	1.01--1.25	Comfortable standee load for design
E	1.26--1.50	Maximum schedule load
F	>1.50	Crush load

Figure 3: Service Span

LOS	Span of Service	Comments
A	19-24 hours	Night or Owl service provided
B	17-18	Late evening service provided
C	14-16	Early evening service provided
D	12-13	Daytime service provided
E	4-11	Peak hour only service or limited weekday service
F	0-3	Very limited or no service

Service Delivery and Performance Metrics

Another question for Board consideration concerns the specific service delivery characteristics to which the LOS metrics should be applied, as part of revised Policy 550. Attachment A provides proposed revisions to the Service Characteristics chart that is included in current Policy 550. These revisions were discussed at the August 2007

Planning Committee meeting; as a result of that meeting, proposed changes to the Service Characteristics are indicated in **bold typeface** on Attachment A. **The Committee will note that the “Diversion from Standard” column has been deleted, and will be addressed in the “Application of Standards” section of this GM Memo.**

It should be noted that certain grant-funded services (Transbay and All Nighter) have individual required performance standards, within a certain time period. For example, Regional Measure 2 (RM-2) guidelines allow for a 3 year “ramping up” period to meet the required farebox recovery standard for routes funded by that legislation. Separate from any internal guidance, staff is aware that any such funded routes must meet the standard, or risk loss of funding.

Service Definitions

For inclusion in revised Board Policy 550, this Memo provides updated descriptions of the various services operated by AC Transit. This section also indicates the goals for service frequency and service span for each service type, expressed in time as well as by LOS ranking. Finally, this section includes the performance goal for each of the distinct service types, listed by category below:

- Trunk Routes and Major Corridors
- Urban Secondary, Crosstowns and Feeder Routes
- Suburban Crosstowns and Feeder Routes
- Low Density Routes
- Community Services/Circulators
- All-Nighter Routes
- Transbay Service
- Supplemental Service

Trunk Routes and Major Corridors – These are the services operating on corridors where residential densities are at least 20,000 residents per square mile.

- BRT and Capital Investment Triggers – AC Transit would consider implementing Stage 1 and 2 BRT in Major Corridors where warranted by transit ridership, and where there is sufficient opportunity to create faster and more frequent service.
- Service Guidelines – Corridor service in areas below 20,000 residents per square mile will have a service frequency goal of LOS B (service frequencies every 10-15 minutes) and a service span goal of LOS B (17-18 hours of service daily). Corridors where densities are greater than the 20,000 threshold will have a service frequency goal of LOS A (service frequencies of 10 minutes or better) and a service span goal of LOS A (19-24 hours).

- Performance Criteria – Transit services in the Trunk Route and Major Corridor category are judged on a corridor segment basis, not on a transit route basis. Major Corridor services shall have a goal of at least 40 passengers per in-service hour weekdays. Failure to perform at this level will drop the Corridor or corridor segment to a “Secondary” Corridor.
- Funding Hierarchy – Major Corridor services have the highest priority for District resources, in order to maximize planned capital investments.

Urban Secondary, Crosstowns and Feeder Routes – These are the routes operating in medium density corridors (10,000 – 20,000 residents per square mile).

- Service Guidelines – Secondary, Crosstown and Feeder Routes will have a service frequency goal of LOS C (service frequencies of every 15 – 20 minutes) and a service span goal of LOS C (14-16 hours of service daily). To the extent practicable, service will be operated with clock headways (i.e., headways are evenly divisible into 60).
- Performance Criteria – Transit services in the Secondary, Crosstown and Feeder category are judged on a corridor segment basis, not on a transit route basis. Secondary, Crosstown and Feeder Route services have a goal of at least 25 passengers per in-service hour weekdays. Failure to perform at this level will result in the consideration of service discontinuance, **or a reduction in service levels.**
- Funding Hierarchy – Secondary, Crosstown and Feeder Routes follow Corridor services in funding priority for District resources.

Suburban Crosstowns and Feeder Routes – These are the routes operating in low density corridors (5,000 – 10,000 residents per square mile).

- Service Guidelines – Suburban Crosstowns and Feeder Routes will have a service frequency goal of LOS D (service frequencies of every 30 minutes or better) and a service span goal of LOS C (14-16 hours of service daily). To the extent practicable, service will be operated with clock headways. Timed transfers will be employed.
- Performance Criteria – Suburban Crosstowns and Feeder Route services have a goal of at least 20 passengers per in-service hour weekdays. Failure to perform at this level will result in consideration of service discontinuance. Transit services in the Suburban Crosstowns and Feeder category are judged on a transit route basis.

- Funding Hierarchy – Suburban Crosstowns and Feeder Routes follow Crosstown and Feeder Routes services in funding priority for District resources.

Low Density Routes– These are primarily routes operating in areas of very low density - fewer than 5,000 residents per square mile. Most of this area is within Special Transit District 2.

- Service Guidelines – Low Density Routes will have a service frequency goal of LOS E (service frequencies of every 60 minutes or better) and a service span goal of LOS C (14-16 hours of service daily). To the extent practicable, service will be operated with clock headways. **To the extent possible**, timed transfers will be employed, **specifically at BART Stations and other transit hubs**.
- Performance Criteria – No Standard, but service within the category will be judged relative to other transit lines within the same category.
- Funding Hierarchy – Low Density Routes are funded separately using either grants or through the allocation of funds from the specified service area.

Community Services/Circulator Routes– These are primarily routes operating in areas of very low density – again, fewer than 5,000 residents per square mile. Most of this area is within Special Transit District 2, although there are a number of areas in District 1 that would be candidates for this type of service.

- Service Guidelines – Community Services/Circulator will have a service frequency goal of LOS E (service frequencies of every 60 minutes or better), and a service span goal of LOS C (14-16 hours of service daily). To the extent practicable, service will be operated with clock headways. **To the extent possible**, timed transfers will be employed, **specifically at BART Stations and other transit hubs**.
- Performance Criteria – No Standard, but service within the category will be judged relative to other transit lines within the same category.
- Funding Hierarchy – Low Density Routes are funded separately using either grants or through the allocation of funds from the specified service area.

All-Nighter (Owl) Routes – These are the routes providing service between 12 midnight and 6 am, operating as a lifeline service.

- Service Guidelines – All-Nighter Routes will have a service frequency goal of LOS E (service frequencies of at least every 60 minutes) and a service span goal of LOS A (24 hours).

- Performance Criteria – All-Nighter services will be judged by line, with a target recommendation of an average 50 passengers per night. RM2 requires a farebox recovery ratio of 10% of the fully allocated cost of operating the service, after the initial 3-year "ramping up" period referenced earlier in this Memo. Failure to perform at this level will result in the consideration of discontinuing service, as required by regional funding agencies.
- Funding Hierarchy – All-Nighter services will be funded separately using regional sources.

Transbay Routes – These are the routes providing service to downtown San Francisco and in the San Mateo and Dumbarton Bridge Corridors.

- Service Guidelines – Transbay Routes will have a service frequency goal of LOS C (service frequencies of every 15 – 20 minutes), and a service span goal of LOS E (peak period service). In the case of all San Mateo and Dumbarton corridors, span of service minimums of LOS C (14-16 hours of service daily) apply. In the Bay Bridge corridor, service which is distinct from the regional rail system, span of service minimums of LOS B (17-18 hours of service daily) are the goal.
- Performance Criteria – Transbay services will be judged by line, with a recommended goal of at least 25 passengers on average per trip in the weekday peak periods, in the peak direction.
- Some Transbay Express service is funded by RM2, and has a farebox recovery requirement of 20% (for all day service) or 30% (for peak hour service). Note: the farebox recovery standard listed in the TransBay CSP is 50%. This percentage has been calculated at 50% of marginal costs, or roughly 40% of fully-allocated costs. The Board may wish to discuss the use of a consistent farebox recovery standard. Failure to perform at the adopted level(s) will result in the consideration of discontinuing service.
- Funding Hierarchy – Transbay services will be funded separately using regional sources.

Supplementary Services – These are special services operated to meet common carrier requirements of Federal and State laws and accommodate school bell times.

- Service Guidelines – Supplemental Services have no service guidelines. Service is provided as required to meet demand.

- **Requests for new or additional service will be evaluated for cost and ridership potential.**
- Performance Criteria – Supplemental Services have an average load goal of at least 40 passengers per trip. Failure to perform at this level will result in consideration of service reduction or discontinuance.
- Funding Hierarchy – Supplemental Services are funded separately using either fares, grants or through other funding mechanisms.

Application of Standards

To determine service effectiveness, staff will conduct ridership surveys on a regular basis, either through manual counts or automated systems. The information that is collected will be used to determine planning metrics such as passengers per in-service hours, load factors and the overall ranking of the services.

Annually, AC Transit staff will provide the Board of Directors with an assessment of route performance within the service categories, including frequency, span and load factor. Transit lines will be ranked by passengers per in-service hour. Pursuant to federal guidelines, minority transit routes will also be identified. Services falling below the 25th percentile of all routes within the specific category will be analyzed, and responses may include any of the following:

- Schedule adjustments, if service frequencies are more generous than required by Policy.
- Running time adjustments or minor route changes, to provide substantially the same level of service while reducing operating costs and retaining most passengers.
- Marketing activities associated with increasing performance on the route, either in conjunction with service or schedule adjustments, or as a stand-alone action.
- Route improvements, including route consolidation or through-routing to improve efficiency and effectiveness.
- Equipment changes necessary to increase capacity and reduce crowding as load factors reach LOS F.
- Route discontinuance, should there be no other means to improve efficiency or provide a well-used transit product.

During this annual evaluation, staff will also provide the Board with a listing of corridor segments qualifying as “Trunk Routes and Major Corridors.” The listing will be by segments of one to two miles in length. From this listing, staff will present a graphic showing all the route segments that meet the threshold of “Trunk Routes and Major Corridors,” both from a land use criteria perspective and a transit use perspective. **Staff will provide information to the Board concerning planned changes to frequencies of schedules via informational memo, with sufficient advance notice such that the Board may agendaize further discussion if there are outstanding concerns.**

Next Steps:

As was discussed at the August Planning Committee meeting, some issues relating to the final re-write of Policy 550 will be considered as stand-alone topics, to allow for comprehensive discussion. The section below outlines some of the topics that will be the subjects of future GM Memos:

- Farebox Recovery: Staff notes Farebox Recovery has been removed from the Service Characteristics chart (Attachment A). Staff will provide a GM Memo to discuss this issue comprehensively.
- Neighborhood Appropriate Vehicle Size: This policy was approved by the Board and incorporated into the *District Priorities* section of the SRTP. Staff will be recommending modifications to this document, and will discuss those changes in the context of potential inclusion in a revised Board Policy 550.
- Trunk Lines in Development: Staff will provide a Memo that discusses the potential for including the concept of trunk lines in development as part of a revised Board Policy 550.
- Travel Time: At the October 4, 2006 Planning Committee meeting, the Board directed staff to reconsider the inclusion of Travel Time as a Service Design Metric. Accordingly, it has been removed from this Memo; staff will provide alternatives to this metric in a future GM Memo.

Prior Relevant Board Actions/Policies:

- GM Memo 00-215: Adoption of Guiding Principles for Service Deployment
- GM Memo 02-033a: Fleet Composition Plan and Neighborhood Appropriate Vehicle Policy
- GM Memo – 03-262a: Approve Actions Related to Park and Ride Transit Centers GM Adoption of Amended Board Policy 550, July 2004
- GM Memo – 04-361: Overview of TCRP Manual
- GM Memo – 05-027: Designing with Transit
- GM Memo – 05-062: Part 1: TCRP Manual

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GM Memo – 05-083: Part 3: Transit Performance Measures
GM Memo – 05-109: Part 3: Transit Decision-making
GM Memo – 05-137: Part 3: Service Availability
GM Memo – 05-173a: Part 3, Chapter 2: Quality of Service Factors
GM Memo 05-199: Review of the Transit Capacity and Quality of Service Manual
GM Memo 06-228: Proposed Outline of Revised Board Policy 550
GM Memo 07-033: 2006 Annual Assessment of Route Performance
GM Memo 07-185: Consider Revisions to Board Policy 550
GM Memo 07-187(a): Consider Approval of Revisions to Guiding Principles

Attachments: Attachment A: Service Characteristics Chart

Approved by: Rick Fernandez, General Manager
Nancy Skowbo, Deputy GM, Service Development

Prepared by: Nancy Skowbo, Deputy GM, Service Development
Tina Spencer, Manager of Long Range Planning

Date Prepared: November 7, 2007

Board Policy 550: Weekday Base Period Service Characteristics

Service Type	Frequency Goal	Frequency LOS Ranking	Scheduling	Service Routing	Diversion from Standard	Route Spacing	Street Operations	Vehicles	Span of Service Goal	Span of Service LOS	Stop Spacing	Stop Amenities	Passengers per hour	Load Factor
Trunk/ Major Corridor	Not less frequent than 10 min; usually more frequently	LOS A	Clock Headways preferred	Major Arterial streets	Column Deleted; will be addressed via informational memos to Board	On major streets with ADT of more than 25,000	Mixed flow operation	High-Capacity, fast boarding, low floor	19-24 hours daily	LOS A	1/4 to 1/2 mile depending on density	Only when provided by advertising or city	40 weekdays (min) 35 weekends (min)	1.25
Rapid Service	Not less frequent than 12 min; usually more frequently	LOS B	Headway based	Major Arterial streets		On major streets with ADT of more than 25,000	Mixed flow with signal priority	High-Capacity, fast boarding, low floor	14-16 hours daily	LOS C	1/2 to 2/3 mile depending on density	well designed stops, shelters, real time information	40 weekdays (min) 35 weekends (min)	1.25
BRT	Not less frequent than 10 min; 7.5 min preferred	LOS A	Headway based	Major Arterial streets		On major streets with ADT of more than 25,000	Significant portion of exclusive lane operation	High-Capacity, fast boarding, low floor	17-17 hours daily	LOS B	1/2 to 2/3 mile depending on density	well designed stops/stations, real-time passenger information with significant passenger amenities	40 weekdays (min) 35 weekends (min)	1.25
Urban Crosstown/Feeder	Not less frequent than 15 min; can be more frequent	LOS C	Clock Headways	Secondary Streets		1/2 mile maximum	Mixed flow operation	Standard 40' vehicle	14-16 hours daily	LOS C	1/8 to 1/2 mile depending on density	Only when provided by advertising or city	30 weekdays (min) 25 weekends (min)	1.25
Suburban Crosstown Feeder	Not less frequent than 30 min; can be more frequent	LOS D	Timed transfer with other crosstown lines	Secondary Streets		1/2 to one mile	Mixed flow operation	Standard 30' or 40' vehicle	14-16 hours daily	LOS C	1/4 to 1/2 mile depending on density	Only when provided by advertising or city	20 weekdays (min) 15 weekends (min)	1.25
Low Density	Not less frequent than 60 min; can be more frequent	LOS E	Timed transfer with other crosstown lines	Timed Transfer with other crosstown or feeders		One mile or flexible service/circulator	Mixed flow operation	Standard 30' or 40' vehicle	14-16 hours daily	LOS C	No current standard	Only when provided by advertising or city	No standard	1.25

Weekday Peak and Owl Gap Period Characteristics

All Nighter (Owl) Service	Not less frequent than 60 min; can be more frequent	LOS E	Timed transfer with other crosstown lines/regional providers	Major Arterial streets; freeways		N.A.	Mixed flow operation	Standard 40' or 60' vehicle	Owl Gap Period	LOS A	1/4 to 1/2 mile depending on density	Only when provided by advertising or city	50 passengers/night minimum	1.25
Transbay	Weekday Peak Periods: not less frequent than 30 min; can be more frequent	LOS C	Clock Headways	Major Arterial streets; freeways		1/2 to one mile	Mixed flow operation	Standard 40' or 45' Over-the-Road or 60' vehicle	14-16 (DB/San Mateo Corridor); 17-18 hours (Bay Bridge Corridor)	LOS C / LOS B	1/2 to 2/3 mile depending on density or local operation	Only when provided by advertising or city	25 pax/trip minimum-peak direction	1.00