

BRIEFING MEMO

AC TRANSIT DISTRICT
Board of Directors
Executive Summary

GM Memo No. 06-228

Meeting Date: October 4, 2006

Committees:

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

SUBJECT:
Proposed Outline of Revised Policy 550

RECOMMENDED ACTION:

- Information Only Briefing Item Recommended Motion

Fiscal Impact:

None at this time

Background/Discussion:

The Board directed staff to prepare a work plan for anticipated changes to Board Policies relating to service design, service changes, and service delivery. From the Board's perspective, a review of the Transit Capacity and Quality of Service Manual (TCQSM) has also initiated a desire to more closely align the AC service policies with the national template. From staff's perspective, after several years of working with the current policies, issues of streamlining and process would support the need for changes and revisions to selected Board Policies.

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 _____, 2006.

Rose Martinez, District Secretary
By _____

This memorandum provides an outline of the structure of a revised Board Policy 550, and a discussion of the associated policy issues. It does not deal with the approval and public hearing process, which will be the subject of a separate analysis.

Guiding Principles

Since the Board's consideration of the Service Deployment Policies in 2000, a series of "Guiding Principles" has governed the design of transit routes and the development of a hierarchy of funding priorities. These principles provide a reasonably comprehensive "blueprint" for the function and design of the local transit system, but they did not address Transbay service or the All-Nighter network. Staff recommends the Board adopt revised Guiding Principles that cover these specialized services.

With reference to a revised Policy 550, staff recommends the following text for the section on Guiding Principles (changes from the most recently amended Policy are in bold italics):

The following are the Guiding Principles for the design and allocation of ***local transit service within the East Bay***:

1. AC Transit, working with other transit operators in its service area, will increase annual per capita transit trips ***within the AC Transit service area (in the East Bay) to 100 by 2010.***
2. AC Transit will not only act as a provider of a social good, but an aggressive instigator of service, and an overall mobility manager for the East Bay.
3. AC Transit will develop a straightforward and marketable transit system, one that is easily understood by the public and easy to use. AC Transit services will operate frequently enough so that passengers do not need a schedule to use the system on a large part of the service. ***The most well patronized routes will feature faster limited stop services to decrease overall travel times. AC Transit's transit network will provide for a multi-destinational system that serves all major traffic generators throughout the East Bay regardless of location, operating along a grid of routes in the densest portions of the service area with route spacing of about 1000 meters, or approximately six-tenths of a mile.***
4. AC Transit will be the lead transportation agency as the central East Bay core cities increase density, leading to more demands for transit services. AC Transit will support these smart growth and in-

fill efforts by designing routes and services to meet this new demand.

5. AC Transit will aggressively pursue transit priority and transit preferential measures at the most important locations to improve street operation of the transit system, to decrease transit passenger travel times, to improve reliability, and to reduce overall system operating cost.
6. The transit system **should** be seamless to the passenger regardless of the operator. Services, transfers and fares should be transparent to the passenger.
7. The transit system route network will allow for modal conversions, when and if those are appropriate, and the service planning effort **should** complement the District's other planning work.
8. Transit service **should** be prioritized to those areas with the greatest potential for transit use, **subject to Title VI compliance**, with good patronage rewarded by better service and shorter passenger waits.

The following are the Guiding Principles for the design and allocation of transit service within Transbay Corridors:

- 1. AC Transit will provide and facilitate all-day Transbay bus services in areas that are not well served by, or distant from, regional rail services.***
- 2. AC Transit will provide or facilitate weekday peak period Transbay bus service in order to provide a supplement to capacity constrained regional rail services, specifically within corridors where rail capacity is limited.***
- 3. AC Transit will provide a "many-to-one" service pattern from dense areas of the East Bay to downtown San Francisco, primarily developing a Transbay transit system that encourages walk access to transit, but may facilitate automobile park and ride access in low density areas and for Transbay transit access in the San Mateo and Dumbarton Bridge corridors.***
- 4. Transbay Services will be funded from passenger fares and regional sources, most appropriately those revenue sources derived from users of the bridge corridors who benefit from decreased highway and bridge congestion. The District will support legislation to identify and implement these non-general fund sources.***

The following are the Guiding Principles for the design and allocation of transit service in All-Nighter (Owl) Corridors:

- 1. All-Nighter services are part of a regional network, and the All-Nighter route network should conform to the existing regional network, including the regional rail system and the trunk bus network.***
- 2. All-Nighter services will be funded from regional sources, most appropriately those revenue sources derived from users of the bridge corridors who benefit from decreased highway and bridge congestion and funding, ensuring access to employment. The District will support legislation to identify and implement these non-general fund sources.***

Service Design Metrics

The following section provides text and discussion regarding Service Design Metrics, for potential inclusion in revised Board Policy 550.

Staff presents for Board consideration the recommendation to apply Level-of-Service (LOS) standards to service design and delivery. The TCQSM presents multiple indices of both service design criteria and service delivery standards that focus on the passenger's point of view.

LOS metrics were originally developed in 1965 as part of the Highway Capacity Manual. The rating system is familiar to transportation policymakers, especially as it relates to roadway conditions. Briefly, values for specific performance measures are divided into 6 ranges, with each assigned a ranking from A (best) to F (worst). It is important to note that these rankings are from the customer's perspective, and do not necessarily represent the transit provider's point of view, nor acknowledge the transit provider's operational or financial constraints. The following represent the A to F ratings for Service Provision, Travel Time, Load Factor and Service Span:

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 unattractive to choice riders
E	31-60	Service available during the hour
F	>60	Service unattractive to all riders

Figure 2: Travel Time

LOS	Travel Time Difference (min)	Comments
A	0	Faster by transit than by automobile
B	1--15	About as fast by transit as by automobile
C	16--30	Tolerable for choice riders
D	31--45	Round-trip at least an hour longer by transit
E	46--60	Tedious for all riders; may be best possible in small cities
F	>60	Unacceptable for most riders

Figure 3: 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 4: 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

Balancing against Design Metrics are Performance Metrics, which are also included for the Board's consideration. These Performance Metrics acknowledge that resources are limited and, consistent with Guiding Principle 8, recommend that high patronage should

be rewarded with better service, while low ridership would result in recommendations for decreases in service.

Overall System Metric – The TCQSM provides guidance on the overall system aspirations. For example, the Manual discusses the concept of "Transit Supportive Areas" (TSA's), geographical areas that from a passenger point-of-view could reasonably have transit service. TSA's are more conducive to transit use than other areas for reasons relating to household or employment density, street patterns, traffic generators, and other factors.

Within the AC Transit District, the TSA is generally defined as Berkeley to San Leandro, with an additional TSA along the major corridors extending from this core area. AC Transit will seek to provide transit service within one quarter of a mile for 80 to 89.9 percent of the geographic area of the TSA. This service allocation corresponds to LOS B. Within this TSA, AC Transit will provide service that meets further service design criteria, which are listed below.

Current Board Policy 550 provides density standards and service objectives. A chart provided as an attachment to the Policy references an expected farebox recovery range of 20% for Low Density areas, 25% for Suburban routes, and 40% for Trunk and Major Corridor routes. As was reported to the Board in January, only 4 routes met the anticipated farebox recovery in 2005 (GM Memo 06-013). However, most routes met the minimum passengers per hour threshold as identified in the current Board Policy. Specialized services, such as Transbay and All-Nighter, have individual performance requirements. Regional Measure 2 (RM2) guidelines allow for a 3 year "ramping up" period to meet the required farebox recovery standard.

For inclusion in revised Board Policy 550, staff has provided updated descriptions of the various services operated by AC Transit. Each of the following categories represents a distinct service type:

- 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 a faster and more frequent service.
- Target Service Guidelines – Corridor service in areas below 20,000 residents per square mile will have a target of **LOS B** (service frequencies of every 10-15 minutes) and a targeted service span of **LOS B** (17-18 hours of service daily). Corridors where densities are greater than the 20,000 threshold will have a target of **LOS A** (service frequencies of 10 minutes or better) and a targeted service span of **LOS A** (19-24 hours).
- Target Travel Time is recommended at **LOS B** (not more than 15 minutes longer than an automobile trip) and load factors of not greater than 1.25 (**LOS D**) are recommended.
- Target 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 have a target 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 remaining after the Corridor routes within the TSA.

- Target Service Guidelines – Secondary, Crosstown and Feeder Routes will have a service frequency target of **LOS C** (service frequencies of every 15 – 20 minutes) and a targeted service span 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).
- Target Travel Time is recommended at **LOS C** (not more than 30 minutes longer than an automobile trip), and load factors of not greater than 1.25 (**LOS D**) are recommended.
- Target 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 target of at least **25 passengers** per in-service hour weekdays. Failure to perform at this level will result in consideration of service discontinuance.

- 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 that do not reside completely within the TSA, but are adjacent to it and either some portion of the route is operated within the TSA, or it is connected with services that do operate within the TSA.

- Target Service Guidelines – Suburban Crosstowns and Feeder Routes will have a service frequency target of **LOS D** (service frequencies of every 30 minutes or better) and a targeted service span 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.
- Target Travel Time is recommended at **LOS C** (not more than 30 minutes longer than an automobile trip) and load factors of not greater than 1.25 (**LOS D**) are recommended.
- Target Performance Criteria – Suburban Crosstowns and Feeder Route services have a target 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 that reside in areas with less than 5,000 residents per square mile. Most of this area is within Special Transit District 2.

- Target Service Guidelines – Low Density Routes will have a service frequency target of **LOS E** (service frequencies of every 60 minutes or better) and a targeted service span 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.
- Target Travel Time is recommended at **LOS C** (not more than 30 minutes longer than an automobile trip) and load factors of not greater than 1.25 (**LOS D**) are recommended.
- Target 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 that reside in areas with less 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.

- Target Service Guidelines – Community Services/Circulator will have a service frequency target of **LOS E** (service frequencies of every 60 minutes or better), and a targeted service span 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.
- Target Travel Time is recommended at **LOS C** (not more than 30 minutes longer than an automobile trip) and load factors of not greater than 1.25 (**LOS D**) are recommended.
- Target 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.

- Target Service Guidelines – All-Nighter Routes will have a service frequency target of **LOS E** (service frequencies of at least every 60 minutes) and a targeted service span of **LOS A** (24 hours).
- Target Travel Time is recommended at **LOS C** (not more than 30 minutes longer than an automobile trip) and load factors of not greater than 1.25 (**LOS D**) are recommended.
- Target 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 consideration of service discontinuance, 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 to the San Mateo and Dumbarton Bridge Corridors.

- Target Service Guidelines – Transbay Routes will have a service frequency of **LOS C** (service frequencies of every 15 – 20 minutes) ,and a targeted service span 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 target.
- Target Travel Time is recommended at **LOS A** (faster than the automobile, through preferential toll plaza treatments) and load factors of not greater than 1.00 (**LOS C**) are recommended.
- Target Performance Criteria – Transbay services will be judged by line, with a recommended target 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 consideration of service discontinuance
- 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.

- Target Service Guidelines – Supplemental Services have no service guidelines. Service is provided as required to meet demand.
- Target Travel Time is recommended at **LOS B** (not more than 15 minutes longer than an automobile trip) and load factors of not greater than 1.25 (**LOS D**).
- Target Performance Criteria – Supplemental Services have a recommended targeted average 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.
- 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.

Policy Issues For Board Consideration:

- Shall the District adopt the LOS metrics (A to F rankings, described above) as a part of Policy 550?
- The Hastus scheduling upgrade, now in process, will ultimately provide Scheduling staff with the tools to achieve additional savings via the scheduling

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system. Should the Board defer policy decisions regarding service frequencies until staff has had an opportunity to fully explore the potential of the new software?

- Consider lowering farebox recovery targets
- Direct staff to develop formal changes to Board Policy 550

Prior Relevant Board Actions/Policies:

Board Policy 550

GM Memo 00-215 Service Deployment Policies

Attachments:

Attachment 1: GM Memo 00-215 (without attachments) Service Deployment Policies (2000)

Attachment 2: Board Policy 550

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

Prepared by: Anthony Bruzzone, Manager Service and Operations Planning
Tina Spencer, Manager of Long Range Planning

Date Prepared: September 29, 2006

**AC TRANSIT DISTRICT
BOARD OF DIRECTORS
EXECUTIVE SUMMARY**

Memo No. 00-215
Meeting Date: August 9, 2000

Committees:

Executive Committee	[]	Operations Committee	[]
External Affairs Committee	[]	Planning Committee	[X]
Board of Directors	[]		

SUBJECT: Service Deployment Policies

FISCAL IMPACT: TBD

RECOMMEND ACTION: [] Information Only [X] Recommended Motion
Adopt the guiding principles for the development of service alternatives

PRIOR RELEVANT BOARD ACTIONS/POLICIES: N/A

BACKGROUND/DISCUSSION:

In June, 2000, the Planning Committee reviewed a draft report on Service Deployment Policies. Attachment 1 represents the second working paper, containing specific recommendations highlighted below.

At the June Planning Committee meeting, the Board was presented with a theoretical approach to service design. The Board then directed staff to prepare recommendations and information about the following three service scenarios, applying the theory that was discussed in the first working paper:

Measure B Falls: Decrease service by about \$20 million annually, as the failure of Measure B would result in an immediate decrease of \$11 million annually and would also result in the elimination of service that was restored in anticipation of Measure B passing.

Measure B Passes: Modest increase in service, on the order of about \$6 million annually, as a result of Measure B passing. (\$4 Million of Measure B funds and \$2 Million of District resources allocated to Central County.)

Optimal Service: Financially unconstrained, and would develop the optimal transit system for the East Bay.

As a guide in determining future service scenarios, it is recommended that the Board adopt a *Statement of Principles* for the transit system, as follows:

1. AC Transit, working with other transit operators in its service area, will increase annual per capita transit trips to 100 by 2005.
2. To achieve this first objective, AC will not only act as a provider of a social benefit, but the aggressive instigator of service, and an overall transportation manager for the East Bay.
3. To meet these overall mandates, AC will develop a straightforward and marketable transit system, one this is easily understood by the public, easy to use and runs frequently enough so that passengers do not need a schedule to use the system on a large part of the service.
4. AC will be the lead transportation agency as the center East Bay core cities increase density, leading to more demands for transit services. AC will support these smart growth and in-fill efforts by designing routes and services to meet this new demand.
5. The transit system will aggressively pursue transit priority and transit preferential measures at the most important locations to improve street operation of the transit system, to decrease transit passenger travel times, to improve reliability, and to reduce overall system operating costs.
6. The transit system must be seamless to the passenger, regardless of the operator. Services, transfers and fares should be transparent to the passenger.
7. The transit system route network will allow for modal conversions, when and if those are appropriate, and the service planning effort must compliment the *District's* other planning work.
8. Service must be prioritized to those areas with the greatest potential for transit use, with good patronage rewarded by better service and fewer waits.

Additional recommendations and considerations associated with the second working paper (attachment 1) will be presented at the August 9, 2000 Planning Committee meeting.

ATTACHMENTS: Chapter 2: Application of Theory

Approved by: Rick Fernandez, General Manager
Prepared by: Kathleen Kelly, Deputy GM. Service Development
Tina Konvalinka, Manager of Long Range Planning
Date Prepared: July 25, 2000

AC Transit

Policy No. 550

BOARD POLICY

Category: Service Development

SERVICE STANDARDS AND DESIGN POLICY

PURPOSE

As a public transportation provider and mobility manager for the East Bay, the Alameda-Contra Costa Transit District's goal is provide service in an efficient, effective and equitable manner. To accomplish this goal, the District establishes objectives relating to the design and allocation of services to develop a marketable and well-used transit system. Service design should be continually examined to ensure that service is allocated correctly, in accordance with stated objectives.

GUIDING PRINCIPLES

The following Guiding Principles are for the design and allocation of transit service in the East Bay:

1. AC Transit, working with other transit operators in its service area, will increase annual per capita transit trips within the AC Transit service area to 100 by 2010.
2. AC Transit will not only act as a provider of a social good, but an aggressive instigator of service, and an overall mobility manager for the East Bay.
3. AC Transit will develop a straightforward and marketable transit system, one that is easily understood by the public and easy to use, and which runs frequently enough so that passengers do not need a schedule to use the system on a large part of the service. AC Transit's service network will provide for a multi-destinational system that serves all major traffic generators throughout the East Bay, regardless of location.
4. AC Transit will be the lead transportation agency as the central East Bay core cities increase density, leading to more demands for transit services. AC Transit will support these smart growth and in-fill efforts by designing routes and services to meet this new demand.

Adopted : 6/94

Amendment(s): 7/04

5. AC Transit will aggressively pursue transit priority and transit preferential measures at the most important locations to improve street operation of the transit system, to decrease transit passenger travel times, to improve reliability, and to reduce overall system operating cost.
6. The transit system must be seamless to the passenger regardless of the operator. Services, transfers and fares must be transparent to the passenger.
7. The transit system route network will allow for modal conversions, when and if those are appropriate, and the service planning effort must complement the District's other planning work.
8. Transit service must be prioritized to those areas with the greatest potential for transit use, with good patronage rewarded by better service and shorter passenger waits.

DEFINITIONS, STANDARDS AND MEASURES

Density Standards and Service Objectives

One of AC Transit's main criteria for service allocation is the density of land uses along a route. In denser areas, service will be more frequent, routes will be spaced closer together, and the evening service will run later. The following table reflects the preferred service levels for different densities.

Persons per Square Mile	Route Spacing	Route Structure	Weekday Base Frequency	Weekend Frequency
20,000 and over (High Density) [such as International Blvd., Telegraph Ave.]	¼ mile	Grid	Trunk: 10 min. Crosstown: 15 min.	Trunk: 15 min. Sat and Sun Crosstown: Sat: 15 min Sun: 30 min.
20,000 - 10,000 (Medium Density) [such as grid sections in Oakland and Berkeley]	¼ - ½ mile	Grid	Trunk: 10 min. Crosstown: 15 min.	Trunk: Sat: 15 min Sun: 30 min Crosstown: Sat: 30 min. Sun: 60 min.
10,000 - 5,000 (Low Density) [such as Hayward, Castro Valley, some areas of Richmond, Fremont]	½ mile	Focal Point Timed- Transfer	Trunk: 15 min. Crosstown: 30 min.	Trunk: Sat: 30 min. Sun: 60 min Crosstown: Sat: 30 min. Sun: 60 min.
5,000 - 0 (Extremely low Density) [such as areas of Fremont and hills]	1 mile	Focal Point Timed- Transfer	No Standard	No Standard

Adopted : 6/94

Amendment(s): 7/04

Distance to Bus Routes

Standards for how far passengers should travel to reach a bus route shall be based on density, with some allowance made for Express or Transbay services which generally operate from catchment areas that may not meet the density standards. This standard shall also take into consideration topography or street patterns, which may increase or decrease the distance to bus routes.

Persons per Square Mile	Distance to Bus Routes
20,000 and over (High Density) [such as International Blvd., Telegraph Ave.]	¼ mile
20,000 - 10,000 (Medium Density) [such as grid sections in Oakland and Berkeley]	¼ - ½ mile
10,000 - 5,000 (Low Density) [such as Hayward, Castro Valley, some areas of Richmond, Fremont]	½ mile to ¾ mile
5,000 - 0 (Extremely low Density) [such as areas of Fremont and hills]	1 mile or greater

SERVICE DEFINITIONS

The following provides a description of each type of service:

Rapid: Provides limited stop service along a Trunk Route or Major Corridor featuring wide stop spacing, headway based schedules, transit signal priority and passenger amenities. Underlying local service contributes to aggregate service frequency.

Trunk Route: Provides the backbone of the transit system; operates along the arterial streets and provides a high level of local and limited stop service (10 minute frequencies or better) based on demand for high levels of service. These routes have the highest priority for capital improvements.

Major Corridors: Complements the trunk route network, providing a high level of local stop service (15 minute frequencies or better).

Urban Crosstown or Feeder: Provides service in high density or demand areas that feeds either BART or other AC Routes, or serves neighborhood circulation functions with a high level of service (15 minute frequencies or better). Includes all other high productivity routes.

Suburban Crosstown or Feeder: Provides service in lower density areas to feed either BART or other AC Routes. May also service neighborhood circulation functions.

Owl Service: Provides service during the late night period and may require a modified route network.

Extremely Low Density Service: Provides some level of service in areas that have low population density or low transit use. Operates on secondary streets linking to trunk, transit routes, BART stations and ferry terminals. Incorporates significant transfer activity.

Adopted : 6/94

Amendment(s): 7/04

Route Type	Span of Service	Frequency
Trunk and Major Corridors	5 am to Midnight	10 minute peak or better
Rapid Service	5 am to Midnight	12 minute or better (headway based)
Urban Crosstown / Feeder	5 am to 10 pm	15 minute peak or better
Suburban Crosstown / Feeder	5 am to 10 pm	30 minute peak or better
Extremely Low Density	5 am to 10 pm	No standard
Owl (modified Trunk route)	5 am to Midnight	30-60 minute

Span of Service –

The District commits to operating all services from 5 am to 10 pm, with service on major corridors operating until midnight. Owl service on selected corridors operates from midnight to 5 am.

Service Frequencies –

In the District’s most urban locations, service should operate not less than every 10 minutes on major corridors and less than every 15 minutes on other services so that passengers do not need a schedule to use transit. In other, less dense areas, service should operate at frequencies of not less than 30 minutes and timed-transfers should be accommodated. In all cases of service operating at frequencies exceeding 15 minutes, schedule shall be written on clock, memory-based headways so that the service always is scheduled at the same time(s) each hour.

Service Characteristics and Standards

Service Characteristics and standards vary by type. The following charts provide characteristics for Trunk/Major Corridors, Rapid Enhancements, BRT Enhancements, Urban Crosstown or Feeders, Suburban Crosstown or Feeders, and Extremely Low Density Service.

A matrix that establishes service characteristics for the various types of service is located at the end of this policy.

SERVICE ALLOCATION GUIDELINES

Within each service category, District staff will allocate service primarily on the basis of demand or use, provided that minimum service levels are provided. For example, within the Trunk/Major Corridor/Rapid category, all services would provide at least 10-minute frequencies; the allocation of service levels that provide more frequent service would be on the basis of demand.

VEHICLE LOAD STANDARDS

A Vehicle Load Factor is the ratio of the number of seats on a vehicle to the number of passengers on-board. Load factor is an indicator of the extent or probability of overcrowding, and may indicate the need for additional vehicles to maintain useful service.

Adopted : 6/94

Amendment(s): 7/04

The Load factor is determined by taking the number of seats on a specific route which pass the peak load point during the peak hour and dividing that number into the number of passengers that are actually carried past that point during that hour.

Load factors can vary by service type. For purposes of the AC Transit District, different Vehicle Load thresholds shall be used to measure service effectiveness or to determine remediation. The following thresholds shall be monitored:

Route Type	Vehicle Load Factor
Trunk and Major Corridors	1.25 (25% standees)
Rapid Corridors	1.25 (25% standees)
Urban Crosstown / Feeder	1.25 (25% standees)
Suburban Crosstown / Feeder	1.25 (25% standees)
Extremely Low Density	1.25 (25% standees)
Transbay/Express	1.0 (no standees)
Owl (modified Trunk route)	1.0 (no standees)

For purposes of measuring the Vehicle Load Factor for Transbay or Express Service, the Vehicle Load Factor shall be measured as the route enters the “express area” and is operating closed-door, which is generally on the freeway.

APPLICATION OF STANDARDS

To determine service effectiveness, staff will conduct ridership surveys on a regular basis. This information will be used to determine evaluative components such as passengers per vehicle hour, vehicle load factor or the overall ranking of the services.

Bi-annually, AC Transit staff will provide the Board of Directors with an assessment of route performance within the service categories. Transit lines will be ranked by a variety of metrics such as passengers per hour or annual subsidy. Minority Transit routes (those routes that have at least 1/3 of the total route mileage in a census tract with a percentage of minority population greater than the percentage of minority population in the service district) will be also be identified.

Service that falls below the 25 percentile of all routes within its category will be analyzed for the following:

- Schedule adjustments, if service frequencies are more generous than required by this Policy.
- Running time adjustments or minor route changes, to provide substantially the same level of service while reducing operating costs and retaining most passengers.
- Route improvements, including route consolidation or through-routing to improve efficiency and effectiveness.

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- Route discontinuance, should there be no other means to improve efficiency or provide a well-used transit product.
- Other actions, such as grant funded opportunities, to improve route performance.

BOARD ACTION

- Prior to the Board initiating action on changes to routes or the route network, staff will provide an analysis of the issues, including an analysis of potential effects on minority communities as required by Title VI of the Civil Rights Act of 1964, as well as a recommendation based on this analysis.
- Public Hearings will be held in accordance with Board Policy 163 before Board action on service changes or recommendations.

Board Policy 550: Service Characteristics

Service Type	Frequencies	Scheduling	Service Routing	Diversion from Standard	Route Spacing	Street Operations	Vehicles	Stop Spacing	Stop Amenities	Farebox Recovery
Trunk/ Major Corridor	not exceeding 10 min; usually more frequently	Clock Headways preferred	Major Arterial streets	Not allowed without specific findings of the Board	On major streets with ADT of more than 25,000	Mixed flow operation	High-Capacity, fast boarding, low floor	1/4 to 1/2 mile depending on density	Only when provided by advertising or city	40 percent minimum
Rapid Service	not exceeding 12 min; usually more frequently	Headway based	Major Arterial streets	Not allowed without specific findings of the Board	On major streets with ADT of more than 25,000	Mixed flow with signal priority	High-Capacity, fast boarding, low floor	1/2 to 2/3 mile depending on density	well designed stops, shelters, real time information	40 percent minimum
BRT	Not exceeding 10 min; 7.5 min preferred	Headway based	Major Arterial streets	Not allowed without specific findings of the Board	On major streets with ADT of more than 25,000	Significant portion of exclusive lane operation	High-Capacity, fast boarding, low floor	1/2 to 2/3 mile depending on density	well designed stops/stations, real-time passenger information with significant passenger amenities	40 percent minimum
Urban Crosstown/Feeder	Not exceeding 15 min; can be more frequent	Clock Headways	Secondary Streets	To serve traffic generators and transit nodes	1/2 mile maximum	Mixed flow operation	Standard 40' vehicle	1/8 to 1/2 mile depending on density	Only when provided by advertising or city	25 percent minimum
Suburban Crosstown Feeder	Not exceeding 30 min; can be more frequent	Timed transfer with other crosstown lines	Secondary Streets	To serve traffic generators and transit nodes	1/2 to one mile	Mixed flow operation	Standard 30' or 40' vehicle	1/4 to 1/2 mile depending on density	Only when provided by advertising or city	20 percent minimum
Extremely Low Density	No standard	Timed transfer with other crosstown lines	Timed Transfer with other crosstown or feeders	To serve traffic generators and transit nodes	One mile or flexible service/circulator	Mixed flow operation	Standard 30' or 40' vehicle	No current standard	Only when provided by advertising or city	20 percent minimum

Board Policy 550: Service Characteristics

Passengers per hour
40 weekdays (min) 35 weekends (min)
40 weekdays (min) 35 weekends (min)
40 weekdays (min) 35 weekends (min)
30 weekdays (min) 25 weekends (min)
20 weekdays (min) 15 weekends (min)
No standard