

**SYSTEM SAFETY AND OPERATIONS COMMITTEE
NOVEMBER 17, 2011**

SUBJECT: UPDATE METRO SERVICE STANDARDS AND POLICIES

ACTION: ADOPT PROPOSED METRO SERVICE STANDARDS AND POLICIES

RECOMMENDATION

Adopt the proposed Metro service standards and policies in Attachment 1 that support Metro's commitment to providing quality service to its patrons.

ISSUE

Metro's service planning guidelines should be strengthened by adopting specific standards and policies that assert minimum levels of performance for the delivery of transit services.

BACKGROUND

The Board of Directors adopted an updated Transit Service Policy in March 2011. This document contains a number of Service Design Guidelines that describe typical attributes for each type of service which are used to guide service planning and scheduling actions. To more comprehensively provide direction for service planning, these guidelines should be enhanced to:

- Specify minimum levels of performance in all key areas;
- Ensure all service standards address all modes.

The proposed Metro service standards and policies will provide a commitment to specific service quality objectives that are comprehensive (span all service types), and clearly stated. These standards and policies may be expanded to include additional service attributes through future policy updates.

POLICY IMPLICATIONS

The recommended standards and policies support the commitment to providing quality transit service to Metro's patrons.

FINANCIAL IMPACT

The cost of the recommended standards and policies is to be determined through subsequent monitoring of route level attainment of the specified performance targets. In any event, the overall cost impact is expected to be significantly less than one percent of the Bus and Rail Operating Budget. Funding will be requested in future budgets, as appropriate.

DISCUSSION

This report recommends five service standards and two service policies for Board adoption. Additional standards and policies may be recommended at a later time. The initial service standards include:

- Passenger Loading
- Headways
- On-Time Performance
- Stop Spacing
- Accessibility

The recommended policies address Passenger Amenities and Vehicle Assignment. The Passenger Loading and Accessibility standards were previously approved by the Board of Directors with the adoption of the Transit Service Policy document. A revision of the Passenger Loading standard to address the freeway portion of Express bus operation is proposed. The remainder of the recommended standards and policies have not previously been formally adopted by the Board of Directors, although guidelines for some of them are included in the Transit Service Policy document. A discussion of the derivation of the proposed standards and policies is provided in Attachment 1 with the presentation of each set of performance thresholds.

NEXT STEPS

Staff will carry out an assessment of attainment status at the route level and report back to the Board of Directors within 90 days identifying actions needed to meet standards. The financial impacts of attainment on future year budgets will also be identified. The adopted standards and policies will be incorporated into the next update of the Transit Service Policies anticipated to occur in the spring of 2012.

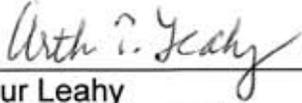
ATTACHMENTS

1. Proposed Metro Service Standards

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**ATTACHMENT 1
PROPOSED METRO SERVICE STANDARDS AND POLICIES**

Passenger Loading

This standard ensures that sufficient service capacity is operated to ensure that the maximum average passengers per seat during any one hour period does not exceed the indicated value by mode, line and time period. Off-Peak includes weekends.

	Peak Psgrs/seat	Off-Peak Psgrs/seat
Heavy Rail	2.30	2.30
Light Rail	1.75	1.75
BRT	1.30	1.30
Rapid	1.30	1.30
Express*	1.30	1.30
Limited	1.30	1.30
Local	1.30	1.30
Shuttle	1.30	1.30

* For the freeway portion of Express operation the standard is 1.00 passengers/seat.

Derivation: This standard has been adopted by the Board of Directors (March 2011) with the exception of the proposed revision to the freeway portion of Express routes. Though this revision will reduce the productivity of Express routes, it will improve passenger safety. Some added revenue hours (to be determined) will be needed.

**ATTACHMENT 1 (cont.)
PROPOSED METRO SERVICE STANDARDS AND POLICIES**

Headways

This standard ensures that the scheduled gap (in minutes) between vehicles on a line does not exceed the indicated value by time period. Off-Peak includes weekends. Actual headways would be determined by demand within the recommended limits.

	Peak	Off-Peak
Heavy Rail	10	20
Light Rail	12	20
BRT	12	30
Rapid	20	30
Express	60	60
Limited	30	60
Local	60	60
Shuttle	60	60

Derivation: The rail headways are almost the same as the recommended maximum headways in the Transit Service Policy except that the Light Rail maximum peak headway standard is proposed to be increased from 10 minutes to 12 minutes to permit less frequent operation of an initially shorter than planned Expo Phase 1.

There is no current standard for BRT which is proposed to be similar to Light Rail except with wider spacing in less travelled hours. The current adopted policy headway for Rapid Bus is 20 minutes at all times, but experience has shown that somewhat wider headways are more appropriate to lower demand in some corridors during evenings and weekends.

All remaining bus service types are proposed to operate no less often than every 60 minutes which will require additional service on a small number of routes. The Limited peak period standard is proposed to be more frequent because the service should not even be offered in corridors without frequent underlying local service (current guidance in the Transit Service Policy indicates that Limited service should only be offered in corridors where the pre-existing Local service operates at least every 10 minutes).

**ATTACHMENT 1 (cont.)
PROPOSED METRO SERVICE STANDARDS AND POLICIES**

On-Time Performance

This standard ensures a high level of service reliability. On-Time is defined as no more than one minute early or five minutes late. The standard would be applied to each bus and rail line. For bus lines performance is measured at all time points. For rail lines performance is measured at terminal arrival.

Heavy Rail	95%
Light Rail	90%
BRT	85%
Rapid	85%
Express	85%
Limited	85%
Local	85%
Shuttle	85%

Derivation: This is a service quality initiative for the bus system in the most recent Metro Budget. While annual goals for on-time performance of bus service have been established in recent years, no adopted standard exists. Historically, Metro has never established objectives for on-time rail operation.

The proposed standard for bus operation is higher than current system attainment as improvement is ongoing. The proposed rail standards are higher than bus because some (light rail) or all (heavy rail) of each line is along grade-separated guideway permitting more reliable operation. A monitoring program for bus on-time performance has been maintained for several years, but is under development for rail operation.

**ATTACHMENT 1 (cont.)
PROPOSED METRO SERVICE STANDARDS AND POLICIES**

Stop Spacing

This standard ensures a high level of service availability as appropriate for each mode. The standard is expressed as the maximum average stop (or station) spacing per mile by line.

Heavy Rail	1.50
Light Rail	1.50
BRT	1.25
Rapid	0.80
Express	1.25
Limited	0.60
Local	0.25
Shuttle	0.25

Derivation: The adopted Transit Service Policy provides guidelines for average stop spacing by type of bus service, and no guidance for rail station spacing. The adopted Rapid Bus warrants for new service require a stop spacing of at least 0.7 mile. While average stop spacing is frequently much less than the proposed standards, the standards are intended to ensure that a minimum level of accessibility is achieved for each service type by establishing an upper limit on stop spacing.

Industry guidance suggests that passengers will walk up to 0.25 mile to access bus service, and up to 0.50 mile to access rail. Because local and shuttle bus services should be readily available to as many people as possible, the proposed standard of no more than 0.25 mile between stops maximizes access within an approximate 0.50 mile corridor surrounding each bus line.

By their nature, Limited and Rapid bus services achieve their speed advantage largely through serving fewer stops. Existing guidelines in the Transit Service Policy suggest an average spacing of 0.50 mile for Limited service and 0.7 mile for Rapid operation. The proposed standards for these services encompass the recommended average stop spacing while ensuring that access is provided to a significant portion of corridor patrons.

Express and BRT services achieve the highest bus speeds through even greater stop spacing. In the case of Express service, longer freeway gaps between stops are offset by more frequent stops along the local service (collection/distribution) portion of such routes. Rail station spacing is even greater to allow high speed operation for large

numbers of passengers. Rail stations require an adequate system of feeder bus services to ensure that high volumes of patrons have access to the service.

ATTACHMENT 1 (cont.)
PROPOSED METRO SERVICE STANDARDS AND POLICIES

Accessibility

This is a system level standard to ensure that virtually all residents have access to the fixed route transit system.

Service is to be provided within one quarter mile of 99% of Census tracts within Metro's service area having at least 3 households per acre and/or at least 4 jobs per acre. Fixed route service provided by other operators may be used to meet this standard.

Derivation: This is a current objective of Metro's Performance Measurement Program. The use of other operators' services to meet this standard is to minimize duplication of effort because Metro's service area includes the protected service areas of several other fixed route operators.

**ATTACHMENT 1 (cont.)
PROPOSED METRO SERVICE STANDARDS AND POLICIES**

Passenger Amenities

This policy establishes a commitment to the provision of specified passenger amenities at all rail stations and major off-street bus facilities that are owned by Metro and permit passenger boardings.

The following passenger amenities will be provided at all rail and major off-street bus passenger facilities that are controlled by Metro:

<i>Shelters:</i>	<i>Heavy Rail: not applicable</i>
	<i>Light Rail: at least 80 linear feet of protective canopy</i>
	<i>Bus: at least 6 linear feet of protective canopy per bay</i>
<i>Seating:</i>	<i>Heavy Rail: seating for at least 12 passengers</i>
	<i>Light Rail: seating for at least 10 passengers</i>
	<i>Bus: seating for at least 3 passengers per bay</i>
<i>Display Cases:</i>	<i>Heavy Rail: at least 12 informational displays</i>
	<i>Light Rail: at least 10 informational displays</i>
	<i>Bus: at least 3 informational displays</i>
<i>LED Displays:</i>	<i>Heavy Rail: at least 8 arrival/departure screens</i>
	<i>Light Rail: not applicable</i>
	<i>Bus: not applicable</i>
<i>TVM's:</i>	<i>Heavy Rail: at least 2</i>
	<i>Light Rail: at least 2</i>
	<i>Bus: not applicable</i>
<i>Elevators:</i>	<i>Heavy Rail: at least 2</i>
	<i>Light Rail: at least 1 for elevated/underground stations</i>
	<i>Bus: at least 1 for multi-level terminals</i>
<i>Escalators:</i>	<i>Heavy Rail: at least 4 (2 up/2 down)</i>
	<i>Light Rail: not applicable</i>
	<i>Bus: not applicable</i>
<i>Waste</i>	<i>Heavy Rail: at least 6</i>
<i>Receptacles:</i>	<i>Light Rail: at least 2</i>
	<i>Bus: at least 1 for every 3 bays/at least 2 per facility</i>

Derivation: Metro has no current policy or guidelines for the level of passenger amenities to be provided at its facilities. Each rail project has had its own design guidelines, and each bus facility has been built with individualized project requirements. The proposed policy is a starting point addressing a minimal set of essential features with the recommended quantities chosen to ensure consistency across the system.

**ATTACHMENT 1 (cont.)
PROPOSED METRO SERVICE STANDARDS AND POLICIES**

Vehicle Assignment

This policy establishes the basis for assigning vehicles to individual operating facilities to achieve a cost efficient and high quality operating and maintenance environment.

The following policies will be followed for assigning vehicles to facilities:

<i>Heavy Rail:</i>	<i>Not applicable – only one line and one vehicle type</i>
<i>Light Rail:</i>	<i>Vehicles will be assigned to individual lines on the basis of compatibility of vehicle controllers with each line’s signal system. The number of vehicle types/manufacturers will be kept to no more than two at any facility to minimize parts storage and maximize maintenance expertise.</i>
<i>Bus:</i>	<i>Vehicles will be assigned to individual facilities on the basis of vehicle size requirements for lines supported by each facility.</i>

Derivation: There is no current adopted policy for vehicle assignment. The proposed policy will ensure a consistent basis for assigning vehicles to facilities that meets operating needs at minimal cost and improved quality of service.