

**BRIEFING MEMO**

**AC TRANSIT DISTRICT**  
**Board of Directors**  
Executive Summary

**GM Memo No. 05-218**  
Meeting Date: October 5, 2005

**Committees:**

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

**SUBJECT:**

Receive further review of the Transit Capacity and Quality of Service Manual: Part 3, Chapter 2: *Quality of Service Factors -- Measuring Quality of Service.*

**RECOMMENDED ACTION:**

- Information Only     Briefing Item     Recommended Motion

**Fiscal Impact:**

None; background only.

**Background/Discussion:**

For the past several months, staff has presented various concepts of quality and capacity from Part 3 of the *Transit Capacity and Quality of Service Manual (TCQSM)*. What has been missing, however, is a detailed discussion of how quality and capacity are measured. This GM Memo discusses the Manual's approach to measurement (pages 3-22 – 3-27).

**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 \_\_\_\_\_, 2005.  
Rose Martinez, District Secretary  
By \_\_\_\_\_

## **Measuring Quality of Service**

The Manual notes that in the provision of transit services, some factors can be measured quantitatively, while others can be assessed only qualitatively. Previous discussions of the TCQSM have mentioned the A-F scale (the Level-of-Service Concept or LOS), which is the primary measurement system in the Manual.

### Quantitative – Level of Service Concept (LOS)

The A-F scale assigns a letter grade to measure performance, with A being the best and F the worst. This system is consistent with the system used to measure traffic conditions in the Highway Capacity Manual. Since 1965, decisionmakers across America have understood that a highway/street at LOS A is free flow (which, from a user's point of view is excellent) and that LOS F is gridlock (which is extremely bad from a user's perspective). An important part of the A-F methodology is that there is a noticeable improvement as conditions move from F to E, to D, and so on.

Equally important is that while LOS A is desirable from a passenger's point of view, it may be undesirable from the transit operator's perspective. Just as taxpayers might question the value of an expensive roadway that had little traffic (LOS A), transit operators try to avoid LOS A on transit routes because it may mean the service is not cost-effective. Conversely, LOS F could mean the transit operator has failed to meet the most basic needs of its passengers. In theory, the best balance for transit operators would be LOS C for many aspects of service, such as load and stops. However, there are often interactions between the factors. For example, as loads increase, service frequency likely increases and LOS C for load factors may require LOS A for service frequencies.

In some respects, LOS rankings involve judgments. To control for the subjective, the Manual recommends creating "indexes" that weigh and rank each service element that is contained within an LOS category.

Quantitative performance measures within the category of availability include:

- Transit Stops
- Frequency
- Segments/Corridors
- System/Service Design
- Access

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In the category of comfort/convenience, quantitative performance measures include:

- Transit Stops
- Segments/Corridors
- Service Delivery
- System/Service Design

In the next discussion of the TCQSM, staff will discuss these measurements in more detail.

### Qualitative Measures – Passenger Perceptions

While service frequency, missed trips, route coverage and span of service can all be measured quantitatively, passenger perceptions are only measured as qualitative. The Manual notes that some aspects of the transit agency mission are difficult to measure – security, courtesy, and value are examples. Two methods are used to determine customer attitudes: Customer Satisfaction Surveys, and Passenger Environment Surveys.

The Customer Satisfaction Survey is just that – the agency asks its customers what works and what does not, and then asks what is important and what is less important. These attributes can include:

- Graffiti
- Safety
- Service frequencies
- Fare collection
- Courtesy

Customers are asked to rank their satisfaction in each category and then they are asked to prioritize each category. Sometimes customers are asked to describe the nature and frequency of occurrence of identified problems.

The Passenger Environment Survey is often thought of as the “secret shopper” survey. Trained checkers travel through the transit system and rate a variety of attributes to develop a quantitative evaluation of passengers’ qualitative experience. Cleanliness, information, operator performance are among the categories that are rated through Passenger Environment Surveys.

### **AC Transit Practice**

AC Transit measures loads, develops load factors, and has established standards for coverage and service design. The agency also measures on-time performance and

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other service delivery quality factors; however, we currently do not use the LOS ranking system. AC Transit also conducts Customer Satisfaction Surveys, both systemwide, and to determine passenger satisfaction with specific projects and service enhancements.

### **Next Review**

The next review of the Transit Capacity and Quality of Service Manual will provide discussion of Chapter 3, *Fixed-Route Transit Service Measures* which details the individual quantitative measures. As staff presents more information about these concepts and the measurements that could be used to assess how well the District meets them, the Board may wish to direct staff to develop standards and measurement methods.

### **Prior Relevant Board Actions/Policies:**

GM Memo 05-199: Part 3: Service Availability

GM Memo 05-173: Part 3, Chapter 2: Quality of Service Factors

GM Memo 05-137: Part 3: Chapter 4: Demand Responsive Transit Service

GM Memo 05-109: Part 3, Transit Decisionmaking

GM Memo 05-083: Part 3, Transit Performance Measures

GM Memo 05-062: Part 1 TCRP Manual

GM Memo 05-022: Review Timeline for Review of TCRP Manual

GM Memo 04-361: Overview of TCRP Manual

GM Memo 05-027: Designing with Transit

Board Policy 520 – Promoting Public Transit in Land Use Planning

Board Policy 550 – Service Standards and Design Policy

**Attachments:** None

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

**Prepared by:** Anthony Bruzzone, Manager Service and Operations Planning

**Date Prepared:** September 29, 2005