SECTION 1: PURPOSE AND BACKGROUND

The Metro Transit Service Policy was originally adopted in 1986. In 2003 the policy underwent a major revision and was updated to reflect recent changes in the operating environment and to support the agency's strategic plan. The revised policy called for an annual review and update. This report reflects the latest version of the policy and includes updates that were made during 2005.

This report is organized into six sections:

- Purpose and Background
- Bus Route and Design Guidelines
- Bus Performance Measures
- Rail Policies
- Planning Process
- Conclusion

1.1 PURPOSE

The purpose of the policy is to guide decision-making during the service change process and ensure a fair and consistent evaluation of service. It calls for service adjustments that best meet customer needs and expectations within the constraints of the budget and equipment availability. For the public, the policy communicates agency priorities and initiatives.

The guiding principles that provide a framework for the development of the transit policy are:

Increasing Ridership

- The network structure shall maximize regional mobility.
- The Metro will focus its service investment on providing high quality service to major travel markets within Los Angeles County.
- Corridors served by bus routes that offer service frequencies of 5 minutes or less will be candidates for Metro Rapid, the deployment of high capacity vehicles and bus preferential treatment (e.g. signal programs, bus lanes etc).
- Resources will be allocated in a manner that balances customer expectations with the fiscal responsibilities of the agency.

Transit Policy:

- *Guides decision-making*
- *Promotes consistency among Service Sectors*
- *Links service changes and strategic plan*
- *Communicates agency priorities*

Improving Service Quality

- Sufficient seating capacity will be offered on Metro Bus and Metro Rail lines to meet the need of Metro 's current and future riders, and ensure that patronage is not discouraged by overcrowded vehicles.
- All bus routes shall provide at least a 30-minute service during weekday rush hours, as resources permit. Routes that cannot support this level of service should be modified or operated by other means.
- There will be regular reviews of the operation to assess customer satisfaction and service delivery.

Using Resources Wisely

- The performance of each bus route in the system will be evaluated annually and bus lines not meeting the performance standards will be modified. Bus lines that do not meet the minimum performance standard after 18 months of operation will be cancelled.
- The Metro will assist in funding and operating shuttles, circulators and neighborhood-oriented services only when there is a demonstrated need and no other entity available to provide the service.
- New services will be considered for implementation when there are available resources and if ridership projections indicate the potential to support 30-minute service and to meet the minimum performance standard.
- The Metro will review its service and work with the local bus operators to reduce service duplication that results in a sub-optimal use of resources.
- Decisions regarding the provision of service will consider the cost effectiveness, appropriateness and operating roles of other operators, as well as alternative service delivery options.

Transit Policy Goals:

- *Increase Ridership*
- *Improve Service Quality*
- *Use Resources Wisely*

1.1.1 LINK TO THE METRO STRATEGIC PERFORMANCE PROGRAM

The FY 2005 Metro Strategic Plan sets the agency direction for the next five years and establishes a framework for key agency plans and policies. The Transit Service Policy was developed to support the Metro's vision, mission and key objectives of the strategic plan.

The Transit Service Policy is aligned with the agency's strategic plan and supports the implementation of key goals and objectives, as outlined below:

Metro Strategic Plan Goals and Objectives

Goal 1	**Improve transit systems**
Objective A	Efficiently and effectively operate service sectors
Objective B	Improve service quality and capacity for bus and rail systems
Goal 3	**Exercise fiscal responsibility**
Objective A	Manage the approved budget
Objective B	Implement efficient and effective cost allocation plans
Goal 4	**Provide leadership for the region's mobility agenda**
Objective B	Coordinate implementation of Multi-modal transportation programs with partner agencies.

Vision:
Metro…Leading the nation in safety, mobility and customer satisfaction.

Mission:

Metro is responsible for the continuous improvement of an efficient and effective transportation system for Los Angeles County.

1.2 BACKGROUND

The Metro has the second largest bus fleet in the United States, the world's largest CNG bus fleet and one of the most heavily patronized light rail lines in the nation. During the current fiscal year, ~~over~~ approximately ~~440~~ 460 million passengers are expected to board Metro bus and rail lines.

The Metro is the principal transit provider in Los Angeles County, serving about 75 percent of all transit trips. Over the next 25 years, the population of Los Angeles County will increase by 2.8 million. As congestion increases and auto speeds decline, more and more people are turning to public transportation. Keeping pace with growing demand is a challenge. Adding to the complexity is the fact that travel patterns are becoming more dispersed and new funding is very limited.

Improving the safety, capacity and quality of the Metro Bus and Metro Rail service is a top agency priority. To do this, the Metro is focusing on serving major travel markets and implementing a series of progressive strategies to improve service productivity and attract new riders. These strategies include improving service quality, restructuring the bus system; expanding the Metro Rapid program; deploying high capacity buses; providing a universal fare system; expanding signal synchronization for transit, implementing Metro Liner service, and increasing service coordination efforts with the other operators in the region.

METRO

- *The bus system includes ~~189~~ 185 routes and operates with over ~~2,000~~ 2,100 buses during rush hour.*
- *Metro has the 2nd largest bus fleet in the United States and the world's largest CNG Fleet.*
- *Metro Rail has 4 rail lines including a subway and 3 light rail lines, with over 73 miles of track and 65 stations.*
- *The Metro Bus and Rail systems transport over 1.3 million passengers daily.*

~~**1.2.1 SERVICE RESTRUCTURING PLANS**~~

~~Metro is working with the other local transit operators to develop a world class public transportation system in Los Angeles County that is customer driven, regionally oriented and efficient. To achieve this goal, a comprehensive service restructuring plan, referred to as Metro Connections, is being developed. The restructuring will change service from the current grid layout to a multi centered network that will allow for faster and more convenient travel.~~

~~Key goals of the project include:~~

- ~~Improve service quality~~
- ~~Use resources more effectively~~
- ~~Match capacity with demand~~
- ~~Increase service coordination with other transit operators~~
- ~~Increase transit's market share~~
- ~~Increase utilization of the Metro Rail and Metro Liner services~~

~~As part of the study, current travel patterns of transit users and non transit users are being reviewed against the existing bus system structure. Bus service will be realigned to better match travel demand and individual bus routes will be modified to provide faster travel.~~

~~The heart of the redesign is the creation of a network of 19 regional centers that are key points of origin and destination. Examples include: LAX/Aviation Station, Union Station/Patsaouras Plaza, Universal Red Line Station, El Monte Transit Center, and the Long Beach Transit Mall. Several of these locations do not have room for additional bus routes. In the interim, different types of routing strategies, such as remote layover or through routing of service, will be required. In the long term, a facility improvement plan will be developed.~~

~~As part of the transition, the Metro is focusing on regional services such as Metro Rail, Metro Liner and Metro Rapid. These services form a high speed/ high frequency network connecting the regional centers. The role of the municipal and local operators will be expanded, especially with respect to operating local and feeder services. They will operate much of the network that connects other activity centers and residential areas with regional activity centers.~~

~~Preliminary plans for the system restructuring will be completed by early 2005 and implementation will be phased in over a two or three year period.~~

1.2.1 Metro Bus System Restructuring

In the fall of 2003, Metro began a bus system restructuring study known as Metro Connections. The intent of the Metro Connections bus service effort is to move Metro's predominately Downtown Los Angeles-focused grid system to a hybrid grid and center-based bus service delivery, which

will better reflect the region's multiple activity centers and destinations. In addition, restructuring seeks to more effectively utilize and integrate the varied strengths of each of the region's many service providers. This service delivery concept will use a network of community transit centers as the focal points of the regional transit system that will be connected by major travel corridors with transit speed and reliability improvements. Service attributes will include:

- High-speed, point-to-point destination-based service
- Increased use of the region's high-capacity, high-speed rail and transitway system;
- Improved regional service coverage and connectivity;
- Upgraded inter-community and local service;
- Coordinated, convenient connections between services;
- Provision of physical customer improvements designed to enhance the quality and convenience of the travel experience; and
- Creation of a hierarchy of four community transit center types each with its own mix of transit services, level of operational complexity, customer services and amenities, and fit with community goals and plans.

Metro Connections:

- *Matching service to travel patterns*
- *Faster service*
- *Seamless travel*
- *More riders*

The study is being conducted in four phases:

- Phase 1 – Assess Needs
- Phase 2 – Develop Alternative Strategies
- Phase 3 – Identify Detailed Implementation Plans
- Phase 4 – Implement Service

Phases 1 and 2 have been completed and detailed service plans are now being developed. A draft network plan is scheduled to be completed by FY 07 and a pilot program will be implemented as part of the December 2006 Service Change. Full implementation of the restructuring plan will occur over a two-year period beginning in June 2007.

SECTION 2: BUS ROUTE AND DESIGN GUIDELINES

Bus route and service design guidelines are used in the development of proposed new services, the evaluation of existing services, and the evaluation of proposed modifications of existing services. The following guidelines are used to maximize the overall usefulness of the system to riders, ensure the consistency of route structure, and provide objective and consistent criteria for the establishment of service. They are used during the planning process to strike a balance between service attractiveness and resource availability.

The Metro operates an integrated transit system designed to focus on regional travel markets. It provides effective linkages and seamless connections with the other public transportation services within Los Angeles County.

2.1 TYPES OF METRO BUS SERVICE

Metro bus services are classified into five service categories, which reflect their functional and operational characteristics: These categories become the framework by which transit services will be developed, modified and evaluated. A summary of the features characterizing each service category follows:

- Metro Liner – Metro Liner is a ~~new service~~ bus rapid transit service ~~that is yet to be implemented. It is a bus rapid transit service~~ that ~~will~~ operates in a dedicated right-of-way~~.~~ A Metro Liner ~~service will be~~ currently operates ~~introduced~~ in the San Fernando Valley Sector along the Chandler Corridor (Orange Line). ~~and in the Westside Central Sector along the Wilshire Corridor.~~ Metro Liners are designated with route numbers between 900-999.

- Metro Express – Metro Express bus service usually operates daily peak service only from a collector area directly to a specific destination or in a particular corridor with stops en-route at major transfer points or activity centers. A major portion of the service is operated along freeways and busways. There are approximately 15 express bus routes. Some express service operate all day and on weekends. These services are designated with route numbers between 400 and 599.

- Metro Rapid – Metro Rapid is an expedited bus service that is being introduced in the most heavily traveled corridors. It features specially painted buses, signal priority and special stations. Currently there are 15 Metro Rapid lines in operation and there are plans to implement 14 additional Metro Rapid lines. Metro Rapids are designated with route numbers between 700 and 799.

- Metro Local – Metro Local service includes both purely local routes and limited stop service. This is the primary service provided by the MTA. This service ~~includes approximately 150 bus routes that~~ accounts for over 75 percent of the annual ridership. Some local bus routes operate a limited stop service and/or owl service. These services are designated with route numbers between 1 and 399.
- Metro Rail Feeder and Shuttle Services - These are local circulation, special event shuttle and rail feeder services. These bus routes generally operate on secondary streets and focus on short distance markets. These services are designated with route numbers between 600 and 699.

2.2 METRO RAPID DESIGN CRITERIA

The Metro Rapid program is based on Curitiba, Brazil, urban design and public transportation model. This model uses 13 key design attributes in the development of Bus Rapid Transit service. The initial Metro Rapid services incorporated seven of these features, while the remaining six will be incorporated during the expansion of the program. Design features included in the initial stages of the program are: a simple route layout, frequent service, headway based schedules, and less frequent stops. Level boarding and alighting, color-coded buses and stations, and bus signal priorities are also key design features.

~~In August of this year,~~ Service warrants ~~were developed to~~ guide the design, monitoring and development of the Metro Rapid program. The warrants are specific targets or objectives that are linked to each of the programs key attributes. These warrants are presented in Appendix A.

Curitiba Key Attributes

Curitiba Key Attributes	Phase I Demonstration	Phase II Expanded system
1. Simple Route Layout	Yes	Yes
2. Frequent Headways	Yes	Yes
3. Less Frequent Stops	Yes	Yes
4. Level Boarding and Alighting	Yes	Yes
5. Color Coded Buses and Stations	Yes	Yes
6. Station Stops	Yes	Yes
7. Signal Prioritization	Yes	Yes
8. Exclusive Bus Lanes	No	Yes
9. Higher Capacity Buses	No	Yes
10. Multiple-Door Boarding and Alighting	No	Yes
11. Fare Prepayment	No	Yes
12. Feeder Network	No	Yes
13. Coordinated Land Use Planning	No	Yes

Design features that may be added during the expansion of the program include: exclusive lanes, higher capacity buses, and multiple doors boarding and alighting to expedite the operation. Off-vehicle fare payments, an integrated feeder network and coordinated land use planning are features that are also considered.

2.3 EXPRESS AND LIMITED STOP SERVICE

Express bus service usually operates daily peak service only from a collector area directly to a specific destination or in a particular corridor with stops en-route at major transfer points or activity centers. A major portion of the service is operated along a freeway or busway. Express services are designed to provide a high-speed link between suburban areas and urban centers. They require a transit center or parking facility to collect ridership on the home end of the trip.

Whenever practical, commuter oriented coaches should be operated on these services. These coaches include features such as high back seats, reading lights and storage areas for passenger luggage.

These services may be considered when the following conditions are met:

- Travel time between the proposed route terminuses is more than 40 minutes.
- Resources are available
- There is a demonstrated need
- The proposed service will not compete with an existing rail line
- Service will be designed to operate with a minimum number of stops
- There is an opportunity to operate the service at a speed of approximately 20 miles per hour or to achieve a time saving greater than the frequency of the underlying bus service, over the entire trip.
- Ridership projections or the prepayment of monthly bus passes indicates that minimum performance standards will be met.

Limited stop service will be provided in local bus corridors where the demand requires service frequencies of 6 minutes or greater. Limited service will make significantly fewer stops than local service, and the key design objective is to operate a minimum of10% faster than local service.

2.4 OPERATING AND FUNDING SHUTTLES OR RAIL FEEDER SERVICES

Shuttle and rail feeder services generally operate on secondary streets, carry less than 2,000 passengers a day, and serve short distance trips. The Metro should only operate these services when: no other operator is available; there is a demonstrated need, and resources are available.

In terms of funding for community-based services to be operated by others, some capital funds may be available through the Call For Projects. Operating funding for existing services is available through local return funds, or other regional funding programs such as the Transit Service Expansion Program, Proposition A and C Incentives Program and the Formula Allocation Process. However, these funding programs are generally at their limit. New services that meet a regional need will be considered on a case-by-case basis and will require a specific funding agreement with Metro.

2.5 ALTERNATIVE SERVICE DELIVERY METHODS

Alternative service delivery options are other methods of providing service other than a standard transit bus that is directly operated by an Metro employee. These options include van service, taxicabs, flexible destination operations, contracted services, scrip programs and beginning tier/wages operators. When designing new services or assessing marginally performing existing services, each of these delivery options should be considered.

2.6 BUS/RAIL INTERFACE GUIDELINES

As the Metro Rail system expands, adjustments are made to the bus system to improve access to rail stations; to take advantage of new transfer facilities and to reduce bus and rail service duplication. The following guidelines provide direction to routing and scheduling changes that will be necessary as the Metro Rail system is expanded:

- Cancellation of Parallel Limited and Express Service: Competing limited stop and express service, which parallel the rail corridor, will be discontinued when duplication exists.
- Diverting Service: Bus routes that run parallel to a rail line may be diverted to a station when:
    - The walk time from the nearest station is greater than 3 minutes.
    - The diversion time in one direction is 5 minutes or less.
    - The average three-hour peak load factor is less than 50 percent.
    - There is a net travel time benefit for connecting and through traveling riders.

Intersecting bus lines or bus lines that travel in a perpendicular direction to a rail line will be diverted to serve the closest rail station when:

- The diversion time in one direction is 5 minutes or less.
- The average three-hour peak load factor is less than 75 percent.
- There is a net travel time benefit for connecting and through traveling riders.

- Extending Terminating Lines: Bus routes that end within one mile of a rail station will be extended to terminate at the station. Routes that terminate at distances greater than one mile may be extended if the rerouting will create a valuable link to the rail system or will result in a reduction in travel time for a significant number of riders.
- New Bus Routes: New rail feeder service will be considered as part of the service change process, if there is a need that can be demonstrated, available funding, and as part of the service change process.
- Scheduling Bus Interface: During peak travel periods, bus arrival and departure times should be governed by the rail arrival and departure times when predominant movement is from bus to rail. During off-peak times, bus routes with frequencies of 20 minutes or greater and that terminate at a rail station, should be scheduled to arrive 5 minutes before the rail departure time. When the predominant movement is from rail to bus, terminal buses should also be scheduled to depart 5 minutes after the scheduled rail arrival time.

2.7 BUS STOP SPACING

Bus stop spacing refers to the average distance between consecutive stops on a bus route. Guidelines for bus stop spacing are established at a level where service is within a reasonable walking distance and stop delays do not significantly reduce travel time. As shown below, the primary determinants for stop spacing are bus service type and population densities. Stop spacing for shuttles should be determined on a case by case as these services can be operated in a variety of environments and in a number of different way

Bus Stop Spacing Guidelines

Service Type	Population Density (Persons per Square Mile)			Route Average (Stops per one-way mile)
	Over 20,000	10,000-20,000	Under 10,000	
Express	500-2,600 ft.	1500-4000 ft.	2,600-5,200 ft.	1
Rapid	800-1,500 ft.	1,000-4000 ft.	2,600-5,200 ft.	0.7
Limited	750-1,000 ft.	750-1,500 ft.	1,000-4,000 ft.	0.5
Local	500-800 ft.	500-1000 ft.	500-1,300 ft.	0.2
Shuttle	TBD	TBD	TBD	TBD

It is Metro's intent to design bus routes to meet maximum spacing levels and overall route averages, unless superceded by such factors as: land barriers or topography which limit access, high passenger demand levels, surrounding attractors and major connections with other public transit services. Additionally, ~~route spacing~~ bus stop spacing will be a key consideration in the classification or numbering of bus routes. For example, limited stops services or bus routes with a 300 number designation should have stop spacing approximately twice that of the local service group average.

2.8 DUPLICATION OF SERVICE

Service duplication occurs when two or more bus routes operated by one or more carriers serve the same roadways in a transit corridor. In some instances duplication is desirable or unavoidable, due to the presence of activity centers or the lack of alternate routing option. However, duplication is not desirable in those instances where it is avoidable and it results in either sub-optimal resource utilization or passenger confusion caused by different fare structures applied to the same set of origin/destination pairs. Transit operations along the El Monte Busway provide good examples of this condition where Metro and Foothill Transit provide duplicative service between the El Monte Station and Downtown Los Angeles.

Under certain operational conditions, (road construction, traffic congestion, etc.) some duplication of a Metro route segment may occur by other operators. If the duplication impacts Metro Ridership, the Metro may require restricted operations, such as a closed-door operation by the duplicating agency.

2.9 FREQUENCY OF SERVICE

The frequency of service refers to the interval of time, expressed in minutes, between consecutive trips on a transit line. All Metro bus routes are scheduled based on demand, using the passenger loading standards in Section 3. The following table defines the maximum headways for each service type.

Maximum Service Frequency

Service	Peak	Midday	Evening /Owl	Weekends
Metro Express	30	---	---	---
Metro Rapid	10	20	20	20
Metro Local	30	60	60	60
Metro Rail Feeder/Shuttle	30	60	60	60

An overall Metro service improvement goal is to ensure that all Metro bus lines provide a minimum of 30-minute peak hour service along the trunk portion of the route. Currently, about 37 Metro bus lines operate with peak trunk headways that are greater than 30 minutes. These lines are listed in Appendix B. ~~Beginning with the fiscal year 2004 Service Change Program,~~ As part of the service change process, these lines will be reviewed for potential headway improvements as resource availability permits. Lines that cannot support 30-minute service may be modified, cancelled, or operated by other means, subject to the approval of the Sector Governance Council.

2.10 HIGH CAPACITY VEHICLES

High capacity vehicles are vehicles that have 45 seats or more. Conventional transit buses offer seating for about 40 passengers. Ideally, high capacity vehicles are used on lines with high ridership demand where there would be an opportunity to reduce vehicle requirements and service hours, thereby reducing overall operating costs. However, their deployment should not increase service intervals to the point where riders notice degradation in service quality. For this reason, bus lines with peak frequencies of five minutes or less are ideal candidates for this type of vehicle. In evaluating services for higher capacity vehicles other factors must be considered, including: facility compatibility, street design and potential impacts to services where schedules have been interlined.

2.11 BUS LANES

A bus lane is a lane on a street or highway reserved primarily or exclusively for buses, either all day or for specified periods. Other traffic is typically limited to emergency vehicles and in some cases taxis, may be allowed. Automobiles may be given limited access, such as for making left or right turns.

Bus lanes are a key attribute of Metro Rapid and an important strategy for improving traffic congestion, mobility and air quality. They make transit usage more attractive by reducing transit travel times, increasing service reliability, and improving safety. Bus lanes are most effective in those areas where a high percentage of the travel is on transit buses operating on congested arterials.

With the recent success of the Wilshire Boulevard Bus Lane Project and the on-going Metro Connections Study, opportunities to expand the bus lane program are being actively pursued. Candidates for this treatment are those corridors with peak hour bus volumes of a least 50 buses per hour and direction of travel; and arterials with significant congestion. In the evaluation of candidate corridors other factors are considered, such as: traffic and parking impacts; overall travel time savings, and street design considerations.

2.12 NEW SERVICE GUIDELINES

Proposals for new service come from a variety of sources including: customers, employees, technical studies, and from reviewing system performance and the development process. These proposals are considered during the development of service change programs, based on customer need and resource availability. As part of the evaluation process, opportunities to satisfy the request with existing service of Metro or other local operators are also explored. New services are only implemented where projections indicate that ridership can support at least 30-minute peak hour headways and can meet the minimum productivity standard.

After one year of operation, new services are included in the annual service review and are expected to meet the minimum productivity standard by their second year of operation.

2.13 ROUTE SPACING

Route spacing refers to the average distance between two or more parallel bus routes. This is a measure of service accessibility. Bus service is designed to link transit oriented communities with educational, shopping, employment, recreational and health care centers. In core-developed areas, routes should be spaced approximately ½-mile apart. In residential areas routes will be spaced approximately 1-mile apart, and in undeveloped areas, the distance between parallel routes will be determined by demand and by street pattern. Metro bus and rail services and services operated by other operators are considered when measuring compliance with these standards.

Bus Route Spacing Guidelines

Development Characteristics	Distance Between Parallel Routes
Urban	½ mile
Suburban	1 mile
Low Density Residential/Undeveloped	As needed/Pursue alternative delivery methods

- Includes Metro bus and rail service, as well as services of other operators.

2.14 PLANNING WARRANTS

Planning warrants are minimum demand thresholds that are used to identify the most effective transit solution for a particular corridor.

In public transportation, there are a variety of service solutions available. These range from paratransit service to heavy rail. Paratransit service is generally any public transportation service operated with a vehicle smaller than a 30-foot transit bus. It can include Dial-A-Rides, Shuttles, Circulators and subsidized taxi programs.

Determining the most appropriate transit service in a corridor depends on a number of factors, including level of demand, resource availability, site or corridor characteristics, environmental considerations and community acceptance. The planning warrants, shown on the following page, are guidelines that are used during the initial review of new service proposals, such as the expansion of the rail or Metro Rapid programs and when considering proposals to upgrade existing operations. The planning warrants use minimum demand thresholds and corridor characteristics to help identify the appropriate service type and to select candidate corridors for major investment. The demand thresholds include the combined ridership levels for all services operating in the corridor.

PLANNING WARRANTS

SERVICE	DESCRIPTION	WARRANT(S)
RAIL		
Heavy Rail	Operating 100 percent within an exclusive right of way.	3,000 boardings or more in the peak hour and direction of travel. Total daily boardings greater than 50,000. Ability to construct a fully grade separated facility.
Light Rail	Operating in mixed flow traffic or within an exclusive right of way.	1,500 boardings or more in the peak hour and direction of travel. Total daily boardings greater than 25,000. Ability to construct a guide way within or adjacent to the corridor.
BUS		
Expedited Transit Bus	A regular or articulated bus operating in a fixed guide way or a limited stop service in mixed flow with signal priority treatment.	300 or more boardings during peak hour and in peak direction of travel. Daily average of more than 500 boardings per route mile or over 10,000 total daily boardings. Ability to implement operating speed improvements in the corridor.
Standard Transit Bus	A 30-40 foot bus operating fixed route/fixed schedule in either local or express mode.	80 or more passengers during peak hour and in a single direction of travel. Total daily boardings greater than 2,000.
Paratransit Service	Service operated with a van, sedan, mini-bus or other vehicle smaller than a 30-foot transit bus (Dial-A-Ride, Shuttles, Circulators and subsidized taxi, etc.).	Services that do not meet the standard transit bus warrants are only operated by Metro when there is a demonstrated need and no other operator available.

2.15 SPAN OF SERVICE

Span of service refers to the hours that service is available on a given day and defines the minimum period of time that service will operate at any point in the system. This provides customers with the confidence that direct and connecting service will be provided.

Some of the criteria used to determine the span of service on a bus route include: existing ridership and productivity levels, the span of service on connecting and alternative services with expanded service; resource availability, customer requests; and the hours of operation of major job sites or activity centers along the alignment.

Span of Service

Service	Weekday	Weekends
Metro Express	Peak Hours Only	N/A
Metro Rapid	5am - 9pm	6am - 9pm
Metro Local	5am - 11pm	6am - 9pm
Metro Rail Feeder/ Shuttle	5am - 9pm	6am - 9pm

The above table summarizes the approximate span of service for each service type. The hours of operation on individual bus routes or rail lines are ultimately based on demand and resource availability. For example 18 of the busiest local bus routes operate 24 hours a day and selected express services operate all day and on weekends.

2.16 SPECIAL EVENT SERVICE

Special event services are bus routes that are designed to take passengers to a specific venue and are not part of the regular scheduled operation.

The Metro will provide service under contract to other entities only if the provision of these services do not interfere with the Metro's ability to meet its regularly scheduled service obligations and fits within the scope of the agency's regular operation, in terms of route structure, fares and span of service. Contracted services will be provided on a full cost recovery basis.

2.17 CHARTER BUS POLICY

Charter Service Definition

Charter Service is the use of buses or vans, or facilities (rail system) to provide a group of persons, under a single contract, at a fixed charge, with the exclusive use of the vehicle or service to travel together under an

itinerary either specified in advance or modified after having left the place of origin. Generally, for service not to be considered charter, it must meet the following tests: be available to the general public, operate within the system's normal scope (existing routings, fit within normal hours of operation and established fare structure), have a published timetable, and customers must pay their own fare.

Charter Service Policy

As a grantee of Federal funds, Metro is prohibited from using its federally-funded equipment and facilities to provide charter service except on an incidental basis and when one or more of applicable exceptions discussed below apply:

- Charter service shall be incidental to the mass transportation service and shall be provided only during times of the day when vehicles are not needed for regularly scheduled service.

- Charter service will only be considered only when one of the following exceptions applies:
  - There are no willing and able private charter operators.
  - For special events to the extent that private operators are not capable of providing the service.
  - When there is a formal agreement regarding the provision of charter services between the recipient and all private charter operators that have been determined to be willing and able.
  - For government or certain non-profit organizations, if the trip involves significant number of handicapped persons, if the organization is a qualified social service agency, or if it receives public welfare assistance funds whose implementation may require transportation services.

- All requests for Charter Service must be approved by the Chief Executive Officer and it may require a waiver from the FTA Region IX Administrator. Petitions for a waiver should be requested in writing and 90 days in advance of the event, whenever possible.

- The rates for charter service shall equal or exceed the annual fully allocated cost including depreciation, of providing charter bus operations and Metro shall deduct the mileage and hours from the useful life of the buses.

SECTION 3: BUS PERFORMANCE MEASURES

Performance measures are used to evaluate Metro bus service. They address customer satisfaction, passenger loading and productivity.

3.1 MYSTERY RIDER PROGRAM

An ongoing "Mystery Rider" survey has been developed to help evaluate product and service delivery, reward high quality performance, and identify service quality issues. The program uses a team of anonymous "mystery riders" who use the system and rate service from the customer's perspective. The survey provides a detailed evaluation of operator-controlled issues (such as courtesy and safety) as well as maintenance issues (such as cleanliness and climate systems). ~~Knowledge gained from these~~ The surveys will help to target service initiatives and training programs to improve customer satisfaction~~. Beginning in FY 2005, mystery shoppers will perform approximately 50 observations per month throughout the system.~~ Feedback from the surveys ~~will be~~ is provided to Sector management for appropriate action, along with incentive rewards for operators and divisions scoring highly in the survey.

3.2 PASSENGER LOADING

Passenger loading is a measure of seating capacity on a bus or rail car. It is typically expressed as a percentage of the total passengers on board a vehicle compared to the seats available. These standards are set at a level to offer sufficient seating capacity on Metro Bus and Metro Rail lines to meet the need of Metro's current and future riders, and ensure overcrowded vehicles do not discourage patronage.

Passenger Loading Standard

Service	Standard
Metro Bus	120%

The table above shows the current passenger loading standard for Metro Bus service.

3.3 PRODUCTIVITY GUIDELINES AND ANNUAL LINE REVIEW

Productivity guidelines are used to ensure that Metro services are effective and provide a reasonable return on investment. These measures are applied to all Metro bus routes in operation for more than a year.

These measures are used to flag problem services that are not performing up to expectations. Specific corrective actions are decided during the service change process. Corrective actions could include marketing, service restructuring, serving the demand with an alternative service or elimination of service. The chart on the following page outlines performance review process and the application of the minimum productivity standard for Metro bus service.

The evaluation process focuses on four factors:

Utilization of Resources – Passenger boardings per service hour is used as a measure to determine how effectively resources are being used. This measure is determined by dividing the total number of boardings on the line by the service hours operated. Routes having a higher number of passengers per hour represent a better utilization of resources such as buses, operators and fuel.

Utilization of Capacity – Passenger miles per seat miles is the measure used to evaluate how well the seating capacity of the system is being used. Passenger miles are calculated by multiplying the average distance traveled per passenger by the number of passengers using the service. Seat miles are calculated by determining the number of seats per vehicle by the number of service miles operated. The higher resulting number indicates greater utilization of system capacity.

Fiscal Responsibility – Subsidy per passenger is the measure for fiscal responsibility. Subsidy refers to the amount of pubic funding required to cover the difference between the cost of operation and the passenger revenues collected. Higher subsidy services require more public funding support.

Passenger Comfort– Load factor compliance to ensure that number of passengers on board do not exceed 120% of seating capacity in any 20 minute window during rush hours and 60 minute window during non-rush hours.

During the evaluation process, a route performance index is developed and used to objectively measure the performance of each route in the system, relative to other routes in the same category. The following categories are used during the performance evaluation process:

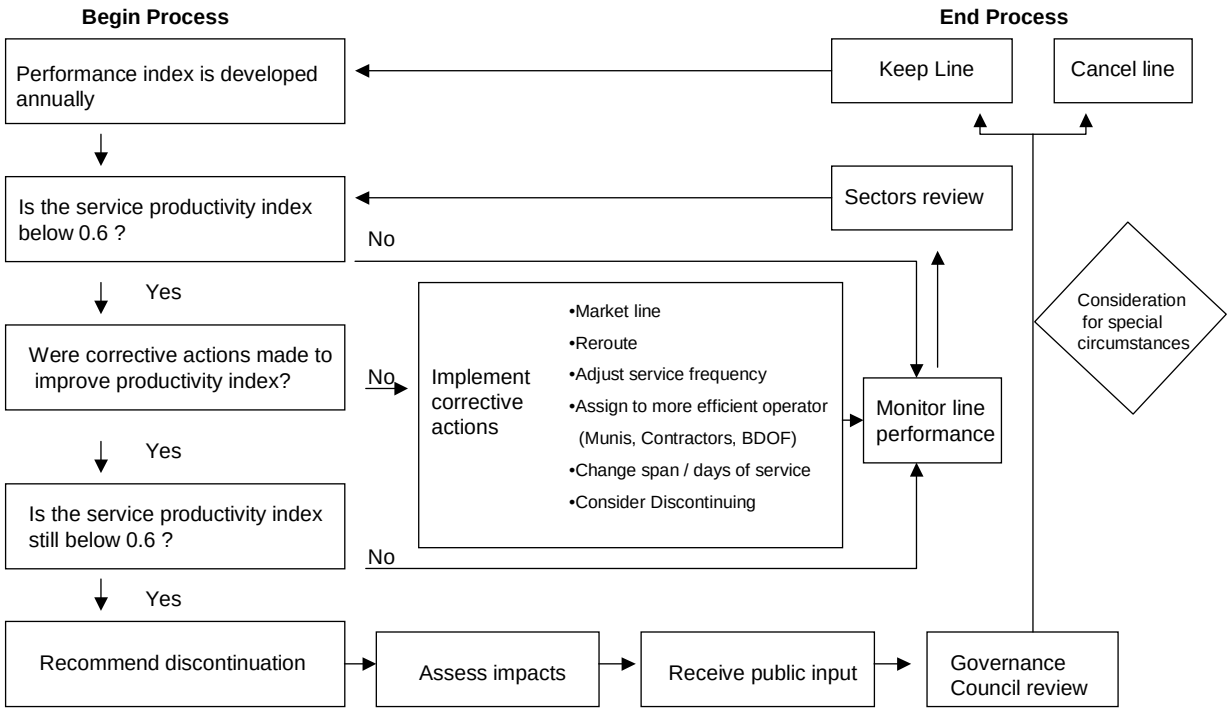
- Metro Express
- Metro Rapid
- Metro Local
- Metro Rail/Feeder Shuttles

Specific indices are developed for each measure and category of service performance (Appendix C). Lines with an index of 1.0 perform at the category average, while lines with an index of less than 1.0 perform below the average.

Routes with a performance index lower than 0.6 are defined as performing poorly and targeted for corrective action. Lines that have been subjected to corrective actions and do not meet the 0.60 productivity index after six additional months of operation may be cancelled, subject to Sector Governance Council approval, unless a funding agreement with a city or

other agency is in place to offset the poor performance of the service. Such agreements need to be for a period of one year or more and in an amount sufficient to bring the farebox recovery ratio of the poorly performing service up to the service type (Metro Local, Metro Express etc.) average.

ANNUAL ROUTE PERFORMANCE INDEX REVIEW PROCESS



SECTION 4: RAIL SERVICE POLICIES

The Metro Rail system serves as the backbone of the public transportation system in the greater Los Angeles region. Service is provided on four separate lines to 65 stations, operating over 70 route miles in heavily congested travel corridors. The lines provide connections to many key multi-modal transportation hubs and account for ~~220,000~~ 250,000 weekday boardings, (over ~~59~~ 70 million annual boardings in Fiscal Year ~~2003~~ 2006). The Red (heavy rail subway) and Green Lines (light rail) operate entirely within dedicated right-of-ways, while the Blue and Gold Lines (both light rail) operate primarily on grade separated alignments and surface streets, with numerous vehicles and pedestrian crossings.

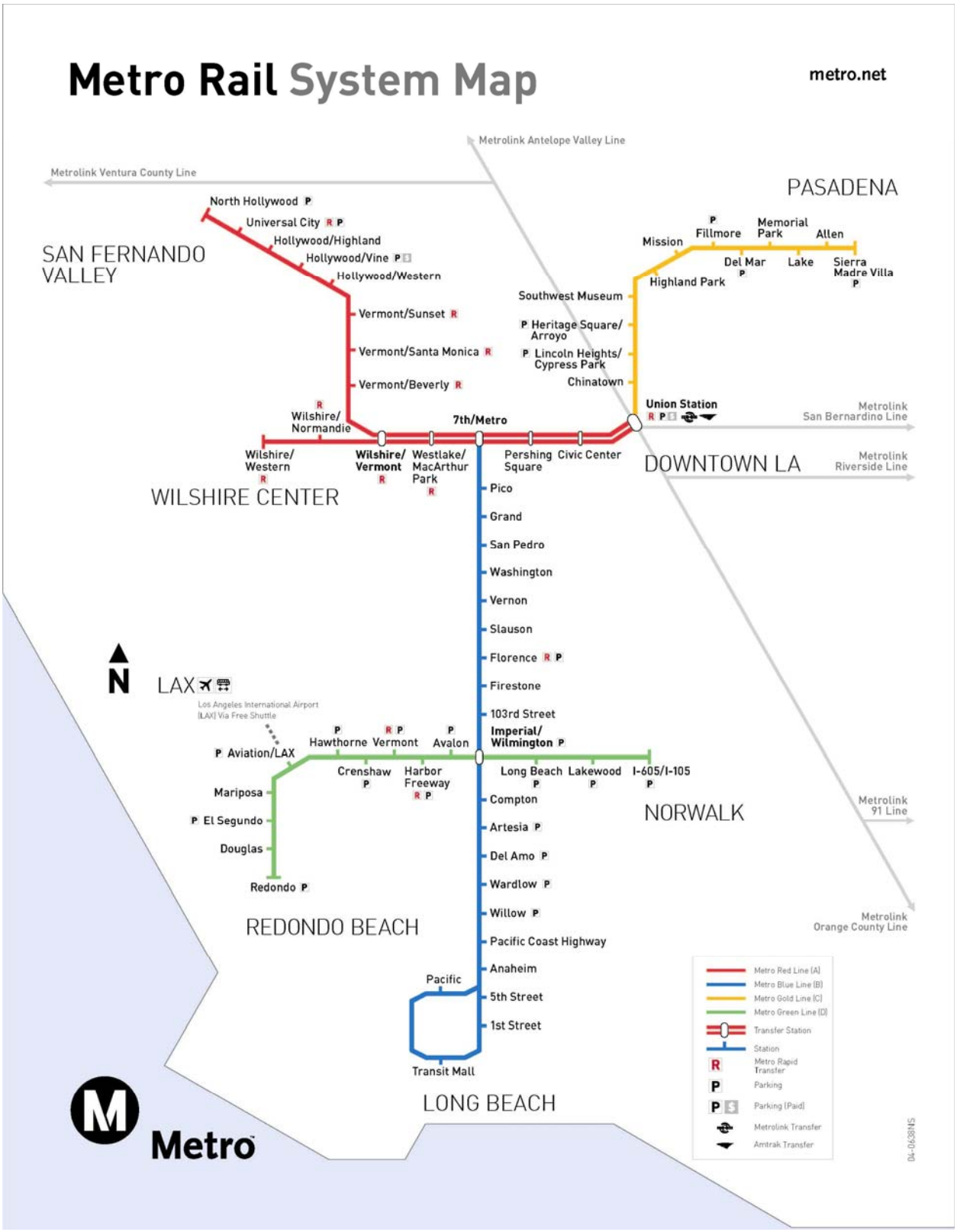
The system will continue to expand over the next several years with ~~ongoing construction of the Gold Line Eastside Extension and~~ completion of the Gold Line Eastside Extension and the final planning of Exposition Line. As a result, ridership levels will not stabilize for many years. Current planning efforts are focused on matching service levels with demand. Key rail policies address the frequency of service, span of service and passenger loading.

4.1 FREQUENCY OF SERVICE

The frequency of service refers to the interval of time, expressed in minutes, between consecutive trips on a transit line. The frequency of service on rail lines is determined based on policy and demand. Service frequencies are set in a manner that ensures a reasonable, attractive level of service is provided throughout the day and to provide sufficient capacity to adequately meet ridership demand. The table below defines the maximum (longest) headways for each service period operated by the Metro along the trunk portion of a line. Service along branches may be less frequent.

Recommended Maximum Frequency

Service	AM/PM Peak	Midday (9am-3pm)	Evening (6pm-9pm)	Night (9pm-2am)	Weekends
Light Rail (Blue Line, Green Line, Gold Line)	12	15	20	20	20
Heavy Rail (Red Line)	5	7	12	15	15


Metro Rail System Map
metro.net
Metrolink Antelope Valley Line
Metrolink Ventura County Line
PASADENA
SAN FERNANDO VALLEY
North Hollywood
Universal City
Hollywood/Highland
Hollywood/Vine
Hollywood/Western
Vermont/Sunset
Vermont/Santa Monica
Vermont/Beverly
Wilshire/ Normandie
Wilshire/ Western
Wilshire/ Vermont
Westlake/ MacArthur Park
WILSHIRE CENTER
7th/Metro
Pershing Square
Civic Center
Union Station
DOWNTOWN LA
Metrolink San Bernardino Line
Metrolink Riverside Line
Mission
Fillmore
Memorial Park
Allen
Del Mar
Lake
Sierra Madre Villa
Highland Park
Southwest Museum
Heritage Square/ Arroyo
Lincoln Heights/ Cypress Park
Chinatown
Pico
Grand
San Pedro
Washington
Vernon
Slauson
Florence
Firestone
103rd Street
Imperial/ Wilmington
N
LAX
Los Angeles International Airport (LAX) Via Free Shuttle
Aviation/LAX
Hawthorne
Vermont
Avalon
Crenshaw
Harbor Freeway
Long Beach
Lakewood
I-605/I-105
NORWALK
Metrolink 91 Line
Mariposa
El Segundo
Douglas
Redondo
REDONDO BEACH
Compton
Artesia
Del Amo
Wardlow
Willow
Pacific Coast Highway
Anaheim
Pacific
5th Street
1st Street
Transit Mall
LONG BEACH
Metrolink Orange County Line
Metro
Metro Red Line (A)
Metro Blue Line (B)
Metro Gold Line (C)
Metro Green Line (D)
Transfer Station
Station
Metro Rapid Transfer
Parking
Parking (Paid)
Metrolink Transfer
Amtrak Transfer
04-0638NS

4.2 SPAN OF SERVICE

Span of service refers to the hours of the day and days of the week that service is operated. For the rail system the span of service is determined based on the hours of key activity centers located along the alignment and ridership demand. A key factor in determining the span of service on individual lines is system connectivity. Evening schedules are designed to provide connections at the 7th St./Metro /Julian Dixon Station, Union Station and Imperial/Wilmington/Rosa Parks Station. The approximate span of service for light and heavy rail service is summarized below.

Approximate Span of Service

Service	Weekdays	Weekends
Light Rail (Blue Line, Green Line, Gold Line)	3:50 am - 2:00am	3:50 am - 2:00 am
Heavy Rail (Red Line)	4:30 am - 1:30 am	4:30 am - 1:30 am

4.3 PASSENGER LOADING

Passenger loading is a measure of seating capacity. It is typically expressed as a percentage of the total passengers compared to the seats available. These standards are set at a level to offer sufficient seating capacity on the Metro Rail lines to meet the need of Metro's current and future riders, and ensure overcrowded vehicles do not discourage patronage.

Passenger Load Standards

Service	Standard
Light Rail	190%
Heavy Rail	230%

The above table shows the current passenger loading standards for each service type. The standards vary to reflect differences in seating and available space for standees by vehicle type.

4.4 PRODUCTIVITY GUIDELINES AND ANNUAL LINE REVIEW

Productivity guidelines are used to ensure that Metro Rail services are effective and provide a reasonable return on investment.

Section 3.3 contains a detailed discussion of how the productivity index is developed and analyzed for Metro bus service. Metro rail follows the same

process using three factors: Utilization of Resources, Utilization of Capacity, Fiscal Responsibility. Metro Rail lines with a performance index lower than 0.6 are defined as performing poorly and targeted for corrective action. Corrective actions could include marketing ~~and service restructuring.~~, adjusting service levels, increasing bus service to rail stations, or other efforts to increase ridership or improve operational efficiency.

SECTION 5: SERVICE CHANGE PROCESS

The Metro traditionally implements service changes to its bus service system twice a year. Each service change takes about one year to plan and implement.

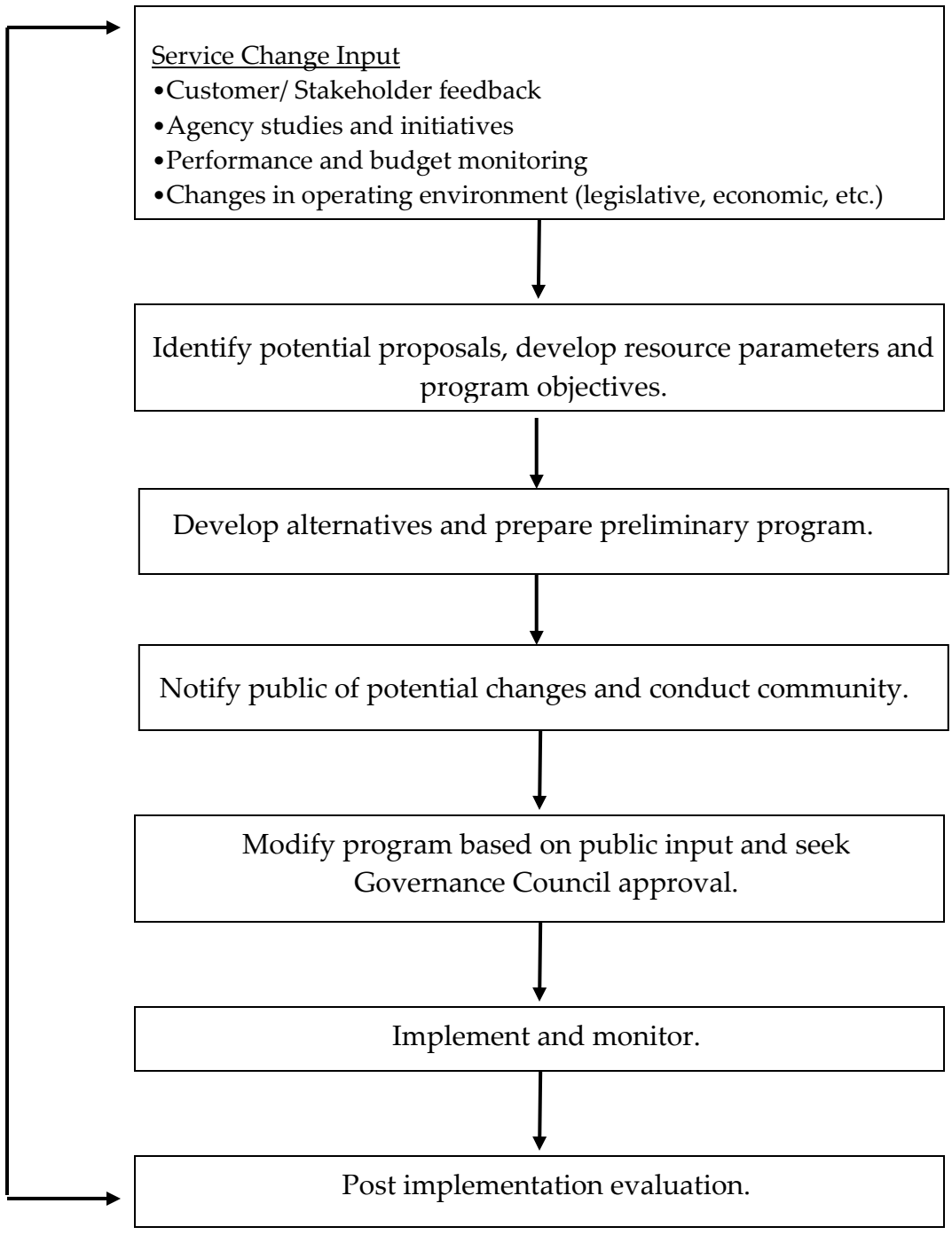
Service Change Timeline

Key Activities	Required Lead Time (Months Prior to Implementation)
Initiate Planning Process	**12**
Develop Preliminary Recommendations	**7-8**
Public Review and Input	**5-7**
Impact Analysis for Proposed Changes	**5-7**
Finalize Program	**5**
Program Approval	**5**
Develop New Service Schedules	**3-5**
Print Public Time Tables and Operator Assignments	**1-2**
Implement Service Change	

The service change programs are developed based on input generated by a wide variety of sources. Sources include customer and employee input, service restructuring studies, requests from other local operators and performance monitoring results. The evaluation process includes public review of the proposals, a technical evaluation of ridership and resource impacts, environmental considerations, coordination with key stakeholders in the regional bus system, and review and approval by the Sector Governance Councils and/or Board of Directors. Once a program is approved, the public is notified of the upcoming changes and new public timetables and bus operator work assignments are developed. ~~Appendix D presents the template that is used when presenting service change programs. It includes budget targets, goals and objectives, as well as a summary of key impacts.~~

Changes to the rail system occur less frequently. They generally relate to the opening of a new line or adjustments to the frequency or hours of operation for existing service. Changes in rail and bus service follow the same planning and implementation process.

SERVICE CHANGE PROCESS



5.1 INTERNAL REVIEW AND OVERSIGHT OF THE SERVICE CHANGE PROCESS

The Sector Governance Councils oversee the planning and implementation of service within their area, while coordination of the overall Service Change Program is an agency function. The responsibilities of the Governance Councils include: approval of the sector budget within designated funding levels; calling and conducting public hearings for sector bus lines; approval and evaluation of sector programs; implementation of service changes; review and development of policy recommendations to the Metro Board and ensuring compliance with Metro policies procedures and legal agreements. As part of these responsibilities, the Sector Governance Council is also responsible for considering and addressing issues of personal safety raised by riders as a result of a proposed service change. In those instances where a proposed reduction in service ~~will~~ is determined by the Council to have a significant impact on transit dependent riders or personal safety, mitigation measures are to be considered as discussed in Appendix E.

The Metro has an internal review team, known as the Service Development Team, which provides oversight during the service change process. The committee includes the Chief Executive Officer (CEO), the Deputy Chief Executive Officer (Deputy CEO), the Sector General Managers, the General Manager of Rail Operations and other key executive staff. The committee establishes targets and objectives for each service change program; helps to prioritize proposals; and provides a forum for coordination among the sectors, especially when there are proposals involving major bus lines serving two or more sectors. When there are service issues that cannot be resolved among the sectors, the Service Development Team will intervene. The Service Development Team also oversees the development of fare and service policies and other agency initiatives that will have a major impact on transit services.

5.2 IMPACT ANALYSIS FOR PROPOSED CHANGES

Prior to approval, proposed service changes undergo a technical evaluation. The purpose of the evaluation is threefold: 1) to define and evaluate the impact on riders; 2) to develop appropriate mitigation measures, and 3) to demonstrate that service change programs result in a net benefit to the transit customer. Factors considered in the evaluation include: passenger wait time, transfer requirements, changes in walk distance, fare impacts, headway changes, safety considerations and special mitigation strategies. As part of this evaluation process, resource impacts including in-service hours and vehicles are also tracked to ensure compliance with budget parameters. Both ridership and resource impacts are reviewed as part of the program approval process.

The impact analysis is conducted by each of the Service Sectors. A series of

standardized worksheets are used to determine ridership impacts (Appendix ~~E~~ D). The worksheets are designed to translate the impacts into increases or decreases in annual person minutes of travel. Increased travel time is considered to be a negative impact and reduced travel time represents a rider benefit.

The impact evaluation worksheets cover a variety of service change types including: adjustments in the hours of operation or span of service; headway or frequency of service; travel time or operating speed; reroutes; additions or deletions of a segment or route.

Once each individual proposal is evaluated a summary table is prepared so that overall program impacts can be determined and a final screening of individual proposals is conducted. The screening focuses on overall program impacts and resource requirements and individual changes that have significant negative impacts or which were strongly opposed during the public hearing process. These changes are reviewed and considered for additional mitigation. Mitigation could include changing or removing the proposal from the program, implementing other concurrent actions to reduce the impact, such as an inter-agency fare agreement or improvements to an alternative service. Once the overall program objectives are achieved and appropriate mitigation measures identified, the program is ready for approval.

5.3 PUBLIC INVOLVEMENT AND NOTIFICATION

Customer input and feedback are vital to the planning process. Throughout the process, and especially during the period leading up to the public hearing, staff conducts outreach activities to engage key stakeholders in the review process. These groups include: Councils of Governments, the Metro Citizen's Advisory Council, special advocacy groups and regional Metro subcommittees (Technical Advisory Committee, Bus Operations Subcommittee, and the Local Transit System Subcommittee). In addition to these formal groups, staff frequently meets with neighborhood and business groups to discuss specific proposals or issues of concern.

As summarized in the table below, a number of efforts are made to notify the public and elected officials of pending changes in Metro bus and rail service. In advance of public meetings on Metro service changes, legal notices are published in several newspapers, and written notification and descriptions of the proposed changes are sent to elected officials, other local transit operators and key stakeholder groups. Also, information is posted on the Metro website and there is an on-board system wide distribution of public hearing notices. There are also related press releases.

Timeline For Key Public Notification Activities

Activity	Months Prior to the Service Change
Service Development Team reviews preliminary proposals.	7
Service Sectors set dates of public meetings, publish meeting notices in local newspapers and send written notification to elected officials, other operators and key stakeholder groups.	6-7
Service Sectors provide information on proposed changes to the Metro Bus Operators Subcommittee.	6
Communication Department posts information proposed changes on Metro website.	6
Sectors distribute meeting notices on-board vehicles.	At least two weeks prior to public hearings
Sectors conduct public meetings.	5
Sector Governance Councils approve final program.	4
Communication Department prepares press releases on final program and program brochures are distributed on-board Metro vehicles.	1
New Timetables are distributed and available on-board Metro vehicles	At least three weeks prior to changes

Public meetings are conducted when there are major changes to service or changes to the fare policy. The meeting process provides the public with an opportunity to comment on major service change proposals approximately two weeks prior to the meeting an information packet is prepared for the public. The packet includes maps and descriptions of the changes requiring a public hearing and estimates of ridership and financial impacts. This information is made available to the public through the Service Sector Offices. After the public meetings, staff reviews all the feedback and develops final recommendations. After a service change program is approved, a second round of public notification begins. This includes distributing brochures on bus lines that will be affected by the service change and advance distribution of new timetables. When key changes are being

implemented, field representatives known as Transit Ambassadors are often deployed to major boarding locations in the system to distribute information and answer customer questions. When new lines are being implemented there are often targeted promotional campaigns, which include radio and print media, as well as promotional fares.

5.4 IMPLEMENTING MINOR CHANGES ON AN INTERIM BASIS

Minor service changes are generally route modifications that can be accommodated without impacting the vehicle or operator requirements of the service. Each Sector has been delegated the authority to make minor route modifications (not requiring a public hearing) not to exceed an annual cost based on the annual CEO signature authority. These limits are based on the CEO's signature authority. Minor changes to service are reported to the Board of Directors on a quarterly basis.

5.5 COORDINATION WITH OTHER OPERATORS

In addition to the service provided by the Metro, 40 other local operators provide fixed route service and there is more than 100 other local return and non-profit agencies that provide community based transportation services. As the regional planning agency for Los Angeles County, the Metro plays a lead coordination role.

The Metro Service Sector staffs are responsible for coordinating with the other operators within their area, especially when changes in service are being considered. Additionally, there are other more formal means of coordinate.

The Bus Operations Subcommittee (BOS) and the Local Transit Systems Subcommittee (LTSS) were established to serve as a forum for interagency service coordination within Los Angeles County. These groups meet monthly at the Metro headquarters. The BOS is comprised of representatives from entities that provide fixed route bus and paratransit service and are eligible to receive funds from the Formula Allocation Process (FAP). The LTSS is comprised of representatives from entities that provide fixed route or paratransit service funded with local return dollars.

In April 2001 the Metro Boards of Directors approved the Municipal Operations Service Improvement Program. As part of this program, $15 millions of Proposition C funds are programmed from 2002 through 2006. The funds were established to help reduce Metro operating costs in corridors where there is

overlapping service and to reduce overcrowding. During FY06, the Metro Board of Directors approved a two-year extension of this program.

~~In October 2002, a Regional Transit Plan was adopted and is in the process of being updated. The plan outlines key service coordination issues and action plans for addressing them.~~

~~The BOS is monitoring the implementation of the Regional Transit Plan. Key service issues include the implementation of the Universal Fare System, reducing service duplication, improving regional transit centers, and increasing the participation of the LTSS during the regional transit planning process.~~

As part of the public hearing outreach period of the Metro service Change process, the Sector General Managers are responsible for coordinating with the local operators and municipalities within their area. This includes providing an opportunity to participate in the planning process (service changes, Metro Connections, rail feeder plans, bus/rail interface plans, system restructuring), and providing advance notification of service proposals, which may affect the local operators or communities within their sector. Similarly, the local operators are to provide the Metro with advance notification of proposals that may affect Metro Bus operators or ridership.

SECTION 6: CONCLUSION

The Metro Transit Service Policy will be used to guide decision-making during the service change process and the development of other longer term plans, such as transition to the hub and spoke network. This policy supersedes any other agency service policies.

The application of the policy will be supported by service monitoring which will provide updated information on the performance of individual bus lines, the overall system and customer satisfaction. Specific system objectives will also be monitored, including the number of bus lines operating with peak hour headways greater than 30-minutes; the number of bus lines conforming with the minimum productivity indices, and seating capacity.

The transit policy reflects current practices and agency direction. However, the environment is constantly changing and the policy will be reviewed annually. Any changes to the policy will require the approval of the Board of Directors.

APPENDIX A: METRO RAPID PROGRAM SERVICE WARRANTS

PROGRAM PRINCIPAL: Improve Operating Speed and Frequency.

PROGRAM GOAL: Minimum operating speed improvement is 20% over existing limited-stop service or 25% over existing local service.

Program Element	Program Component	Program Objective
Corridor Alignment	PLANNING DEPARTMENT RESPONSIBILITIES	
	Maximize patronage and minimize costs	Identify core segment of corridor for Metro Rapid operation to maximize patronage (500 passengers per route mile or greater) and minimize operating costs (~~no net increase in corridor revenue vehicle hours~~).
	Linear corridor alignment	Minimize corridor turning movements to maximize safe and reliable operating speeds, improve customer understanding and confidence in service structure, and provide reliable service operations.
	OPERATIONS DEPARTMENT RESPONSIBILITIES	
	Alignment modification	Changes to the alignment that affect one-way revenue route miles or which impact planned or existing infrastructure (stations and TPS) require a technical ~~memorandum~~ analysis analyzing impacts on customers, line performance, operating costs, and capital costs.
	Addition of shortlines and branches	Proposed shortlines and branches must occur at a point where less than 30% of the maximum passenger load remains so as to avoid passenger pass-ups on through-trips. Shortlines or branches must occur every other trip to avoid confusion and bunching due to erratic loading of passengers. All shortlines and branches require a technical ~~memorandum~~ analysis analyzing impacts on customers, line performance, operating costs, and capital costs.
	Addition of Rapid ~~e~~Express trips	Consideration of Rapid ~~e~~Express service can be undertaken ~~only as a separate route and~~ where justified ~~in~~ by a technical ~~memorandum~~ analysis analyzing impacts on customers, line performance, operating costs, and capital costs.
	Maintenance of operating speed	Maintenance of the Program Goal is required. Corridor vehicle run times will be monitored. Improvements in operating speed are encouraged through improved stop placement, signal priority software, elimination of unproductive stops, introduction of bypass lanes, and improved BOCC and TOS management.

Program Element	Program Component	Program Objective
Stop Location	PLANNING DEPARTMENT RESPONSIBILITIES	
	Station spacing average ~~no less than~~ 0.70 miles	Stop spacing ~~will~~ should average ~~no less than~~ 0.70 miles per corridor and be based on existing ridership and connections with other bus and rail service. Average stop spacing may be less than 0.70 miles if additional stops are warranted due to passenger demand and so long as program goal is satisfied. Stop locations must be planned to accommodate either 45-foot or 60-foot buses for appropriate corridors.
	Far-side station location	Far-side stop locations are required to realize TPS and must be planned at all intersections. The only exceptions are where far-side stop locations are not possible within a reasonable walk from the intersection or where nearside locations facilitate access for greater than 75% of the boardings, e.g., intersecting Metro Rail station portals. Near-side stations require 120 feet of red curb in all cases.
	~~Full separation from~~ Combination with Local stop	Safety must be a major consideration given to Metro's customers who may board either Local or Rapid service at a given intersection. Rapid and Local stops should be combined whenever possible, and the length of the zone must be determined based on the FTA TCRP Report 19 guidelines. ~~Shared Metro Rapid and local bus stop locations must be avoided to reduce delay, minimize bus congestion at the stop, and eliminate passenger confusion with "next trip" displays.~~
	OPERATIONS DEPARTMENT RESPONSIBILITIES	
	Addition of new stop	Additional stops may be added if warranted due to passenger demand and so long as program goal is satisfied. ~~Stops may be added only if they exceed 250 daily boardings (100 boardings if within one mile of line terminal) and only where the Time Delay Index[1] of existing on-board passengers to the additional riders expected at the new stop is (a) less than 5 for the addition of a new stop that is between 0.5 and 0.7 miles from an existing stop; (b) less than 7.5 for the addition of a new stop that is between 0.7 and 1.0 miles; or (c) less than 10 for the addition of a new stop that is over 1 mile from an existing stop. Stops less than 0.5 miles from an existing stop must have a Time Delay Index less than 3 and can only be added in extraordinary circumstances.~~ Added stops require a technical ~~memorandum~~ analysis that analyzes the impacts on customers, line performance, operating costs, and capital costs. Station construction costs associated with stops added beyond those approved in the September 2002 Metro Rapid Board report will be paid by the Managing Sector.
	Elimination of stop	Stops may be eliminated ~~only if (a) after the first six months the Time Delay Index is greater than 15;~~ if (a) warranted due to low passenger demand or (b), where use of the station results in operating speed, reliability, or safety problems. A technical ~~memorandum~~ analysis is required that analyzes the impacts on customers, line performance, operating costs, and capital costs.

~~[1] The Time Delay Index is the average on-board passengers arriving at the proposed new stop multiplied by the average delay at the new stop (average expected people to board per trip at the new stop multiplied by one second each plus 30 seconds delay to compensate for vehicle arrival and departure speeds) divided by the average expected boardings at the new stop. The recommended thresholds are based on analysis of available Profile 50 data for the Van Nuys, Florence, and Wilshire-Whittier Metro Rapid corridors.~~

Program Element	Program Component	Program Objective
	Relocation of station	Stations may be relocated when warranted by customer or safety concerns or ~~only~~ when required by a city or the County and ~~where~~ such that the station relocation does not negatively impact ridership. If possible, relocations should be made prior to the construction of the permanent station facility. A technical ~~memorandum~~ analysis is required that analyzes the impacts on customers, line performance, operating costs, and capital costs.
Station Facility	PLANNING DEPARTMENT RESPONSIBILITIES	
	Full Metro Rapid station with canopy	All stations will have the "branded" Metro Rapid canopy facility with flagpole, kiosk, and "next trip" display unless it is physically impossible without extreme cost. For terminal stations and stops on turnaround loops that only discharge passengers, the full station facility will not be provided; a Metro Rapid "discharge only" sign on a channel post will be provided.
	Double canopies will be installed only at high demand stops	Double canopies will be located only at high demand stops, such as high ridership Metro Rail station portals or where high ridership bus lines meet.
	~~All~~ Appropriate stations will be designed to accommodate either 45-foot or 60-foot buses	Farside stations serving high-capacity buses require a total clear space (red curb) of 120 feet unconstrained or 100 feet constrained. The largest vehicle required for the Metro Rapid Program is the 60-foot articulated bus.
	OPERATIONS DEPARTMENT RESPONSIBILITIES	
	Station Maintenance Monitoring	All stations will be maintained by the city or County responsible for the station and kept in good repair with regular cleaning and emptying of trash receptacles such that a positive, properly maintained image is projected and problems with adjacent land owners are minimized.
Transit Priority	PLANNING DEPARTMENT RESPONSIBILITIES	
	All signalized intersections should provide bus signal priority for Metro Rapid	Signal priority should include terminal movements to reduce operating costs.
	Identification of by-pass lane needs	At points of significant delay due to traffic congestion, an analysis will be developed of the feasibility of establishing by-pass lanes for Metro Rapid service.
	Monitor effectiveness of transit priority measures	The effectiveness of the transit priority measures will be periodically analyzed and recommendations will be developed for potential further improvements where warranted.
	OPERATIONS DEPARTMENT RESPONSIBILITIES	
	Signal priority at intersections along major deadhead movements is desired	Metro Rapid not-in-service vehicle movements should be operated off the route-of-line to avoid invalid requests for bus signal priority and false "next trip" information on the station displays. Consideration should be given to consolidating several Metro Rapid not-in-service routes along the same streets to benefit from signal priority.

Program Element	Program Component	Program Objective
Vehicles and Vehicle Planning	PLANNING DEPARTMENT RESPONSIBILITIES	
	Metro Rapid lines are assigned one vehicle size, i.e., 40-ft, 45-ft, or 60-ft articulated	The planned service frequency will be based on deployment of a particular size bus and these vehicles will need to be assigned to the particular line and operating Division. Only one size vehicle should be scheduled and operated on each line in order to avoid passenger overcrowding and service bunching.
	OPERATIONS DEPARTMENT RESPONSIBILITIES	
	Vehicles must be in Metro Rapid livery	Metro Rapid vehicles may be operated only on Metro Rapid routes. On the rare occasion that a red bus is unavailable for pullout, a local bus may be substituted to ensure pullout. Operation of ~~"red and white"~~ branded Metro Rapid buses is integral to the operating speed, simplicity of service, and customer experience.
Service Frequencies	OPERATIONS DEPARTMENT RESPONSIBILITIES	
	Weekday peak frequency	The minimum weekday peak frequency is 10 minutes or less~~. Large capacity vehicles must be considered based on capacity needs, without violating the 10-minute frequency threshold; comparison of overall daily operating cost will determine which vehicle is the best choice at this minimum service level.~~ High-capacity bus implementation should result in adjusted headways in order to achieve operational efficiencies.
	Weekday off-peak frequency	The minimum weekday off-peak frequency is ~~12~~ 20 minutes or less. ~~Minimum frequency is subjected to funding availability and may be relaxed to 15 or 20 minutes in unique, cost-constrained funding situations, or not operated at all during the off-peak; owl service with underlying local owl service may also operate at a frequency up to 20 minutes~~
	Local service frequency at start-up 75-100% of planned Metro Rapid	Initial local service levels (trips) must be set at 75-100% of Metro Rapid service levels based on individual corridor needs; adjustments can be initiated during the next shakeup once actual ridership splits are known.
	~~Cost-neutral o~~Operating expense	~~Consistent with the September 2002 Metro Rapid Board Report, annual corridor revenue hours at start-up will be scheduled within 1% of pre-Metro Rapid corridor revenue hours.~~ Service frequencies may be adjusted thereafter based on passenger demand. Metro Rapid service must represent at least a two-thirds expansion in service hours either system-wide or in the implemented corridor. In doing so, only one-third of the Metro Rapid service hours may come from service hours allocated for the pre-Metro Rapid implementation Local and Limited service levels.
~~**Service Span**~~ **Span of Service**	OPERATIONS DEPARTMENT RESPONSIBILITIES	
	~~Seven-day service span is desirable~~ Span of Service Parameters	~~Corridors will be operated consistent with the September 2002 Metro Rapid Board Report. Service span is to be adjusted based on passenger demand, once actual ridership is known. The~~ Metro Rapid span of service is 5:00 a.m. to 9:00 p.m. on weekdays. Metro Rapid service should operate on weekends when warranted by passenger demand. Five Metro Rapid corridors may be exempted from operating within the service span and frequency criteria if approved by the Metro Board.

Program Element	Program Component	Program Objective
Schedule Development	OPERATIONS DEPARTMENT RESPONSIBILITIES	
	~~Terminal departure timepoints~~ Timepoints	Operating schedules and running boards ~~must~~ should be developed ~~for~~ with free running time. ~~by operators with schedule adherence timepoints for terminal departure only; no other timepoints will be shown on the operator running board.~~ Normally, terminal arrival and departure timepoints are the only timepoints used, but additional timepoints may be written into the schedule to improve service reliability, schedule adherence, and to reduce bus bunching. Interim timepoints may only be established on a temporary and trial basis, and as long as program goal is met. Permanent timepoints may only be established if service improvement is documented for the above criteria and program goal is met.
Operating Protocols	OPERATIONS DEPARTMENT RESPONSIBILITIES	
	Headway interval-managed service operation	Metro Rapid service allows for dynamic optimization of operating speeds through free running time operation following scheduled terminal departures; vehicle spacing must be managed in real time by the BOCC and/or assigned TOSs.

APPENDIX B:

BUS ROUTES WITH PEAK HOUR TRUNK HEADWAYS GREATER THAN 30 MINUTES

(~~EFFECTIVE: June 27, 2004~~)

~~Line~~	~~Description~~	~~Headway Range (Minutes)~~
~~65~~	~~Washington Blvd. - Indiana St. - Gage Ave.~~	~~45~~
~~102~~	~~E. Jefferson Blvd. - Coliseum St.~~	~~35-45~~
~~119/126~~	~~108th St. - Yukon Ave. - Manhattan Beach Blvd.~~	~~60~~
~~124~~	~~El Segundo Blvd.~~	~~35-50~~
~~127~~	~~Compton Blvd - Bellflower Blvd.~~	~~60~~
~~128~~	~~Alondra Blvd.~~	~~30-50~~
~~154~~	~~Tampa Ave. - Ventura Blvd. - Burbank Blvd. - Oxnard St.~~	~~30-60~~
~~158~~	~~Devonshire St. - Woodman Ave.~~	~~30-45~~
~~161~~	~~Thousand Oaks - Canoga Park~~	~~47-55~~
~~167~~	~~Plummer St. - Coldwater Canyon Ave.~~	~~30-45~~
~~168~~	~~Lassen St. - Paxton St.~~	~~60~~
~~169~~	~~Saticoy St - Sunland Blvd.~~	~~60~~
~~170~~	~~Hellman Ave. - El Monte via South El Monte~~	~~50~~
~~176~~	~~Glassell Park - Highland Park - Alhambra - El Monte~~	~~50-52~~
~~177~~	~~La Canada - Pasadena - Arcadia - Monrovia - Duarte~~	~~50~~
~~201~~	~~Silverlake Blvd.~~	~~35-50~~
~~205~~	~~San Pedro - Willowbrook~~	~~30-35~~
~~209~~	~~Van Ness Ave. - Arlington Ave.~~	~~35-40~~
~~211/215~~	~~Prairie Ave. - Inglewood Ave.~~	~~23-45~~
~~220~~	~~Robertson Blvd. - Culver Blvd. - LAX~~	~~50-60~~
~~225/226~~	~~Palos Verdes Peninsula - San Pedro~~	~~45-50~~
~~243~~	~~De Soto Ave. - Winnetka Ave.~~	~~15-35~~
~~245~~	~~Topanga Canyon Blvd. - Mulholland Dr. - Valley Circle Blvd.~~	~~35-45~~
~~254~~	~~Willowbrook - Gage Ave. - Lorena St.~~	~~30-50~~
~~255~~	~~Griffin Ave. - County Hospital - Rowan Ave.~~	~~45~~
~~256~~	~~Eastern Ave. - Ave. 64 - North Hill Ave.~~	~~30-45~~
~~265/275~~	~~Paramount - Whittier - Cerritos~~	~~60~~
~~266~~	~~Rosemead Blvd. - Lakewood Blvd.~~	~~25-40~~
~~267/264~~	~~Temple City Blvd. - Del Mar Blvd. - Lincoln Ave. - Altadena Dr. - Duarte~~	~~30-40~~
~~268~~	~~Washington Blvd. - Baldwin Ave.~~	~~25-47~~
~~270~~	~~Monrovia - El Monte - Norwalk~~	~~44-45~~
~~439~~	~~LA - LAX - Redondo Beach~~	~~35~~
~~444~~	~~LA - Torrance - Rancho Palos Verdes~~	~~30-35~~
~~445~~	~~LA - San Pedro via Harbor Transitway~~	~~40~~
~~607~~	~~North Inglewood Community Shuttle~~	~~40~~
~~608~~	~~Crenshaw Connection~~	~~60~~
~~684~~	~~Brea Mall - Pomona Transit Center~~	~~44-45~~

APPENDIX B:

BUS ROUTES WITH PEAK HOUR TRUNK HEADWAYS GREATER THAN 30 MINUTES

(EFFECTIVE: December 18, 2005)

Line	Description	Headway Range (Minutes)
65	Washington Blvd. - Indiana St. - Gage Ave.	45
119/126	108th St. - Yukon Ave. - Manhattan Beach Blvd.	60
124	El Segundo Blvd.	35-50
127	Compton Blvd - Bellflower Blvd.	60
128	Alondra Blvd.	30-50
154	Burbank Blvd. - Oxnard St.	30-60
158	Devonshire St. - Woodman Ave.	30-45
161	Thousand Oaks - Canoga Park	15-55
167	Plummer St. - Coldwater Canyon Ave.	30-45
168	Lassen St. - Paxton St.	60
169	Saticoy St - Sunland Blvd.	60
170	Hellman Ave. - El Monte via South El Monte	70
176	Glassell Park - Highland Park - Alhambra - El Monte	50-52
201	Silverlake Blvd.	40
205	San Pedro - Willowbrook	30-35
209	Van Ness Ave. - Arlington Ave.	35-40
220	Robertson Blvd. - Culver Blvd. - LAX	50-60
225/226	Palos Verdes Peninsula - San Pedro	45-50
254	103rd St. Station - Gage Ave. - Lorena St.	60
255	County Hospital - Rowan Ave.	60
256	Eastern Ave. - Ave. 64 - North Hill Ave.	30-45
266	Rosemead Blvd. - Lakewood Blvd.	25-40
267/264	Temple City Blvd. - Del Mar Blvd. - Lincoln Ave. - Altadena Dr. - Duarte	30-40
268	Washington Blvd. - Baldwin Ave.	25-47
270	Monrovia - El Monte - Norwalk	44-45
275	Whittier - Cerritos	60
439	LA - LAX - Redondo Beach	35
444	LA - Torrance - Rancho Palos Verdes	30-35
445	LA - San Pedro via Harbor Transitway	30-50
607	North Inglewood Community Shuttle	35
608	Crenshaw Connection	60
645	Mulholland Dr. - Valley Circle Bl.	20-60
684	Brea Mall - Pomona Transit Center	44-45

APPENDIX C: ROUTE PERFORMANCE INDEX

The route performance index is designed to provide an objective measure of a bus routes performance relative to other similar types of service. The index is based on system ridership and financial targets from the FY 2005 Operating Budget. The following categories are used during the performance evaluation process:

- Metro Express
- Metro Rapid
- Metro Local
- Metro Rail/Feeder Shuttles

The evaluation process focuses on four factors:

- **Utilization of Resources –** Boardings per service hour is used as a measure to determine how effectively resources are being used. This measure is determined by dividing the total number of boardings on the line by the service hours operated. Routes having a higher number of passengers per mile represent a better utilization of resources such as buses, operators and fuel.
- **Utilization of Capacity** - Passenger miles per seat miles is the measure used to evaluate how well the seating capacity of the system is being used. Passenger miles are calculated by multiplying the average distance traveled per passenger by the number of passengers using the service. Seat miles are calculated by determining the number of seats per vehicle and multiplying by the number of vehicles on the route and then by the number of service miles operated. The higher the resulting number, the greater the utilization of system capacity.
- **Fiscal Responsibility** - Subsidy per passenger is the measure for fiscal responsibility. Subsidy refers to the amount of public funding required to cover the difference between the cost of operation and the passenger revenues collected. Higher subsidy services require more public funding support.
- Passenger Comfort– Load factor compliance ratio to indicate percent of observed time interval with load ratio less than or equal to 1.20.

The index for passengers per service hour and passenger miles per seat miles are normalized measures where the performance of the individual route is divided by the standard set for the category. The subsidy per passenger measure is an inverse relationship and is therefore calculated by dividing the category standard by the individual routes performance.

The following formula is used to develop the route performance index:

$$\text{Route Performance Index} = [(BSH_i/BSH) + (PMSM_i/PMSM) + (SUB/SUB_i)] + (LF_i/LF)]/4$$

Explanation of Variables

BSH	Category average for boardings per service hour performance measure
PMSM	Category average for passenger miles per seat miles performance measure
SUB	Category average for subsidy per passenger performance measure
LF	Category average for load factor conformance measure

BSH_i Individual boardings per service hour measure for route during evaluation period

$PMSM_i$ Individual passenger miles per seat miles measure for route during evaluation period

SUB_i Individual subsidy per passenger measure for route during evaluation period The route performance index is calculated and reported annually. The performance measurement standards for each route category are to be set annually relative to the percentage improvement of overall system performance relative to the previous years performance. This percentage improvement will be based on the performance objectives outlined in the FY 2004 Operating Budget.

LF_i Individual load factor conformance measure

The method for establishing the Route Performance Index standard for each category includes the following:

- Obtaining the budget performance measurement targets for FY 2004, and
- Increasing the average category performance measurement by the percentage increase established for that measure.

The mathematical explanation for this process is as follows:

$BSH_y = F_H[(1/n)\Sigma(BSHi)]$ $PMSM_y = F_C[(1/n)\Sigma(PMSM_i)]$ $SUB_y = Fs[(1/n)\Sigma(SUB_i)]$ $\mathbf{LF}_y = F_x[(1/n)\Sigma(\mathbf{LF}_i)]$

Explanation of Variables

BSH_y Individual boardings per service hour performance measure for route for previous year

$PMSM_y$ Individual passenger miles per seat mile performance measure for route during previous year

SUB_y Individual subsidy per passenger performance measure for route during previous year

LF_y Individual load factor conformance measure during previous year

Σ Summation of all data items

F_H Passenger boardings per service hour adjustment relative to annual budget performance measurement goal

F_C Passenger miles per seat miles adjustment factor relative to annual budget performance measurement goals

F_S Subsidy per passenger adjustment factor relative to annual budget performance measurement goals

F_x Individual load factor conformance measure relative to 120% loading standard.

The result of this calculation would be the standard for the category for the remainder of the fiscal year.

Index For Selected Bus Routes

To better illustrate how the index would vary according to the performance of an individual route, the performance index for three local bus routes was calculated using operating statistics from FY 2006. These bus routes include Route 207: Western Avenue which is one of the most heavily patronized bus lines in the system; Line 2: Sunset Boulevard which is a line that performs very close to the group average for local bus routes, and Route 58: Alameda St. which is a low ridership bus route.

The resulting performance indices are shown in the following table. Route 207: Western Avenue has an index of 1.5 , more than two times the .60 minimum performance index. The performance index for Route 2: Sunset Boulevard is 0.97, about 50 percent above the minimum performance standard. Line 58: Alameda St. has a productivity index of 0.34, which is well below the minimum performance standard, and according to the transit policy, this service will require corrective action.

ROUTE PERFORMANCE INDEX FOR SELECTED LOCAL BUS ROUTE

Line Number	Name of Line	Service Type	Subsidy per Psgr.	Boardings per Revenue Hr.	Psgr. Miles Per Seat Miles	Load Factor Conformance rate	Performance Index
207	WESTERN AVE.	Local	$0.66	88	0.5	97.60%	1.52
2	SUNSET BLVD. - BEVERLY DR.	Local	$1.62	50	0.43	98.70%	0.97
58	ALAMEDA ST.	Contract - Local	$10.92	6	0.05	98.20%	0.34

APPENDIX D: SERVICE CHANGE EVALUATION WORK SHEET

SERVICE CHANGE EVALUATION WORKSHEET

ROUTE: **IMPLEMENTATION DATE:** **ANALYST:**
SECTOR:

TYPE OF CHANGE	IMPACTS TO BE EVALUATED	DATA SOURCES:
HEADWAY	Traveltime, Wait Time	Ridership: Schedule:

DESCRIPTION OF CHANGE:
(Attach route maps and specify days, time periods and route segments impacted, as applicable)
(Note alternate service(s), if applicable)

DETERMINATION OF IMPACTS:

(# of Boardings on Trips within 20-min(peak) or 60-min(off-peak) window) x (.5 x Change in Avg Headway in window)
Impacts should be expressed as a positive value if a trip is added; a negative value if a trip is removed
If Headway change results from adding/removing a short turn, then use ridership on affected line segment

DX X 255	
SA X 52	
SU X 58	
Annualized Change in Passenger Minutes	

SERVICE CHANGE EVALUATION WORKSHEET

ROUTE: **IMPLEMENTATION DATE:** **ANALYST:**
SECTOR:

TYPE OF CHANGE	IMPACTS TO BE EVALUATED	DATA SOURCES:
REROUTE	Traveltime,Access Time	Ridership: Schedule:

DESCRIPTION OF CHANGE:
(Attach route maps and specify days, time periods and route segments impacted, as applicable)
(Note alternate service(s), if applicable)

DETERMINATION OF IMPACTS:

(# of Passengers on affected line segment during time periods impacted) x (Change in Avg Trip Length in min.)
+ (1/2 of # of Boardings on affected line segment during time periods impacted) x (Change in Access Time)
Change in Access Time based on 5 min. for 1/4 mile and prorated to actual distance to deviated route segment

If route deviation is greater than 1/4 mile from original routing, then substitute one of the following for the second part of above calculation:
If alternative service is available within 1/4 mile of original routing, then use
+ (1/2 of # of Boardings on affected line segment during time periods impacted) x (Change in Access Time to alternate route)
+ (# of Boardings on affected line segment during time periods impacted) x (Change in Wait Time, if any)
Change in Wait Time calculated as 1/2 of (prior headway less alternate headway)
If no alternative service available within 1/4 mile of original routing, then use
+ (# of Boardings on affected line segment during time periods impacted) x (Avg Trip Length + 1/2 Headway + 2.5 min.)

DX X 255	
SA X 52	
SU X 58	
Annualized Change in Passenger Minutes	

SERVICE CHANGE EVALUATION WORKSHEET

ROUTE: **IMPLEMENTATION DATE:** **ANALYST:**
SECTOR:

TYPE OF CHANGE	IMPACTS TO BE EVALUATED	DATA SOURCES:
ROUTE or SEGMENT	Traveltime,Wait Time,Access Time	Ridership: Schedule:

DESCRIPTION OF CHANGE:
(Attach route maps and specify days, time periods and route segments impacted, as applicable)
(Note alternate service(s), if applicable)

DETERMINATION OF IMPACTS:

Add Route or Segment:
(Projected Riders) x (Avg Trip Length in min.)
Remove Route or Segment:
No alternate service within 1/4 mile:
(Boardings on route or segment) x (Avg Trip Length in min.)
Alternate service within 1/4 mile:
(Boardings on route or segment) x (Change in Wait Time + Change in Access Time)
Change in Wait Time is 1/2 of difference in headways
Change in Access Time is 1/2 of distance between routes prorated based on 5 min. for 1/4 mile

DX X 255	
SA X 52	
SU X 58	
Annualized Change in Passenger Minutes	

SERVICE CHANGE EVALUATION WORKSHEET

ROUTE: **IMPLEMENTATION DATE:** **ANALYST:**
SECTOR:

TYPE OF CHANGE	IMPACTS TO BE EVALUATED	DATA SOURCES:
SERVICE TYPE	Traveltime,Wait Time	Ridership: Schedule:

DESCRIPTION OF CHANGE:
(Attach route maps and specify days, time periods and route segments impacted, as applicable)
(Note alternate service(s), if applicable)

DETERMINATION OF IMPACTS:

Adding a Service Type:
(1/2 of Original Type riders) x (Change in Original Type Wait Time) [negative value]
+ (1/2 of Original Type riders) x (Change in Avg Trip Length in min. less Change in Wait Time for New Type [positive value]
Removing a Service Type:
(Removed Type riders) x (Change in Wait Time less Change in Avg Trip Length in min.)
where Change in Wait Time is positive value and Change in Avg Trip Length is negative value

DX
X 255

SA
X 52

SU
X 58

Annualized Change in Passenger Minutes

SERVICE CHANGE EVALUATION WORKSHEET

ROUTE: **IMPLEMENTATION DATE:** **ANALYST:**
SECTOR:

TYPE OF CHANGE	IMPACTS TO BE EVALUATED	DATA SOURCES:
		Ridership:
SPAN OF SERVICE	Traveltime	Schedule:

DESCRIPTION OF CHANGE:
(Attach route maps and specify days, time periods and route segments impacted, as applicable)
(Note alternate service(s), if applicable)

DETERMINATION OF IMPACTS:

(# of Boardings per Trip) x (# of Trips Added/Removed) x (Avg Trip Length in minutes)
For existing service (being removed), use current ridership [Express as negative value]
If alternate service available within 1/4 mile, then use Access Time and Wait Time instead of Avg Trip Length for affected passengers
Assume Wait Time is 1/2 Headway (in min) of destination service
Assume Access Time is 5 min. for 1/4 mile and pro-rate accordingly
For proposed service (being added), use projected ridership - or - assume .75 x avg boardings per trip for adjacent time period(s)

DX X 255	
SA X 52	
SU X 58	
Annualized Change in Passenger Minutes	

SERVICE CHANGE EVALUATION WORKSHEET

ROUTE: **IMPLEMENTATION DATE:** **ANALYST:**
SECTOR:

TYPE OF CHANGE	IMPACTS TO BE EVALUATED	DATA SOURCES:
TRANSFER	Wait Time,Access Time	Ridership: Schedule:

DESCRIPTION OF CHANGE:
(Attach route maps and specify days, time periods and route segments impacted, as applicable)
(Note alternate service(s), if applicable)

DETERMINATION OF IMPACTS:

Occurs when a line is split or combined; also may occur when a duplicated segment is removed
(# of Passengers on affected line segment during time periods impacted) x ((Access Time) + (Wait Time))
When lines are combined, Access Time and Wait Time are removed and impact will have a positive value
When line is split, or duplicate segment is removed, impact will have a negative value
If point of line break is a shared stop, use 2 min. for Access Time, otherwise
use prorated share of 5 min. for up to 1/4 mile (with a 2 min. minimum)
If transfers are timed, use 0 min. for Wait Time, otherwise use 1/2 of Headway of destination line

DX X 255	
SA X 52	
SU X 58	
Annualized Change in Passenger Minutes	

SERVICE CHANGE EVALUATION WORKSHEET

ROUTE: **IMPLEMENTATION DATE:** **ANALYST:**
SECTOR:

TYPE OF CHANGE	IMPACTS TO BE EVALUATED	DATA SOURCES:
TRAVELTIME	Traveltime	Ridership: Schedule:

DESCRIPTION OF CHANGE:
(Attach route maps and specify days, time periods and route segments impacted, as applicable)
(Note alternate service(s), if applicable)

DETERMINATION OF IMPACTS:

(# of Passengers on affected line segment during time periods impacted) x (Change in Avg Trip Length in minutes)
Impacts should be expressed as a positive value if running time is reduced; a negative value if running time is increased

DX X 255	
SA X 52	
SU X 58	
Annualized Change in Passenger Minutes	

APPENDIX E: MITIGATING THE LINE LEVEL IMPACTS SERVICE REDUCTION IMPACTS TO THE TRANSIT DEPENDENT

The Sector Governance Council is responsible for determining if individual service change proposals will have a significant impact to the transit dependent rider and require mitigating actions. Mitigating actions are generally considered when:

- A service proposal receives a significant number of negative comments during the public review process;
- A significant share of the route's riders are impacted (i.e. 25% or more);
- Service level reductions are being considered on a line for which there are no alternative services within a quarter mile walk distance;
- The impacted riders are transit dependent and/or have special needs, due to age, disabilities or income, and
- The area where the change is occurring is a high crime area.

Depending on the specific proposal under consideration, and the determination by the Council, steps that may be taken to mitigate the adverse impact to transit dependents of service cuts on individual bus routes, include:

- Deferring or modifying the proposed service reduction;
- Improving the frequency, span or routing of alternative services to better meet the needs of the impacted riders;
- Implementing special scheduling enhancements, such as timed transfers, to reduce passenger wait times;
- Negotiating special agreements to allow MTA fare media to be used on the services of other operators;
- Providing special security/ safety measures (e.g. lighting, cross walks, bus stop relocation etc.).

To be effective, mitigation actions should be implemented prior to or concurrent with the service change.

APPENDIX F: GLOSSARY OF TERMS

Bus Priority – A system of traffic controls in which buses are given special treatment over other forms of transportation.

Community Based Service – These are local or neighborhood oriented services that operate on secondary streets and generally serve short distance travel needs and carry less than 2,000 passengers per day.

Headway Based Schedule – A flexible service schedule where departure times are based on maintaining a certain interval between departures rather than fixed schedule times.

High Capacity Vehicle – Any bus that provides seating for more than 40 passengers. Includes double deck, 45-foot and articulated buses.

Paratransit Service – Service provided with a vehicle smaller than a 40-foot bus. This would include services such as DASH, ACCESS, and Dial-A-Ride services.

Passenger Loading – A measure used to evaluate seating utilization on a transit vehicle. It is usually expressed as the ratio of passengers to seats.

Passenger Mile- Cumulative passenger miles traveled by each passenger in revenue service.

Service Duplication – When two or more services operate along the same streets, during the same hours of the day and serve common origins and destinations.

Service Warrants – Flexible guidelines used to determine when there is sufficient demand to support a specific type of transit service.

Shopper Survey - A physical interaction survey of operations to ensure conformance to quality, service, and safety standards. Results reported for employee performance, property condition, general liabilities, and product or service quality.

Span of Service - The days and hours when service is available.

Special Event Service – These are services that not part of the regular scheduled daily service to the general public and are oriented toward serving a special venue, on selected days.

Subsidy – The portion of the cost of operation that is not offset by passenger revenues. This can be expressed based on passenger boardings, service hours, passenger miles or other units of operation.

Trunk Service – This is the portion of a bus route or rail line that offers the most frequent service.

APPENDIX G: ROUTE NUMBERING CONVENTION

Local	Local-CBD	1-99	Serves downtown Los Angeles -- numbered counterclockwise from NW quadrant
	Local-EW non-CBD	100-149	Primarily EW operation in areas S of LACBD -- numbers increase with distance from LACBD
	Local-EW non-CBD	150-199	Primarily EW operation in areas N of LACBD -- numbers increase with distance from LACBD
	Local-NS non-CBD	200-249	Primarily NS operation in areas W of LACBD -- numbers increase with distance from LACBD
	Local-NS non-CBD	250-299	Primarily NS operation in areas E of LACBD -- numbers increase with distance from LACBD
Limited	Limited	300-399	Usually a branch of a Local line
Express	Express-CBD	400-499	Serves downtown Los Angeles -- numbered counterclockwise from NW quadrant
	Express- non-CBD	500-599	Does not serve LACBD
Shuttles & Circulators	Local Circulator	601-624	Generally circuitous routing within service area
	Shuttle	625-649	Generally point-to-point routing within service area
	Special Events Svc	650-659	Scheduled service operating point-to-point
	Rail Feeder	660-699	Serves a rail line within service area
Rapid Bus	Rapid	700-799	Usually operated in combination with an underlying Local line
Rail	Rail	800-899	
Metroliner	Metroliner	900-999	