



Los Angeles County Metropolitan Transportation Authority

SOUTHEAST BUS RESTRUCTURING STUDY

RECOMMENDATIONS FOR TRANSIT RESTRUCTURING

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Southeast Bus Restructuring Study

EXECUTIVE SUMMARY

OVERVIEW

The Los Angeles County Metropolitan Transportation Authority (MTA) sponsored this Bus Restructuring Study for the Southeast region of Los Angeles County. The purpose of the Study was to review existing fixed-route bus transit systems serving the southeast area and make recommendations regarding improvements in daily operations, routing and services. This is an Executive Summary of the Southeast Bus Restructuring (SABRE) Study. A corresponding Technical Report offers a more in-depth summary of the project.

The SABRE Study was the seventh in a series of studies addressing transit operations throughout Los Angeles County conducted over the past half-dozen years. The study has produced a series of task reports presented to a Steering Committee for review and comment. The Steering Committee was created to ensure maximum input by the affected riders and agencies and to foster a cooperative comprehensive planning effort. The Steering Committee represented a multi-jurisdictional, multi-agency public participatory process. The Steering Committee consisted of representatives from the Gateway Cities Council of Governments (Gateway COG), all interested cities and the municipal bus operators. The Steering Committee was chaired by the City Manager of South Gate and met over twelve times during the course of the project. The final recommendations of the SABRE Study reflect the consensus of the committee which was the most active and influential oversight group of any of the bus restructuring projects.

The SABRE Study Steering Committee was influenced by the goals they established for the project, the results of a comprehensive public outreach program and by an extensive assessment of existing conditions. At the mid-point of the study process a comprehensive list of findings was reviewed and prioritized by the committee. Specific service modification and capital investment proposals were developed to respond to the priority findings established by the committee. These were subjected to an exhaustive review and modification process as proposals were optimized to offer the best improvements possible for the least cost and to achieve the most support from the communities they are designed to serve. The findings and recommendations resulting from this process are featured in this report.

PROJECT GOALS

The goals and objectives were finalized in the first several meetings of the SABRE Committee. After the February 1999 meeting, a few wording changes were made, the objectives were rearranged and one goal was replaced. The final goals and objectives are as follows:

GOAL ONE: SYSTEM INTEGRATION -- Define the essential tactics necessary to develop a balanced and fully integrated system that serves all Gateway Cities Area residents, commuters and visitors. The service shall be clean, comfortable, convenient, safe, reliable, affordable and customer focused.

GOAL TWO: TRANSIT FACILITY IMPROVEMENTS -- Develop guidelines for transit stops and centers that are customer-oriented, user-friendly, convenient and informative.

GOAL THREE: RIDERSHIP -- Identify transit services which meet the transit needs of travelers within, to or from the Gateway Cities Area and enhance transit ridership.

GOAL FOUR: OPERATIONAL -- Define a transit system that is integrated both within and with other modes. The system shall provide for regional as well as local community needs.

GOAL FIVE: ECONOMIC -- Improve the cost-effectiveness of Southeast transit service. Develop recommendations that can be implemented within prevailing funding constraints, and improvements that may require additional funding.

GOAL SIX: SUB-REGIONAL GOVERNANCE -- Develop options for how transit can be provided most cost-effectively and efficiently and meet local needs better than is now accomplished with existing institutions. (Subregional governance is not included in this aspect of the study, however it is in the process of development).

STUDY AREA

The Southeast area is generally bounded by the Pomona Freeway (I-60) on the north, the Harbor Freeway (I-110) on the west, the Pacific Ocean on the south, and the Los Angeles/Orange County Line on the east. The study area consists of 26 cities: Artesia, Bell, Bell Gardens, Bellflower, Cerritos, Commerce, Compton, Cudahy, Downey, Hawaiian Gardens, Huntington Park, Lakewood, La Habra Heights, La Mirada, Long Beach, Lynwood, Maywood, Montebello, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, and Whittier. It also contains portions of unincorporated Los Angeles County.

The MTA is the principal operator in the area, supplemented by other major municipal providers, such as the Long Beach Public Transportation Company, Montebello Bus Lines, Norwalk Transit System, and Commerce Municipal Bus Lines. The MTA's Southeast bus transit services in the Southeast area include local and express operations that interface with two Metrolink rail lines, the Metro Blue Line and the Metro Green Line.

The MTA bus network is roughly a grid system. There are many instances requiring riders to transfer to complete trips either between MTA lines or between transit services operated by different jurisdictions. Many other jurisdictions have fixed route operations primarily serving within their city boundaries. These operations are listed in Figure 1.

Figure 1
Existing Transit Services

TRANSIT SERVICES	NO. OF LINES	PEAK VEHICLES
Regional & Subregional		
LACMTA	42	522
Long Beach Transit	18	134
Montebello Transit	6	23
Norwalk Transit	4	14
Foothill Transit	4	42
OCTA	8	78
Community Fixed Route		
Bell Gardens Town Trolley	1	3
City of Bellflower Bus	3	3
Cerritos on Wheels	2	8
City of Commerce	4	7
Compton Renaissance	5	5
Cudahy CART	1	1
Downey Link	5	5
Huntington Park Express	2	4
City of Los Angeles DASH / Smart Shuttle	4	16
County of Los Angeles Hahn Trolley	3	5
City of Lynwood	4	4
City of Paramount	2	2
Santa Fe Springs Tram	1	1
Whittier Transit	2	4
Community Demand Response		
Train 'N Wheels (SCDC)		6
Montebello Link		4
Bell Dial-a-Ride		4
Bell Gardens Dial-a-Ride		3
Cudahy Medi-Ride		1
Huntington Park Dial-a-Ride		10
La Mirada Dial-a-Ride		8
Maywood Dial-a-Ride		3
Paramount Dial-a-Ride		1
South Gate Dial-a-Ride		6

A map delineating seven subareas was developed for the Southeast Bus Restructuring Study for the purpose of reviewing technical data at a disaggregate scale. This subarea map was also changed during the initial set of SABRE committee meetings. After multiple alterations, the number of subareas was reduced from nine to seven.

The final boundaries of the subareas were reconfigured to group communities in a fashion that represents similar working relationships or commute patterns. For instance, subarea six is structured to include the eight cities which comprise the Southeast Community Development Corporation (SCDC). In the past, the SCDC has worked to develop a paratransit program among the cities. The physical proximity of the cities, the commonalties in relation to transit issues and the working history of the cities provided strong support for maintaining this aggregate group of communities together in one subarea. The final subarea map is shown in Figure 2.

Figure 2
Southeast Bus Restructuring Study Subareas



FINDINGS

The SABRE Study consultants categorized findings into the following classifications: improve service to selected corridors and destinations, improve bus connections, make information more integrated and available, address passenger facility needs, improve schedule reliability, simplify fares, address concerns about safety and security and other issues.

The SABRE Committee modified and prioritized the consultant findings at their meeting in June, 1999. The scoring process used to rank the findings included two parts. The first scored each finding in terms of its importance for further investigation. The second tagged those findings that were deemed inappropriate for further investigation as part of the SABRE project. These results are included in **Figure 3**. The following sections highlight these findings in priority order. References are made as to how the findings are linked to the recommendations included herein or other efforts to address the findings resulting from the screening and prioritization process conducted by the SABRE Committee.

**Figure 3
SABRE Study Committee Priority Ranking Of Findings**

FINDING CATEGORY	SCORE	
	Priority	Not Priority
1. Improve Service to Selected Corridors & Destinations	18	0
2. Improve Bus Connections	17	0
3. Make Information More Integrated & Available	17	0
4. Address Passenger Facility Needs	16	0
5. Snapshot of Each Area	13	0
6. Improve Schedule Reliability	11	0
7. Address Concerns About Safety & Security	9	0
8. Other Issues	3	0
9. Simplify Fare Payment Process	2	3
Totals	106	3

Improve Service to Selected Corridors & Destinations

The Harbor Transitway is a major capital investment that will provide high-speed bus rapid transit service to residents of the Southeast and South Bay planning areas. However, express bus services along the Transitway have not yet been restructured and improved to provide consistent, all-day corridor service at frequencies similar to Metro Rail or the El Monte Busway. Residents of the SABRE study area will benefit from enhanced service on the Transitway once the appropriate changes outlined in a set of proposed new express routes have been implemented.

Transit service along Santa Fe Avenue, Pacific Avenue, and Long Beach Boulevard is currently provided by Metro Bus Line 60. End-to-end travel times on Line 60 approach two hours. Options for improving regional service and on-time performance along the Line 60 corridor, including limited-stop and freeway-express service, are addressed by the study's proposals.

The western portion of the Whittier Boulevard corridor is part of a pilot corridor for Metro Rapid Bus service implementation. Metro Rapid Bus service will replace the existing limited-stop service and provide faster arterial operation with fewer stops, taking advantage of new capital improvements such as traffic signal priority and dedicated bus lanes.

Florence Avenue is one of the most heavily serviced and most heavily utilized transit corridors for east-west travel in the Southeast area. In addition to providing east-west regional service, buses along Florence provide the primary connection between downtown Huntington Park and the Metro Blue Line. Limited-stop service is currently provided along the Florence Avenue corridor during peak hours only. Proposals are offered to further strengthen the service in this corridor.

North-south service in the central and eastern portions of the study area operates infrequently. Field observations indicated overcrowding on some peak-hour trips of these lines. Strengthened north-south service on some corridors in the central and eastern portions of the Southeast study area are needed.

A significant central portion of the Southeast study area has no direct service to Downtown Los Angeles. Regional destinations in areas adjacent to the Southeast area have high travel demand, according to Census data and the Southern California Association of Governments regional travel model. However, transit service levels and mode shares to and between the Southeast area and adjacent external areas, with the exception of Downtown Los Angeles, are extremely low.

Large numbers of Southeast residents commute to employment in Orange County and the South Bay area. Transit service levels and mode shares for these corridors are very low, primarily due to institutional and funding-related constraints associated with crossing the Orange County line. A combination of several service strategies could be employed to provide improved service along this corridor. Most north-south transit service in the western portion of the Southeast study area operates on frequent headways and adequately meets capacity.

However, north-south corridors east of Garfield Avenue generally have very limited service. Consideration should be given to providing express, limited-stop, or direct local service between major Southeast transit hubs and important San Gabriel Valley destinations.

Improve Bus Connections

The Southeast area is served by two distinct classes of transit service. The northwestern portion of the study area is served primarily by regional MTA lines operating frequently in a grid system defined by heavily traveled arterial corridors. The remainder of the study area is served primarily by less frequent community-oriented bus lines operated by either the MTA or municipal transit systems. Because these portions of the study area and their respective transit services are fundamentally different in nature, they require very different strategies to provide convenient and effective transit service at reasonable cost. The SABRE Study proposals were sensitive to offering better connections that worked within this current structure.

Customers needing to transfer between infrequently serviced routes often must wait for long periods of time at intersections. In areas with base headways longer than 20 minutes, transit can provide a framework for a sub-regional, multi-centered network of transit services.

At each transit center, buses on several lines would be scheduled to arrive simultaneously and lay over for a period of several minutes before departing, enabling customers to transfer without waiting. The SABRE study addressed where such transit centers could be located or strengthened where they currently exist.

Travel data research revealed that large percentages of Southeast residents commute to work within their home subareas. However, transit mode shares for these local trips are low. Improving connections for local trips within each subarea may encourage more residents to use transit for their local trips. The study proposals offered opportunities for improving these connections.

Make Information More Integrated & Available

The availability of schedule information is one of two key attributes identified by the Service Planning Market Research Project as having "high importance" and "low satisfaction" ratings among Los Angeles County residents. This problem is compounded in the Southeast study area: multiple municipal and sub-regional transit operators serve the area, and each distributes its schedule information using different media and different distribution outlets.

A complete set of route and schedule information for Metro Bus and Metro Rail services in the Southeast area currently consists of over fifty separate paper timetables; this does not include timetables for any of the municipal, zone, or Orange County-operated services in the Southeast area. Among the timetables for Southeast Metro Bus and Metro Rail services, there are twenty-one separate effective dates. None of the timetables lists an expiration date

indicating when customers should expect schedule changes; instead, all are marked as "Subject to change without notice."

The only reliable way for a customer to determine whether the schedule for their bus has changed is to visit an MTA Customer Service Center during business hours and compare the various effective dates of the timetables on display. This is not a convenient means of obtaining schedule information.

Because customers do not have reliable means of planning trips independently using printed schedule information, they are more heavily dependent upon the MTA's 1-800-COMMUTE rider information service. This service currently experiences high call volumes, especially during peak travel times. If more customers are able to plan their transit trips independently using readily available schedule information, call volumes may actually decrease.

Schedules, maps, and other information for all bus and rail services operating in the Southeast area could be combined into a single Southeast Los Angeles County Transit Guide, similar to the "Bus Book" publications already distributed by Southern California transit operators including Long Beach Transit, Foothill Transit and the Orange County Transportation Authority. The SABRE Study Steering Committee has maintained a keen interest in addressing this major finding of the study.

Address Passenger Facility Needs

In the northwestern portion of the Southeast study area, which is served by an effective grid system of transit routes, most transfers take place at intersections with no significant transit capital improvements. Although such intersections are in most cases impractical for construction of off-street transfer facilities, other alternatives including on-street transit centers and "superstops" are worthy of consideration. Potential changes also include pedestrian safety improvements and adjustments to bus stop locations.

On-street locations with heavy transfer activity have minimal provision for pedestrian safety. Improvements such as pedestrian signals at crosswalks, and shorter light cycle times, would facilitate safe street crossings by pedestrians. For example, at the Florence Metro Blue Line station, customers transferring to or from westbound buses must cross Florence Boulevard using a non-signalized crosswalk

In some areas of the Southeast, most notably downtown Huntington Park, bus stops are located at mid-block. These heavily utilized bus stops need to be upgraded into a major transit center to provide better accommodations for passengers and transit vehicles. Future Rapid Bus Corridors will be intersecting at this location encouraging even greater transfer activity in the future.

Other Southeast cities that may be appropriate candidates for new transit centers or strengthening of existing hubs include but are not limited to Montebello, Commerce, Bell Gardens, Whittier, Santa Fe Springs, Paramount, Lakewood, Cerritos and Downey. Many of

these cities are the locations of major regional malls where opportunities exist to develop partnerships with the private sector that will provide many mutual benefits to the developer, mall tenants, transit operators and shared customers. Standards should be developed to ensure a consistent and adequate level of customer amenity. Although more expensive than on-street transit facilities, off-street transit centers can accommodate extremely heavy volumes of buses and passengers. Large off-street transit facilities are especially appropriate in locations where pulse-point transfers require very large numbers of vehicles to arrive and depart simultaneously.

Improve Schedule Reliability

Schedule reliability can be improved through adjustments to the timetables of bus lines experiencing schedule adherence problems. Potential schedule improvements include improved scheduling of turnbacks and adjustment of scheduled running times to account for actual and unforeseen traffic conditions. Many detailed recommendations are outlined to make these improvements.

Although schedule reliability can be improved through schedule adjustments to existing lines, resolution of serious problems with schedule adherence require systemic change. Some local Metro Bus lines are simply too long to operate on a reliable schedule. Operator schedule adherence remains a serious problem, resulting in an unacceptably high percentage of early buses. Buses running early also contribute to late running, overcrowding, and platooning of other buses on the same line.

Most regional service provided in the Southeast area requires the use of local bus routes for long-distance trips. Many of these local routes have end-to-end travel times of two hours or longer and often run late. Services intended to be used for regional trips may be restructured as limited-stop or express trips, with connecting all-stop local services spanning shorter distances. Shorter local routes have greater schedule reliability and can be scheduled to connect with each other and with regional lines.

Address Concerns About Safety & Security

Southeast residents are more concerned about transit safety and security than other residents of the MTA service area. The Service Planning Market Research Project telephone survey asked respondents, "What could make public transit in L.A. County a real or better option for you?" Among responses received from Southeast residents, the second most common suggestion was to improve safety. By comparison, safety was only the sixth most common response county-wide. When asked why they did not feel safe on buses and trains, "lack of security" was the most common reply.

Customer perceptions of safety and security depend in large part upon the appearance of transit vehicles and facilities. Customers are likely to feel safe in clean, well-lit vehicles and facilities that are free of vandalism. They are likely to feel unsafe where these conditions do not exist. At bus stops and on-board vehicles, lighting and other security amenities promote a

sense of safety and security among customers.

On-board security can be improved by a combination of several means. Many older Metro Buses include security cameras; these could be installed on board other vehicles as well. Appropriate signage indicating in multiple languages that plainclothes officers may be on board could improve customer perceptions of security and deter actual crime. The presence of uniformed officers serves a similar purpose. As Automated Vehicle Location (AVL) is implemented, buses can be equipped with driver-activated silent alarms that immediately dispatch police to the location of the bus.

Other Issues

Metro Rail vehicles are maintained to reasonable standards of cleanliness. However, the cleanliness of MTA Metro Bus interiors at the beginning of this study in 1998 showed potential for significant improvement. The unclean condition of many bus interiors can lead customers to feel unsafe and impact the morale of bus operators and maintenance personnel. The MTA has taken steps to improve the cleanliness of the buses and provide information on the bus replacement program. The MTA Zero Tolerance Program is an example of this effort.

Sensitivity to the needs of customers in the Southeast area was also shown to be an area for potential improvement at the beginning of this study. Customers responding to the Public Participation Program frequently reported rude and insensitive conduct on the part of bus operators. It appears that the customer sensitivity of MTA bus operators has improved, but that contract drivers may need additional customer service training and supervision.

Simplify Fare Payment Process

The various fare structures in place for transit services operating throughout Los Angeles County can be confusing to potential customers. Municipal systems generally have fares and transfer policies that differ from the regional MTA fare system. It is not currently possible to purchase a prepaid fare media honored by all Southeast transit providers. Simplifying fare payment would make transit services throughout the region more convenient for customers to use. The SABRE Committee elected to defer this issue to other efforts underway such as the Universal Fare System (UFS).

The Universal Fare System is a highly complex system that will ultimately involve multiple transit providers in a regional stored-value payment system. This will include bus, rail and shuttle modes of travel. It will include the Metrocard magnetic-stripe debit card that has been used in the region for several years, as well as smart cards for future growth. The MTA Board has directed the development of the Universal Fare System with the following objectives:

- Coordinated fare collection system with other operators, providing "seamless" fare system.
- Procure new fare collection equipment for bus and rail.

- Establish policies and procedures for fare systems coordination, leading to a regional fare clearinghouse.
- Maximize customer convenience in using transit throughout the County.

The request for proposals and the technical specifications have been developed and they are currently being reviewed by potential vendors.

RECOMMENDATIONS

The final work of the SABRE Study has gone through an extensive process of review, refinement and consensus-building. This deliberation was encouraged to a greater extent in the SABRE Study than in prior bus restructuring studies because of the institutional complexity of the study area and the need to find a sponsoring entity for some of the project's proposals.

The SABRE Study also took on a broader scope than prior restructuring studies. Previous efforts focused upon service modifications primarily to MTA lines without incurring any significant increases in overall operating costs. This project also performed this task. It also examined opportunities for non-service related improvements requiring the cooperation of multiple service providers and local jurisdictions.

Service Proposals

The benefit of the extended review process has been the successful sponsorship of some transit service proposals as summarized in **Figure 4** which may have otherwise not been advanced toward implementation since they offer more of a community-oriented benefit best provided by a local service provider as opposed to a regional benefit best provided by the MTA. In these cases, some transfer of services among operators is desired especially where MTA regional lines are performing both regional and community-oriented functions to the detriment of both types of operation. Some transit service proposals have been changed several times in an attempt to reach agreement on what changes have the greatest merit in the context of what customers they are designed to serve and what agency should be most appropriately responsible for the proposed modifications.

Figure 4 identifies all MTA lines that were evaluated and received some service modification proposals. The second column notes whether a portion of the route is a candidate for some form of transfer of service to another operator. Often, this only involves a relatively short tail of a much longer regional line. The table identifies the features of each line restructuring proposal. These include realignments, frequency changes, route severing into different tiers of service, route truncations and extensions, new short turns, fixed route substitution with other services, introduction of limited stop service, adjustments to more effectively serve rail station access and splitting of a single route into two new lines. The proposals are explained in more detail in the technical report.

Figure 4
Features Of Line Restructuring Proposals By MTA Line

MTA LINE	INVOLVES POSSIBLE TRANSFER	FEATURES OF LINE RESTRUCTURING PROPOSALS									
		Realignment	Frequency Change	Sever Into Several Tiers	Truncate Line	Extend Line	New Short Turn	Substitute With Other Service	Introduce Limited Stop Service	Adjust Rail Station Access	Split Into Several Lines
18/318	yes	major	minor	yes		major					
48	no										
53	no						yes				
55	no	minor									
56	yes	cancel	cancel					party			
60	no	minor			minor				yes		yes
66	no										
68	no			yes							
102	no	major						yes			
104	no	minor			major			yes			
105	no		minor	yes				yes			
107	no				minor			yes			
108	no				major	major					
110	no					minor					
111/311	no	major				major				increase	
112	no	major	major			major				increase	
114	no	major	major			major				increase	
115	no										
117	no					minor				increase	
119	no							yes			
121	no			yes	minor			yes			
124	no			yes	major			yes			
125	no				major			yes			yes
127	no	major								increase	
128	no										
130	no		major		major			yes			yes
202	no				major			party			
232	no										
251	no	minor		yes	minor			yes		improve	
252	no										
254	no	minor								decrease	
258	no										
259	no										
260	no										
262	no										
265	no										
266	no	minor	major								
270	no	major						yes			
275	no										
311	no	major								increase	
315	no										
362	no	minor			minor						
460	no	major	major								
466	no	cancel	cancel					yes			
471	no							yes			
576	no										
631	no	cancel	cancel					yes			

A detailed line segment analysis of existing routes was conducted to support the proposed service modifications. This analysis determined if existing service levels are effectively meeting demand. Where demand is not effectively being met, the report suggests alternative or additional transit routes. Proposals have attempted to maximize ridership and minimize operating costs while providing service to existing patrons.

The line segment analysis of existing routes has been conducted to determine the suitability of the relationship between service demand and service provided throughout the Southeast area. Alternative transit alignments and additional transit routes, both local and express, have been identified where demand has been determined to be inadequate.

Many of the service alternatives are based upon passenger boarding and alighting counts routinely conducted by MTA over the past several decades. This data is collected for each trip in each direction for each bus stop along a route. The passenger count data base offers an outstanding and highly credible technical basis for determining line productivity. Where any uncertainty existed concerning the validity of the existing data, supplemental ridership counts were undertaken to verify the observations made about current route conditions.

Although productivity was a major consideration, proposals are based upon many other considerations as well. Instances where coordination between local municipal operators, and between such operators and the MTA, could be strengthened to improve the efficiency and effectiveness of transit services have been identified. In some cases this has meant examining the potential for lower-tier MTA services being operated by other service providers. Several instances of unnecessary service duplication or competition have been identified. In some cases, this analysis has resulted in proposals for service cutbacks or reallocations. In others, apparent duplications have proved to be illusory with each service catering to a separate market.

A major consideration was the recommendation of prior restructuring projects. **Figure 5** summarizes all of the MTA lines that enter into the Southeast area, what is proposed from this project and what was recommended in previous studies. More MTA lines are identified in this table than in **Figure 4** because some of these lines were previously and adequately investigated.

Another consideration influencing SABRE Study proposals was other evolving and related transit programs such as the development of Rapid Bus corridors. Use of proposed Rapid Bus corridors in the Southeast (Whittier Boulevard, Florence Avenue and Pacific Avenue-Long Beach Boulevard) have been a significant feature of the analysis, expanding local service areas and streamlining existing bus alignments.

A significant component of the research has been a division of the Southeast study area into seven study sub-areas. These individual sub-areas were developed with input from the individual jurisdictions of the Southeast area, and SABRE Committee members and other associations. Each sub-area reflects a unique set of transit services, needs and priorities. The proposals for changes to existing services vary, sometimes significantly, between sub-areas.

Figure 5
Comparison Of Current Proposals With Previous Bus Restructuring Studies

MTA LINE	MTA TIER	SABRE PROPOSALS	PREVIOUS RESTRUCTURING STUDY RECOMMENDATIONS					
			Westside	Mid-Cities	South Bay	Central-East Northeast	San Gabriel Valley	
18	1	A L +X +F	+V +I				A +X	
38	1			+F -P				
40	1			+F M _L		--		
42	1			+A +F				
45	1			+F		+X A	--	
46	1			--		--	--	
48	1	None	+I	+F				
51	1		+I	+F M _L		+B		
53	1	+S		+F M _L		--		
55	2	A L		-F M _L		--		
56	3	N		A +X -R N				
60	1	M _R L				C -X		
65	2						™	
66	1	A L	LA +V +I				+F +S -R	
68	1	+R	+V +I				+F	+P -F
102	3	A L		N -I				
104	2	-I -X +R					™ +X	
105	1	-X +R	A +I	-F M _L				
107	3	-X +R		N				
108	1	A +I +X -D	M _O -X	-F -X M _L				
110	2	A +X L	+S +I +X	+F -X				
111	1	A L +X		-F M _L				
112	1	+F +P A -I L -R		--				
114	3	+F A -I L -R		--				
115	1	None		-F M _L				
117	1	+X		+F +P				
119	3	-X N		N				
120	2	See 121		--		L		
121	2	-X N						
124	3	-X N -I				+F N -V -X		
125	2	-X N C +R				+S C L +R +I ®		
126	3					N		
127	2	-X L A				-X		
128	2					--		
130	2	+F +S -X +I N				C -X A L +R +I		
170	3	None						+P +F ™
202	3	-X				A +X		
204	1		+V	+F				
205	2					+R A L +I		
206	1		A	+F				
207	1		+V	+F +P		--		
209	3		-F	-X +F		-X		
210	1		A +V	+F		-X		
211	3			-X A		+X A		
215	3			-X A		-X A		

Figure 5 (continued)
 Comparison Of Current Proposals With Previous Bus Restructuring Studies

MTA LINE	MTA TIER	SABRE PROPOSALS	PREVIOUS RESTRUCTURING STUDY RECOMMENDATIONS				
			Westside	Mid-Cities	South Bay	Central-East Northeast	San Gabriel Valley
220	3		N	N	N		
225	3				C +X -X L A		
226	3				N		
232	2	None			L A +I		
250	3					N	
251	1	-X N				TM A +X	
252	1	None				TM	
253	3					N	
254	2	A -X		-X -R A		+F L -X ®	
255	3					N	
256	2					+F A	+F
258	2	None				-R	+P TM
259	2	None				-R -F N A	+P TM
260	1	None				-	+F +T
262	2	None					+F +T
264	3						+P +F +T +S
265	3	None					
266	2	+F C +P +D					+F
270	2	A N					+F
275	3	None					
310	1		+V	+F	TM -F A +I		
311	1	A M _R L -X +R +I		-			
315	1	None		+B +F			
318	New	M _R -X N +F				M _L +N	
345	1			+F	+X A	-	
351	1			M _L +N	+X B+		
354	1		+V	+F			
357	1		+V	-F	-		
362	2	-X L					
439	2			A M _x +S +F C	+R		
442	1			N	N		
444	2				M _L +F A +I		
445	3				+F A		
446	2				A		
447	2				+F A		
460	2	A M _L			+F A		
466	3	N					
471	3	N				N	+P +F TM
550	3				A		
576	3	None	-N	M _L +X			
609	3			+N			
631	3	N					

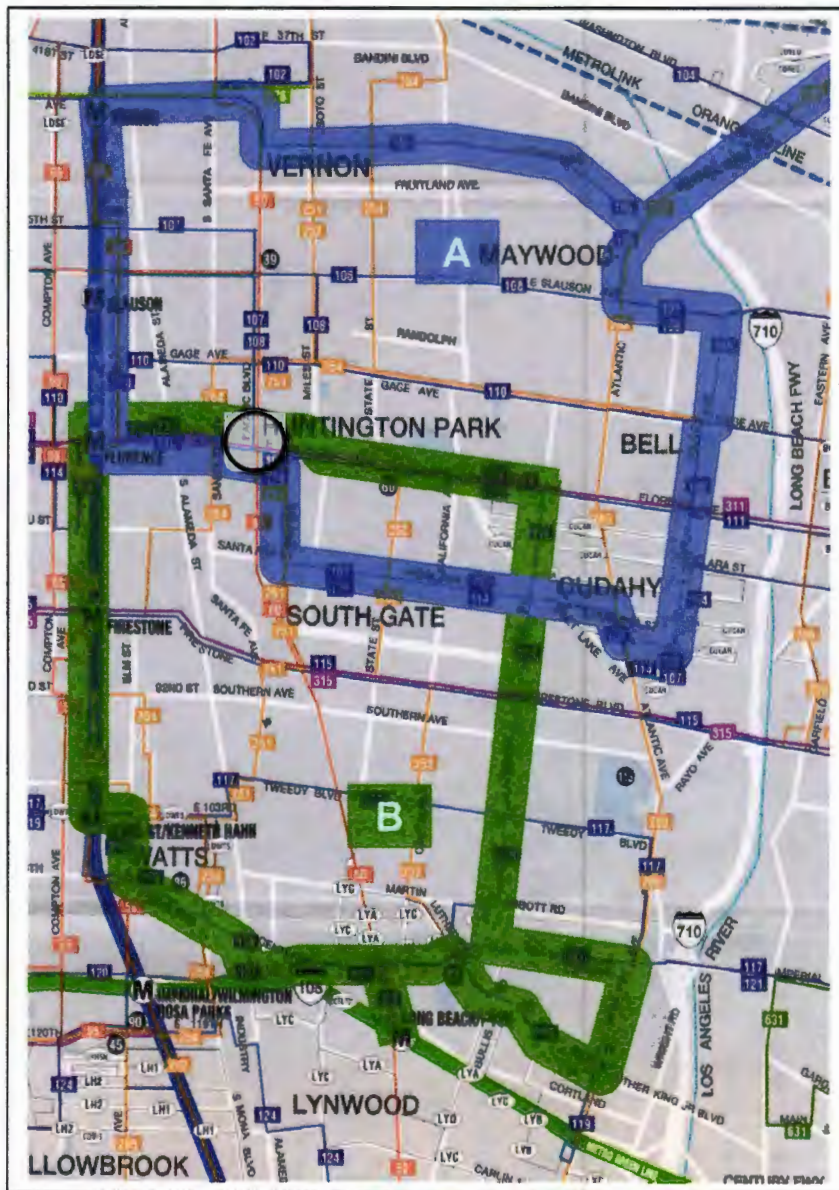
See next page for legend.

Figure 5 (continued)
Comparison Of Current Proposals With Previous Bus Restructuring Studies

LEGEND FOR CODES USED TO DESCRIBE ROUTE RECOMMENDATIONS:		
Group	Code	Action
General	-	No change
	®	Recommended for inclusion in Southeast study
Schedules	™	Minor schedule adjustment
	C	Modify to improve transfer connections
	+F	Increase frequency of service
	-F	Decrease frequency of service
	+P	Increase span of service
	-P	Decrease span of service
	+T	Increase scheduled running time
	-T	Decrease scheduled running time
	+S	Add short turn
	-S	Eliminate short turn
Alignments	A	Modify alignment
	+B	Add branch
	-B	Eliminate branch
	+D	Add deviation or spur
	-D	Eliminate deviation or spur
	+I	Identify as regional service
	-I	Identify as local area service
	L	Relocate terminal
	+N	New line
	N	Replace with other line(s)
	-N	Eliminate line
	+R	Split into more than one route
	-R	Combine with other route(s)
+X	Extend route	
-X	Truncate route	
Service type	M _D	Change to or add demand response service
	M _L	Change to or add limited service
	M _O	Change to or add local service
	M _R	Change to or add rapid bus service
	M _X	Change to or add express service
Equipment	+V	Increase vehicle capacity
	-V	Decrease vehicle capacity

In some cases, notably in sub-area number 6 (the SCDC area), a significant re-orientation of services to better reflect the intra-subregional travel needs of the study area has been proposed. In the SCDC region, six existing MTA lines (56,105, 107, 112,114 and 119) have been modified to strengthen regional operations while offering several new frequently operating loop routes depicted in Figure 6 as Routes A (in blue) and B (in green) to better serve community-oriented tripmaking. In addition to providing increased levels of service within this sub-area, these circulators significantly improve the travel between the communities which make up the sub-area. They permit the enhancement of schedule coordination including the use of timed connections on clocked headway intervals at the proposed Huntington Park Transit Center illustrated by the circle in the figure where the two routes connect in downtown Huntington Park.

Figure 6
Example Of New Community Circulators



Efforts will continue beyond the completion of this report to seek full implementation of all proposals. **Figure 7** represents the complete recommended network for the Southeast area. It includes several recommended new express routes proposed to take advantage of the substantial travel time advantage available through use of the HOV lane improvements on I-105 and I-110. It also includes modifications to routes either currently or potentially operated by Montebello Bus Lines, Long Beach Public Transportation Company, Commerce Municipal Bus Lines and Norwalk Transit System. These are all identified in the Technical Report. The continuing work is being performed as part of the effort to identify subregional governance options in those cases where no obvious responsible institutional agency exists to implement study recommendations or to support continued work needed to reach agreement among existing providers.

The vast majority of SABRE Study recommendations do not involve issues with regard to identifying a responsible implementation jurisdiction or agency. Most proposals involve a change to a MTA line that should continue to be operated by MTA and MTA staff supports the proposal and intends to implement the change. In some cases a transfer to another transit operator is desirable because the service is not regional and a candidate recipient of the revised services exists that is a more appropriate operator of the service.

Figure 8 identifies all of the MTA lines addressed by the SABRE Study. The Southeast area cities included in the study are listed and the nature of the line proposal as it relates to each local jurisdiction is specified using a "NO" for no transfer necessary; a "T" for transfer between existing operators is appropriate and a candidate recipient of the service being transferred has been identified; and, "YES" for a transfer is desirable but no recipient has been identified. An empty cell either means that the route does not serve that city or no proposed changes have been offered.

The first two sets of proposals, those involving no transfer of service or a transfer of service between two willing and able operators, represent the majority of the route restructuring changes. These are moving forward and do not involve any significant institutional challenges. The SABRE Steering Committee has already acted to recommended specific transfers of service from MTA to several Municipal Operators.

The third set of proposals involves changes to seven lines operating in nine cities where some form of new subregional governance arrangement is desirable to successfully implement SABRE Study recommendations. These arrangements could be in the form of a contract, transit zone, joint powers agreement or continued operation by the MTA. These options are currently being explored.

Transit Facility and Other Non-Service Proposals

Much effort has also gone into identifying how the bus transit network can be more effectively coordinated with MetroLink and Blue and Green Line rail services. The need has been identified to develop the I-605/I-105 Green Line station in Norwalk into a major transportation hub to facilitate bus transit access from the large geographical area to the east and south.

Figure 7
Recommended Fixed Route System

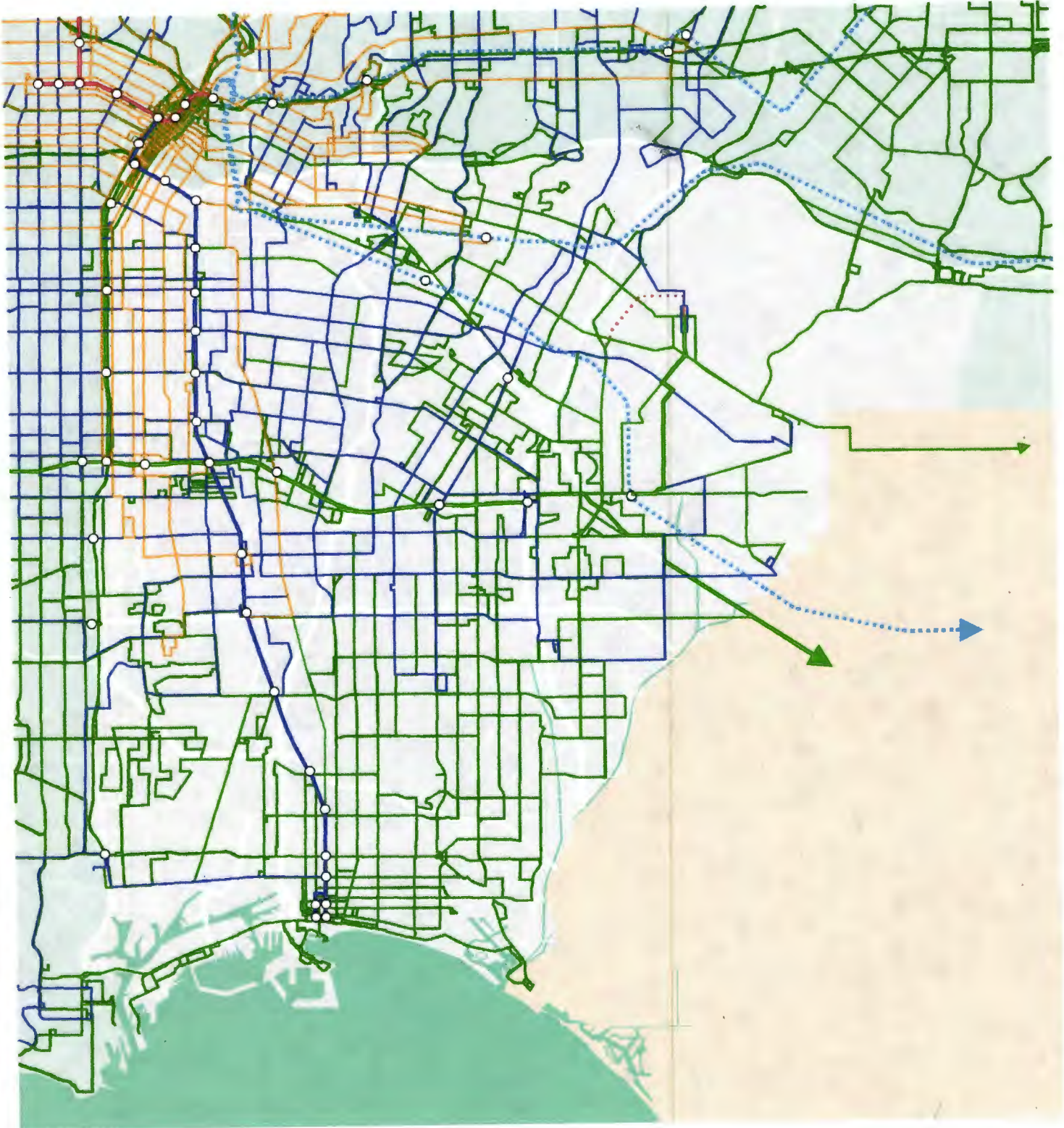


Figure 8A
Relationship Between Local Jurisdictions and MTA Line Proposals

MTA LINE	LOCAL JURISDICTION													
	Artesia	Bell	Bell Gardens	Bellflower	Carson	Cerritos	Commerce	Compton	Cudahy	Downey	Hawaiian Gardens	Huntington Park	La Habra	La Mirada
18/318														
48														
53					NO			NO						
55								NO						
56												YES		
60								NO				NO		
66														
68														
102														
104							NO							
105		YES							YES					
107									YES			YES		
108		NO					NO			NO		NO		
110		NO	NO				NO					NO		
111/311		NO							NO	NO		NO		
112												YES		
114			YES						YES			YES		
115														
117									NO					
119														
121									NO					
124								T						
125				NO				NO		NO				T
127				NO	NO			NO		NO				
128														
130	T			T		T								
202					NO			NO						
232														
251														
252														
254												NO		
258														
259														
260														
262														
265														
266				NO						NO				
270										NO				
275														
315														
362						NO					NO			
460										NO				
466										NO				NO
471														
576														
631										YES				

LEGEND: NO = no transfer necessary; T = transfer between existing operators; YES = transfer desirable, but no operator available.

Figure 8B
Relationship Between Cities and MTA Line Proposals

MTA LINE	LOCAL JURISDICTION													
	Lakewood	Long Beach	Los Angeles	Lynwood	Maywood	Montebello	Norwalk	Paramount	Pico Rivera	Santa Fe Springs	Signal Hill	South Gate	Vernon	Whittier
18/318			NO			T			T					T
48														
53			NO											
55			NO											
56			YES											
60		NO	NO									NO	NO	
66														
68			T			T								
102													NO	
104			T			T			T					T
105					YES								YES	
107													YES	
108					NO								NO	NO
110														
111/311							T			T				T
112				YES								YES		
114												YES		
115														
117				NO								NO		
119				YES										
121				NO			T					NO		
124				T										
125							T	NO		T				
127								NO						
128		T												
130		T												
202		NO												
232														
251														
252														
254													NO	
258														
259														
260														
262														
265														
266	NO							NO	NO					
270							NO			NO				NO
275														
315														
362	NO		NO				NO			NO				
460			NO				NO			NO				
466			NO											
471														
576														
631												YES		

LEGEND: NO = no transfer necessary; T = transfer between existing operators; YES = transfer desirable, but no operator available.

Executive Summary

In other cases, such as the City of Huntington Park, there is no existing transit center facility to serve as a major interchange point among major bus lines. The need for a significant transit center development has been identified for this location. Likewise, a major bus transit center is needed in the Whittwood Mall area to support the coordination among many regional carriers (MTA, Foothill and OCTA) and municipal operators (Norwalk, Montebello and Whittier).

Several other sub-regional hubs have also been identified. Some, such as the Los Cerritos and Lakewood Center Malls, are already serving in this capacity, although proposed changes will increase their importance. In still other instances, minor transit line interchanges have been outlined for significant expansion.

Where appropriate, the potential for development of High Occupancy Vehicle (HOV) lanes and preferential signal treatments has been identified. However, the most glaring HOV lane need along the Santa Ana Freeway (I-5) between Lakewood Boulevard and downtown Los Angeles is not included in any existing HOV plans. For this reason, much more importance has been placed upon bus operations along the Glenn Anderson Freeway (I-105) HOV lanes and the Harbor Transitway (I-110) as an express bus connection between the Southeast and downtown Los Angeles. Even though this alignment is longer than the I-5 alignment, it is significantly faster.

COST IMPACTS

The final system operating cost changes are summarized in **Figure 9**. These are net changes in annual operating costs based on the current operating cost per hour of the operator providing the service.

Figure 9
Net Operating Cost Change By Service Group

PROVIDER	CHANGE IN DAILY HOURS			PEAK BUSES	CHANGE IN DRIVER EQUIVALENTS			TOTAL ANNUAL HOURS	ANNUAL OPERATING COST
	Wkdy	Sat	Sun		Wkdy	Sat	Sun		
MTA	-529.40	-121.60	-90.10	-22	-66.20	-15.20	-11.30	-145,667	-\$ 9,513,000
Local Operators	83.15	27.87	19.55	5	10.40	3.50	2.40	23,659	\$ 1,323,000
Unassigned	402.13	338.34	295.44	26	50.30	42.30	36.90	137,059	\$ 6,853,000
NET CHANGE	-44.12	244.61	224.89	9	-5.50	30.60	28.00	15,051	-\$ 1,337,000

Executive Summary

Capital facility improvements for existing or new transit centers and rail stations are recommended at over twenty locations. These capital investment costs are listed in **Figure 10**. The capital costs are in year 2000 order-of-magnitude dollars and represent a planning estimate for preliminary budgeting purposes only.

Figure 10
Summary of Planning Level Estimates Of Proposed Capital Investments

FACILITY TIER	TYPES OF IMPROVEMENTS	LOCATIONS	TOTAL COST
Tier 1 -- Regional Transit Centers	New, expanded, redesigned and improved major transit centers at ten locations to better serve bus rider transfers among different operators, levels of service and modes.	Los Cerritos, Compton, Downey, Huntington Park, Lakewood, Long Beach, Norwalk, Los Angeles County and Whittier.	\$ 114,703,760
Tier 2 -- Subregional Transit Centers	Primarily passenger amenity improvements at eight existing locations serving multiple lines and/or operators including shelters, benches, trash receptacles, information displays and technology upgrades.	Bell Gardens, Downey, La Mirada, Long Beach, Los Angeles County, Pico Rivera, South Gate and Montebello.	\$ 4,247,065
Tier 3 -- Local Transit Centers	Passenger amenity improvements at four existing locations including shelters, benches, trash receptacles, information displays and technology upgrades.	Carson, Downey, Norwalk and Whittier.	\$ 807,415
Tier 4 -- Regional Bus Stops	Other transit facilities including passenger facilities at stops for limited-stop and express bus operations, super-stops, flyer stops, operator restrooms at layover locations and related improvements.	Numerous locations throughout the Southeast area.	\$ 16,065,500
TOTAL FIXED FACILITY CAPITAL COST			\$ 135,823,740

SABRE COMMITTEE FINAL COMMENTS

This section was added to the SABRE Study Final Report as a result of discussions at the final SABRE Committee meeting held on August 15, 2000. Committee members wanted to include four specific points.

1. The committee expressed a strong desire to have any savings resulting from the study's service recommendations be reinvested in the southeast area.
2. The SABRE committee accomplished all of the goals they established for this study. The goals were finalized in the first several meetings of the SABRE Committee. The goals addressed system integration, transit facility improvements, ridership, operational, and economic objectives as listed earlier. The following highlights how the goals were achieved:
 - Goal one is system integration. This goal was met by identifying opportunities to integrate bus and rail services. Page 3-10 identifies the extensions of bus lines to serve rail lines. The study identifies opportunities to coordinate schedules and improves schedule adherence opportunities (see page 3-21). Services which are fast, prompt, and responsive to the needs of target markets are identified (see page 3-5). The balance between cost and quality is shown effectively in Appendix G which reviews the characteristics of route proposals.
 - Goal two, transit facility improvements, is addressed beginning on page 3-13 which identifies locations and guidelines for transit stops and centers that are customer-oriented, user-friendly, convenient and informative. Appendix D provides planning level estimates of proposed capital investments.
 - Goal three is ridership. This study identifies and assesses travel patterns and needs within the study area and looks at meeting the needs of current riders while developing services to attract new riders. The study included a public participation program and a review of existing services and unmet transit needs, which is included in Section 2: Needs Assessment and Findings.
 - Goal four is operational. Section 3: Recommendations groups service and facility options into major improvement categories. Included in the recommendations are limited-stop and express services, the identification of community services, and the improved coordination and integration of services between rail and bus to provide improved transfer connections.

- The study achieves goal five, economic, by identifying opportunities and recommendations to improve the cost-effectiveness of transit service. Appendix G, Characteristics of Route Proposals, details service recommendations and their costs.
3. Meetings should continue with the MTA, the Gateway Cities Council of Governments and individual operators and cities to pursue the implementation of study recommendations and other issues that might subsequently arise. Meetings should also continue on issues such as marketing and advertising and the perception of safety and security.
 4. The committee suggested that representatives of the Gateway Council of Governments be contacted to determine if they are interested in developing a process for keeping the members informed regarding the implementation of study recommendations.



