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Authority

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April 14, 1997

TO: BOARD OF DIRECTORS

FROM: LINDA BOHLINGER, INTERIM CHIEF EXECUTIVE OFFICER

**SUBJECT: TRANSMITTAL OF REPORT DISCUSSING ISSUES FACING MTA
BUS PROGRAM**

ISSUE

At the Board workshop on March 26, 1997, the Board requested additional information about the challenges facing the MTA in implementing an effective regional bus program. In response to the Board's concerns, the attached report outlines many of the challenges facing the MTA. This report was developed in a summary format to communicate the breadth and scope of the issues facing the MTA bus program. More detailed information is available for each of the issues. While an attempt has been made to cover the most critical issues, there are other challenges that are not addressed in this report.

Staff will continue to monitor progress in meeting all the identified issues and bring recommendations to the Board for action which are consistent with the MTA's Bus System Improvement Plan and Long Range Transportation Plan and continues to enforce the Board's adopted policy that the Los Angeles County bus program is the MTA's top priority.

BACKGROUND

The MTA is faced with many challenges to planning, funding and operating a regional transportation system. Most notably, the regional bus program must stretch limited resources to meet increasing demand in both quality and quantity of service provided. Some of the issues identified include the following:

- Status and Condition of the Fleet and Infrastructure
- Bus Procurements and Integration of Clark ATTB
- Service Delivery Options
- Implementation of the Consent Decree
- Alternative Fuel Policy
- Financial Constraints
- Technology Improvements
- Improved Customer Relations

Staff is developing recommendations to address these issues and to ensure delivery of high quality, cost effective, and customer focused bus and rail service. Some of the recommendations will require Board policy changes or will be implemented as part of the adoption of the fiscal year annual budget, five-year business plan, the Bus System Improvement Plan, and the Long Range Transportation Plan.

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Attachments

DETAILED ANALYSIS OF ISSUES FACING MTA BUS PROGRAM

Status and Condition of the Fleet and Infrastructure

- There are 822 retirement eligible buses, and an additional 645 buses which are considered to be unreliable in the active fleet. We will retain older, reliable diesel buses past their eligible retirement age to sustain service until they can be replaced.

Type:	Average Age (Years)	Number of Buses	Average Miles
Diesel (Pre 1992)			
Flex Motor	7.7	314	335,962
Neoplan	12.3	496	590,283
TMC	8.7	362	375,717
RTS III	15.0	440	660,643
Methanol/Ethanol	5.3	331	165,957
CNG	0.9	219	28,320

* Considered unreliable

** Retirement eligible

(See Attachment 1 for detailed break-out by operating location)

- Cost to Operate the Fleet
 - ⇒ All bus types which meet emission standards and are available to the MTA are technically more complex, and therefore more expensive to maintain than the standard diesel powered bus purchased before 1992.
 - ⇒ Alternate fuel technologies require additional infrastructure expenditures.
 - ⇒ Methanol buses are more expensive to fuel.

Engine	Percent of Current Fleet	Fuel Cost Per Mile	Maintenance Costs	Infrastructure	Current Regulatory Compliance
Diesel (Pre 1992)	75%	\$0.20			No
Other Diesel	0%	\$0.20	+10%		Yes
Methanol/Ethanol	15%	\$0.61	+50%	\$1.2m	Yes
Natural Gas (CNG)	10%	\$0.16	+20%	\$3.5m	Yes

- **Fleet Challenges**

⇒ Many of the challenges which face the MTA are directly related to the agency's practice of striving to be the industry leader in alternate fuel technology. Future practices should lean toward a more conservative approach which allows the MTA to take advantage of proven technology.

<u>FLEET</u>	<u>CHALLENGES</u>	<u>SOLUTIONS</u>
Methanol/Ethanol	Engines W/C Lifts	Accelerate Replacement
Fix-Metro	Transmissions & Parts	Accelerate Replacement
CNG	Purchase Price	New Specifications

⇒ Staff is considering three options to address the methanol/ethanol fleet challenges. The options are the following:

- ◇ Rebuild the existing engines to clean diesel at \$35,000 per bus or procure new clean diesel engines at \$60,000 per bus
- ◇ Repower the existing engines to CNG at \$100,000 per bus and modify facilities to accommodate 333 additional CNG buses
- ◇ Dispose of the 333 methanol/ethanol buses and replace them with new buses

- **Current Procurement Status and Replacement Schedule**

- ⇒ Over 1,000 buses in MTA's active and contingency fleets are eligible for replacement as of April 1, 1997. 1,066 buses are older than 12 years and 3 buses are under 12 years with more than 500,000 miles.
- ⇒ 38 buses will be delivered by July 1, 1997 from the 294 CNG bus procurement, completing the order.
- ⇒ 191 buses will be delivered during FY 97/98 from the 250 CNG bus procurement.
- ⇒ 59 buses will be delivered during FY 98/99 from the 250 CNG bus procurement, completing the order.
- ⇒ 223 buses will be ordered during FY 97/98 in accordance with the LRTP replacement cycle and Board action. These buses will be delivered during FY 98/99 and FY 99/00. Specifications for this order will be completed and Invitation For Bid issued by May 1, 1997.

- Facilities age and condition
 - ⇒ MTA has 12 bus operating facilities, 1 non-revenue facility, and 3 bus operating support facilities. The newest facilities were constructed in preparation for the 1984 Olympics. Facilities currently are on a three-year painting and refurbishing cycle. Overall, all of the facilities are in good condition.
 - ⇒ Funds are programmed annually to maintain and support all MTA facilities. The LRTP programs 2% of the total capital infrastructure investment available to support facilities maintenance and improvements (approximately \$6 million in FY 97/98).
See attachment 2 for a detailed table of the status of equipment at MTA's Bus Operating Divisions.

- Requirement for modifying existing facilities
 - ⇒ Regulations require the replacement of all underground fuel tanks by December 1998. This program is funded and on schedule.
 - ⇒ CNG buses require modification to the existing facilities including ventilation systems in all enclosed areas and compressor and fueling facilities.
 - ◇ The average cost for these modifications is \$3.5 million per facility and takes approximately one year to complete.
 - ◇ Four facilities will be completed and fully operational by the end of FY 96/97. These facilities can maintain and accommodate all the CNG buses currently being operated and those on order. The two newest facilities are able to fuel and maintain up to 200 CNG buses.
 - ◇ Therefore, if planned bus procurements include only CNG buses, two additional fueling facilities will need to be constructed by FY 99/00 to accommodate the 223 buses planned to be ordered per the LRTP.

- Regional Rebuild Center (RRC) systems and condition
 - ⇒ The RRC is a full service, heavy maintenance facility completed in 1986. The RRC was built to support a fleet of 5,000 diesel buses. The facility has not been modified to support CNG buses.
 - ⇒ Functions performed at the RRC include painting buses, rebuilding engines and transmissions, remanufacturing other parts, accident repair, and additional repairs. Many of the functions performed at the RRC are not provided by any other facility in LA County.
 - ⇒ The RRC also performs coach overhaul and heavy maintenance rehabilitation for 34 Foothill Transit buses.
 - ⇒ Certain activities performed at the RRC have proven to be more cost effective with more reliable product than those procured.

- Technology improvements
 - ⇒ Efforts are underway to replace the Vehicle Maintenance System (VMS) and Materiel Management System (MMS) with an integrated system. The new system will provide a full range of data to enable unit cost analysis of both parts and labor required to maintain the fleet. The integrated system has the potential to save 8 - 10% annually in maintenance costs.
 - ⇒ Maintenance training is provided by both in-house training experts and equipment manufacturers. For example, all new bus procurements include computer based training programs and computer equipment to be used in diagnosing and evaluating mechanical problems.
 - ⇒ Efforts are underway to translate existing manuals to CD-ROM to improve productivity and consistency of maintenance activities on the shop floors.

- Alternative fuels policy
 - ⇒ The current MTA policy states that the MTA will purchase only CNG buses. This policy exceeds the required standards for air quality emissions established by the State of California.
 - ⇒ Clean diesel engines meet the current emissions standards. Attachment 3 is a comparison of emissions impacts of the different types of buses.
 - ⇒ Clean diesel buses cost less to purchase and maintain than other alternative fuel buses.

- Clark ATTB
 - ⇒ The MTA and the federal government have invested in development of new bus technology anticipated to increase bus life and reduce annual maintenance costs.
 - ⇒ MTA included \$50 million in the FY 98 ISTEA legislation request for purchase of ATTB buses.
 - ⇒ Six prototype buses will be completed by December 1997, tested during 1998 and 1999.
 - ⇒ No bus manufacturer has committed to producing Clark ATTB to date. Optimistically, the earliest Clark ATTB buses will be operating in revenue service in 2001.
 - ⇒ The MTA plans to procure approximately ten of the Clark ATTB's from the initial production as a means of testing the new technology, with additional purchases to follow as appropriate.

Service Delivery

- Service Improvement Strategies
 - ⇒ MTA is proposing a three tiered system consisting of enhanced and improved service on primary corridors, restructured local service including more flexible routing, and an expanded community circulation service.
 - ⇒ The MTA would be the most logical operator of the primary corridor service and should be able to compete with other public and private operators for the other elements in the system.
 - ⇒ In order for the MTA to position itself in a competitive role, a partnership between management and the unions has begun. This partnership will develop strategies which reduce costs and enable MTA Operations to successfully bid on services. This partnership involves extensive training for bus operators and mechanical personnel.

- Cost of Various Service Delivery Options
 - ⇒ It is estimated that the cost of maintaining a 35 foot bus is approximately 5% below the cost of maintaining a standard 40 foot bus. Further maintenance cost reductions of about 20% could be achieved through operating 20 foot vans.
 - ⇒ The operating expense per seat is higher for operating a smaller vehicle.
 - ⇒ The initial capital investment for a smaller vehicle is less than a standard 40 foot bus, however, they must be replaced more frequently.
 - ⇒ Costs associated with operating other than 40 foot vehicles could be reduced if the current labor contracts could be modified.

- MTA Planning and MTA Operations Coordination
 - ⇒ Increased communication and coordination has improved the understanding of the various roles and responsibilities associated with the functions.
 - ⇒ MTA Planning should provide the county-wide, multi-modal perspective and ensure the opportunity for MTA Operations to participate with other operators in the development of the bus system and to compete for the provision of services.
 - ⇒ MTA Operations should provide the Los Angeles area with safe, reliable, and cost-efficient service.
 - ⇒ Both Planning and Operations agree that the bus system would function most effectively by matching supply with demand, maximizing the flexibility of service delivery options, and selecting the most appropriate operator. This would mean that MTA must be involved in developing all service plan that includes all operators in the Los Angeles region.

- Municipal Operators Role in the Region
 - ⇒ The Municipal Operators should be better integrated into the service planning and policy process.
 - ⇒ And integrated process would reduce service and facility duplication and leverage limited funds.

- Rail and Bus Modal Shifts
 - ⇒ In 1995, the bus operators throughout the County carried over 94% of daily transit ridership (1.35 million daily boardings). In 2020, the bus operators will carry 77% of daily transit ridership (1.27 million daily boardings). The projected net increase in daily transit ridership by the year 2020 is 14% from the 1995 level. See attachment 3 for more detail.

- Transportation Demand Management (TDM) and HOV
 - ⇒ The MTA is continuing an active TDM program, which has included workshops with local jurisdictions. Many new programs will be recommended through the Call for Projects.
 - ⇒ The LRTP adopted in 1995 contained a 130 mile arterial HOV program. This program has met significant opposition from affected businesses.

- Customer Satisfaction
 - ⇒ The findings of the Service Planning Market Research Project will be considered in addressing bus service improvements.
 - ⇒ MTA's highest priorities for improving Metro Bus service is to provide service which is:
 - ◇ Less crowded and more frequent
 - ◇ Clean and comfortable
 - ◇ More reliable
 - ◆ Improve mechanical condition
 - ◆ Improve in-service on-time performance
 - ◆ Resolve major fleet problems
 - ◇ More customer friendly
 - ◇ Cost competitive
 - ⇒ The survey results found in the bus rider survey report dealing with customer satisfaction will be expressly considered.
 - ⇒ The Customer First Initiative will continue to be a top priority at the MTA.

Consent Decree and Other Service Related Improvements

- Load Factor Reduction
 - ⇒ 53 Peak Buses added Dec. '96
 - ◇ 20 for Overcrowding Relief
 - ◇ 13 to Demo 1.10 Load Factor (Lines 30/31 & 204/354)
 - ◇ 20 for Reduced Loads/Limited Stop Operation (Lines 94 & 111)
 - ⇒ 51 Peak Buses to be added June 29, 1997
 - ⇒ Up to 10 Peak Buses to be added Dec. '97
 - ◇ 1.35 Load Factor (15 Standees)
 - ⇒ Up to 44 Peak Buses to be added Jun. '00
 - ◇ 1.25 Load Factor (11 Standees)
 - ⇒ Up to 37 Peak Buses to be added Jun. '02
 - ◇ 1.20 Load Factor (9 Standees)

- New Services for Improved Access
 - ⇒ 50 vehicle Demonstration Program May 15, 1997
 - ⇒ Five Year Plan by Oct. '98
 - ⇒ Up to 80 additional vehicles beginning Nov. '98

Financial Challenges Facing the MTA

- Financial planning assumptions (LRTP, UCLA forecast)
 - ⇒ The LRTP uses the UCLA Business Forecasting Project to determine the inflation indices for the LRTP financial model. Inflation in the model is presently forecasted to range annually from a low of 2.6% to a high of 3.5% over the plan period from 1997 - 2020. The UCLA forecast is updated every September.

- Rail Recovery Plan
 - ⇒ The Rail Recovery Plan is necessary to ensure that the MTA continues to function as a multi-modal planner, builder, and operator.
 - ⇒ The Rail Recovery Plan was predicated on assumptions regarding bus operations. Therefore, the Rail Recovery Plan should have no effect on bus operations.
 - ⇒ If the consent decree implementation requires more bus service than estimated at the time of the Rail Recovery Plan, then the Rail Recovery Plan could be negatively impacted. This could result in further delays to the rail program.

- Operations Cost Elements
 - ⇒ 85 % of the MTA Operations costs are related to contract labor. These costs are directly related to the amount of revenue service hours planned. All UTU costs (\$168 million in FY 97/98) are projected by the

Scheduling Department. The Coopers and Lybrand Report recommends that Scheduling be transferred to MTA Operations.

⇒ Another non-discretionary cost element of the MTA Operations costs is associated with our alternative fuel program. For example, the cost difference between ethanol fuel and diesel fuel for 333 buses is approximately \$6 million per year.

- Joint purchase power
 - ⇒ Staff will explore the potential of establishing buying consortiums, which could jointly procure buses, bus parts, fuel and other materiel.
 - ⇒ This would require development of regional specifications for buses and other items.
 - ⇒ The potential savings for the region as a whole make this investigation worthwhile. Direct savings for MTA operated services will be minimal given the current economies of size.
 - ⇒ This would be a good opportunity to expand partnership with municipal and private operators.

Wish List - (Actions staff would recommend if not constrained:)

- Bus Procurement (Fiscally Responsible, Customer Focused, Community Responsive and Employee Supportive)
 - ⇒ Buy 300 buses each year until all buses are below 12 years or 500,000 mile replacement threshold.
 - ◇ Includes early replacement of 333 Ethanol buses and 317 Flex-Metro.
 - ⇒ Buy clean air buses and adopt a more conservative approach to buy only buses with proven technology.
 - ⇒ Buy buses which optimize security enhancements and are customer friendly.
- Improve the condition of buses not scheduled for short-term replacement
- Negotiate labor agreements which position the MTA to be more competitive
- Information Technology System (ITS) Improvements (Fiscally Responsible, Employee Supportive)
 - ⇒ Fully integrate operating and other remote locations into the MTA information system.
 - ⇒ Implement new Vehicle Maintenance and Materiel Management System.
 - ⇒ Upgrade other operating support systems.

- Training
 - ⇒ Provide state of the art training to all front line employees to position them to be more competitive.
 - ⇒ All existing and future training will be widely avail through application of available technology.
- Improve the physical conditions in which our employees work
- Improve curbside and station customer amenities
- Improve the availability of system information to customers

Constraints

- Fleet mix
 - ⇒ Government procurement rules constrain buying a uniform fleet.
 - ⇒ Current policy regarding buying only CNG buses should be amended to allow purchase of any bus meeting air quality standards.
 - ⇒ Over 50% of the fleet is either retirement eligible or expensive to support and not mechanically reliable.
- Financial
 - ⇒ Sales tax revenue is increasing more slowly that originally projected.
 - ⇒ Fares are held at current level through November 1998, then limited to CPI.
 - ⇒ State and Federal revenues have decreased.
 - ⇒ As Coopers & Lybrand noted, while operating costs have been held constant over the last three years, the MTA costs are the highest in the region.
- Collective Bargaining Agreements
 - ⇒ MTA lacks flexibility to operate at its most competitive potential.
 - ⇒ Work rules are not consistent with creating a customer focused culture.

ATTACHMENT 1 - Fleet Mix by Operating Division

Bus Type:	Average Miles	Average Age (Years)	NORTHERN REGION					SOUTHERN REGION					CENTRAL REGION					Number of Buses			
			3503	3508	3609	3515	3802	3805	3612	3818	3601	3706	3707	3710							
Diesel (Pre 1992)																					
Fix Metro	335,962	7.7	0	0	131	0	0	140	8	0	0	35	0	314							
RITS II	660,643	15.0	132	0	0	6	54	2	4	105	51	440									
Neoplan	590,283	12.3	0	109	49	163	47	0	102	0	0	26	0	496							
TMC-Diesel	375,717	8.7	55	0	0	0	19	0	81	33	111	55	362								
TMC-Meth	165,957	5.3	0	0	37	0	124	0	83	0	1	331									
Neoplan GNG	28,320	0.9	0	50	0	45	0	5	0	0	0	93	219								
Total Buses by Division			187	159	217	214	188	218	93	213	214	43	216	200	2,162						
Average Fleet Age by Division			13.1	8.7	8.3	10.0	7.9	9.4	5.7	9.6	9.3	10.2	11.8	6.7	9.4						

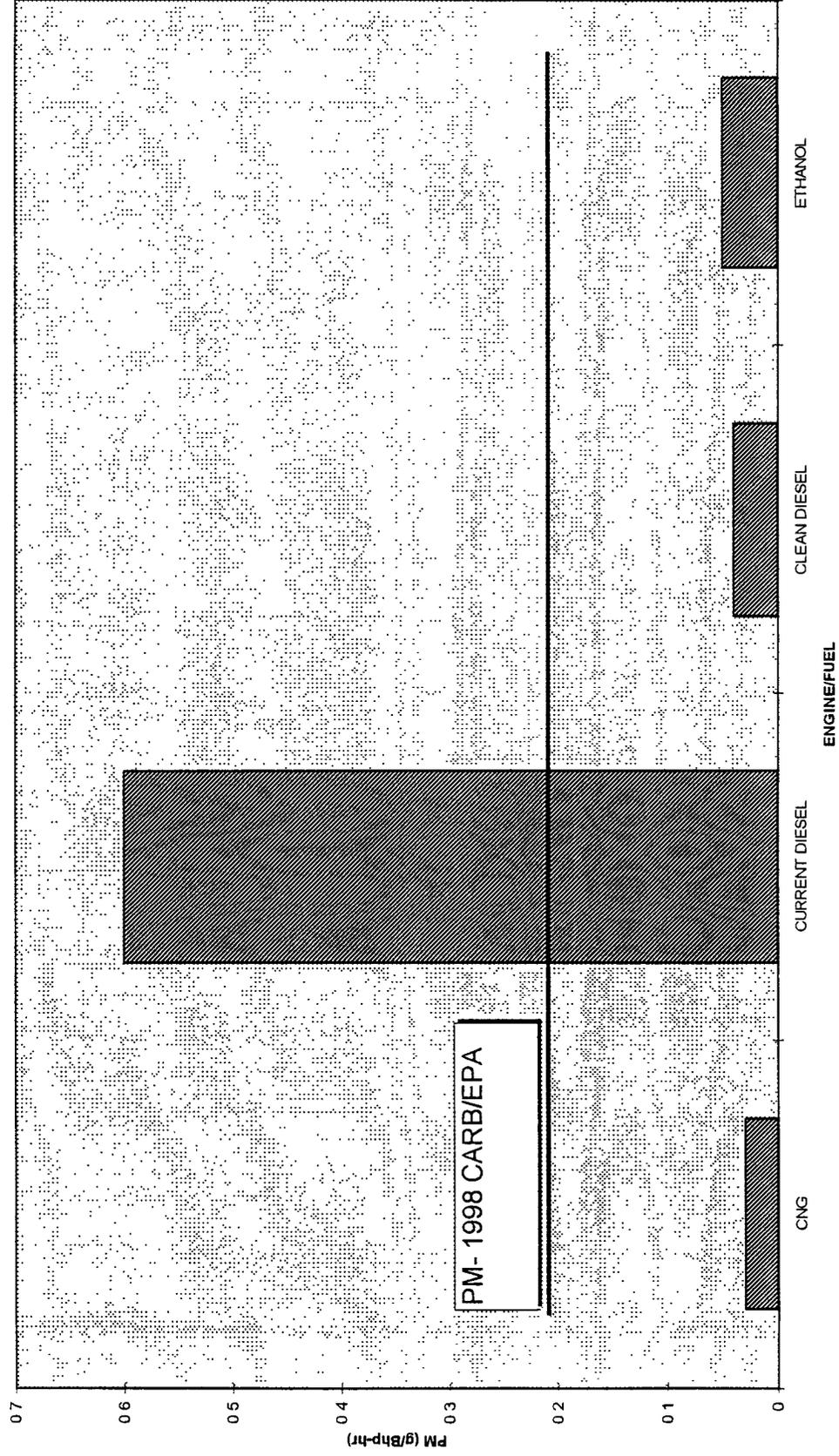
ATTACHMENT 2

Projected Infrastructure Replacement Costs By Year (\$000's)

Equipment Type	90-96	97	98	99	00	01	02-06	07-11	12-16	17-20
Dynamometer	200	200					364			
Hoists	2,520	2,800		2,882			1,040			
Vacuums	780	520		550			899	380		
Washer	750	500	257	528			592	250		
Undercarriage Cleaning		400					115	545		430
Steam Cleaning										371
Washer Canopy										
Storage Canopy										545
Washer Cleaning										
Total	4,250	4,420	257	3,960	0	0	3,010	1,175	0	1,346

ATTACHMENT 3 - Comparison of Emissions by Engine Type (2 pages)

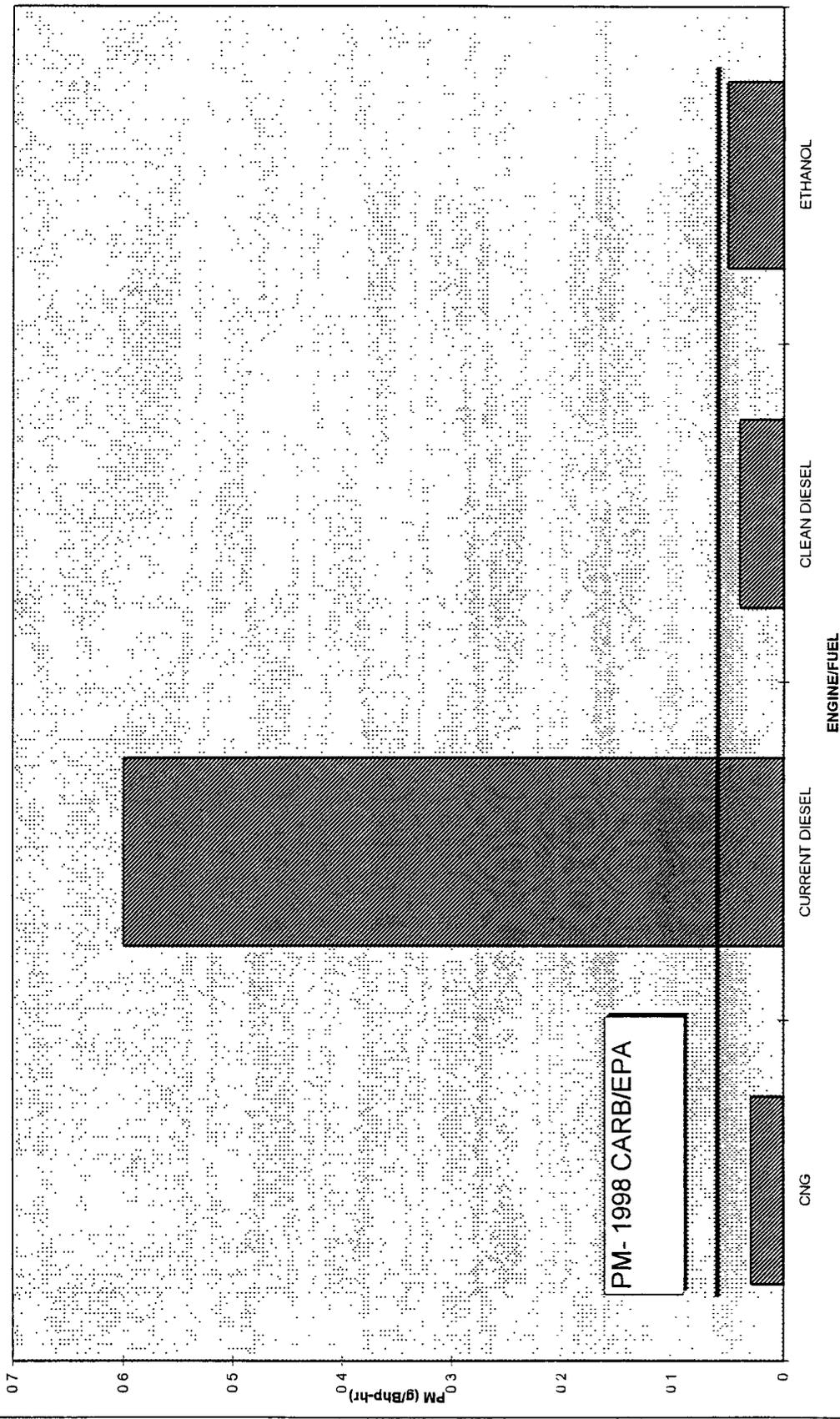
ENGINES AND FUELS MEETING 1996 AND 1998 URBAN BUS EMISSIONS STANDARDS FOR PARTICULATE MATTER



Clean diesel and current alternate fuel buses meet Nox and Particulate Matter emission standards. All are significant improvements from MTA's current diesel buses.

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ATTACHMENT 4 - Detailed Chart of Modal Shift

	FY 1995		FY 2020	
Transit Mode	Daily Boardings	Mode Share	Daily Boardings	Mode Share
Fixed Route Bus	1,352,000	94.35%	1,267,000	77.49%
Heavy Rail	19,000	1.33%	240,000	14.68%
Light Rail	37,000	2.58%	84,000	5.14%
Commuter Rail	21,000	1.47%	36,000	2.20%
Paratransit	4,000	0.28%	8,000	0.49%
Totals	1,433,000	100.00%	1,635,000	100.00%
			202,000	14%
			<i>Projected Ridership Growth</i>	

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