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TO: BOARD OF DIRECTORS

FROM: PAUL J. LENNON  
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SUBJECT: STATUS REPORT - METRO BLUE LINE SAFETY  
PROGRAM

### Background

The Metro Blue Line (MBL) is a 22 mile light rail system that operates through three cities and the unincorporated areas of Los Angeles county, running south from downtown Los Angeles to the City of Long Beach. Revenue service began in July 1990. To-date, ridership is averaging approximately 50,000+ passengers per day.

About one-half of the total MBL route follows an existing Union Pacific (UP) right-of-way. Freight trains use the UP tracks which run parallel to MBL tracks. Pedestrians and vehicles must cross two MBL tracks and either one or two UP tracks

The MBL is operated in two distinct fashions. For approximately twelve miles, through the unincorporated areas of the route, MBL trains operate on their own right-of-way using Automatic Train Protection (ATP). Train operations are controlled by operators with speeds governed by cab and wayside signals. This is known as the *Cab Signal Route* segment. Over this segment, MBL trains travel at speeds of up to 55 miles per hour and traverse twenty-eight at-grade street crossings. Many of the grade crossings are located at major streets carrying high traffic volumes.

The second type of segment is known as the *Street Running* segment and is in effect within downtown Los Angeles and downtown Long Beach. MBL train operations are governed by street traffic signals, traffic conditions and train control signals. California Public Utilities Commission (CPUC) regulations limit speeds on these segments to 35 miles per hour.

Overall there are 100 grade crossings on the MBL. All of the crossings have been protected from inception with the appropriate signs and equipment. Crossing protection devices include traffic signals, street gates and arms, flashing lights and bells, stop signs and train-activated "No Left Turn" signals at driveways and alleys in downtown Los Angeles.

### **Safety Improvements Since Revenue Opening**

Since the MBL revenue opening date, the following improvements have been made to further enhance safety:

- A "Cyclops" train cab headlight to enhance visibility of approaching trains at grade crossings.
- Steel picket fencing along the right-of-way tapered at grade crossings to enhance visibility of approaching trains and sight distances for train operators.
- Traffic signal phases for left turns across MBL tracks changed from leading to lagging on Washington and Long Beach Boulevard.
- Separate Left Turn signal phases added at selected crossings on Long Beach Avenue.
- Pedestrian swing gates installed at Imperial Station.
- Installation of active and passive pedestrian warning signs.
- Median island installations at Nadeau, Gage and Florence Streets.

### **Current Grade Crossing Safety Program**

The current Grade Crossing Improvement program started as a demonstration project in 1992 to evaluate and enhance ways to reduce illegal movements by motorists. While the program focused primarily on evaluating measures to decrease train/vehicle accidents, the project has evolved into programmatic changes to reduce train/pedestrian accidents as well.

The program's main components are the following items:

#### ***Automated enforcement systems and technologies***

##### ***Photo Enforcement Project***

Photo Enforcement is an active component of enforcement of traffic regulations at selected areas along the MBL. This automated enforcement system also serves as a reminder to motorists that they are approaching active railroad/light rail tracks. Currently there are 10 cameras being used at 17 intersections on a rotating basis with a total of 55 locations being covered by this program. Since the project

started, 5996 citations have been issued as a result. Fines currently are \$104.00 per infraction.

### ***Four Quadrant Gates Trial Installation Project***

Accident records for the MBL indicate that a large number of train/vehicle collisions take place at grade crossings where there are streets running parallel to light train tracks and motorists are permitted to make left turns across the tracks. MTA is participating in a FTA grant on the installation and study of Four Quadrant or Full Closure Crossing Gate System. This system uses standard railroad crossing gates that when lowered parallel to the tracks at the same time, ensures complete blockage of the grade crossing.

To assure that motorists are not trapped inside the lowered gates as the train approaches, MTA has developed vehicle detection inductive loops that have been incorporated within the Four Quadrant Gate project. Testing of the entire system resumed in late August. It is anticipated that the project will go into full unattended operation on October 1, 1998 at 124<sup>th</sup> Street grade crossing.

### ***Illuminated Fiber Optic "TRAIN" Signs***

From revenue start-up through end of FY'98, 52% of all collisions (206) had illegal left turns as the primary or contributing cause to the accident.

MTA is in the process of purchasing train activated warning signs that are designed to mitigate Left Turn Accidents. They will be installed along Washington Boulevard and Flower Street and provide motorists with an enhanced warning of an oncoming train. A total of thirty-nine signs are in the procurement process. Upon receipt of the signs, LADOT will function as the installer. Installation of these signs should be completed in the first quarter of 1999.

### ***Enhanced Design and Engineering Components***

MTA safety staff have developed a master list of improvements based on analysis of historical data and research involving other transit properties. Contract C0360 is in the procurement process and is due to be awarded by the end of second quarter of this fiscal year. It is anticipated that this contract be completed by the end of the current fiscal year. This contract consists of the following components:

- Installation of Pedestrian Swing Gates at Artesia Station
- Installation of Pedestrian Gates at Vernon, Florence, 103<sup>rd</sup> and Gage Avenue
- Construction of new Median Islands at Manville Streets and the replacement of plastic delineators with concrete medians at 92<sup>nd</sup> and 103<sup>rd</sup> Avenue
- Installation of "SECOND TRAIN COMING" sign and widening the sidewalk at Vernon Station
- Installation of additional warning flashing lights at Vernon Avenue, 55<sup>th</sup> Street, 92<sup>nd</sup> Street, Century Blvd, 103<sup>rd</sup> Street, and Compton Boulevard

#### *Other Project and Program Involvement*

MTA System Safety staff are actively involved in the Three-Car Platform Extension proposal for the MBL. They anticipate working with Alameda Corridor project personnel. They represent the MTA Safety in the Cal Trans/Imperial Highway overpass project and with Union Pacific railroad regarding any system improvements that would enhance safety. The nationally recognized "Operation Life Saver" program instituted by rail freight lines in 1972 has been adapted to light rail transit and is ready to put into place for general public information and education.

Operations Safety Staff work with Operators on safety training and education of employees in rail operations. Staff is working on a feasibility project regarding "train-activated warning and identification lights" that would be an adjunct to current visual and audio warning devices already in place. Trial demonstrations are expected in late October utilizing both light rail transit property professionals and citizenry advisory groups as evaluators. Lastly, safety staff work with bus operations to assure that traffic safety considerations are incorporated within Bus Stops and Zones development.

Safety Administration is the project manager in the consultant-led "MBL Safety Analysis Study." Preliminary findings are due to be presented in October. The consultant will include cost effective, value added recommendations to augment current safety programs and to propose timelines for implementation.

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