

**SAN FERNANDO VALLEY SECTOR COUNCIL MEETING  
SEPTEMBER 7, 2005**

**SUBJECT: METRO ORANGE LINE OPERATIONS SYSTEM SAFETY PLAN**

**ACTION: RECEIVE AND FILE**

**RECOMMENDATION**

Receive and file draft Metro Orange Line Operations System Safety Plan.

**ISSUE**

At the last Sector Council meeting, Councilmember Wilson requested that staff submit a report on operations safety and security planning for the point in time that Metro begins operation of the Orange in Late October.

**BACKGROUND**

Perhaps the most significant issue for a transit operator is ensuring the safety and security of its customers, employees, and those people and agency staffs that conduct business with Metro. Since the recent events involving the London Underground as well as surface buses, public interest in safety and security planning has been heightened. Metro Operations staff has been meeting regularly with representatives of Construction, Corporate Safety, Operations Central Instruction, Marketing, Scheduling, Public Affairs, LASD, LAPD, LAFD, LADOT, and Vehicle Operations, ET. Al. staffs to map out a program to ensure safe and secure operations. Staff has initiated tests of the various systems that will govern the alignment and intend to simulate emergency scenarios to train all related personnel as the system nears completion.

The attached Draft Metro Orange Line Operations System Safety Plan will continue to be refined prior to the opening of the Metro Orange Line to the public. The plan covers all aspects of the operation, training, safety, and the roles and responsibilities of regional agencies.

**DESIGN ASPECTS**

The Metro Orange Line has been designed with safety in mind. For example, each intersection turning movement is protected by a separate signal insuring separation of through and left turning traffic from bus traffic. Metroliner coaches will have a separate green cycle when all other movements are stopped. Motorists will see optically designed signals to guide them when they are allowed to cross the intersection Platforms are open and there are no hidden corners. Metroliner coaches are highly visible and include sophisticated communications and vehicle monitoring equipment. Every station is equipped with a state

of the art surveillance and public address system. Pedestrian signals provide sufficient time for people to cross streets.

## **PROCEDURE DEVELOPMENT**

We have sought to strengthen the operational program through development of emergency procedures, analysis of appropriate civil codes to allow police enforcement, development of Standard Operating Procedures, as well as, creation of signage, materials, and a video presentation to educate the public on being safe around the Metro Orange Line. These efforts stress the roles of the Operator, Passenger, Pedestrian, and Motorist. In particular, the video is aimed at school age children in the Metro Orange Line Corridor. Staff has planned a series of public events to preview the operation of the Metro Orange Line to the public and has programmed special appearances at well over 100 schools.

## **ROLE OF LAW ENFORCEMENT**

The LASD and LAPD have prepared a Memorandum of Understanding that sets out the primary and support roles played by both agencies. LAPD, for example, is the prime agency for intersection accidents, street crime, and enforcement of traffic laws in the corridor. LASD is the prime agency for accidents, crime, and trespassing on the Transit Way itself. They will be responsible for the security of areas behind sound walls along the alignment. Most importantly, both agencies have pledged to assist each other depending on circumstances. Both agencies have also agreed not to use the Transit Way for cross-valley travel unless they are in hot pursuit of a vehicle. Finally, LASD has designated a force in excess of 25 deputies directly tied to Transit Way operations for fare enforcement as well as security oversight.

## **BUS OPERATIONS CONTROL**

Bus Operations Control will serve as the primary contact for Operators and can monitor service remotely from consoles installed in the control center. Vehicle Operations staff will be fielded to insure that the line is running smoothly and can respond to calls on the Orange Line. As part of the alignment training, Operators will be schooled in responding to emergencies. One critical item under consideration is the definition of special signage to guide operators in the event that the Transit Way is blocked and service must be re-routed around the closure point. Bus Operations Control will monitor each of the stations on a 24 hour, 7 day per week basis remotely combining the use of ATSAC cameras as well as a Metro Orange Line surveillance system. They will also control a public address and variable message system, not unlike that on the Metro Rail lines, to communicate with our customers.

## **OPERATOR TRAINING**

Operators will be given extensive training in operations of the Metro Orange Line and the Metroliner coaches, how to deal with emergencies, how to deal with suspicious packages, how to enlist the aid of passengers in general and how to respond to a variety of scenarios that they may face. During the course of training and preparation for the line opening,

emergency exercises will occur to test the readiness and responsiveness of our staff and that of local agencies.

### **NEXT STEPS**

The draft operations safety and security plan will be under review and revised over the course of the next two months as practical experience with the operation of the line gives rise to changes in the operational aspects of the service.

### **ATTACHMENT(S)**

A. Draft Operations Safety and Security Plan

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## DRAFT -- Metro Orange Line Operations System Safety Plan

**Introduction** – Metro Operations staff is pleased and excited to assume the responsibility for the operation of the Metro Orange Line (MOL) Transit way. This is one of the premier projects in the nation to demonstrate how advanced design buses and operating techniques can provide substantial public transportation benefits at a significantly reduced capital cost and at the same time offer a high quality attractive service to a sector of Los Angeles that has been starved for new transportation alternatives. This plan incorporates all of the operating elements, identifies known hazards and mitigations, and provides for proper control procedures to minimize and/or respond to incidents that may occur.

- 1.1. **Goals and Objectives** – The goal of the Operations System Safety Plan is to define activities, manage and establish controls, and monitor procedures to insure that:
  - 1.1.1. Safety and security considerations are incorporated into the operational design of the MOL to minimize accidents and or criminal activity during revenue operations.
  - 1.1.2. Hazards are identified and minimized during the construction process to obtain an acceptable level of safety and security.
  - 1.1.3. Establish preventative measures over corrective measures to eliminate unsafe conditions

### 1.2. **Busway Characteristics**

- 1.2.1. The Metro Orange Line physical plant includes 13 miles of dual lane paved busway, 13 stations, five park and ride stations, 1 kiss and ride facility, and crosses some 35 signalized street intersections.
- 1.2.2. The Warner Center Transit Hub will complete the last of the stations along the route as an on-street station.
- 1.2.3. One mile of the busway is on-street
- 1.2.4. There are four signalized pedestrian crossings along the alignment

### 1.3. **Inspection process and Hazard Identification / Resolution**

- 1.3.1. Safety, Marketing, Construction, Security, Law Enforcement, the City of Los Angeles and Operations staffs meet every two weeks to review identified hazards during construction and to pose solutions to the various issues raised
  - 1.3.1.1. Operating speeds were set based on current operating practice. The signal system will be adjusted within these parameters.
  - 1.3.1.2. The operation of the system will be further evaluated once Operations has access to the system for operator training and testing
  - 1.3.1.3. Striping and visual cues for operators were added to the alignment as well as a “flasher” waning system under the I-405 to warn buses that buses were approaching from the opposite direction.
- 1.3.2. The meeting of the Operations Start Up Committee will continue until opening of the alignment to Revenue Operations. Subsequently, an Operations Safety Committee will be formed to review the status of the Operation and to identify and reduce hazards on and on-going basis.
- 1.3.3. Current projects include rationalization of signage, study of emergency exit signs, and finalization of an MOU between the LAPD and LASD.

1.3.4. The alignment also includes a parallel bike path and is separated from the Transit Way by a fence.

#### **1.4. Street crossing safety program**

1.4.1. All street crossings are at grade and are signal controlled. Each turning or through movement are protected. Signs for motorists will provide direction on where to stop for a red signal. In general, the “rules of the road” apply here.

1.4.2. The City of Los Angeles has designed a signal system that includes flashing “bus coming” signs, which are illuminated, and facing those movements where line of sight is restricted. Left turns are vulnerable because buses may be coming from behind the automobile waiting to cross the alignment.

1.4.3. Pedestrian crossings have been identified and are signal controlled. Following traffic engineering practice, the pedestrian crossings at the 4 mid-alignment locations are at 90-degree angles.

1.4.4. Pedestrian crosswalks across streets are also signal controlled and provide sufficient time for people to cross the entire intersection leg. Two stations (Fulton and Burbank) and at the North Hollywood terminal station need to be monitored because of their design.

#### **1.5. Emergency response procedures**

1.5.1. Standard Operating Procedures have been developed and submitted for final adoption. These SOPs govern emergency situations as well as special procedures when passing stopped vehicles or getting on and off the alignment.

1.5.2. The LAPD and LASD have drafted a MOU that details how the responsibilities between the two law enforcement agencies are to be handled. In essence, LAPD will have lead responsibility for all intersection accidents, crime on local streets that are adjacent to the busway, and will handle calls within their jurisdiction. The LASD will have lead responsibility for those issues that occur on the busway proper and may take the lead in an accident situation pending the arrival of the LAPD.

#### **1.6. Organization and system management**

1.6.1. Responsibility for the operation of the Orange Line will rest with the San Fernando Valley sector. Specifically, all service on the line will be managed and dispatched from Division 8 in Chatsworth. Division 8 is responsible for the maintenance of all of the vehicles and for the safety systems on-board the coaches. They are also responsible for maintaining driver and vehicle records to assure public safety. Finally, Division 8 Instruction will insure that all operators are fully trained on all of the vehicle’s features and safeguards.

1.6.2. The Corporate Safety Department and the Sector Senior Safety Specialist will monitor the operation of the line for safety issues on a regular basis. The Metro Orange Line will have some unique characteristics, which will be fine tuned over time. In addition, Corporate Safety is updating our laminated “First Responder Guide” to incorporate the Metroliner and other articulated coaches. All applicable safety programs will be extended to the MOL as applicable under OSHA programs including (but not limited to):

1.6.2.1. Confined spaces

- 1.6.2.2. Blood Borne Pathogens
- 1.6.2.3. Ergonomics
- 1.6.2.4. Hazard Communication
- 1.6.2.5. Hearing Conservation
- 1.6.2.6. System Wide Hazardous Materials Emergency Response
- 1.6.2.7. Compressed Natural Gas
- 1.6.2.8. Personal Protective Equipment Guide
- 1.6.3. Rail Operations will provide maintenance services for the stations and will regularly inspect the stations for hazards and defects.
- 1.6.4. Telecommunications is responsible for all elements of telemetry, Universal Fare System communications for all devices associated with the stations, as well as the public telephone system.
- 1.6.5. Bus Operations Control will manage the flow of service while in revenue operation and provide communication between controllers and the vehicles on the line. The SOPs described earlier call for the operator to maintain contact with BOC through the Advanced Transportations Management System as well as voice when required.

**1.7. Rules and Procedure Review**

- 1.7.1. Rules and Procedural reviews are on going through the Operations Central Instruction Department.
- 1.7.2. SOPs discussed in 2.5.1 above will be incorporated into the new edition of the Operator's Rulebook.

**1.8. Safety Certification** – To be completed by Corporate Safety when the alignment and all appurtenances are declared “substantially complete.” An integrated test of all safety systems will be performed to determine the state of system readiness.

**1.9. Interdepartmental / Interagency Coordination** – See Memorandum of Agreement between LAPD and LASD for definitions and restrictions. Note that the key restriction is that neither police agency will seek to use the busway to get to a location in the Valley unless they are not in hot pursuit of a vehicle that enters the roadway illegally nor the incident is on the busway. The LASD has allocated 35 sworn staff to this project both for safety and security issues as well as law enforcement.

- 1.9.1. LAFD has agreed not to use the busway as a shortcut in the Valley unless the incident or emergency assistance requires use of the busway.
- 1.9.2. Other Municipal Operators – Only Metro will be operating on the busway at this time.

**2. Operations Protocols – BRT Routes**

**2.1. Schedules / Normal Operations** – Approximately 5am to Midnight with tripper services to meet the first and last Metro Red Line trains.

- 2.1.1. Number of Vehicles – 22 to 24 vehicles plus spares for a total of 30 articulated coaches.

- 2.1.2. Expected Ridership – Anticipated to be between 9,000 and 12,000 on a daily basis. The ridership will grow in excess of 20,000 based on current modeling in the EIR.
- 2.1.3. Post implementation monitoring – Using APC data, the buses will be monitored for ridership trends and schedules will be modified accordingly.
- 2.1.4. Layover – Layover will be taken at each end of the line either at North Hollywood or at Warner Center where restrooms are available.
- 2.1.5. Relief Points – not yet determined.

## **2.2. Pullout/Pull-in routes**

- 2.2.1. Entry and exit points and process – By design entry and exit points to and from the busway have been determined to be at Variel and Victory, Reseda Boulevard and the alignment, Sepulveda Boulevard and the alignment and Van Nuys Boulevard and the alignment. All of these streets are sufficiently wide to permit turns on and off the busway safely.
- 2.2.2. In an emergency, e.g. a blockage, operators will be directed to exit the busway only on a green signal for the busway. They will be directed to primarily turn left in order to go to the nearest street and then be redirected to the nearest street to rejoin the busway.
- 2.2.3. Escape route from North Hollywood Terminal – An escape route from the terminal plaza at North Hollywood has been constructed to remove disabled buses from the terminal without having to tow a vehicle over an extended portion of the alignment.

## **2.3. Anti-terrorism Training**

- 2.3.1. Since the events of 9/11/2001, the bombings in Madrid Spain and the more recent events (2005) in London, there has been heightened awareness of the need to be alert and how to observe people, places, and packages that may be suspicious. MTA has engaged in additional training for its operator workforce as well as the workforce in general.
- 2.3.2. Operators have been issued a booklet entitled “Metro Employee Guide to Security” and a wallet-sized card with emergency phone numbers to use to report suspicious or other unusual persons or behaviors. In separate memoranda, operators were urged to review the booklet and phone numbers on a continuing basis. Because of the importance of this information, the CEO highlighted some significant points from that material. Operators were urged to be aware of their surroundings and to look for situations or circumstances that were “out of place:”

### **2.3.3. Suspicious Activity**

2.3.3.1. **Suspicion is based upon:** Where someone is; when they are there; what they are doing--NOT upon race, color, ethnicity or gender.

2.3.3.2. **What to look for:**--People who are --In an unauthorized or restricted area-- On agency property without proper ID, uniform or safety gear--In the wrong place or who appear lost--Quickly exiting an area after abandoning a package --Loitering, staring or watching employees and customers--



Unfamiliar couriers, repair personnel, utility crews or other employees who are in the wrong place --Taking photos of equipment and secure areas. Cars, trucks, motorcycles and bikes parked or standing in out-of-the way places or strange locations; vehicles that appear to be over loaded or sagging

**2.3.3.3.Suspicious Packages and Devices** --Suspicion is based upon the type and location of the package. *What to look for:* A package that--Is left or intentionally placed in an out-of-the-way location where it is not easily seen --Is an abandoned item or container such as a thermos, propane canister, fire extinguisher or piece of pipe--Has visible wires, batteries, a clock or timer, or has bottles, tanks or bags attached--Is abandoned by someone quickly leaving the area--Includes a bag, box or package emitting an odor, mist or oily liquid

**2.3.3.4.Prevention** -- Look for and report security weaknesses --Broken fences or doors --Malfunctioning locks --Inadequate or non-working lighting Follow correct practices and procedures Wear proper uniform and badge Carry and display ID Keep all appropriate doors, gates and compartments closed and locked Conduct proper vehicle inspections --Include security sweeps in pre- and post-trip inspections 3.1.5.6 Gather Complete Information Accurate, detailed and relevant information regarding location, status, victims, indicators and circumstances regarding an observation will increase the effectiveness and timeliness of the response to the situation.

**2.3.3.5.Reporting Information** -Should you see something or someone that strikes you as suspicious or otherwise unusual, immediately notify dispatch, control and/or supervisor. If unable to contact your supervisor, notify law enforcement or other Metro security contact as follows: **Sheriff's Hot Line**, 888.950.SAFE (7233), 323.563.5000, **Rail Operations Control** 323.563.5022, **Bus Operations Control** 213.922.6280, Metro **Security Control** 213.922.7600.

## **2.4. Training Requirements and plan**

2.4.1. All operators will complete training on the vehicle and will learn how to operate the articulated coach on street. The orientation of the vehicle and street training is currently conducted with one student per instructor. As we move to open the line and right of way segments become available to the staff, training on the busway itself will take place. Orientation and on street training will consume about 7 hours per operator and training on the alignment may consist of another four hours.

2.4.2. The total of 11 hours is extensive additional training for professional drivers already certified to operate transit vehicles.

## **3. Operating Hazards**

3.1. Hazards have been identified by a review conducted by the Corporate Safety Department and other MTA staff. The hazards cover a wide variety of issues and signage and awareness training can reduce the majority. Critical locations, e.g. Balboa and Victory have been evaluated for "slow orders" as has the passage under the I-405 freeway. In the latter case, in addition to the use of slow orders, a flashing

system of lights will be used to signal operators of oncoming traffic. Staff has also requested that consideration be given to some 12 intersections for installation of photo enforcement devices. This type of enforcement system has helped reduce incidents on the Metro Blue Line.

- 3.2. Two stations have anticipated high pedestrian movements – Warner Center and North Hollywood. The Transit Center has well defined stops and cross walks. At North Hollywood, transferring patrons must walk to the nearest signalized intersection to cross Lankershim Boulevard. This site is under study as to appropriate mitigation measures.
- 3.3. Other sites will be defined once Operations staff has had the opportunity to operate on the alignment in normal operating mode. This plan will be updated at that time.
4. **Conclusion** – The MTA is dedicated to providing safe and efficient services to the public. This plan has outlined responsibilities and steps to achieve these ends.