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## APPENDIX K. SAFETY AND SECURITY TECHNICAL MEMORANDUM

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# MEMO

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To: Robert Forrest, Valley Metro  
From: HDR Project Team  
Date: January 2016  
RE: **South Central Light Rail Extension Project**  
*Safety and Security Technical Memorandum*

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## 1.0 INTRODUCTION

This technical memorandum provides a general overview of safety and security considerations with respect to the South Central Light Rail Extension Project in support of the Environmental Assessment. This document includes an evaluation of the light rail corridor and proposed stations. Specific safety and security design considerations would be further defined in the final design, permitting and ultimate construction of the project. This technical memorandum also describes the measures to be taken to enhance the safety and security of the South Central Light Rail Extension and its riders, as well as residents and businesses in the project corridor.

Valley Metro has established a set of comprehensive security activities emphasizing the importance of security in all aspects of the Light Rail Transit Starter Line system and associated extensions. These activities are documented in the following plans and would be updated to include the light rail extension:

- System Security Program Plan (Revision 11, 2015) – Documents and assists in the implementation and monitoring of the System Security Program, describes the responsibilities of all staff, ensures secure design, sets security goals and objectives, establishes relationships with emergency management personnel and complies with Federal Transit Administration (FTA) regulations at 49 Code of Federal Regulations (CFR) Part 659 and with Arizona Department of Transportation (ADOT) guidelines.
- System Safety Program Plan (Revision 11, 2015) – Establishes requirements for the identification, evaluation and minimization of safety risks throughout all Valley Metro systems and complies with FTA regulations at 49 CFR Part 659 and with ADOT guidelines.
- Emergency Management Plan (Revision 9, 2015) – Assists in identifying, planning for, responding to and resolving emergency situations in an efficient, controlled and coordinated manner.
- Accident/Incident Investigation Plan (Revision 8, 2015) – Establishes the requirements, responsibilities and procedures for investigating and documenting all accidents or incidents involving Valley Metro patrons, employees, facilities, vehicles and/or persons or equipment that may come in contact with the system.

Valley Metro's Office of Safety and Security would conduct, in cooperation with the local responding police agency, a Threat and Vulnerability Assessment as part of the safe and secure operation of the extension. This would occur in conjunction with continued

cooperation through a Regional Security Team consisting of law enforcement personnel system-wide to track, trend and respond to incidents along the entire system. The Office of Safety and Security would also continually evaluate safety and security elements for the South Central Extension, including, but not limited to, the following:

- Threats and hazards associated with the light rail extension
- Design and architectural details to enhance safety
- Use of closed-circuit television (CCTV) cameras and lighting as specific design measures
- Security patrols of transit property and vehicles
- Ongoing train safety awareness education

## **2.0 SAFETY AND SECURITY**

### **2.1 NO-BUILD ALTERNATIVE**

The No-Build Alternative is not expected to have an adverse impact on safety and security because adequate safety and security measures will have already been established for the transit services included in this alternative.

### **2.2 BUILD ALTERNATIVE**

The Build Alternative would not have an adverse effect on safety and security. The proposed light rail would be located in a designated fixed guideway, separated from vehicular traffic by a physical barrier. At intersections, appropriate signal timing, warning instruments (for example, crossing signals with flashing lights) and other measures would be implemented to avoid adverse impacts on pedestrian and vehicle safety when crossing the tracks.

#### **2.2.1 Security Protection Safety Services**

The design criteria for Valley Metro projects require that light rail stations be designed in accordance with Crime Prevention through Environmental Design guidelines. Both the light rail vehicles and stations would be designed in accordance with the Americans with Disabilities Act. CCTV would be provided at the station platforms, ticket vending machines and park-and-ride facilities. In addition, the stations would have emergency call boxes that would be connected to Valley Metro's Operations Control Center, which would have direct communication with the City of Phoenix police and fire departments. The U.S. Department of Homeland Security also requires all such facilities to install U.S. Department of Homeland Security-compliant trash cans that are either resistant to explosives or that use an open metal frame and clear bag.

The light rail vehicles would include passenger emergency reporting devices that allow passengers to communicate with the train operator. The vehicle interior and exterior would also be equipped with CCTV. The train operator could report problems directly to the Valley Metro Operations Control Center, which could then contact security or local police. Light rail vehicles would have bells, horns, and flashing headlights to provide both audible and visual warnings as needed to alert drivers and pedestrians of an

approaching train. In addition, the vehicles would be designed with energy-absorbing bumpers to lessen potential impacts in the event of a collision. The vehicle would also have low ground clearance, which would reduce the likelihood of a pedestrian sliding underneath the train in the event of a collision.

Valley Metro design standards require certain features to discourage pedestrians from illegally crossing the tracks and to enhance safety at permitted crossing locations. These features include, but are not limited to, pedestrian signals, lighting and well-marked crosswalks, which would be provided at all crossing locations. The station platforms would be marked with “Do Not Cross Tracks,” and signs to direct pedestrians to the proper crossing location would be incorporated into the project design.

Security personnel would patrol the stations and trains. Security services for the future light rail system would be provided through a contract between Valley Metro and a private security services firm, similar to the contract Valley Metro has for the current light rail service. Fare inspections would be conducted by security personnel. The train operators and security personnel would be trained to spot potentially suspicious activities and to take appropriate action. The City of Phoenix Police Department would respond to criminal incidents and automobile or pedestrian accidents with the light rail vehicle, etc., while the City of Phoenix Fire Department would respond to fire and rescue emergencies.

### **2.2.2 Fire Protection and Emergency Medical Services**

Light rail vehicles would yield to fire and emergency medical service vehicles at intersection crossings or anywhere else along the guideway.

The final design would include a guideway designed in accordance with Valley Metro Design Criteria Manual, National Fire Protection Association NFPA-130 (Standard for Fixed Guideway Transit and Passenger Railway Systems), and the applicable fire and building codes. Emergency egress provisions would be provided at a maximum spacing of 2,500 feet for below grade and elevated guideway sections.

### **2.2.3 Pedestrian Safety**

To minimize the accident potential for students attending nearby schools, Valley Metro would conduct a safety education program to target elementary and junior high school students. The program would be similar to that carried out prior to operation of the existing light rail. That program included distribution to the schools of age-appropriate safety-related materials such as coloring books, word hunts, crossword puzzles, maze worksheets, bookmarks and build-your-own-train with safety messages. In addition, Valley Metro maintains a website ([www.valleymetro.org/safety/kids\\_safety\\_spot](http://www.valleymetro.org/safety/kids_safety_spot)) that allows anyone accessing the site to download most of the materials and includes a link for teachers or administrators to request Valley Metro staff to make a presentation to their classrooms.

In addition, Valley Metro, as part of its standard procedures for initiating new services, would work with the City and local organizations to educate riders, automobile drivers, bicyclists and pedestrians about safety and security along the planned extension. This would include advertising, social media and other outreach efforts to explain how the light rail interacts with automobile traffic, bicycle lanes and pedestrian activities. This

program would commence during the initial testing phase of operations and would work hand-in-hand with other safety and security outreach efforts for the regional transit system.

With implementation of these measures, the proposed project is not anticipated to result in adverse impacts on safety and security.