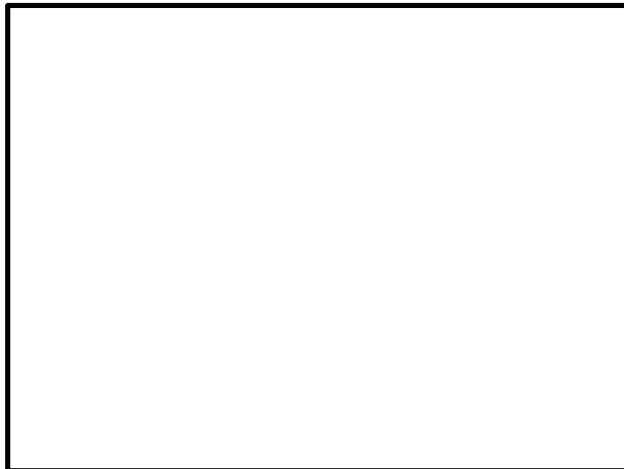


# Los Angeles World Airports

## **Los Angeles International Airport**

Comparative Security Analysis of Alternative D  
and the No Action/No Project Alternative of the  
[Proposed Master Plan](#)



**June 27, 2003**

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# COMPARATIVE SECURITY ANALYSIS OF ALTERNATIVE D AND THE NO ACTION/ NO PROJECT ALTERNATIVE

## 1 EXECUTIVE SUMMARY

Alternative D, the Enhanced Safety and Security Alternative, provides Los Angeles International Airport (LAX) a much higher degree of safety and security than the No Action / No Project (NA/NP) Alternative in the proposed LAX Master Plan. Alternative D allows for the dispersal of people and security processes away from critical points on the airport complex. This allows for consistent levels of screening, an increased ability for law enforcement and security personnel to respond to threats, and the protection of people and critical facilities essential to the continued operation of the airport.

The postulated threat against LAX is terrorist actions, particularly those using a vehicle or truck bomb. LAX's primary function is the movement of passengers and cargo into and out of the airport. The level of security implemented at LAX must not limit the ability of the Airport to accomplish its primary function. Analysis shows that the potential of a vehicle bomb to cripple LAX and inflict a high number of casualties is the primary vulnerability and focus of security planning.

Alternative D's unique effectiveness as an enhanced safety and security plan lies in the establishment of a new and more effective concept of security operations for LAX. This concept involves the use of multiple concentric rings of security that provides security measures around each primary LAX facility. The establishment of these multiple concentric rings of security will allow LAX to begin its security process long before any passenger or vehicle enters the Central Terminal Area (CTA). The use of concentric rings in the development of a deterrent and mitigation strategy is based upon the concept of protecting, detecting, assessing, and responding (PDAR) to threats to passengers and the airport. This is best accomplished through the dispersal of potential hostile events in such a manner as to allow increased distance and time from a threat to give law enforcement and security personnel time to assess the threat and respond to it.

Essential to this strategy is the efficient movement of people and vehicles through security processing and into the CTA and air operations area (AOA) secure areas. This goal is achieved through a two-level process. The first level (Level 1) entails screening of all persons and bags prior to entering the Central Terminal Area. Level 1 screening is focused on preventing attacks on the ground and ensuring a safe passenger environment. This level of screening will occur prior to entering the Automated People Mover (APM) system or FlyAway shuttle buses and focuses on weapons and explosives. The second level (Level 2) of screening is of passengers and baggage as conducted by the Transportation Security Administration (TSA). The two levels of screening cannot be achieved under the NA/NP Alternative.

Alternative D provides for the elimination of unauthorized roadway traffic in the CTA. This restriction will nearly eliminate the threat to the most populated area of the airport as well as critical infrastructure. By moving traffic to outlying areas and consolidating operations, the ability to observe and assess threats is significantly enhanced. The creation of operating facilities capable of meeting future security needs without retrofitting current facilities ensures that the most efficient design can be incorporated without impacting passenger throughput. These benefits cannot occur under the NA/NP Alternative due to the limited space of the current physical plant.

The use of advanced security technologies must be considered in order to enhance and multiply the effectiveness of human security. Such technology is constantly evolving and cannot possibly be predicted over the course of this project. Although the technology of 2015 cannot be predicted, the use of existing technology will include such devices as license plate readers, intelligent surveillance cameras, face-in-the-crowd software, non-intrusive vehicle and cargo inspection systems, and similar enhancers.

Based upon the analysis of Alternative D versus the No Action/No Project Alternative, Alternative D, while also addressing the effective movement of passengers and vehicles, is a more effective and forward-looking plan aimed at meeting the future security needs of LAX.

## **2 INTRODUCTION**

Each component of Alternative D was examined with a view to maximize the security of the traveling public, employees, and visitors to LAX in comparison to the NA/NP Alternative. Also considered was the impact of aviation operations within the 78 MAP

design. A brief outline is provided with the security advantages of the following components of Alternative D:

- ◆ Metropolitan Transit Authority (MTA) Green Line Connection
- ◆ Intermodal Transportation Center (ITC)
- ◆ Reconfigured On-and-Off Airport Roadways
- ◆ Ground Transportation Center (GTC)
- ◆ Consolidated Rental Car Facility (RAC)
- ◆ Automated People Mover System (APM)
- ◆ Redeveloped Central Terminal Area (CTA)
- ◆ Expanded FlyAway
- ◆ West Satellite Concourse (WSC)

### **3 BACKGROUND**

Los Angeles International Airport was planned when the threat of terrorist attacks was not as significant a consideration as it is today. Structures and processes were designed with efficiency as the main goal to facilitate the flow of passengers, aircraft, cargo, and the associated support operations. As air travel increased, physical plant expansion was limited, and over time the airport became increasingly more congested.

Immediately after the September 11, 2001 attacks, airport security and operations changed significantly, with the result that Los Angeles World Airports (LAWA) management staff has had to adjust rapidly to the new environment. With little or no guidance, LAWA was forced to take the existing regulations and procedures and modify them to the ever changing environment. This resulted in an improved security posture, but also in terminals that were not built to handle post-9/11 security and operations.

Despite the hard work to improve the security of the airport, the current LAX physical layout limits some potential security enhancements. The application of concentric rings of security, to take advantage of distance, time, and dispersal, is also constrained. For example, vehicle inspections upon entry to the CTA require extensive increases in security staffing, causing traffic backups that result in significant operational delays. The congestion may also seriously degrade emergency response times.

The LAX Master Plan currently has three build alternatives, in addition to Alternative D. Alternatives A, B, and C, were designed before security concerns began to receive increased emphasis in the design of airports after the 9/11 attacks. Whereas the designs of

Alternatives A, B, and C should allow for current TSA requirements to be met (as the design of the NA/NP Alternative does), they do not provide for the numerous additional security features of Alternative D. Consequently, this comparative analysis focuses on comparing Alternative D to the NA/NP Alternative, which utilizes TSA-approved security policies and procedures that are similar to those that would be used in Alternatives A, B, and C.

## 4 METHODOLOGY

The analysis of Alternative D versus the NA/NP Alternative was conducted using concepts validated by both the U.S. Department of Homeland Security (DHS) and the U.S. General Accounting Office (GAO). This approach calls for “concentric rings of security” to bring “protection, detection, assessment, and response” (PDAR) capability to the extended airport perimeter. The airport physical security systems and response capabilities must be an integral part of the overall deterrent strategy and daily operations, but they cannot be a lone barrier against an adversary. Anyone entering the airport property whether to visit or travel will undergo security inspections. There are at least two levels of personnel and baggage inspection that will take place. Level 1 inspection requires screening for explosives and weapons prior to transport by the APM or FlyAway shuttle bus to the CTA. Using current technology, Level 1 inspections would include screening of persons and bags similar to checks made upon entering most federal buildings today. These checks should be designed to be as unobtrusive and not impede the flow of transportation to the CTA and should take advantage of the emerging technology. Level 2 inspections will consist of current security screening criteria as mandated by TSA for departing passengers and baggage, which is more intrusive and detailed than Level 1.

**Figure 4-1** illustrates the concentric rings of security approach with the PDAR. **Figure 4-2** illustrates the PDAR deterrence strategy for LAX.

Alternative D was examined to determine if LAX can adequately meet the PDAR as embraced by DHS in this new configuration. This strategy can provide state and local governments with a framework to formulate plans and to acquire technology to protect assets such as buildings, sites, facilities, airports, and seaports. PDAR facilitates the detection of possible malevolent acts prior to the hostile force coming within range of the target. By increasing the distance between critical areas and the point of detection, law enforcement officers (LEOs) and security personnel have additional time to assess the act as benign, dangerous, or overtly hostile, and respond appropriately.

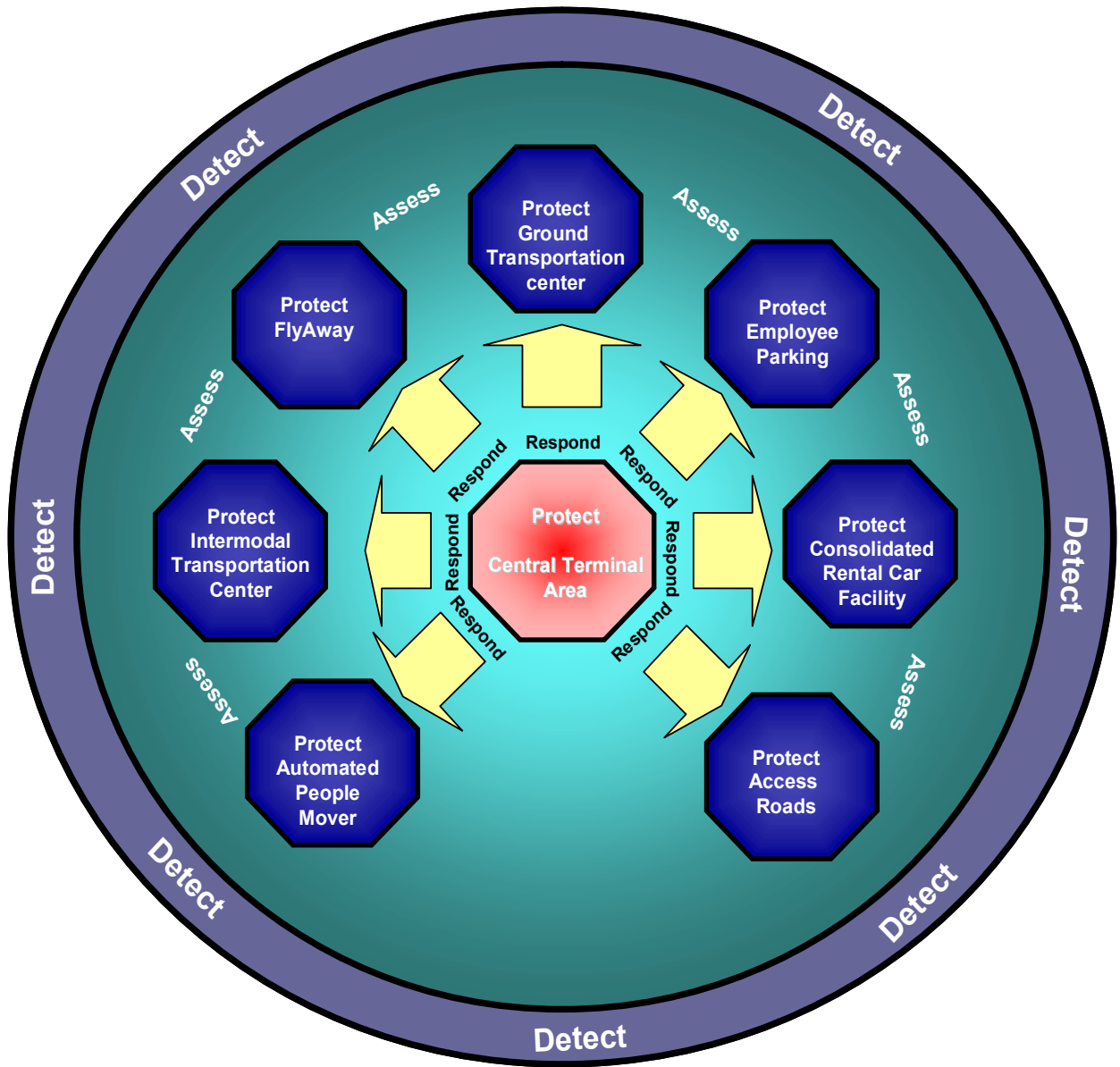


Figure 4.1. Model of Protect, Detect, Assess and Respond Concept

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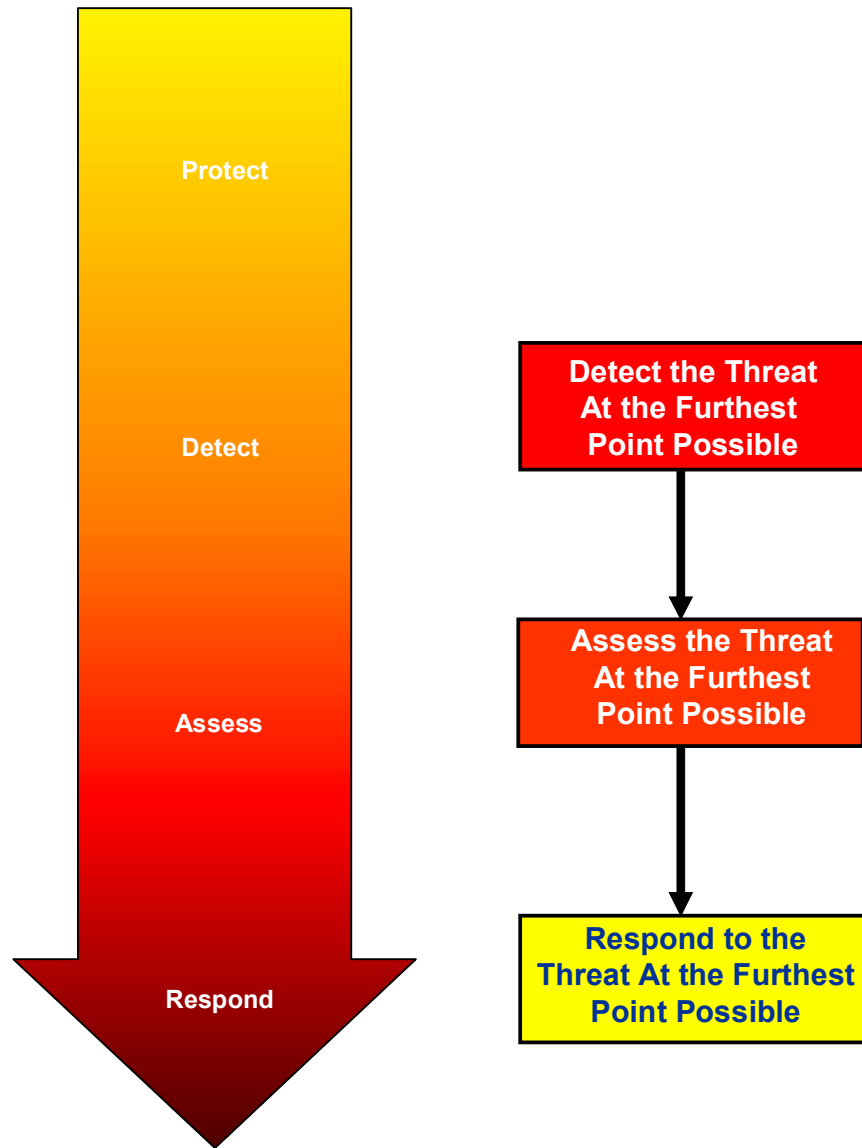


Figure 4.2. PDAR Deterrence Strategy for LAX

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## **5 THREAT**

### **5.1 LOS ANGELES INTERNATIONAL AIRPORT (LAX) AS A TARGET**

LAX is a potential target for a terrorist attack due to its significance as an international gateway and the third-busiest airport in the United States. LAX accounts for \$60 billion in the Southern California economy and one in twenty jobs in Southern California is attributed to LAX operations.

#### **5.1.1 POTENTIAL ADVERSARIES**

The obvious and primary adversaries to LAX are transnational terrorist groups and the criminal element. Both need to be considered in developing the final concept and design for Alternative D. The external threats to all elements of the airport, but particularly at the CTA, include terrorist and non-terrorist groups using traditional bombing tactics, such as the following events:

- ◆ On April 19, 1995, at 9:02 AM, a large vehicle bomb containing approximately 4,800 pounds of an ammonium nitrate and fuel oil (ANFO) mixture concealed in a 1993 Ford F700 20-foot cargo van detonated at the north side of the Alfred P. Murrah Federal Building in Oklahoma City, Oklahoma. The investigation revealed that Timothy McVeigh had conducted pre-attack analyses of numerous Federal buildings looking for one that met his requirements. He developed a three-pronged targeting criterion that called for a building occupied by children as well as agents of the Federal Bureau of Investigation (FBI) and the Bureau of Alcohol, Tobacco, and Firearms (BATF) as retribution for the Waco, Texas incident a year earlier. He was also looking for a target with minimal protective measures. He selected the Murrah building because it represented an extremely soft target that allowed him to park his vehicle within 10 feet of the building. The Murrah Federal Building bombing proved that a small group of anti-government individuals can cause significant loss of life and damage to property using relatively unsophisticated explosive devices.
- ◆ The 1993 World Trade Center (WTC) bombers used a truck bomb to cause significant damage to the WTC. This attack, in addition to the Murrah building bombing in Oklahoma City, supports the concern about the vulnerability of a facility to an unsophisticated explosive device being used to cause significant loss of life and damage to a building.

- ◆ In December 1999, Ahmad Ressam was arrested attempting to cross the US border from Canada. A U.S. Customs inspector observed Ressam acting suspiciously and upon inspection of his vehicle, it was discovered to contain explosive materials. Ressam later testified that his intended target was LAX where he had planned to load a suitcase with explosives and leave it in the airport terminal. He stated that LAX was economically and politically important and he could cause a large number of casualties during his attack.

Terrorist shootings, suicide bombings, and armed criminal action could become an increasingly serious concern as more and more potential U.S. targets harden against vehicle bombs. In the 1980s, airports in Europe and the Middle East suffered incidents of terrorist shootings and hand grenade attacks in the terminals that resulted in sweeping changes to airport security. Fortunately, the United States has had only one significant terrorist shooting at an airport. This threat remains a possibility as demonstrated by the shooting at the LAX El Al ticket counter on July 4, 2002.

### **5.1.2 MOTIVATIONS**

To bring the threat into focus, we use the Department of Defense (DOD) and Department of Justice (DOJ) definition of terrorism as, "the calculated use of violence or threat of violence to inculcate fear; intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious, or ideological." We know that today's prominent terrorist groups seek to disrupt the U.S. economy through violence by attacking the air travel system, thereby causing a public loss of confidence in commercial air travel. An attack, whether successful or not, would create a ripple effect and severely impact this major portion of the U.S. economy. LAX experienced a twenty percent loss in passenger traffic, and two major airlines sought bankruptcy protection subsequent to the 9/11 attacks. As reported in the media, this was one result of the 9/11 attacks and subsequent terrorist attacks in Saudi Arabia, Indonesia and Morocco. The air travel system suffered more than other transportation modes from the effects of terrorist attacks and as a result, the domestic and international travel system, which supports thousands of jobs at hotels, dining, and entertainment/recreation venues also suffers.

### **5.1.3      TECHNIQUES AND TACTICS**

It is important to consider the impact of a truck or car bomb in validating the selection of the Alternative D security concept. Bombing remains the most commonly employed terrorist tactic. Other tactics and techniques include the use of small arms, and chemical, biological, and radiological (CBR) devices or weapons. However, this threat is lessened due to the complex delivery systems required by CBR weapons as demonstrated by the 1995 attack by the Aum Shinrikyo group on the Tokyo subway system using sarin gas. Although it gained widespread publicity, the level of casualties was quite low. The use of explosives in vehicles is considered the primary threat due to the potential significant loss of life, damage, and emotional impact. As better security and construction standards are implemented in the United States, terrorists will likely modify their methods with new techniques. Therefore, planning and designs must also consider these other attacks to protect people and critical operations.

The May 2003 attacks in Saudi Arabia demonstrate that terrorist groups continue to use vehicle bombs to inflict damage to soft targets. Prior to the 9/11 attacks, the thought of a suicide attack in the United States was considered remote. However, today that possibility certainly exists. Security design and protective strategies for future construction must consider the threat of small arms and suicide scenarios, as well as the vehicle bomb.

## **6            COMPONENT ANALYSIS**

### **6.1        METROPOLITAN TRANSIT AUTHORITY (MTA) GREEN LINE CONNECTION**

#### **ALTERNATIVE D CONCEPT**

The proposed Green Line Connection to LAX's CTA will be via the APM that can be boarded at the proposed Intermodal Transportation Center (ITC) adjacent to the Green Line station. A pedestrian bridge with moving sidewalks will connect the Green Line Imperial/Aviation Station directly to the ITC transportation facility. The Green Line is an alternative means of transportation to the CTA that reduces the vehicle congestion in the roadways around the terminal areas.

#### **CURRENT CONFIGURATION**

Currently airport transportation from the MTA Green Line station, near the intersection of Imperial Highway and Aviation Boulevard, is provided by an LAX shuttle bus service operating between the

station and the CTA. Shuttle passengers are dropped off curbside at the terminals without any advance security screening. Under today's system there are no known airport security measures other than organic security (deputy sheriffs riding the light rail cars, Closed Circuit Television (CCTV), and other proprietary security systems) inherent to general MTA operations. As such, there are no identified or proposed passenger or airport employee inspection processes in place between the MTA Green Line and the CTA. Under the NA/NP Alternative, this system remains unchanged unless security checks are instituted for passengers either upon entering the LAX shuttle buses or as the shuttle buses enter the CTA perimeter.

## **COMPARATIVE ANALYSIS**

The proposed ITC will connect the MTA Green Line directly to the CTA via the APM system. This concept will potentially reduce congestion by eliminating the LAX shuttle bus traffic into the CTA and contributing to the protection concept by reducing non-screened passengers and vehicles at the CTA. A security benefit of the MTA Green Line connection is the possible integration of detection and assessment technology (two of the four elements of PDAR) in the MTA Green Line terminal and along the walkway to the ITC. Any detection and assessment technology that can be employed at the outer perimeter of LAX not only provides an additional layer of security, but also has the benefit of enhancing the overall security of the MTA Green Line station.

## **POTENTIAL MITIGATIONS**

There are sound security mitigations that can be implemented now and in the future to provide detection and assessment capabilities to the MTA Green Line station as it connects to the LAX ITC. These detection and assessment capabilities will increase response time of LEOs and airport security personnel to possible threats.

Security mitigations for the MTA Green Line transit connection include:

- ◆ CCTV cameras to observe activity around the stop as both a deterrent and threat detection device. This could include intelligent or object video that can detect and notify the Los Angeles Airport Police department (LAAPD) operations center of an object left behind, such as a parcel, backpack or box that could contain an Improvised Explosive Device/Improvised Incendiary Device (IED/IID).

- ◆ Design a system for passenger flow from the MTA Green Line for a preliminary Level 1 screening at the ITC prior to boarding the APM.
- ◆ Exchange of threat information between the LAAPD and the Los Angeles County Sheriff's Department (LASD) related to the MTA Green Line.
- ◆ Use CCTV for facial recognition, as technology advances, to screen for potential terrorists and criminals using approved databases.

## **CONCLUSION**

The Green Line connection enhancements in Alternative D provide for a better security solution because no unscreened people or luggage would be permitted to enter the CTA. The MTA Green Line connection facilitates the future employment of security technology allowing a level of initial screening to occur prior to entering the ITC or CTA. Under the current configuration, no similar security measures for inspecting passengers or baggage are employed. Subsequently, the threat remains as uninspected vehicles, persons, and bags continue transiting directly from the Green Line into the CTA. Additionally, by eliminating MTA Green Line-LAX shuttle buses in the CTA, Alternative D reduces the overall vehicular threat.

## **6.2 INTERMODAL TRANSPORTATION CENTER (ITC)**

### **ALTERNATIVE D CONCEPT**

The ITC provides 9,000 parking spaces and transit accommodations for access to the terminal areas using the APM. Customers and travelers from the Green Line connection and Lot E, with 5,000 parking spaces, will use the ITC as the main mode of transport to LAX. Long-term parking users will have access to the largest parking complex, which services the airport with frequent transportation to the CTA via the APM. The location of the ITC to convenient mass transit, two parking areas, and two major highways will increase the convenience and ease congestion experienced by airport travelers.

Alternative D proposes the construction of the ITC adjacent to the MTA Green Line. Passengers can access the ITC via an elevated moving sidewalk from the MTA Green Line with buses servicing Lot E. In addition to handling passengers from the MTA Green Line, Alternative D proposes that the ITC terminal could also handle

passengers arriving or departing in private vehicles. To enhance overall security and to permit more efficient flow of passengers, Lot E passengers would be transported to the ITC and all drop-off passengers would be processed through a Level 1 screening point at the ITC.

## **CURRENT CONFIGURATION**

Since the ITC does not exist today, MTA Green Line airport customers use the LAX shuttle bus service operating between the Green Line station and the CTA. Departing and arriving passengers, meeters and greeters, and luggage are dropped off or picked up curbside at the terminals by taxi, buses, or other public transportation. Under this system there are no known airport security measures other than organic security (deputy sheriffs riding the light rail cars, CCTV, and other proprietary security systems) inherent to general MTA operations. No identified or proposed passenger or airport employee inspection processes are in place between the MTA Green Line and the CTA. Under the NA/NP Alternative, this system remains unchanged unless security checks are instituted for passengers either upon entering the LAX shuttle buses or as the shuttle buses enter the CTA perimeter.

## **COMPARATIVE ANALYSIS**

The ITC is an integral part of the concentric rings of security and PDAR security concept. Security begins with observation and assessment of vehicles and people as they transit to the ITC from parking lots or mass transit terminals. As passengers and their bags move into the ITC terminal the next ring of security becomes operative as technological and human methods are used to assess those entering the ITC. Prior to boarding the APM, all people and bags will be screened using appropriate technology to identify weapons and explosives. This process has the benefit of dispersing both the initial screening of passengers and vehicular traffic that would have been in the CTA roadway. This also adds a measure of protection to passengers using the APM as they move to the CTA.

The dispersal of passenger arrival and departure activity from the CTA to the ITC provides significant standoff distance from the CTA that further reduces the primary threat of a vehicle bomb explosion. This supports the concentric ring of security concept of working outward from today's most critical resource (in this case the CTA and the AOA) and to permit a concept to build in new security technology for all of the new passenger nodes: the ITC in combination with the GTC and RAC, allows the near elimination of the vehicle bomb threat to the CTA.

## POTENTIAL MITIGATIONS

The ITC will be one of LAX's busiest facilities serving the largest parking area, the MTA Green Line connection, and Lot E customers. Consequently, comprehensive planning is required to provide an optimum blend of security measures with safe and efficient movement of people and luggage. As the design for Alternative D processing of people and bags is developed at the ITC, RAC, and GTC, it is important to ensure appropriate size, functionality, and security safeguards. Level 1 screening of persons and bags must facilitate rapid movement to the APM which will take them to the CTA. Security mitigations for the ITC include:

- ◆ Use CCTV cameras to observe possible suspicious or hostile action at the ITC.
- ◆ Design perimeter fencing to discourage throw-over of small improvised explosive devices (IED).
- ◆ Design roadway approaches to the ITC to slow down traffic, and use traffic calming devices (gentle speed humps, traffic rumbles, center curbs, buffers, no-drive zones, walls, etc.) to avoid having a direct route into the ITC which will reduce the threat of a high-speed vehicle with an explosive device entering the ITC.
- ◆ Install Level 1 screening devices to detect potential threats to the ITC, the APM, and the CTA area.
- ◆ Deploy Los Angeles Airport Police Department (LAAPD) officers to patrol the ITC and ensure that vehicles do not park at the drop-off points.
- ◆ Design in overhead restrictors to prevent large vehicles from entering the ITC as they present the greatest vehicle threat to the facility.
- ◆ Determine location requirements and install call boxes for direct communication with the police operations center in the event of an emergency.
- ◆ The ITC must be appropriately sized to handle all the personnel traffic that will be present from Lot E, ITC parking facility, MTA Green Line, charter buses, and drop-offs. An alternative consideration may be to bus the Lot E passengers to the GTC to reduce the congestion at the ITC.

## **CONCLUSION**

Alternative D is the better solution in comparison with the NA/NP plan because it provides dispersal of people and the ability to implement concentric rings of security and PDAR principles at and before the ITC. This includes the ability to screen vehicles and people through the use of technology and human means prior to advancing to the ITC. The current infrastructure of LAX constrains implementation of any long-distance observation of potential threats. In fact, under the NA/NP Alternative, by the time the threat is recognized, the attack will probably have already occurred. The alternative under the NA/NP Alternative would be to severely constrict traffic into the CTA, with negative impact on throughput and operations. The ITC component of Alternative D not only improves security, but also enhances throughput and airport operations.

### **6.3 RECONFIGURED ON- AND OFF-AIRPORT ROADWAYS**

#### **ALTERNATIVE D CONCEPT**

New roadway systems are proposed to support the GTC and the ITC. Over 36 lane-miles are planned for the efficient movement of airport bound traffic. Airport access from the I-105 and I-405 freeways will be greatly improved. An added benefit is that local streets will be free from most airport traffic because a major portion of LAX traffic will enter parking areas directly from the freeways versus Century Boulevard and other surface streets.

#### **CURRENT CONFIGURATION**

Under the NA/NP plan, the current condition of traffic congestion will continue and likely get worse in and around LAX. This is further compounded by the limited access points to LAX and the inability to establish concentric rings of security outside of the CTA.

#### **COMPARATIVE ANALYSIS**

The redesign of the feeder road systems to the GTC and ITC offers the potential to design in security systems that support the concentric security ring concept. The use of security technology will increase the airport's ability to better manage traffic flow and introduce safety and security protection measures well away from the CTA and AOA. The added technology and systems will assist police in developing the early detection of suspect vehicles and persons as part of the PDAR concept.

Under Alternative D, airport access road modifications provide for improved access to proposed parking areas. The new roadways will provide ease of access and relieve congestion on local area streets.

In Alternative D, the planned highway improvements to the proposed parking centers will mitigate any negative effects of increased traffic attracted to these facilities. Traffic flow options should provide adequate access for the projected volume of traffic to each of the proposed parking facilities. The additional roadways planned for the ITC and GTC should rapidly and efficiently move traffic away from and to the freeway systems. This configuration provides for a smooth traffic flow to parking areas where passengers can take the APM to the CTA. The efficient flow of people and vehicles will limit the clustering of people and vehicles, thus allowing for LEOs and security officers a greater ability observe and assess traffic conditions. Construction and redesign of existing roads should allow the flexibility of using them as an alternative or back-up to the APM for access to the CTA should the need arise.

## **POTENTIAL MITIGATIONS**

Current and future security technologies to assist LAX in observing vehicle traffic into the airport can assist in mitigating risks and threats and supporting the detection and assessment concept. This provides LEOs and airport security personnel more time for responses or for requesting assistance from other agencies responsible for law enforcement on area roads and freeways. Security technologies for the roadway configuration include:

- ◆ Use of CCTV cameras to permit observation of possible suspicious activity such as a stopped van or box truck near the airport.
- ◆ LAAPD monitor the freeway approaches to LAX roadways.
- ◆ Use of CCTV, as technology advances, to read license plates and then compare with approved databases for stolen vehicles.

## **CONCLUSION**

From a security perspective, the reconfigured roadways under Alternative D are undoubtedly a much better solution than the NA/NP plan from a security perspective. Development of these

Alternative D roadways facilitates the removal of traffic congestion from the CTA

and thereby reduces the potential threat imposed by vehicle bombs. Additionally, the improved flow of traffic also enhances security of vehicles by reducing dwell time. Under the NA/NP plan, the PDAR concept cannot be implemented because of space limitations and the current roadway infrastructure that leads directly into the CTA.

## **6.4 GROUND TRANSPORTATION CENTER (GTC)**

### **ALTERNATIVE D CONCEPT**

The Ground Transportation Center (GTC) is a conceptual multi-level facility that will serve as a transportation facility to the airport offering easy passenger access to the CTA. The GTC would be the primary access center for private vehicles and most commercial vehicles (taxis, limousines, and various courtesy shuttles). It would accommodate all private vehicle curbside traffic, plus provide short and long term parking. The GTC would transfer employees, passengers, and meeters and greeters to the CTA via the Automated People Mover (APM) in six car trains to and from the CTA.

The proposed GTC will replace Lot C parking facilities and handle premium parking and all drop off/pick up activity. It offers great potential to virtually eliminate vehicle traffic at the CTA and to manage passenger flow via the APM. This will contribute significantly to passenger security by eliminating long lines outside of the CTA, because the GTC will be serviced by an APM that quickly transports passengers directly to and from the CTA.

### **CURRENT CONFIGURATION**

The current operation of LAX does not have a GTC. Subsequently, the ability to perform Level 1 screening does not currently exist. Today most on-site LAX parking and passenger receiving functions are conducted at or near the CTA, which has resulted in overcrowding and long lines outside of the terminals. The current functions for the GTC, such as Level 1 passenger screening does not occur until the traveler reaches the TSA checkpoints in the terminals.

### **COMPARATIVE ANALYSIS**

Alternative D has the potential to decentralize or reduce the massing of passengers and reduce the dwell time of people now

standing in lines at the CTA. In addition, it supports the concept of relocating the initial passenger and employee movements to remote, but controlled locations. This allows for more distance in which to observe and detect suspicious acts and potential hostile forces. This gives LEOs and airport security additional time to detect, assess, and respond to suspicious persons and incidents before they can impact the operations of the airport.

More importantly, this concept permits passengers and others to go through a well organized Level 1 screening point at the GTC prior to them being transported on the APM to the CTA. This Level 1 screening serves to insure the integrity of the APM and the common areas of the CTA. This security screening serves as the first opportunity to positively check passengers and employees for concealed weapons and explosive devices.

The GTC complements the airport's series of concentric security rings by allowing LEOs and security personnel to detect and assess suspicious persons and vehicles at the curbside. This capability then provides LEOs and security personnel the opportunity for an initial behavioral observation prior to such persons entering a crowded area at LAX's critical point—the CTA. As a result, another ring of security is instituted at the Level 1 checkpoint outward from the CTA.

The current passenger level now taxes the congested airport ground transportation system which has become a limiting factor for airport operations and security. This is further complicated during peak travel times and by the need to increase security in the CTA in response to High and Severe (National Homeland Security Threat Warning System) threat levels issued by the U.S. Department of Homeland Security. Therefore it is likely the 78 MAP projected under the NA/NP Alternative by 2015 will severely overload the airport ground transportation system and expose many passengers to threats outside the terminals.

Passenger and vehicle throughput will be streamlined due to the ease of access to the GTC and its amenities via access from Century Boulevard, Aviation Boulevard, La Cienega Boulevard, and Imperial Highway. Passenger curbing will be expedited through the employment of more efficiently designed curb areas.

## **POTENTIAL MITIGATIONS**

Potential security measures are various for this critical transportation node. Current and future technologies in the areas of improved camera systems, intelligent, and object tracking video and facial recognition are just a few of the potential mitigation strategies that also include:

- ◆ Use CCTV cameras to observe possible suspicious or hostile action at the GTC and its avenues of approach.
- ◆ Having the capability to run license plate checks on vehicles through a license plate reader system and comparing results against trusted databases.
- ◆ Use CCTV cameras, as technology advances, for facial recognition to screen for known terrorists and criminals using approved databases for comparison.
- ◆ Use CCTV to have object or intelligent video tracking systems that notifies LAAPD police operations of a item left behind such as a parcel, box or backpack that could contain an a IED/IID.
- ◆ Design in attractive tall perimeter fencing, perhaps an iron grate fence, to discourage the throw over of IED/IID.
- ◆ Design roadway approaches to the GTC to slow down traffic and use traffic calming devices (gentle road humps, rumble strips, center islands) to reduce the threat of a vehicle with an explosive device entering the GTC at high speed.
- ◆ Design and install Level 1 passenger and baggage screening devices to detect potential threats to the GTC, the APM, and the CTA area.
- ◆ Determine the location requirements and install emergency safety call boxes for direct communication with the police operations center in the event of an emergency.

## **CONCLUSION**

The GTC proposal in Alternative D offers several superior security and operations solutions over the NA/NP. The GTC permits LAX to design and integrate, from the ground up, security technology that offers potential for improved detection and assessment of potential threats. A plan to reduce passenger and employee dwell times in the GTC combined with the APM can reduce the threat to the traveling public. The dispersal of parking areas and the construction of an APM will improve airport ground and people transportation. Any incidents affecting the GTC would have a lesser impact on CTA operations and facilities than under current configuration. It will allow earlier detection, assessment, and response to an incident that is designed to reduce the CTA as the primary target area.

## **6.5 CONSOLIDATED RENTAL CAR FACILITY (RAC)**

### **ALTERNATIVE D CONCEPT**

The RAC is a conceptual design to centralize all rental car activities at a single location. The facility would consist of two operations, one would be a three-level building occupying 150,000 square feet serving pick up passengers. The second operation would consist of four levels and consist of 9,000 parking spaces for rental car staging and return. The RAC will utilize the Automated People Mover (APM) to transport people and baggage to the CTA. People accessing the APM from the RAC would utilize a direct pedestrian bridge to the APM platform. This service would eliminate the use of rental car shuttles to and from the CTA.

A similar central rental car activity center is being used by the Dallas Fort Worth (DFW) airport. While likely designed prior to 9/11, the DFW RAC permits the airport operators to greatly reduce rental car owned shuttle bus traffic and puts all rental car passengers on generic airport buses and takes them to the central facility. It reduces the need for rental car companies to make continuous shuttle runs in the hopes of obtaining walk-in customer traffic and competing with rivals.

### **CURRENT CONFIGURATION**

The current configuration of the rental car facilities requires the use of many rental car shuttle buses to move passengers to and from the CTA. This operation adds to the congestion of the airport roadway and compounds the security problems by adding an estimated 1 million shuttle bus trips per year. Today's system of privately owned and competitive rental car agencies would not likely support Level 1 screening within their business operations.

### **COMPARATIVE ANALYSIS**

Should the current CTA roadway network need to be secured, every shuttle bus from the dozen or more rental car facilities would require inspection prior to entering the CTA. The inspection of the estimated 1 million shuttle bus trips annually would be time consuming and subject to human error even if state-of-the-art security inspection equipment was employed. This process would also exacerbate the already congested traffic patterns in the CTA.

The additive security effect of Alternative D will include the increased protection of the CTA by screening all personnel from the RAC to the APM. This level of security screening is not currently practical at the various rental locations due to a lack of secure

locations to conduct inspections. The consolidated operations of the RAC will allow, and require, the security screening of people entering the APM. This screening will be to the Level 1 standard of any access point leading to the CTA.

The inclusion of increased standoff distance between the RAC facilities and the roadways allows LEOs and security personnel to detect and assess potential threats while increasing the ability to effectively respond to incidents. The Alternative D RAC concept supports the security ring around the CTA by eliminating 1 million shuttle bus trips to the CTA each year. This ring prevents the introduction of an uncleared or stolen shuttle bus being used as a large vehicle bomb against the CTA. The RAC concept is protected by a security ring consisting of technology and personnel solutions.

### **POTENTIAL MITIGATIONS**

Potential security solutions for the RAC can take advantage of current and future technology to assist LEOs and security officers to detect and assess, thus allowing more time for response to potential threats. These security solutions include:

- ◆ Design and install, as with the ITC and GTC, Level 1 passenger and baggage screening points to detect threats to the RAC, APM, and the landside of the CTA.
- ◆ Utilize an enclosed and secure passageway from the RAC to the APM to prevent people bypassing the Level 1 security screening.
- ◆ Use CCTV cameras to observe potential suspicious or hostile action at the RAC.
- ◆ As technology develops employ facial recognition systems to view and compare wanted terrorists or criminals from approved databases.
- ◆ As technology advances use CCTV for intelligent or object video tracking to provide notification to LAX airport police operations of a package, box or other article containing a potential IED/IID.
- ◆ Deploy LAAPD on a random basis to monitor security in the RAC.
- ◆ Determine location requirements and install call boxes for direct communication with the police operations center in the event of an emergency.

## **CONCLUSION**

Under Alternative D the RAC enhances both efficient passenger movement and improves the security of the CTA road network by eliminating the problem of shuttle bus inspection and consequently reduces the large vehicle bomb threat. The current configuration does not allow for the complete elimination of the potential use of a shuttle bus as an explosive delivery vehicle. Additionally, the RAC offers another Level 1 screening point prior to entering the APM and going to the CTA.

## **6.6 AUTOMATED PEOPLE MOVER ALTERNATIVE D CONCEPT**

### **ALTERNATIVE D CONCEPT**

The automated people mover (APM) system is the primary connection between the GTC, RAC, ITC, and CTA. The trains will be designed to accommodate passengers, employees, meeters and greeters, baggage, and baggage carts. One APM will operate from the ITC to the RAC, ultimately ending at the CTA. An additional APM route will operate from the GTC to the CTA. A secure airside APM will operate past Level 2 (TSA screening) security between the Tom Bradley International Terminal (TBIT) and West Satellite Concourse. Conceptually the people mover will operate in six joined cars depending on density of travelers. Each supporting LAX remote transportation facility (GTC, ITC, and RAC) will accomplish Level 1 security screening of passengers prior to boarding the APM.

### **CURRENT CONFIGURATION**

There is no APM system currently in operation at LAX. The proximity of the drop-off point to passenger check-in in today's CTA configuration does not require movement over long distances. Privately owned autos and commercial vehicles are now able to drive to curbside which places these vehicles in very close proximity to passenger arrival and departure processing.

### **COMPARATIVE ANALYSIS**

The APM is a key component to dispersal of vehicular traffic from the CTA roadway network and will contribute greatly to the mitigation of vehicle bombs at the CTA facilities. Under the current situation vehicles move through the CTA roadway without constraint or inspection (except for increased security measures during DHS declared High and Severe national threat conditions) exposing the CTA routinely to the threat of vehicle delivered explosives. Although vehicle inspections have been undertaken during emergency

conditions such as following the 9/11 attacks, this mass inspection process is time consuming, inefficient, and costly in terms of overtime and the use of LEOs and security officers. Additionally, the process for restricting traffic on the CTA roadway in the aftermath of the 9/11 attacks included the establishment of remote parking areas and a shuttle system to move passengers to the CTA. Although this method was effective in greatly reducing vehicle traffic from the CTA roadway, it still required the use of shuttle buses and did not eliminate the threat of a vehicle delivered bomb. The APM system allows for the near elimination of vehicular traffic on the CTA roadway while dispersing the curbside process to remote areas outside of the CTA. Again, it places the sphere of security influence further from the most sensitive areas and permits the use of new security technology to support the concentric rings of security concept.

## **POTENTIAL MITIGATIONS**

Current and future security technologies in the areas of protecting the rail system, are now being used by other transit systems, include the ability to detect and assess potential threats thus allowing more time for LEOs and security officers to respond to a threat. Security technologies for the APM include:

- ◆ Use of CCTV monitor cameras to observe potential hostile or suspicious activity on the APM route.
- ◆ Use of CCTV, as technology advances, for object and intelligent video tracking which can alert the LAX airport police to packages, boxes or backpacks left behind that may contain an IED/IID.
- ◆ Use of CCTV, as technology advances, for facial recognition for comparison to known terrorists or criminals using approved databases.
- ◆ Determine the requirement for and install emergency call boxes at APM stops and on the train cars.
- ◆ Design and install a protective barrier along the APM route to discourage an IED attack on a moving APM train.
- ◆ Use of a microwave, fiber optic or laser based security sensor system to protect the track and rail cars and detect persons attempting to enter the APM rail bed or other components.

## **CONCLUSION**

The APM system in Alternative D will substantially reduce the need for vehicle traffic within the CTA. It will give LAX LEOs and security officers more control over what type of vehicle enters the CTA and will eliminate 1 million rental car shuttle courtesy vehicle trips and more than 33.5 million private vehicle trips annually. By using the concept outlined in Alternative D, the APM enhances the overall passenger security by screening and moving them quickly to the CTA. This takes advantage of the dispersal of the passengers and reduces the crowding effect.

A side effect of the APM will be to act as a "traffic light" in the area of crowd control for the CTA, particularly if passenger movement must be temporarily halted due to an emergency in the CTA. This concept will permit LAX to manage passenger flow into the CTA in the event of an emergency by either re-routing or stopping APM trains from entering the CTA. LAX can also have outbound trains only in the event people need to be evacuated from the CTA in a controlled manner.

## **6.7 REDEVELOPMENT OF CENTRAL TERMINAL AREA (CTA)**

### **ALTERNATIVE D CONCEPT**

The redeveloped CTA will reconfigure the existing terminals and remove the parking structures to allow more efficient passenger flow management, improved services, and enhanced security. Part of this reconfiguration will demolish Terminals 1, 2, 3, and some of the contact gates at the Tom Bradley International Terminal (TBIT). This will allow for a reconfiguration of the TBIT that will link to the North Linear Concourse. This alternative will also create a new concourse (West Satellite Concourse) that will have 43 aircraft gates, to supplement the main terminal and to replace the gates eliminated with the removal of Terminals 1, 2, and 3.

### **CURRENT CONFIGURATION**

The current CTA is a complex of nine terminals in a U-shape configuration that accommodate the airlines that service LAX. The terminals surround six parking garages, the FAA tower operations, the airport administrative offices, and the LAX central utility plant. The tower operations and the power plant are considered to be critical nodes. The TBIT, the primary international terminal, is located in the bottom of this "U." There are 19 traffic lights on the upper Arrivals roadway and 12 traffic lights on the lower Departures roadway. These lights are controlled by a central traffic control center that regulates the flow of traffic.

Currently, the threat from a vehicle or truck bomb is unconstrained and traffic congestion is a serious problem. Vehicles ranging from light cars to buses and large trucks are in the CTA roadways at all times of the day with significant increases during peak operating hours and holiday periods. There were, on several occasions, significant lines of people outside Terminal 1 along the sidewalk and the curbside awaiting check-in thus resulting in dozens of passengers exposed to the threat outside of the terminal. These lines are also prevalent during the airport's peak arrival hours and when wide-body aircraft unload from overseas destinations and passengers are waiting for family or friends for pickup, hotel and rental car courtesy buses, and remote parking shuttle vehicles.

## **COMPARATIVE ANALYSIS**

Alternative D will allow for the controlled arrival of passengers and baggage into the CTA from the outlying feeder locations. All personnel and baggage arriving at the CTA will have been screened through a Level 1 inspection. Under current conditions, personnel and baggage are not Level 1 screened prior to entry in to the CTA. Along with promoting more thorough screening, Alternative D will increase the efficiency of terminal space and significantly reduce traffic on the CTA roadway, which is not possible under the NA/NP Alternative. Also, traffic on other airport roadways will be reduced under Alternative D but remain status quo under the NA/NP Alternative. In the event of an emergency evacuation, Alternative D allows for the isolation of the four terminals individually and moves personnel onto the existing roadways where there is little to no traffic. An additional benefit is the free access by emergency personnel to the terminals via the existing roadways. The NA/NP Alternative moves people into the active roadways where they would be exposed to secondary threats and emergency vehicles and personnel will have to contend with the heavily congested roadways.

The configuration of the new West Satellite Concourse (WSC) will offer distinct security advantages not available under the NA/NP Alternative. The primary advantage of the WSC will be the dispersion of people and aircraft. This dispersion will lessen the potential lethality of a direct attack on the terminals and the airport. A secondary advantage to the WSC is the ability to segregate international operations or isolate a specific air carrier in the event of heightened alert. This capability will allow for the quick reconfiguration of the WSC to scale up to higher threat conditions.

## POTENTIAL MITIGATIONS

The CTA has substantial potential to utilize both current and future security technologies particularly to support the detection and assessment of possible threats. This will give LEOs and security personnel additional time to respond and handle incidents at the CTA. Potential security measures for the CTA include:

- ◆ Create a multi-lane vehicle inspection center (VIC) to screen all vehicles that enter the CTA. The VIC should utilize radiation detection technology and non intrusive screening technology.
- ◆ Install an under vehicle inspection system and explosive vehicle inspection system at the VIC.
- ◆ Design and build a Remote Delivery Facility (RDF) similar to the concept found in the Atlanta Hartsfield International Airport (ATL).
- ◆ Inspect the numerous vendors that supply the airport and currently have relatively free access to the CTA transportation network.
- ◆ Require vehicles that must deliver goods and merchandise to proceed to the RDF for inspection away from the CTA and Security Identification Display Area (SIDA).
- ◆ Use CCTV for general observation of the CTA complex and as technology improves use facial recognition to possibly view and compare known terrorists and criminals with approved databases.
- ◆ Use CCTV with object or intelligent tracking systems to detect left behind boxes, parcels or backpacks that may contain an IED/IID.

## CONCLUSION

The reconfigured CTA in Alternative D provides for the innovative design of ways in which the elements of PDAR can be built into airport operations, resulting in a safer, more secure and efficient operations. The NA/NP Alternative could also allow for the development of a VIC and RDF but current land constraints would make this difficult.

The flexibility provided by Alternative D to incorporate state-of-the-art security technology allows the LAX CTA to be one of the safest and most effective terminal operations in the world. Alternative D increases effective CTA space from four million square feet, as currently exists, to seven million square feet. This increase will contribute to the flexibility to implement new security measures and take advantage of new technologies for passenger security.

## **6.7.1 EXPANDED FLYAWAY**

### **ALTERNATIVE D CONCEPT**

Under Alternative D, FlyAway remote shuttle bus terminals will be established in additional areas in the region. Passengers will be able to ride a clean-fuel bus to LAX, reducing thousands of passenger car trips. FlyAway passengers will receive exclusive service directly to the CTA curbside. The direct service to the curb front is designed to draw customers because of the quick and efficient transit to airline check-in counters. If fully utilized, this form of transportation has the potential to greatly reduce traffic congestion in and around the airport.

### **CURRENT CONFIGURATION**

The current FlyAway program operates between Van Nuys and LAX. Under the NA/NP Alternative, this concept could be expanded without the other components of Alternative D. Currently, passengers and employees are picked up at the remote Van Nuys site with their bags and transported directly to LAX. No security processing of passengers and bags is conducted at the remote site or in transit before they are dropped at the CTA curbside.

### **COMPARATIVE ANALYSIS**

Under the Alternative D concept, the FlyAway program's convenience will remain an attractive feature to the passengers that use this service. The security measures should be unobtrusive, allowing the passenger to move to the shuttle bus and transit as rapidly as possible to the CTA. The security systems at the remote terminals should fit into the concentric security ring concept designed for this alternative. FlyAway passengers will check in and process their luggage through the Level 1 system like any other passenger that is entering the CTA via the APM and would then process through Level 2 (TSA security) before being allowed to move to their departure gates.

As the FlyAway program is expanded, implementation of security measures such as equipment, techniques, and procedures should be included in operational plans. At the pickup points, a level of security checking should be established that identifies shuttle riders and their need to use the FlyAway system. Level 1 baggage and personnel screening ensures that, at a minimum, any person or baggage entering the CTA are screened at a level comparable to any other entry point to LAX. Measures should also be taken to secure riders and buses while they are in transit from the point of origin to the CTA entrance.

## **POTENTIAL MITIGATIONS**

Current and planned security technology to detect and assess a threat and permit additional time for LAAPD to respond offers much potential to the FlyAway system and could be an innovative approach to security. Security technologies include:

- ◆ Design and install Level 1 screening of passengers and baggage at the FlyAway terminals.
- ◆ Continuous communication/monitoring devices of the buses.
- ◆ Vehicle tracking mechanisms and detection devices which indicate when the bus doors are opened or if the bus deviates from its route.
- ◆ Inspect all FlyAway buses transiting to the CTA, before entering the CTA.
- ◆ Install an under-vehicle inspection system designed to check for explosives under the bus chassis to further confirm that no explosive or other threat device has been attached during transit.

## **CONCLUSION**

The expanded FlyAway program under Alternative D offers a number of security advantages to the FlyAway system, including, but not limited, to the dispersal of initial passenger screening, reduction of traffic in the CTA roadway, and observation/assessment of passengers before they enter the CTA. All of these security advantages could be realized in the NA/NP Alternative. However, without the other components of Alternative D (i.e. GTC, ITC, RAC, APM), the significance of this contribution to the overall security is limited because it does not support a consistent level of screening prior to entering the CTA. An added security consideration is the significant reduction of traffic in the CTA roadway. Depending on the security measures implemented at the

FlyAway points of origin, the NA/NP Alternative could still retain the security benefits associated with the dispersal of initial passenger screening and the observation/assessment of passengers prior to entering the CTA.

## **6.8 EMPLOYEE ACCESS AND PARKING**

### **ALTERNATIVE D CONCEPT**

Under Alternative D, the parking for employees consists of two separate locations. These lots will be located on the east and west ends of the airport.

### **CURRENT CONFIGURATION**

Under the current configuration and NA/NP Alternative, employees park in various lots based on proximity to their work locations. This adds to the overall congestion to the airport roadways and does not provide for secure employee parking.

### **COMPARATIVE ANALYSIS**

The creation of two centralized employee parking lots can reduce congestion and be beneficial to the efficient flow of employees to and from the worksite. The current configuration does not create secure parking locations for employees and does not allow for the screening of employees, their vehicles, or hand carried items prior to entering restricted areas. Alternative D allows for the screening of employees and secure bus transport prior to entering restricted areas.

### **POTENTIAL MITIGATIONS**

The benefits to controlling employee parking are various:

- ◆ Central location for employees inspection prior to entering the CTA or air operations
- ◆ Tighter control on traffic flow in and around the LAX roadways.
- ◆ Operational ability to identify suspicious vehicles and significantly reduces access of explosive laden vehicles to critical areas. This reduces the possibility of exploiting an employs to gain access.
- ◆ Designated parking areas provide an added level of security by keeping employee vehicles at the outer ring of security.

- ◆ Security measures can be applied to employees and their vehicles to ensure people and hand carried items receive Level 2 inspections.
- ◆ Employee safety while transiting to and from their vehicle would be elevated because of LEOs and security presence.
- ◆ Drive through vehicle points which include non-intrusive radiation detection technology could be utilized.

## **CONCLUSION**

The concept of secure centralized employee parking is possible in both Alternative D and the NA/NP Alternative. All persons parking in the designated employee parking areas should receive a Level 2 security inspection. However, the NA/NP Alternative does not in and of itself support an airport wide security paradigm. The concept of designated employee parking areas in Alternative D is part of and supports the concepts of concentric rings of security and PDAR.

## **7. GLOBAL OBSERVATIONS AND TRENDS**

Post 9/11 America represents a significant change in aviation history. Historical change occurred in 1970, when terrorists skyjacked and destroyed several commercial aircraft in the Middle East. In response, the Sky Marshal program was developed and virtually eliminated in-air skyjackings. Some years later, in response to an increase of weapons being smuggled onto aircraft, pre-boarding screening and searches were developed to address the safety of passengers in the terminal and on the aircraft. In response to the catastrophic events of 9/11, the Sky Marshal program and passenger screening processes were transformed to present form and structure. These changes were effective in creating a safer environment. With the increasing threat to the air travel industry, more changes are occurring to protect passengers, employees, air commerce, and airport operations.

Many airports have started to address the new security threat to people and infrastructure. In Denver, San Francisco, and Dallas, rental car facilities were moved away from the terminal and serviced by automated people movers. In Tokyo and London, passengers are screened as they exit mass transit and prior to entering the general, terminal areas. Several other airport authorities are considering major reorganization studies as a result of the 9/11 attacks.

With the many known changes occurring throughout the industry, Alternative D comprehensively addresses the post 9/11 security needs of LAX passengers, employees, and infrastructure, while effectively addressing the efficient movement of people and vehicles. Uniquely among airports, Alternative D's freedom from limited real estate constraints allows for the complete reconfiguration of security, facilitating advanced designs, state of the art technologies, and the flexibility to respond to future threats and security needs.

## 8. SUMMARY

While important to recognize that every potential threat to the airport cannot be fully mitigated because it is a public facility, Alternative D allows the airport police and security officers to protect, detect, assess, and respond significantly earlier to potential terrorist and criminal threats than would be permitted by the NA/NP. The plan does not merely transfer the problem to another area, but rather allows LAX to better manage that problem. In addition, it offers the potential to develop a fully integrated concept for security and ground operational management from the ground up without constructing an entirely new airport. Alternative D also allows LAX to conduct security screening of passengers at the furthest point from the terminals and helps to protect passengers and facilities at the ITC, GTC, RAC, FlyAway system, and APM.

### ALTERNATIVE D ADVANTAGES AND DISADVANTAGES

Alternative D is a conceptual plan that offers many security and operational advantages to LAX while requiring few enhancements. The primary advantages of Alternative D are:

- ◆ **Concentric Rings of Security.** The establishment of security processes and screening at the remote facilities (ITC, GTC, RAC, and FlyAway) creates a series of covert and overt steps intended to identify and stop potential adversaries. Alternative D allows LAX the capability to introduce future technologies through the use of new facilities.
- ◆ **Elimination of Roadway Traffic in the CTA.** The elimination of unauthorized traffic in the CTA provides tremendous benefits. Primary benefits include the elimination of oversized vehicles which may be laden with explosives; provides a secure environment for people utilizing the CTA and terminal amenities; allows for the rapid delivery of passengers from FlyAway

shuttles; and creates a clear zone for law enforcement and security personnel to detect, assess, and respond to suspicious persons and events in the CTA.

- ◆ **Observation and Assessment of Passengers and Baggage.** Utilizing security screening stations at the GTC, ITC, RAC, and the FlyAway terminals, the CTA and the APM are protected against attack from persons armed with concealed weapons. This first screening level is geared at preventing an attack within the APM and CTA. These screening points allow additional measures such as behavior observation to be conducted as people are funneled to central access points to the CTA.
- ◆ **Security Design and Engineering.** The redesign and relocation of roadways and ground transportation centers allows LAX to build in security improvements without costly retrofitting. This would include designing remote passenger ground transportation facilities with space intended for potential future use requiring additional physical space.
- ◆ **Less Shuttle Bus Traffic.** The elimination of shuttle bus traffic from the CTA has obvious benefits of significantly reducing the threat of large Oklahoma City or Khobar Towers style bombs. Also of great significance is the lessened effect on the supporting roadways by these buses.

Potential enhancements to be considered in Alternative D are:

- ◆ **Vehicle Inspection Center.** Alternative D provides a sound approach to eliminating unauthorized traffic; however, consideration must be given to the creation of a vehicle inspection center to screen vehicles entering the CTA. This would primarily include the FlyAway shuttle, special vehicle circumstances, and other irregular needs.
- ◆ **Remote Delivery Facility.** Alternative D does not include the screening of deliveries internal to the airport or to the AOA. The possibility of an external delivery accessing the AOA without being screened leaves aircraft and concourses unprotected from attack.
- ◆ **Secured Automated People Mover System.** The APM presents several benefits already addressed; however, due to the process of leaving a protected space to another protected space via an unsecured route opens the APM to possible attacks. These attacks can be partially mitigated through the use of technology and security design.

## **NO ACTION/NO PROJECT (NA/NP) ALTERNATIVE ADVANTAGES AND DISADVANTAGES**

Analysis of the current operational procedures at LAX and an evaluation of the effectiveness of airport security identify several advantages and disadvantages.

The primary disadvantages of the NA/NP Alternative are:

- ◆ **Congestion Relief.** NA/NP does not resolve the issue of major congestion on the roadways in the area of the CTA. This congestion has the potential to reach gridlock conditions with passenger quantities well below the current projected 78 MAP level of 2015, which remains a limiting factor to operations and effective security.
- ◆ **Unrestricted Vehicle Access.** The NA/NP Alternative continues to allow large quantities of vehicular traffic to approach passenger processing areas and vital airport infrastructure facilities within the CTA. This results in crowded terminal areas that create attractive targets for terrorists. There is little if any capability, to provide adequate security screening for any of these vehicles.
- ◆ **Screening Limited to TSA.** Under the NA/NP Alternative, individuals approaching the airport facilities will continue to be permitted to approach all of the facilities in the CTA without having undergone a security screening until they reach the TSA passenger screening between the landside and airside operations. This leaves large areas of the landside facilities, which includes passengers and critical infrastructure vulnerable to a terrorist act.
- ◆ **Unscreened Baggage in the CTA.** Current procedures allow baggage potentially containing significant explosive devices into the CTA passenger congregating locations and facilities. Security inspections are not conducted before the TSA inspection process begins. This potential vulnerability would continue to exist under the NA/NP Alternative.
- ◆ **Lack of Physical Expansion.** Under the current conditions there is a general limitation of space within the existing terminals and on the approaches to these terminals. Under the NA/NP Alternative, if any level of threat changes, or LAX needs to increase security, the options for implementing increased security are limited. Space within the current terminals is already crowded with post-9/11 required security processing. There are very few possibilities for adding additional security

screening within these facilities. The surrounding roadways present a similar problem. If additional vehicle security were required, the congestion caused by the volume of traffic in the CTA would create backups extending off of the airport grounds, well into the surrounding community roadways.

- ◆ **CTA Vehicle Threat.** The NA/NP Alternative will also allow continued traffic flow within the CTA of rental car shuttle vehicles, which currently account for more than 1 million trips per year, plus the thousands of limousines, taxis and other commercial and private vehicles which account for 33.5 million vehicles annually that add significantly to the traffic at the CTA. Each of these vehicles provides the possibility of transporting a major vehicle bomb that could cause significant damage to the passengers, infrastructure, aircraft or even the entire air transportation industry. Providing adequate security screening for this volume of vehicle traffic is extremely difficult under the NA/NP Alternative.

Under the NA/NP Alternative there are several actions that could be taken to provide limited mitigation for some of these negative impacts, they are:

- ◆ Expanding the current FlyAway program could help to reduce the volume of traffic transiting the CTA. However, the FlyAway program will still have a small effect in reducing the current traffic congestion and terrorist threat to the CTA.
- ◆ Under the NA/NP Alternative, establishment of an RDF could help to mitigate the possibility of an explosive laden vehicle from approaching some key facilities. However, screening goods and cargo arriving at the airport would be difficult to implement anywhere other than for airside deliveries under current procedures due to unrestricted access to landside areas.
- ◆ The establishment of a VIC would also be beneficial, however, the volume of traffic arriving at the CTA under the NA/NP Alternative would prohibit 100% screening of vehicles. A random vehicle-screening program with limited effectiveness would seem to be the only feasible option under current operating configurations.

## CONCLUSION

Based on the analysis of Alternative D in its entirety along with field observations and interviews, SAIC has concluded that Alternative D is overwhelmingly a better plan for LAX than the No Action/No Project Alternative. The ability of Alternative D to be flexible to meet future security needs is an optimal, forward thinking design.

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## ACRONYM TABLE

ANFO	Ammonium Nitrate Fuel Oil
ANSER	Analytic Services Corporation
AOA	Air Operations Area
APM	Automated People Mover
BATF	Bureau of Alcohol, Tobacco and Firearms
CBR	Chemical, Biological, Radiological
CCTV	Closed Circuit Television
CHRC	Criminal History Records Check
CPP	Certified Protection Professional
CRS	Concentric Rings of Security
CTA	Central Terminal Area
DCA	Ronald Reagan Washington National Airport
DFW	Dallas Fort Worth Airport
DHS	Department of Homeland Security
DOD	Department of Defense
DOJ	Department of Justice (US)
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FDLE	Florida Department of Law Enforcement
GAO	General Accounting Office
GTC	Ground Transportation Center
IAD	Washington-Dulles International Airport
IED	Improvised Explosive Device
IID	Improvised Incendiary Device
ITC	Intermodal Transportation Center
JFK	John F. Kennedy Airport
LAAPD	Los Angeles Airport Police Department
LASD	Los Angeles County Sheriff's Department
LAWA	Los Angeles World Airports
LAX	Los Angeles International Airport
LEO	Law Enforcement Officer
MAP	Million Annual Passengers

MTA	Metropolitan Transit Authority (Los Angeles)
MWAA	Metropolitan Washington Airports Authority
NA/NP	No Action/No Project Alternative
O&D	Origin & Destination
PDAR	Protecting, detecting, assessing, and responding
RAC	Consolidated Rental Car Facility
RDF	Remote Delivery Facility
RF	Radio Frequency
SAIC	Science Applications International Corporation
SIDA	Security Identification Display Area
TBIT	Tom Bradley International Terminal
TSA	Transportation Security Administration
VIC	Vehicle Inspection Center
WSC	West Satellite Concourse
WTC	World Trade Center (NYC)

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