

3. PRELIMINARY DEFINITION OF ALTERNATIVES

The purpose of the Preliminary Definition of Alternatives is to introduce the alternatives, including modes and off- and on-airport routes that will be carried forward into alternatives screening as part of the Metro Green Line to LAX Project. Additionally, possible operating scenarios are presented that will be further explored in the Draft EIS/EIR for the Project. The alternatives being considered would provide transit service between the CTA and the existing and planned Metro Rail system. Alternatives for this project consider existing and future conditions in and around the airport, and are informed by transit connections in operation at other major airports.

Section 3.1 describes the alternatives being considered, which include the No Build Alternative, TSM Alternative, Direct LRT Branch Alternative, Circulator Alternative, Intermediate LRT and Circulator Alternative and Modified LRT Trunk Alternative. Section 3.3.5 defines the possible modes being considered, including Bus Rapid Transit (BRT), LRT and Automated People Mover (APM). Section 3.3.6 discusses the possible routes being considered. The discussion of routes is divided into two distinct geographic areas: off-airport (east of Sepulveda Boulevard) and on-airport (west of Sepulveda Boulevard). The final section identifies the potential operating characteristics of the Build Alternatives.

3.1. PRELIMINARY ALTERNATIVES

3.1.1. No Build Alternative

The National Environmental Policy Act and California Environmental Quality Act require that existing conditions and Build Alternatives be evaluated against a No Build Alternative in a Draft EIS/EIR. The No Build Alternative is used as a baseline against which the costs, benefits and impacts of other alternatives can be evaluated. The No Build Alternative represents the Project Study Area in the year 2035, if the Metro Green Line to LAX project is not built, and includes funded transportation improvements specified in SCAG's 2008 Regional Transportation Plan and the financially-constrained element of Metro's 2009 LRTP.

Existing and funded major transportation facilities included in the No Build Alternative are:

- **Freeways (Current)** – Interstates 405 and 105
- **Fixed Guideway (Current)** – Metro Green Line (LRT)
- **Fixed-Guideway Projects (Future Near-Term)** – Metro Crenshaw/LAX Transit Corridor (LRT)
- **Fixed-Guideway Projects (Future Long-Term)** – South Bay Metro Green Line Extension (LRT)

In addition, the Project Study Area is served by a bus network operated by Metro and a variety of municipal operators including Beach Cities Transit, Culver CityBus, Torrance Transit and Santa Monica Big Blue Bus. Several routes serve the LAX City Bus Center, located on 96th Street between Vicksburg Avenue and Avion Drive. The Project Study Area is also served by LAWA FlyAway buses and airport shuttles. The FlyAway is an airport express bus service that

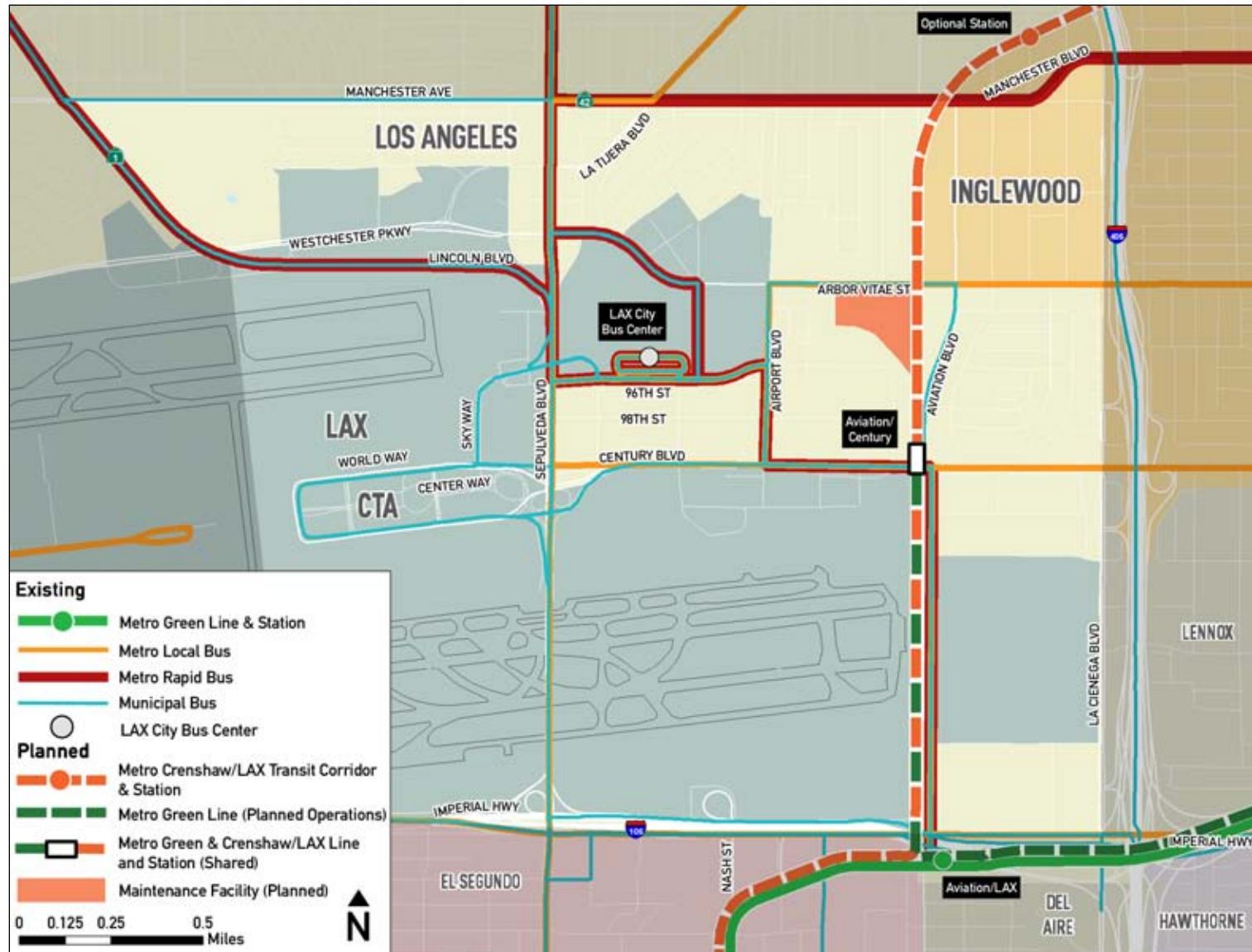
operates between LAX and Van Nuys, Los Angeles Union Station, Westwood and Irvine. The airport operates the following five shuttle lines:

- Shuttle A – Circulates throughout the CTA and connects all terminals
- Shuttle C – Connects the CTA to Lot C (long-term parking) and is a short walk to the LAX City Bus Center
- Shuttle D – LAX employee shuttle between Lot D and the CTA
- Shuttle E – LAX employee shuttle between Lot E and the CTA
- Shuttle G – Currently transports passengers between the Aviation/LAX Metro Green Line Station and the CTA.

It is assumed that Shuttle G, which currently operates between the Metro Green Line Aviation/LAX Station and the CTA, will be shortened to serve the Crenshaw/LAX station at Aviation and Century Boulevards, once that project is operational in 2018. The other airport shuttle services described above are assumed to remain unchanged in the year 2035.

An overview of the No Build Alternative is shown in Figure 3.1.

Figure 3.1. No Build Alternative – Overview



Source: ConnectLAX, 2011

3.2. TRANSPORTATION SYSTEMS MANAGEMENT ALTERNATIVE

The Transportation Systems Management (TSM) Alternative consists of operational improvements to current transit facilities and services that produce the greatest benefits from existing infrastructure, with minimal capital expenditure. These include transportation system upgrades such as intersection improvements, minor roadway widening, bus route restructuring, more frequent bus service, expanded use of high-capacity buses, and traffic signalization improvements. The TSM Alternative was developed based on the recommendations of statewide and metropolitan planning guidelines and the FTA Major Investment Guidelines. These guidelines require the TSM Alternative to provide the basis of comparison to the higher capital investment Build Alternative(s).

The TSM Alternative would be an enhancement of the proposed LAX G shuttle between the CTA and the Aviation/Century Metro Crenshaw/LAX Transit Corridor Station. The headway of the shuttle would be increased from the current 12 to 15-minutes to five-minutes during the peak period. Additionally, the LAX City Bus Center, which is currently located on 96th Street between Vicksburg Avenue and Avion Drive, would be relocated to a site directly adjacent to the planned Aviation/Century Station. The relocation of the bus center would allow for improved connectivity between local bus service, regional rail service and the CTA. The TSM Alternative would attempt to resemble passenger service provided by the Build Alternative(s), but at a lower cost.

An overview of the TSM Alternative is provided in Figure 3.2.

Figure 3.2. TSM Alternative – Overview



Source: ConnectLAX, 2011

3.3. BUILD ALTERNATIVES – GENERAL CONNECTION TYPES

Build Alternatives are considered based on one of four general connection types. The four classes listed below provided a foundation from which to identify viable transit modes and various alignments associated with each connection type.

3.3.1. Direct LRT Branch

Alternatives that are in the Direct LRT Branch class would extend the Metro light rail system (Metro Green Line and/or Metro Crenshaw/LAX Transit Corridor) into the CTA. It would provide some Metro passengers with a direct connection to the CTA without requiring a transfer. As seen in other major airports throughout the country with a direct rail connection, such as Portland International Airport, Seattle-Tacoma International Airport, and San Francisco International Airport, this alternative may operate with a single station inside the CTA, or with multiple stations serving multiple terminals. Passengers would walk varying distances to reach their final terminal destination. To shorten walking distances, pedestrian bridges and moving sidewalks may be utilized where appropriate. Two-, three-, four-, five-, and eight-station loop configurations are also being considered, which would reduce walking distances, but may cause greater impacts to the CTA’s existing infrastructure.



Since the Direct LRT Branch Alternative is an extension of the existing Metro light rail system, the mode option is limited to LRT (the APM and BRT modes would require a transfer). Modes are discussed further in Section 3.3.5, and route options are discussed in Section 3.3.6.

3.3.2. Circulator

Alternatives in the Circulator class would consist of a new system connecting the CTA to the approved Aviation/ Century Station, as part of the Metro Crenshaw/LAX Transit Corridor project. As seen in other major airports throughout the country with a circulator connection, such as JFK International Airport and Phoenix Sky Harbor International Airport, this system would operate separately from the existing Metro Rail system and would require passengers to transfer at Aviation/Century. Generally, these systems serve two primary functions: 1) circulate passengers and employees to multiple terminals, 2) connect to off-airport facilities such as rental cars, long-term parking, employee parking, and regional rail stations. This system would operate inside the CTA and would have stations located in close proximity to terminals.



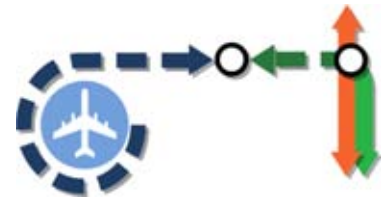
A circulator system could use rail (APM) or bus (BRT) because it would not need to be interoperable with the existing Metro Rail system. Trains operating on the Crenshaw/LAX and Metro Green Lines would not operate on this system. This would allow the system to operate at more frequent headways during peak airport travel times, which do not correspond with

peak Metro Rail travel times. The differing peaks at LAX are due to the variable nature of flight scheduling.

These circulator systems, which operate at many of the largest airports in the country, are typically airport-funded and airport-owned.

3.3.3. Intermediate LRT and Circulator

Alternatives that are in the Intermediate LRT and Circulator class combine elements from the Direct LRT Branch and Circulator Alternatives. As seen in other major airports throughout the country with this type of system, such as Miami International Airport, the Metro Rail system would branch off to an intermediate off-airport station closer and be more convenient to airport operations than the Aviation/Century Station. A circulator system (APM or BRT) would provide service between the intermediate station and the airport.



3.3.4. Modified LRT Trunk

Alternatives in the Modified LRT Trunk class would consist of an alignment west of the approved Metro Crenshaw/LAX Line. The Crenshaw/LAX line would be built as environmentally cleared and designed. The alignment would have a single station in the airport. As seen in other major airports throughout the country with this type of system, such as Minneapolis St. Paul International Airport, this alternative would provide all Metro Green and Crenshaw/LAX passengers with more convenient access to the airport. Passengers would utilize a circulator system, internal shuttle bus, pedestrian bridges, crosswalks, or moving walkways to reach their airport terminal destination from the single station.



Since the Modified LRT Trunk Alternative is an extension of the existing Metro light rail system, the only feasible mode is LRT. The operational characteristics would be consistent with those of the existing Metro Rail system.

3.3.5. Possible Modes

The following sections provide a brief description of the various transit modes that are considered for all or part of the connection types described in Sections 3.3.1-3.3.4.

3.3.5.1. Bus Rapid Transit (BRT)

BRT incorporates specialized buses generally operating on a dedicated right-of-way (ROW) with enhanced stations to provide a higher level of service than is typical of standard bus transit service, but at a much lower capital investment than a rail service. The BRT may also operate in mixed-flow traffic. An example of BRT in Los Angeles County is the Metro Orange Line, shown in Figure 3.3. Some elevated sections of busway may be considered for this type of transit service.

BRT typically serves local trips and offers higher frequency, faster speeds and better reliability compared to traditional bus lines. Improved service and operational efficiency can be attributed to several BRT features. BRT typically operates at higher frequencies and with greater speeds and improved reliability of service, which are facilitated by exclusive guideway facilities. BRT may also include preferential treatment of buses at signalized intersections, including the extension of green time or actuation of the green light upon detection of an approaching bus. Low-cost infrastructure like bus turnouts, boarding islands and curb realignments further enhance the BRT service. The BRT mode's configuration can vary throughout the Project Study Area taking into account existing physical constraints.

BRT would be considered for the Circulator, Intermediate LRT and Circulator, and some of the Modified LRT Trunk Alternatives.

Figure 3.3. BRT Example – Metro Orange Line



Source: Metro, 2006

3.3.5.2. Light Rail Transit (LRT)

LRT consists of an electric railway with passenger rail cars that operate at moderate speeds and have a passenger-carrying capacity greater than buses. LRT has the ability to utilize infrastructure associated with other rail lines already in operation in the corridor such as the Metro Green and Crenshaw/LAX Lines. Examples of LRT lines in Los Angeles include the existing Metro Blue, Green and Gold Lines and the Expo Line, which is scheduled to begin operation in 2012. A typical Metro LRT vehicle is shown in Figure 3.4.

Frequency of service is generally high (10-minute headways or less during peak travel periods) and, if operating on a dedicated ROW, it offers greater speeds and reliability than buses. Even with shorter distances between stations, LRT can reach speeds of up to 65 miles per hour (mph) partly because electric motors can accelerate more quickly than internal combustion engines. However, speeds often decrease with frequent stations, crossings and in-street segments. Electric cars also emit no local pollutants and generate less noise than internal combustion vehicles.

LRT would be considered for three of the four Build Alternatives (Direct, Intermediate LRT and Circulator and Modified LRT Trunk).

Figure 3.4. LRT Example – Metro Gold Line



Source: ConnectLAX, 2011

3.3.5.3. Automated People Mover (APM)

APM systems operate with automated (driverless) vehicles that are capable of operating at speeds of 30 to 50 mph depending on the technology and alignment. A typical APM vehicle is shown in Figure 3.3. The vehicles provide a high level of reliability, passenger comfort and safety. APM systems can be divided into two primary groups:

- **Cable-Propelled** – medium / large capacity vehicles that are driven by a high speed cable with a variety of possible suspension systems.
- **Self-Propelled** – large capacity vehicles with a variety of possible suspension systems, (includes monorail). Self-propelled APM vehicles are typically powered by way of an electrified third rail.

Both cable and self-propelled vehicles can be supported in several ways, including rubber tires, steel wheels, air levitation, or magnetic levitation. Steering and guidance use center guide beams, running rails, guidance surfaces or rails that are integrated into guideway sidewalls or the center of the running surface. APM systems are capable of multiple vehicle train consists up to four vehicles per train. APM vehicles have mostly standing area with limited seating around the perimeter of the vehicle. APM vehicle passenger capacity is estimated to be roughly 40 passengers per APM vehicle.

APM systems can be considered for circulator elements as part of the Circulator, Intermediate LRT and Circulator and Modified LRT Trunk with Circulator alternatives.

Figure 3.5. APM Example – San Francisco International Airport AirTrain



Source: ConnectLAX, 2011

One variation of the APM vehicle class described above is a Personal Rapid Transit (PRT) vehicle. PRT vehicles are typically much smaller than those described above, with a capacity of approximately 4-6 passengers. This type of APM system typically operates with flexible destinations, meaning that a passenger or group of passengers entering a vehicle could select a specific destination from a number of options and travel to that destination without making any intermediate stops.

PRT would not serve the Purpose and Need of this project, as it would not provide adequate capacity to carry the passenger loads being delivered by the Metro Rail system. Additionally, the nature of the trip that this project is targeting is the line-haul trip between the Metro Rail system and the CTA; its purpose is not to provide comprehensive service to Airport District uses (see Section 2 – Purpose and Need for additional discussion of travel markets). Therefore, PRT will not be considered further as a potential mode for this project. However, PRT could potentially be employed to provide supplementary connections to a variety of off-airport destinations.

3.3.6. Possible Routes

The routes being considered for the four general connection types are split into two general areas; off-airport (east of Sepulveda Boulevard) and on-airport (west of Sepulveda Boulevard). The possible routes are presented in the following sections.

3.3.6.1. Off-Airport

Nine off-airport routing options in four groups are described in this section and shown in Figure 3.6.

Figure 3.6. Off-Airport Routing Options – Overview



Source: ConnectLAX, 2012

Century Boulevard Alignments

Century Boulevard

- Travel west from the planned Aviation/Century Station along Century Boulevard
- An intermediate or terminal station may be located along Century Boulevard to serve local trips and visitors
- If the terminal station is located off-airport, passengers would board a circulator system to reach the CTA
- Continue along Century Boulevard until entering the CTA
- If LRT is the chosen mode, an additional station will need to be constructed in proximity to the Aviation/Century Station to allow for Metro Crenshaw/LAX passengers to transfer to the Metro Green Line to LAX



1994 SEIR Alternative

- Option is based on the approved alternative in the Metro Green Line Northern Extension 1994 SEIR
- Travel west from the planned Aviation/Century Station along Century Boulevard
- Turn north through a parking lot west of Avion Drive (dashed line represents possible future extension of Metro Green Line)
- Option would not directly serve the CTA; Metro Green Line passengers would board a shuttle service to reach the CTA
- Crenshaw/LAX alignment would remain at Aviation Boulevard and would not directly serve the CTA
- Ability to accommodate an extension to the north at some future date
- If LRT is the chosen mode, an additional station will need to be constructed in proximity to the Aviation/Century Station to allow for Metro Crenshaw/LAX passengers to transfer to the Metro Green Line to LAX



98th Street Alignments

98th Street

- Travel north from the planned Aviation/ Century Station
- Turn west at 98th Street
- An intermediate or terminal station may be located south of Lot C
- If the terminal station is located off-airport, passengers would board a circulator system to reach the CTA
- Continue west along 98th Street to Sepulveda Boulevard, turn south into the CTA



98th Street North

- Travel north from the planned Aviation/ Century Station
- Turn west midway between Arbor Vitae Street and 96th Street
- Curve southwest before Airport Boulevard and join 98th or 96th Street east of Avion Drive
- Two route and station options are being considered near Avion Drive; route and station location are dependent on future LAX plans in the area
- An intermediate or terminal station may be located south of Lot C
- If the terminal station is located off-airport, passengers would board a circulator system to reach the CTA
- Continue along 98th Street until Sepulveda Boulevard, turn south into the CTA
- If LRT is the chosen mode, additional studies will determine if it is possible to connect Metro Crenshaw/LAX trains from the north into the CTA



96th Street Alignments

96th Street

- Travel north from the planned Aviation/ Century Station
- Turn west at 96th Street
- An intermediate or terminal station may be located south of Lot C
- If the terminal station is located off-airport, passengers would board a circulator system to reach the CTA
- Continue west along 96th Street to Sepulveda Boulevard, turn south into the CTA



96th Street North

- Travel north from the planned Aviation/ Century Station
- Turn west midway between Arbor Vitae Street and 96th Street
- Curve southwest before Airport Boulevard and join 96th Street west of Airport Boulevard
- An intermediate or terminal station may be located south of Lot C
- If the terminal station is located off-airport, passengers would board a circulator system to reach the CTA
- Continue along 96th Street until Sepulveda Boulevard, turn south into the CTA
- If LRT is the chosen mode, additional studies will determine if it is possible to connect Metro Crenshaw/LAX trains from the north into the CTA



Trunk Alignments

A trunk line is the main line of a rail network that often hosts more than one high-frequency rail line. The alignments presented below represent alternative routes for the main line of the planned Metro Rail network (Metro Green and Crenshaw/LAX lines) along Aviation Boulevard.

Airport Boulevard

- Curve west off the Harbor Subdivision ROW south of Century Boulevard
- Travel along Century Boulevard until reaching Airport Boulevard where the alignment will curve north on Airport Boulevard
- Station would be located at 98th Street and Airport Blvd to allow passengers to transfer to a circulator system to reach the CTA
- Crenshaw/LAX trains would continue along the planned alignment to the north
- The intermediate station would serve as the western terminus of the Metro Green Line



Through LAX

- Alignment turns to the north off the existing Metro Green Line at Douglas Ave
- Route would travel underground below the south runways
- One station would be located underground within the CTA near the Theme Building
- After light rail trains exit the CTA they would continue under the north runways and return to grade near Lot C
- An additional station would be located near Lot C
- Crenshaw/LAX trains would continue along the planned alignment to the north
- The Lot C station may serve as the terminus of the Metro Green Line



3.3.6.2. On-Airport

Four on-airport routing/station options in two groups are described in this section, as shown in Figure 3.7.

Figure 3.7. On-Airport Routing Options – Overview



Source: ConnectLAX, 2012

Loop Alignments

Long Loop

- Enter the CTA at the east end of World Way and follow the existing roadway loop configuration
- Between three and eight stations would be located within the CTA, with either center or side platforms
- Alignment would either exit the CTA at the east end of World Way and link back to the incoming tracks (full loop), or would reverse direction at the terminal station (pinched loop)



Short Loop

- Enter the CTA at the east end of World Way and follow the existing roadway loop configuration
- Turn south to parallel West Way and utilize the undeveloped area west of West Way
- Curve east to rejoin World Way
- Between three and five stations would be located within the CTA, with either center or side platforms
- Alignment would either exit the CTA at the east end of World Way and link back to run parallel to incoming tracks (full loop), or would reverse direction at the terminal station (pinched loop)



Center Way Alignment

- Enter the CTA at the east end of Center Way and follow the existing roadway between the parking garages and either around (aerial) or under (below grade) the Theme Building and control tower
- Between one and two stations would be located within the CTA, with either center or side platforms
- Once vehicles reach the end of the line, they would reverse direction and exit the same way they arrived



Through Alignments

- This option provides the opportunity for a new alignment of the Metro Crenshaw/LAX transit line to travel underground below the south and north runways
- One station would be located underground within the CTA near the Theme Building
- A circulator bus operating on the existing roadway would transfer passengers to their terminal destination
- After light rail trains exit the CTA they would continue along the planned alignment to the north and south
- Option is limited to the LRT mode as it would require the vehicles to be operable on existing Metro Rail lines



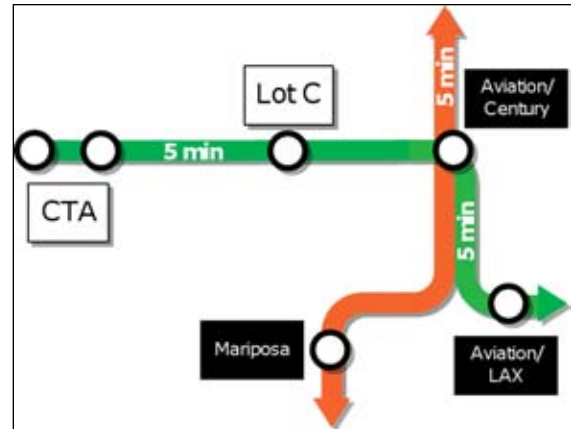
3.4. POSSIBLE OPERATIONS

This section defines the possible operational characteristics (i.e., market connections, headways) of the four alternative classes being considered.

3.4.1. Direct LRT Branch Alternative

Only Metro Green Line to LAX

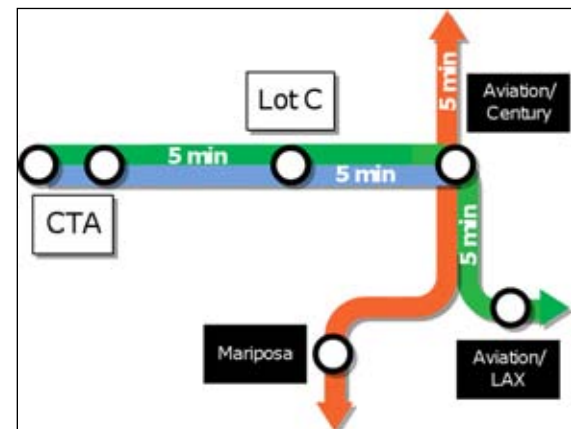
The option assumes that the Metro Green Line would be extended to connect riders between Norwalk and the CTA without a transfer. Metro Crenshaw/LAX trains would operate between the proposed Crenshaw/Expo Station and the existing Redondo Beach (Marine) Station, but would not directly serve the airport. Passengers on the Crenshaw/LAX Line would need to transfer at the planned Aviation/Century Station to the Metro Green Line in order to reach the airport. Headways for this system would be consistent with what is being planned for the Metro Crenshaw/LAX Line (five-minute peak; ten-minute off-peak). The following summarizes the peak headways for the different origins and destinations that would be served by this alternative:



- 5 min. headway Norwalk ↔ CTA (Green Line)
- 5 min. headway Expo ↔ South Bay (Crenshaw Line)
- 5 min. headway Aviation/Century ↔ CTA (Green Line)

Metro Green Line and Supplemental Service to LAX

Further study will determine if it is possible to add a supplemental train that would only operate on the Metro Green Line to LAX extension between Aviation/Century and LAX to provide 2.5-minute headways during the airport’s peak travel periods. The following summarizes the peak headways for the different origins and destinations that would be served by this alternative:

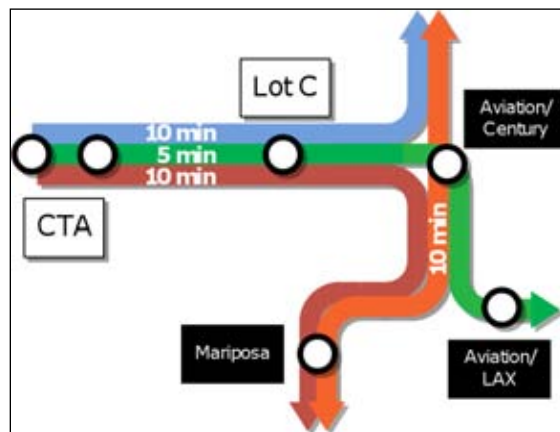


- 5 min. headway Norwalk ↔ CTA (Green Line)
- 5 min. headway Aviation/Century ↔ CTA (supplemental LRT service)
- 5 min. headway Expo ↔ South Bay (Crenshaw Line)

- 2.5 min. combined headway Aviation/Century ↔ CTA (Green Line with supplemental service)

Metro Green and Crenshaw/LAX Lines to LAX

This option would allow Metro Green Line and Metro Crenshaw/LAX Line passengers to directly connect to airport without transferring. The Metro Green Line would operate at five-minute headways between Norwalk and Aviation and the CTA. The Expo-LAX Metro Crenshaw/LAX Line would be split into three separate lines running at 10 minute headways: Expo to South Bay, Expo to CTA, and South Bay to CTA. This would result in combined five-minute headways in the peak period on the Crenshaw Line, and 2.5 minute headways between Aviation/Century and the CTA.

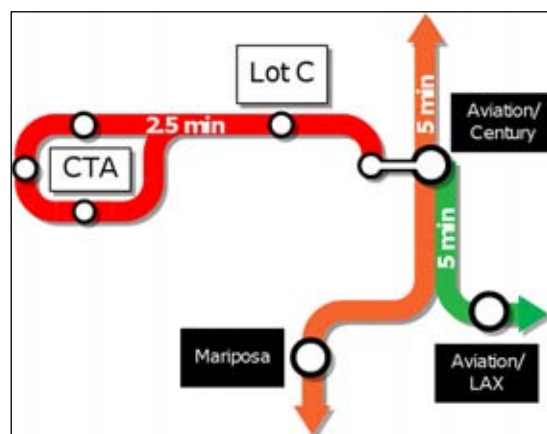


Further analysis is required to determine the operational feasibility of this option. The following summarizes the peak headways for the different origins and destinations that would be served by this alternative:

- 5 min. headway Norwalk ↔ CTA (Green Line)
- 10 min. headway Expo ↔ South Bay (Crenshaw Line A)
- 10 min. headway Expo ↔ CTA (Crenshaw Line B)
- 10 min. headway South Bay ↔ CTA (Crenshaw Line C)
- 2.5 min. combined headway Aviation/Century ↔ CTA (Green Line, Crenshaw Line B & C)

3.4.2. Circulator Alternative

The Circulator Alternative would be completely separate from the existing Metro Rail system, and therefore would not be directly influenced by the design or scheduling restrictions of the Metro Rail system. Instead, the system would be designed to maximize system performance during the airport’s peak demand. The Circulator Alternative is designed to operate at 2.5-minute peak headways. As previously mentioned, the airport’s peak travel periods may differ from Metro’s peaks. Reduced frequencies would be offered during the late-night and early morning periods.

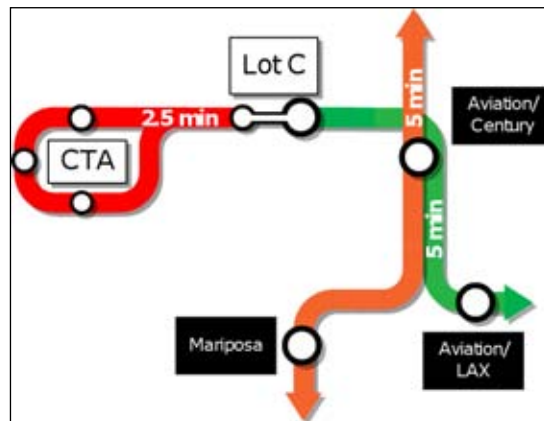


The Circulator Alternative would support both APM and BRT mode options. Both APM and BRT would operate on a dedicated guideway off-airport; once inside the airport, BRT would operate in mixed traffic on existing roadways while APM would continue to operate on a

dedicated guideway. A dedicated ROW was considered for the BRT option, but was ultimately screened due to potential impacts. The conversion of traffic lane within the CTA to host a BRT service would likely reduce roadway capacity and increase traffic congestion. In terms of a separated guideway, the width of an aerial busway would likely impact parking structures and/or the existing loop roadway more than an aerial rail structure.

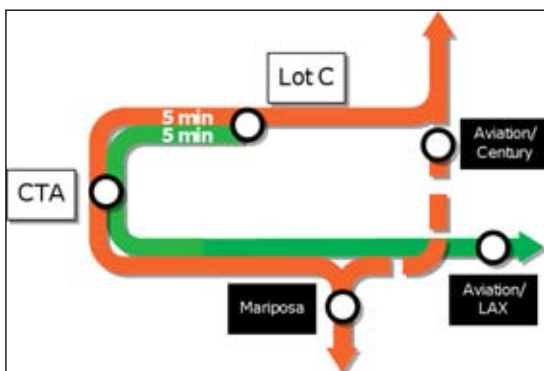
3.4.3. Intermediate LRT and Circulator Connection Alternative

As indicated by the name, operating characteristics for the Intermediate LRT and Circulator Connection Alternative would be some combination of the Direct LRT Branch and Circulator Alternatives described above.



3.4.4. Modified LRT Trunk Alternative

This alternative would allow for an additional Metro Crenshaw/LAX alignment in a tunnel beneath the CTA, allowing Metro Green and Crenshaw/LAX Line passengers to directly connect to the airport area without transferring. Both lines would operate at five-minute headways. The Metro Green Line would operate between Norwalk and the airport, while the Metro Crenshaw/LAX Line would operate between the Expo Line and the South Bay with an intermediate station at the airport. This would result in combined 2.5-minute headways during peak periods at the airport station. The following summarizes the peak headways for the different origins and destinations under this alternative:



- 5 min. headway Norwalk ↔ Airport (Green Line)
- 5 min. headway Expo ↔ Airport ↔ South Bay (Crenshaw/LAX Line)

3.4.5. Operations Summary

A summary of potential operations for the four alternative classes is shown in Table 3.1.

Table 3.1. Possible Operations – Summary

Alternative	Option	Maximum Peak Headway		
		Metro Green Line	Metro Crenshaw/ LAX Line	Circulator/ Supplemental Service
Direct LRT Branch	Metro Green Line to LAX	5 minute	5 minute	N/A
	Metro Green Line and supplemental service to LAX	5 minute	5 minute	5 minute
	Metro Green and Crenshaw/LAX Lines to LAX	5 minute	10 minute	N/A
Circulator		N/A	N/A	2.5 minute
Intermediate LRT and Circulator		Would be a combination of the Direct LRT Branch and Circulator Alternatives		
Modified LRT Trunk		5 minute	5 minute	N/A

Source: ConnectLAX, 2012

3.5. RIDERSHIP MODELING

Air passenger and employee ridership data presented in this report are generated from the 2012 Air Passenger Model, which is developed based on the 2006 LAWA Passenger Survey. The model is incorporated into Metro’s current Mode Choice Model, allowing the use of regional model inputs such as highway and transit skim data (ConnectLAX, 2012).

As part of the model development process, the base year and 2035 transit and highway networks in the Project Study Area were updated to provide a more granular network detail. In addition, TAZ 921, which encompasses all of LAX, was subdivided into more focused zones corresponding to terminal and cargo facilities. Additional data on off-airport parking capacity, employee worksites in the CTA and employees by sub-TAZ were collected to better inform air passenger and employee trip assignments.

Following the calibration of the Air Passenger Model, the model was used to forecast ridership for 14 alternatives. The 2012 Air Passenger Model produces forecasts for air passenger and employee trips to LAX by mode for the Year 2035 No Build and 2035 Build Alternatives. Per the model structure, the mode is defined as ‘public transit’ if one arrives into the Airport District via a public transit mode – local bus, Metro bus or Metro Rail – and either continues into the CTA or is a LAX employee destined to their job site in the Airport District via transit. For evaluation purposes, the model’s strict definition of ‘public transit’ trips is used to allow for a comparison between alternatives.

It is worth noting that this strict definition does not account for those trips that use transit to get to the CTA, but arrive in the Airport District via a non-public transit mode such as drive alone or carpool, park and then board transit or take a shuttle into the CTA. In addition, it does not account for future airport plans. Taking these considerations into account, there

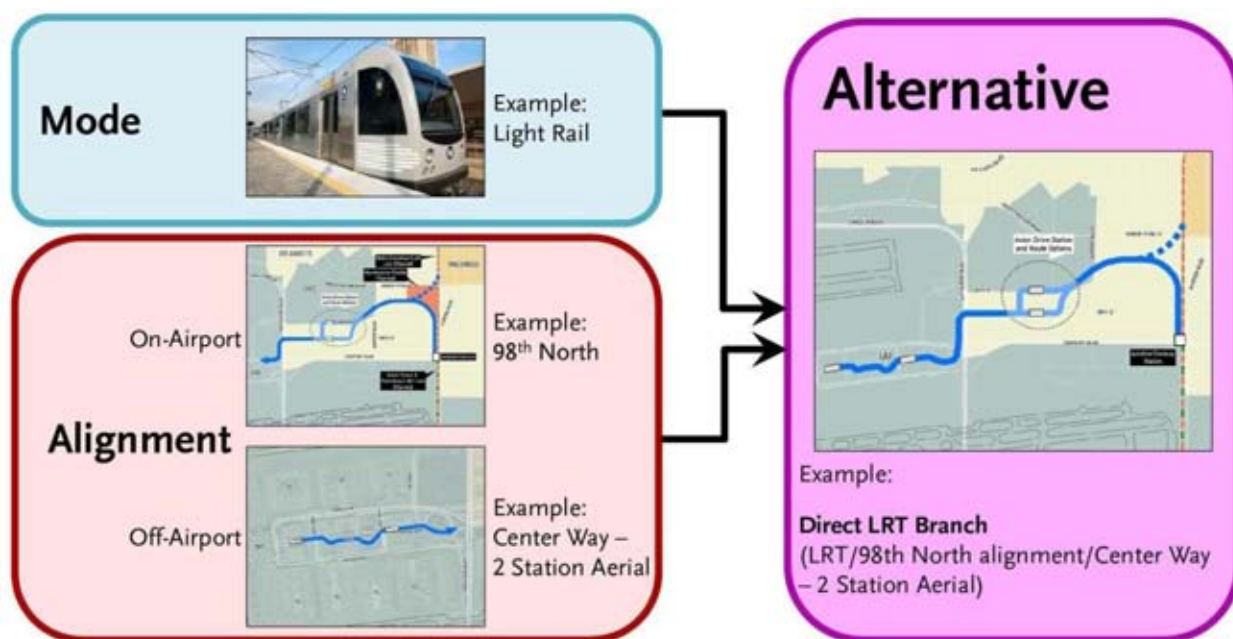
would likely be 5,000-10,000 additional riders per day traveling between the CTA and airport related functions in the vicinity of stations in the Airport District outside of the terminals.

4. SCREENING OF ALTERNATIVES

The screening process is divided into two stages. Stage I matches modes to alternative connection types and evaluates the feasibility of alignment options for each of the connection types. Stage II evaluates the performance of each Build alternative. See Figure 4.1 for the composition of a Build Alternative. The focus of Stage I screening that will support the development of the packaged alternatives to be carried forward into Stage II. Options that would result in significant issues (fatal flaws) will not advance to the Stage II screening evaluation.

The Stage II evaluation consists of a comparative analysis of trade-offs between alternatives to identify alternatives that will be carried forward into the Draft EIS/EIR. The criteria were developed to reflect the project objectives as defined in the Purpose and Need section.

Figure 4.1. Alternative Components



Source: ConnectLAX, 2011

4.1. STAGE I SCREENING PROCESS

The first step in the screening analysis is to match the transit mode(s) appropriate for each connection type. Listed below are the objectives, and transit modes, associated with each connection type. The evaluation criteria for Stage I screening include:

- **Direct LRT Branch Alternative** – a light rail transit (LRT) branch of the Metro Green Line (and possibly Crenshaw/LAX line) west from Aviation Boulevard to the LAX terminal area. Provides a direct connection for Metro Rail passengers to LAX.