



# SAN DIEGO INTERNATIONAL AIRPORT TRANSIT PLAN

June 2016

*The Airport Transit Plan was funded by the Caltrans  
Transportation Planning Grant Program – FTA 5304 Project  
“Airport Transit Plan – Phase II”*



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# 1 EXECUTIVE SUMMARY

San Diego International Airport (“the airport”), operated by the San Diego County Regional Airport Authority (“Airport Authority”), is located at the heart of the San Diego region’s transit system. From downtown San Diego, the passenger terminals are just a 10-minute bus ride on the San Diego Metropolitan Transit System (MTS), and the region’s highest-capacity public transit services run just northeast of airport property, including Amtrak’s intercity Pacific Surfliner, the North County Transit District (NCTD) commuter train Coaster, and the light rail San Diego Trolley.

Yet, transit ridership to the airport lags behind that of many mid-size and major airports in North America. Passenger traffic at the airport, one of the most land-constrained airport sites in the country, is projected to increase by more than one-third by 2030. It is therefore essential that all public transportation modes — train, bus, and Trolley — be optimized to make San Diego International Airport one of the country’s most accessible airports.

This plan provides a blueprint for increasing ridership on public transit to and from the airport — for both passengers and employees. Implementing this blueprint will require regional coordination and cooperation, as the Airport Authority itself has a limited role in providing public transit services.

The plan’s recommendations are based on extensive analysis of existing conditions and travel patterns to the airport. A significant finding is that more than one-third of all trips to the airport are short distance trips from the greater downtown and waterfront areas. These trips represent a logical market for transit services. Other key corridors for airport trips are the I-5 and I-15 corridors, both of which are served by public transit requiring a transfer to the airport. Building on the existing services in these corridors has the potential to increase transit ridership to the airport.

A significant opportunity to expand the airport’s transit ridership is the Trolley to Terminal service, which opened in January 2016. Up until then, although the Trolley system comprises a network of about 50 miles in metro San Diego, it lacked a direct connection to the airport. With the Trolley to Terminal service, passengers and employees now connect between the airport and the Middletown Trolley Station on the Green Line, east/northeast of the airport. The connection requires a walk of about 400 feet on West Palm Street between the station and a new shuttle stop just within the airport’s perimeter, and taking a free shuttle between the new stop and the terminals.

At this point, the West Palm Street transfer is functional, but more work needs to be done to improve this basic sidewalk to an efficient and aesthetic entranceway to the airport. Optimizing this transfer, one of the recommendations of this master plan, offers the best opportunity to increase transit ridership at relatively low cost, taking advantage of services already in place.

The recommendations in this plan focus on four alternatives developed from eight potential concepts for increasing transit ridership. The recommendations also meet special conditions that

the California Coastal Commission has required in exchange for its approval to construct the airport's proposed Parking Plaza.

- **Maximize marketing and passenger information utilizing airport and non-airport information channels.** The Airport Authority is already working on a comprehensive improvement in its communication of transit information to passengers and employees. Improvements to the airport's website, including links to regional and local transit trip planners, are already developed and many are in place, as well as improved signage, guides and brochures, and training for the information staff. Marketing could be further enhanced with new amenities at on-airport bus stops such as monitors that display real-time arrival information, which is being considered, and partnering with other agencies that can promote airport transit access, including NCTD, Amtrak, and Coaster. MTS has already agreed to a joint marketing campaign, as well as its own signage improvements.

Expanded joint marketing through chambers of commerce, tourism organizations, and advocacy groups like Circulate San Diego could further promote the concept of a "car free visit" to San Diego, encouraging visitors to consider transit as their airport access mode. Information should be designed with the distinct needs of different traveler groups in mind – from international travelers to senior citizens – and distributed through multiple platforms, including social media.

- **Enhance the new Trolley access, building on the Trolley to Terminal connection utilizing the new exclusive airport roadway and bus stop.** The San Diego Association of Governments (SANDAG) and the City of San Diego already have made interim improvements to the pedestrian pathway from the Middletown Station to this new on-airport bus stop, which will feature amenities such as signs displaying "next bus" information. More attention is needed to optimize that connection, with high-quality signage for wayfinding and improvements to the pedestrian pathway that crosses Pacific Highway. Security on the pedestrian path, at the shuttle stop, and aboard vehicles should also be an important consideration. Improvements should be made as soon as possible to encourage significant numbers of riders to use this connection.
- **Convert the existing MTS bus route between the airport and downtown San Diego, Route 992, to a "Rapid" route, with improvements to the operations on the airport and on the route through downtown.** MTS has a Bus Rapid Transit or BRT service comprised of a number of Rapid routes that have high frequency and limited stops for shorter travel times and increased reliability. Making the 992 a Rapid route would bring these benefits along with improved branding.

The MTS bus stops at the curb front directly outside the baggage claim at Terminals 1 and 2. Improvements at the airport are already underway in collaboration with MTS, including the installation of fare payment machines in Terminals 1 and 2, as well as stop consolidation. Real-time arrival information displays may be installed at airport stops. Rapid buses might also include airport-specific amenities such as luggage racks and information displays on which airlines are in each terminal.

- **Partner with transit operators to consider a transit line from the Old Town Transit Center and Amtrak Station to the airport.** Adding a new shuttle service from Old Town would enhance airport access, not only for Coaster and Trolley riders, but for many important bus lines such as Routes 9 and 28 that serve that site. Implementation of service from Old Town is dependent on further outreach to Old Town

stakeholders to identify methods to ensure that airport passengers do not overrun the parking available for the Old Town San Diego State Historic Park, California Department of Transportation (Caltrans) offices, and area businesses.

In addition to these four recommendations, four other proposed alternatives were studied but not recommended for implementation at this time:

- **Regional express “FlyAway” style bus service in the I-5 and I-15 corridors.** This remains an interesting option for the long term, but is not recommended at this time, for two reasons. First, to be successful, a substantial amount of parking with easy freeway access is required – approximately 750 spaces in the I-5 corridor and 500 spaces in the I-15 corridor. This substantial amount of parking is necessary to justify the frequency of service that would be needed for the service to be viable. It is unlikely that this much parking could be developed in surface lots, and at costs of \$35,000 to \$50,000 per space, a new parking garage could cost upwards of \$25 million. Further, the success of FlyAway service in the LA area is largely based on the high level of traffic congestion for single occupant cars, combined with the availability of HOV infrastructure making the bus service fast, reliable, and economical. Those conditions do not yet exist in San Diego and would require significant investments that are not yet planned.
- **Expansion of the Big Bay Shuttle to serve the airport.** The Big Bay Shuttle is a seasonal service that serves the waterfront area. It does not currently serve the airport. As a “waterfront connector” it would be difficult to expand to the airport without significant cost and would not compete well against the many airport shuttles offered by hotels in the area.
- **Consolidating shuttle services provided by hotels and others into a set of shuttle routes carrying visitors to and from the airport.** This alternative would combine the various hotel shuttles currently operating in the close-in areas including Mission Beach, Coronado, Old Town, and Downtown zones, creating a unified shuttle service that could serve a broader market. Such a service would be more efficient than the current ad hoc system of shuttles being provided by individual hotels, similar to the consolidation of rental car shuttles. However, unlike the consolidation of rental car shuttles, passengers are not all going to one place. A consolidated shuttle might benefit some passengers and open some new markets but would be seen as a negative impact on the current “point to point” shuttle rider. At this time, it appears more effective to improve public transit and allow the private shuttle market to evolve on its own.
- **Combining the upgraded 992 service with other routes to increase single seat access to the airport.** In the long term, it may be desirable to combine the 992 airport service with another route, serving major destinations that attract airport passengers. Options for combinations of transit service are shown on Figure 17. Combining the 992 with the 215 service in the El Cajon corridor and/or the 235 service along the Interstate 15 corridor would create a very high ridership Rapid route. However, the high cost and complex funding arrangements in place between MTS and SANDAG make it difficult to implement at this time.

Important progress has already been made on the recommended alternatives. As shown in the Implementation Plan (Chapter 5), the Airport Authority has invested significant time and resources into marketing and increasing the transit profile at the airport. It has worked closely with MTS as San Diego’s transit operator to upgrade and consolidate transit stops at the airport, improve transit marketing and wayfinding, and install transit ticket machines in each terminal.

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Finally, the Airport Authority has continued to work with agency partners to consider ways to improve or extend transit services to the airport. Further improvements to the MTS Route 992 including the potential Rapid route implementation and connection to Old Town are all being discussed at the regional level.

## 2 EXISTING CONDITIONS

This chapter looks at the airport’s existing transit system, previous relevant planning efforts, passenger transportation patterns, and stakeholder-agency perspectives as a foundation for the development and evaluation of alternatives to increase transit ridership to the airport.

From the analysis, these key findings emerged:

- Most airport users access the airport by private vehicle, even though the airport is one of the most space-constrained major airports in the country and among those with the fewest parking spaces per million passengers. Airport parking reaches its fullest in the middle of the week, topping out at an average occupancy of 80 percent on Wednesdays.
- A large share of passengers access the airport from homes or hotels within a short ride of the airport, with 22 percent coming from downtown, which includes the 16-block historical Gaslamp District. MTS bus services reach part of this area and connect to the Trolley that serves other main destinations nearby. Other key commuting corridors include the areas around I-5 north of the airport and areas near the three MTS Trolley lines. Many employees live along the I-5/Blue Line corridor to the south.
- Staff from partner agencies who were interviewed pointed to improvements in marketing, passenger information, amenities, and efficiency as potential means to increase ridership on existing services. They were mixed on the potential efficacy of direct regional bus service, though they noted that the region’s increasing number of Rapid service routes, and high-occupancy vehicle lanes in several corridors create opportunities to explore this type of service.

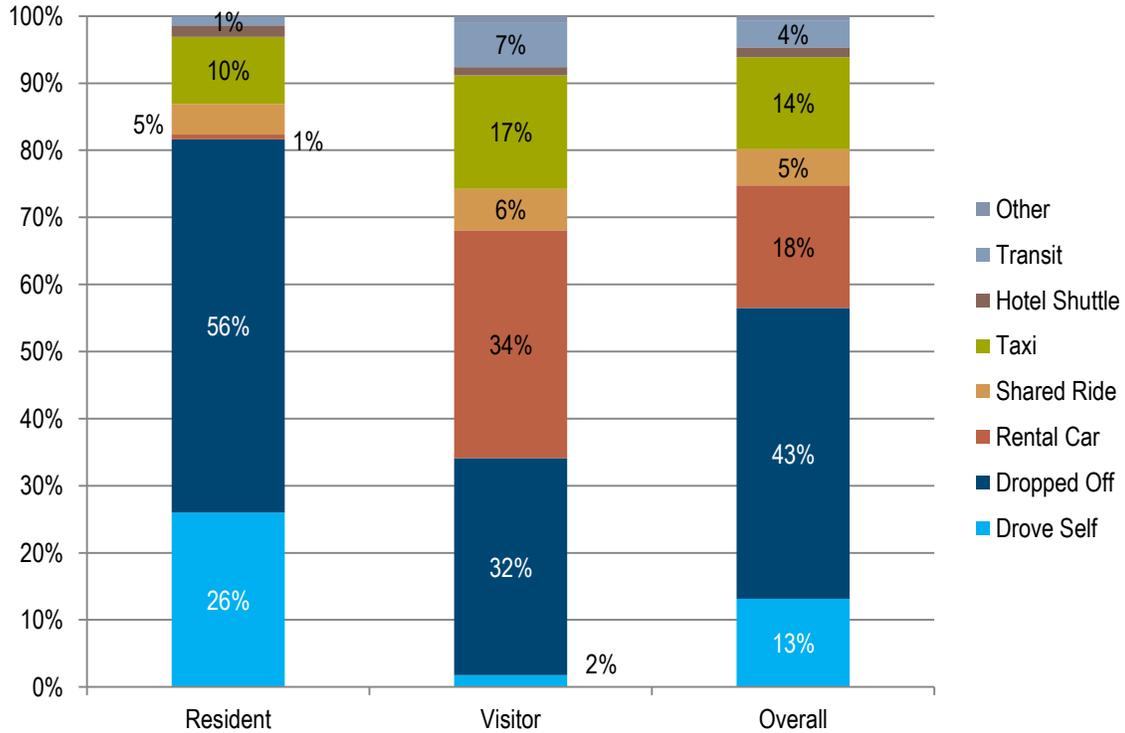
### GROUND TRANSPORTATION

More than half of departing passengers arrive at the airport by private vehicle (74 percent, including private auto or rental car), and most residents drive themselves or get dropped off (82 percent). Most visitors arrive by either of those modes (34 percent) or by rental car (34 percent). Figure 1 shows mode splits for each group based on the 2012 Airport Passenger Survey.<sup>1</sup> Six percent of visitors and 5 percent of residents arrive by shared modes, such as Super Shuttle or another private shuttle service. Just 1 percent of residents ride transit.

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<sup>1</sup> Leigh Fisher Management Consultants. “2012 Airport Passenger Survey.” San Diego International Airport, May-June 2012.

**Figure 1 Mode Share (Weighted Full Sample)**



Source: SDIA Traveler Survey, 2012

With these mode choice patterns in mind, this section lays out the existing ground transportation options.

## Public Transit

Figure 2 shows key transit lines that directly serve the airport or run nearby. The primary transit route serving the terminals is by bus, MTS Route 992. Four high-capacity rail services run near the eastern end of the airport, three are Trolley lines operated by MTS (the Green, Orange, and Blue lines) that serve San Diego, and one is the Coaster commuter train operated by the NCTD that runs north from the Santa Fe Depot downtown up along the coast to the City of Oceanside.

Figure 2 Airport Area Transit Service



### MTS Bus Routes

MTS Route 992 provides bus service between the airport and downtown San Diego. Previously branded as the “Airport Flyer,” Route 992 serves key destinations including the Embarcadero, B Street Cruise Ship Terminal, and Horton Plaza. The route provides connectivity to the San Diego Trolley system at stops near the Santa Fe Depot, America Plaza Station, and City College Station. Transfers to regional rail service, the NCTD’s Coaster and Amtrak’s intra-state rail service Pacific Surfliner, are also possible via the stop serving the Santa Fe Depot at West Broadway and Kettner Boulevard. In addition, the 992 connects with 20 other MTS bus routes at stops along Broadway in downtown San Diego.

As a result of the work done during the development of this plan, the Airport Authority and MTS have jointly worked to consolidate stops at the airport. Stops have recently been consolidated to increase reliability and reduce travel times. Eliminating the one stop at the Commuter Terminal and consolidating stops at Terminal 1 have reduced the number of airport stops from five to three. The 992 route operates on 15-minute headways (30 minutes after 6:30 p.m.) on weekdays and 30-minute headways on weekends (see Figure 3). The route operates between approximately 5 a.m. and 11:30 p.m. on weekdays, making its last run at 11 p.m. on weekends.

In addition to Route 992, MTS Route 923 provides service between Ocean Beach and Terminals 1 and 2 of the airport on Saturdays, with one-hour headways from approximately 6:30 a.m. to 6:30 p.m. Monday through Friday the route does not stop at the airport, but provides indirect access from Ocean Beach and downtown San Diego with two stops along North Harbor Drive, near entrances of the airport property. Sidewalks exist between these stops and the airport terminals with approximate walking times of 5 to 15 minutes.

MTS charges \$2.25 for a standard one-way fare and accepts payment by exact cash fare and the regional Compass Card.

**Figure 3 MTS Route 992 and 923 Operations**

Route	Headways	Weekend Headways	First and Last Airport Arrival (Weekday)	First and Last Airport Arrival (Weekend)	FY14 Ridership	Key Destinations
MTS 992	Every 15 minutes, every 30 minutes after 6:30 P.M. (weekday)	Every 30 minutes	5:10 A.M. – 11:32 P.M.	5:10 A.M. – 11:02 P.M.	1,435 (weekday)	County Administration Center, Cruise Ship Terminal, Embarcadero, Santa Fe Depot, America Plaza, Horton Plaza
MTS 923	Every 30 minutes (Saturday)	Every hour	N/A	6:26 A.M. – 6:28 P.M.	1,138 (Saturday)	Ocean Beach, Point Loma Heights, Roseville

Figures 4 and 5 show weekday ridership activity for Route 992, split into east and westbound service for visual clarity. The route’s Santa Fe Depot stop shows particularly high ridership on the western downtown end of the route, with lower levels of activity at the other downtown stops. Service to Terminals 1 and 2 operates in a counterclockwise loop. A total of 490 daily boardings and 603 alightings were observed at the airport’s passenger terminals<sup>2</sup>. Terminal 2 had the largest number of boardings, and Terminal 1 the most passenger alightings. Airport-related trips account for roughly two-thirds of the total ridership on the line. Activity at the airport stops is the same in each figure.

Most of the passenger boardings for the westbound route occur in the downtown area with a majority of alightings occurring in Ocean Beach; the reverse was observed for eastbound operations — more boardings at Ocean Beach and alightings downtown. During weekday ridership counts conducted for FY14, only a small number of boardings and alightings (fewer than 20) were observed at the stops near the airport at North Harbor Drive and Harbor Island Drive in the eastbound direction. Airport boardings accounted for less than 5 percent of total ridership on this route.

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<sup>2</sup> Source: MTS, 2014.

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**Figure 4 Westbound Route 992 Travel to the Airport**



**Figure 5 Eastbound Route 992 Travel from the Airport**



## **MTS – The Trolley**

The San Diego Trolley is the backbone of San Diego’s transit system, providing higher capacity service on mostly dedicated rights of way. Although the Trolley does not provide direct service to the airport, it runs along the eastern end of airport property, just 1.5 miles down North Harbor Drive and West Laurel Street from the terminals. Route 992 provides a connection between the airport and the Green and Orange Lines at the Santa Fe Depot and Blue and Orange Lines at America Plaza Station.

From the Santa Fe Depot and America Plaza Station in downtown San Diego the Trolley provides access to key destinations across the San Diego metropolitan area: Old Town, Mission Valley, San Diego State University, El Cajon, and Santee to the north; Lemon Grove and La Mesa to the east; and National City, Chula Vista, and San Ysidro at the United States–Mexico border to the south.

MTS charges \$2.50 for a standard one-way Trolley fare, which can be purchased before boarding via ticket vending machines. Regional Day Passes, which allow for unlimited travel on all MTS Trolley lines, most MTS bus routes, and NCTD light rail and bus routes, cost \$5 with a Compass Card prepaid transit pass (\$7 without: \$5 for the Day Pass and \$2 for a reusable Compass Card). Because many airport passengers are transferring from the Trolley or from Coaster to the bus route serving the airport, passengers often pay a minimum of \$5.00 for their ride.

The completion of the airport’s new roadway provided the opportunity for the new and sole connection between the Trolley system and the terminals. Featuring branded buses, the Trolley to Terminal shuttle provides frequent service between the terminals and a shuttle stop on the dedicated airport roadway just west of Pacific Highway, approximately one-quarter mile from the Middletown Station on the Trolley’s Green Line. The connection, which will be enhanced later in 2016 with upgrades to the pedestrian pathway and wayfinding between the station and bus stop, represents a major improvement to the airport’s transit service.

## **North County Transit District – The Coaster**

The NCTD’s Coaster provides commuter rail service to eight stations between San Diego and Oceanside.<sup>3</sup> The terminus at the Santa Fe Depot provides connections to the airport via the MTS Route 992 bus. The Coaster operates 11 trips in each direction on weekdays, with an emphasis on peak-period trips (morning and early evening rush hours) in the peak direction, and four trips in each direction distributed throughout the day on Saturdays and Sundays.

Although the Coaster serves the I-5 corridor, one of the most important corridors for airport travel, limited service makes the Coaster difficult to use for airport trips. One-way adult fares for the service range from \$4.00 to \$5.50. In addition to the Coaster, NCTD operates an east-west light rail line that runs 22 miles along Highway 78 from Oceanside to Escondido (SPRINTER), a fixed-route bus that stops at or near major regional attractions including north San Diego County beaches (BREEZE), and dial-a-ride, on-demand transit service throughout northern San Diego County (FLEX).

SANDAG’s 2050 Regional Transportation Plan proposes infrastructure improvements and accompanying operational enhancements that would increase Coaster service to every 20 minutes during peak periods and every 60 minutes during off-peak periods by 2030. This plan is

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<sup>3</sup> Coaster stations are: Oceanside, Carlsbad Village, Carlsbad Poinsettia, Encinitas, Solana Beach, Sorrento Valley, Old Town San Diego, and Santa Fe Depot (Downtown San Diego).

unfunded, but it has the potential to significantly increase transit ridership to the airport, with connections made either at the Old Town Station or the Santa Fe Depot.

### **Amtrak**

The Pacific Surfliner, operated by Amtrak, provides rail service along the LOSSAN corridor (San Luis Obispo – Santa Barbara – Los Angeles – San Diego) from the Santa Fe Depot and Old Town Station in San Diego. Passengers can transfer to other intra- and inter-state rail services operated by Amtrak at Los Angeles Union Station. Passengers can connect to the airport at the Santa Fe Depot via the MTS Route 992 bus.

### **Private Shuttles**

Numerous for-hire, shared-ride shuttle operators provide service to and from the airport. Access to shuttles is available at transportation plazas located across from Terminals 1 and 2. Shuttle operators permitted to serve the airport include Advanced Shuttle, Airport Shuttle, Cloud 9/SuperShuttle, Coronado Livery, EZ Ride, Prime Time Shuttle, and Sea Breeze Shuttle. Each shuttle company that serves the airport is required to have ADA compatible vehicles within their fleet.

Cloud 9, a subsidiary of SuperShuttle, reported that the primary origins and destinations for shuttles serving the airport are to the north of the airport along the I-5 and I-15 corridors and hotels in downtown San Diego. The service averages 30,000 to 35,000 pick-up and drop-offs at the airport per month.<sup>4</sup>

### **Taxis and Ridesharing Services**

Several taxi operators provide door-to-door service to and from the airport. Taxis drop off departing passengers at the terminals curbside and pick up arriving passengers at transportation plazas located across from Terminals 1 and 2. Passengers are matched with the first available taxi by a transportation coordinator located at the pick-up points. Taxi operators that are permitted to serve the airport include Airport Yellow Cab of San Diego, American Cab, Orange Cab, San Diego Cab, and USA Cab.

The Airport Authority currently allows ridesharing services such as Uber and Lyft to operate on airport property.<sup>5</sup> The growth of these services provides a challenge to airports, which manage limited curb space. The impact of ridesharing services on public transit is not known; but in general, the low cost and personalized nature of these services would be expected to reduce transit ridership to and from the airport.

### **Courtesy Shuttles**

A wide array of off-airport hotels, parking, and rental car operators provide courtesy shuttles to the airport's passenger terminals. Courtesy shuttles pick up and drop off passengers at the transportation plazas located across from Terminals 1 and 2.

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<sup>4</sup> Source: Mike Forbush, General Manager of Cloud 9.

<sup>5</sup> David Boenitz, Director of Ground Transportation at San Diego County Regional Airport Authority.

## **TRAVEL BEHAVIOR**

The 2012 Airport Passenger Survey is the best available source of information on existing travel behavior of airport passengers. The survey gathered responses from nearly 8,000 passengers and included questions about mode choice, parking attitudes and habits, and home or lodging location. This section details a set of transportation-relevant findings, including these key points:

- Most passengers access the airport by private vehicle, whether by driving themselves, getting dropped off, or using a rental car.
- Although the San Diego area is generally characterized by low-density development patterns, airport-related travel demand seems to cluster in a few broad corridors. In particular, the nearly 50 percent of visitors who reported staying in hotels cluster in a few areas, most notably downtown San Diego and the Gaslamp District. Hotel-related demand accounts for roughly 18 percent of all airport-related travel, and demand related to the San Diego Convention Center, cruise ships, and downtown residences and offices makes the area account for approximately 22 percent of all travel to and from the airport.
- The I-5 corridor north of the airport including the Coaster service area contribute significant airport demand, about 20 percent, particularly among residents.
- Nearly a quarter of respondent home or hotel locations were located in broad areas around existing MTS Trolley routes. Data from a 2014 on-board MTS survey and information on employee home locations from the 2008 SDIA Airport Transit Plan (the Airport Authority’s previous transit planning effort) shows that most employees live in the southern part of the region — National City and Chula Vista — many near the Blue Line.

### **Methodology**

The airport survey was completed in May and June of 2012 and collected responses from 7,929 travelers, including 3,369 San Diego-area residents and 4,560 visitors. In accordance with best practices in surveying, responses were weighted to account for sampling bias and accurately reflect characteristics of the broader population.

The analysis identified travel corridors based on respondents’ reported zip code or hotel location. For the 53 percent of visitors who did not stay in a hotel, the analysis assumed the same geographic distribution of lodging locations as that of residents’ home locations. This was deemed reasonable based on a comparison between resident respondents and the visitor respondents who did not come to the airport from a hotel. Fifty-three percent of visitors reported coming to the airport from somewhere other than a hotel, and of those respondents, 85 percent reported coming to the airport from a private residence. This is just slightly less than the share of all resident respondents who reported arriving from a private residence (90 percent).

Corridors were defined by first narrowing the response sample to the zip codes in which 10 or more respondents reported living or staying, which resulted in approximately 80 San Diego-area zip codes. The analysis then organized the zip codes into broad corridors, not based on traditional transit sheds (or access radiuses) of .5 to 5 miles but based on broad directionality (i.e., a band of zip codes along I-5 and the route of the Coaster to the north of the airport were deemed to be part of the “I-5/Coaster” corridor).

## **Overall Travel Behavior**

### **Trip Distribution**

Figure 6 shows overall distribution of reported residences and hotels, and Figures 7 and 8 show corridor breakdowns for residents and visitors separately. About one-third of respondents reported coming from within a short ride of the airport, defined as including the area from the Gaslamp District to North Park to Mission Hills to the areas around Mission Bay to Point Loma. The area along I-5 and the Coaster rail service north of the airport is the next biggest corridor, accounting for nearly 20 percent of all weighted responses. Areas around I-15 account for 8 percent of all passengers' reported home or hotel locations. (Note that the images do not illustrate "other" areas, and thus do not sum to 100 percent.)

Figure 6 Distribution of Residences and Hotels (Weighted Full Sample)



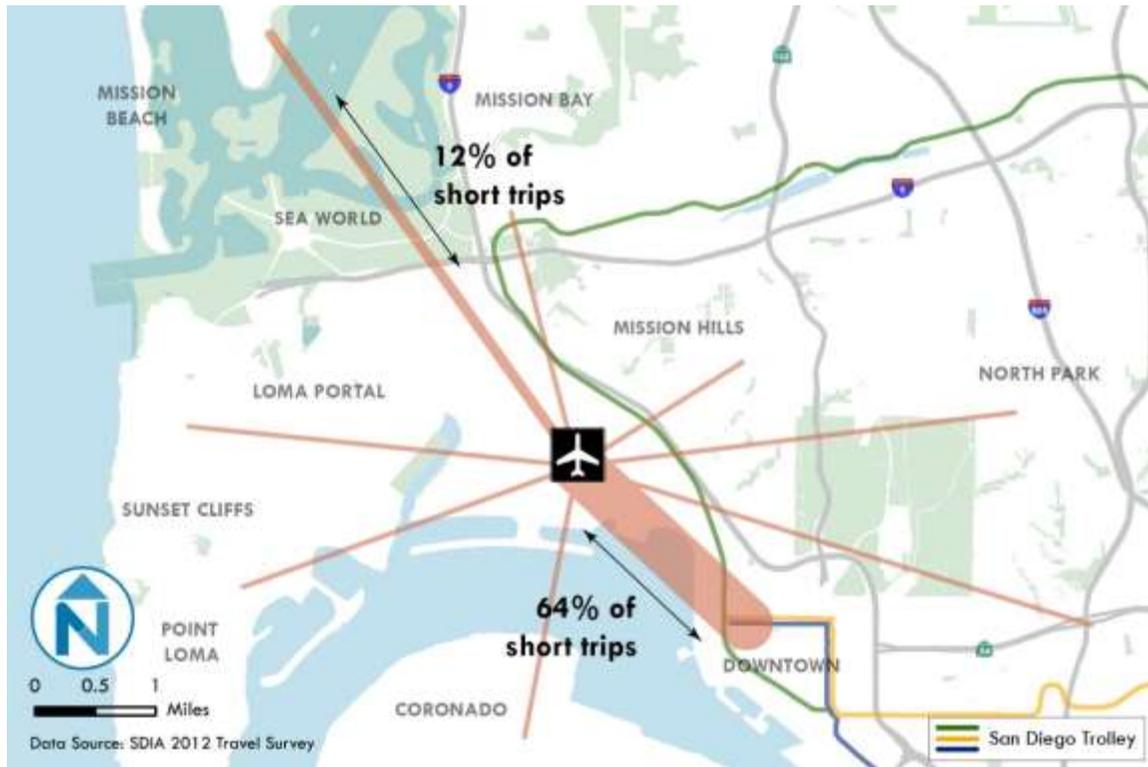
Figure 7 Distribution of Visitor Lodging Locations (Weighted Visitor Sample)





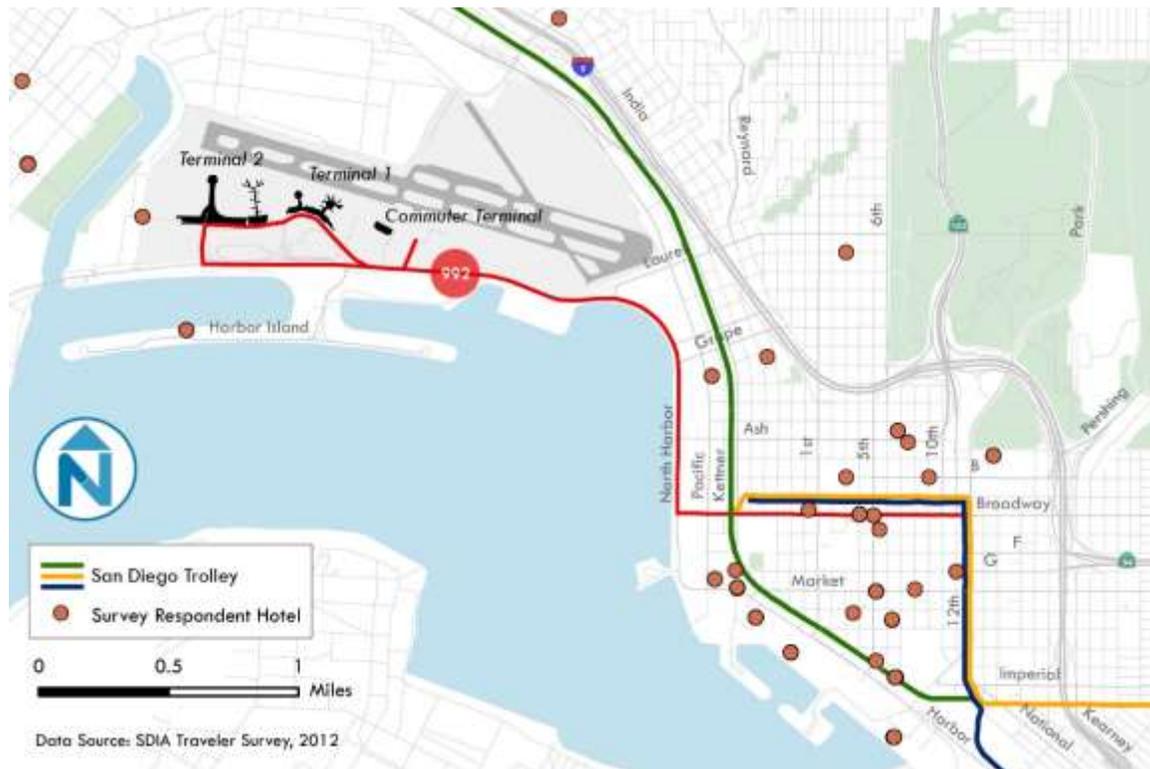
Among areas within a short trip from the airport, the zip code including downtown San Diego and the Gaslamp District was by far the biggest market, accounting for nearly two-thirds (64 percent) of short trips, with the areas around Mission Bay accounting for the second largest share of trips at 12 percent. All other close-in markets each accounted for approximately 5 percent of short trips. Figure 9 illustrates these patterns.

**Figure 9** Distribution of Short Trips (Weighted Full Sample)



As shown in Figure 7, most hotel visitors reported staying within the short-trip zone (78 percent), where most of the region’s largest hotels and tourist destinations are located. Figure 10 shows the locations of Downtown and Gaslamp District hotels at which visitors reported staying. Most are located around existing transit lines, particularly near the San Diego Convention Center along the Trolley’s Green Line. Clusters outside the downtown area include the areas near Sea World and Mission Bay, the junction of SR-163 and I-8, Coronado, and downtown La Jolla.

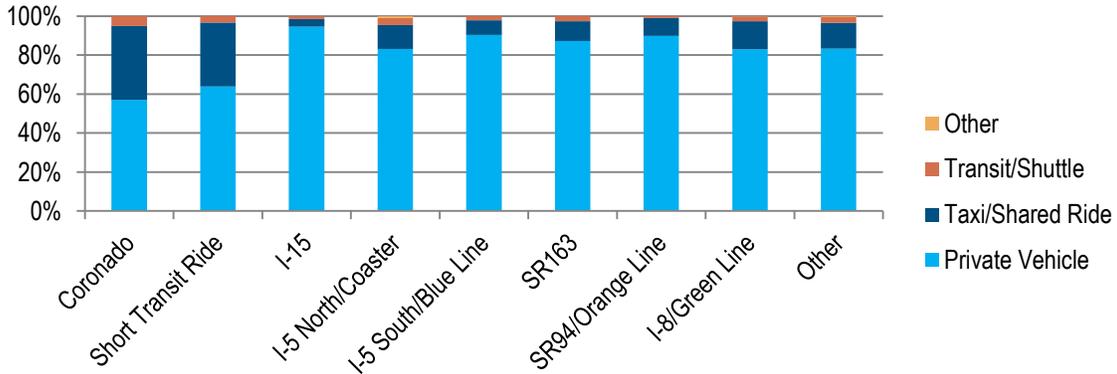
Figure 10 Respondent Hotel Locations



Residents' home locations were somewhat evenly distributed across the region, as Figure 8 showed. The biggest travel market for this segment, the areas around I-5 and the Coaster corridor north of the airport, account for a weighted 23 percent of residents' reported home locations. Areas broadly located around Trolley corridors — the Green, Orange, and Blue lines — together accounted for 27 percent of home locations, while 17 percent reported going to or coming from homes in the short-trip area.

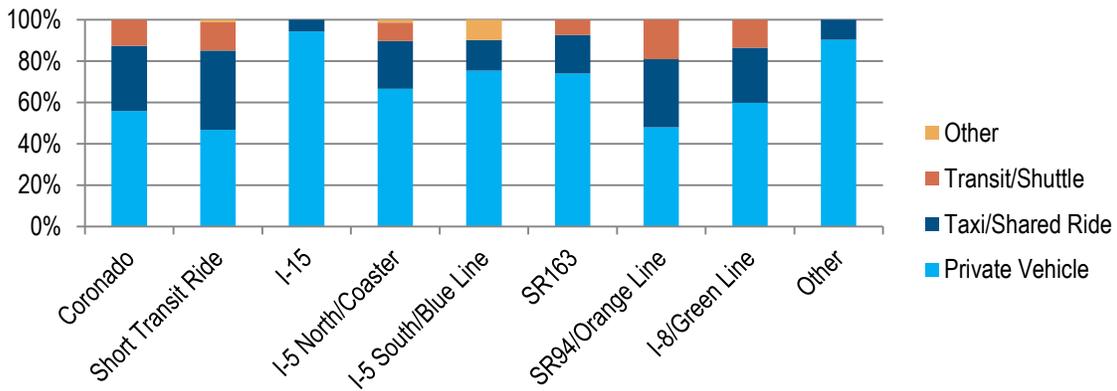
Figures 11 and 12 show mode split by market for residents and for visitors. For residents, in all corridors except Coronado and the short-trip areas, private-vehicle mode shares are 80 percent or more. Even in the short-trip markets, transit mode share only reaches as high as 2 percent. Visitors show a greater propensity than residents for taking shared shuttles like Super Shuttle, and their public transit mode shares reach as high as 19 percent in the SR94/Orange Line corridor.

**Figure 11 Mode Split by Corridor, Residents (Weighted)**



Source: SDIA Traveler Survey, 2012

**Figure 12 Mode Split by Corridor, Hotel Visitors (Weighted)**

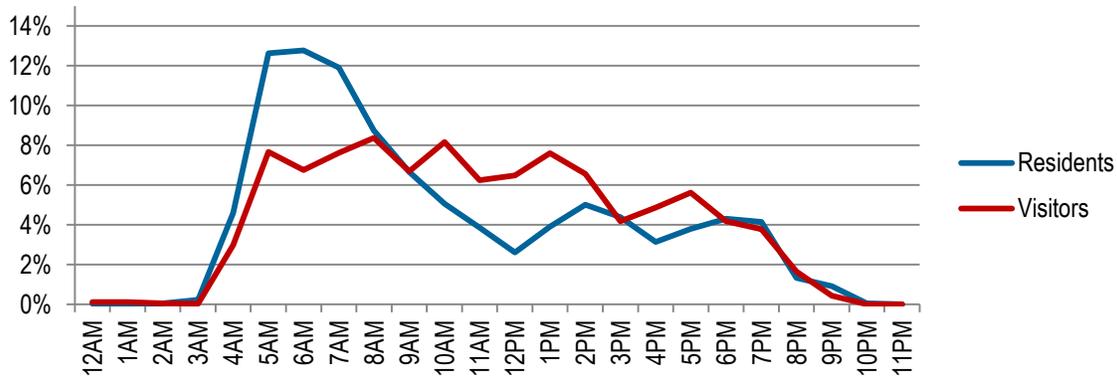


Source: SDIA Traveler Survey, 2012

**Airport Arrival Time**

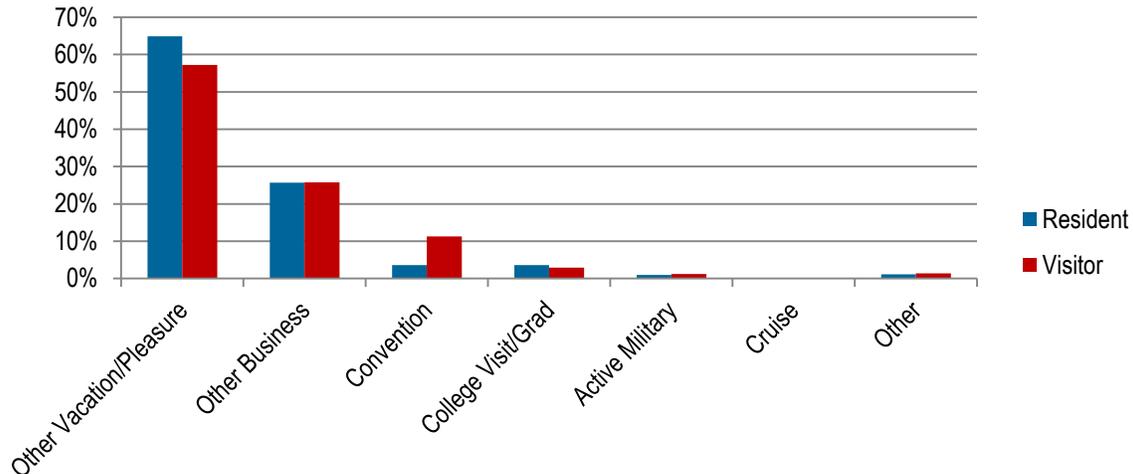
The greater number of residents’ reported airport arrival times were higher in the early morning, whereas visitors’ arrival times were more evenly distributed across the day, tapering quickly after 5 p.m. (Figure 13). Each group’s reported reasons for travel (shown in Figure 14), however, were similar, and there were no significant differences in the reported arrival time by corridor for travelers with different reasons for travel.

**Figure 13**      **Reported Airport Arrival Time (Weighted Sample)**



Source: SDIA Traveler Survey, 2012

**Figure 14**      **Reason for Travel**



Source: SDIA Traveler Survey, 2012

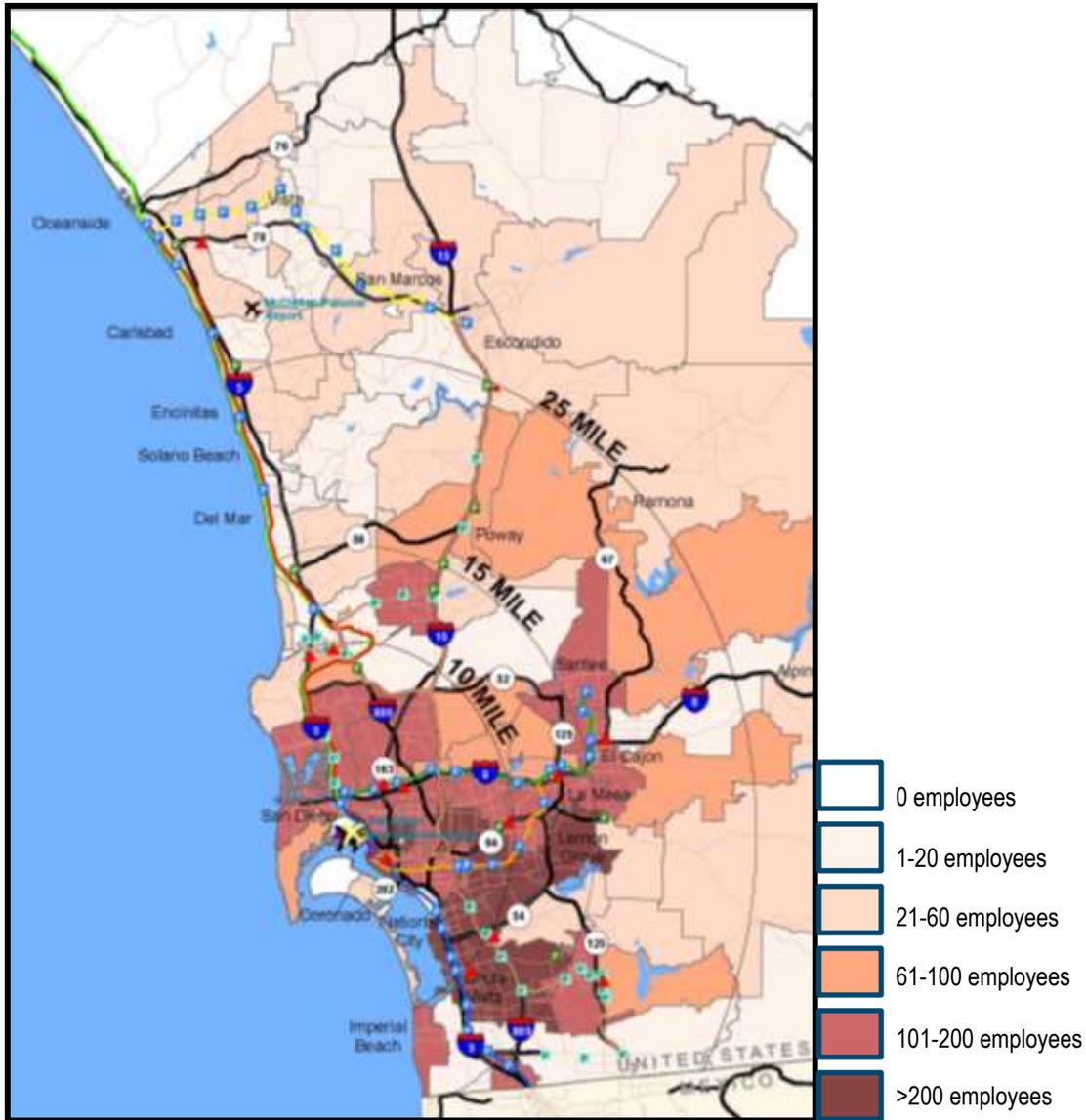
**Transit Riders and Employees**

The two best sources of information on employee travel behavior are Phase II of the Airport Authority’s previous transit plan in 2008 and the Metropolitan Transportation System’s on-board survey, completed in 2014. (The 2012 Airport Passenger Survey did not include information about airport employees.) The on-board survey captured responses from 316 people who were on the way to the airport via the Trolley (Routes 923 and 992), or Coaster. From this sample, 29 percent reported that they were on their way to work at the airport. Responses were weighted by MTS based on the relationship between the sample gathered and the total ridership on each line (i.e., if a given line’s share of survey responses was lower than that line’s share of system-wide ridership, the responses for that line were weighted more heavily).

Figure 15 shows employees’ home locations as of 2009, per an analysis done for Phase II of the Airport Authority’s previous transit plan. Employee homes cluster south of the airport in the I-5/Blue Line corridor, particularly in National City and points south. The on-board survey shows

similar patterns, with 71 percent of those headed to work at the airport coming from the southern part of the region or downtown.

**Figure 15 Employee Home Locations**

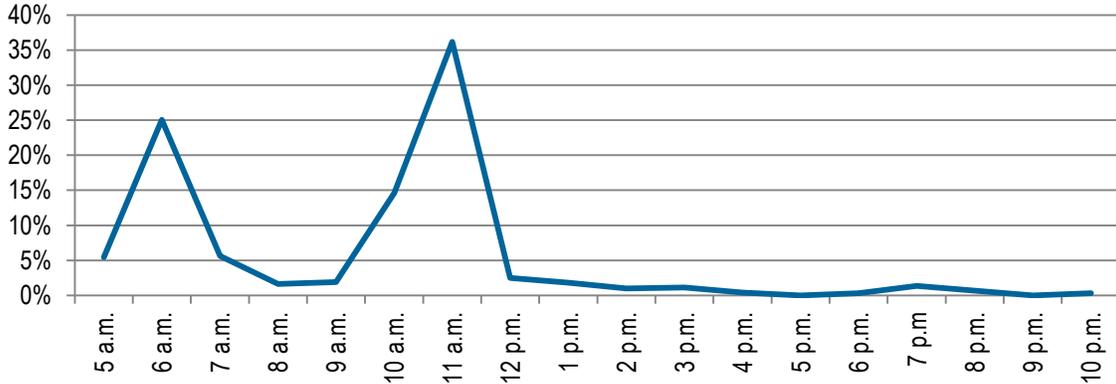


Source: Supplementary HNTB analysis based on 2009 SDIA Air Passenger Survey, from SDIA Airport Transit Plan Phase II Progress Report presentation to the Airport Authority board, January 2011

The 2009 analysis noted that most airport employees are shift workers, with arrivals and departures clustering around two peak times. Data from the on-board survey supports this theory, as Figure 16 shows, though it is important to consider two important caveats before drawing definitive conclusions on these data. First, the 93 people who reported traveling to or from work on a line serving the airport were just a small share of thousands of people who participated in the on-board survey region-wide. In addition, the on-board survey was not designed to perfectly capture the general time distribution of a given line’s ridership, nor were survey data weighted to do so. As such, the times of surveyor shifts could play a role in

determining the shape of the distribution. It is useful nonetheless to see how this small snapshot is consistent with the employee travel behavior noted in the previous plan.

**Figure 16** Trip Time, Employees (Weighted)



Source: SANDAG/MTS On-Board Survey, 2009

Given the lack of survey data on all employees, the study team has no hard evidence of employees' overall mode-choice decisions. Although two pieces of on-board survey data hint that transit mode share is likely rather low, particularly given the factors that travelers weigh when deciding their mode of transport (the topic covered in the next chapter). First, 64 percent of all survey respondents with an origin or destination at the airport reported making at least one transfer to get to the airport, with 29 percent using one of the Trolley lines for a link in their trip and another 8 percent using the Coaster. This means many transit journeys to the airport are indirect, and travelers tend to weigh transfer wait time more heavily than in-vehicle time, which could already be quite significant for those coming from the southern part of San Diego County given the need to transfer downtown to get to the airport. Second, few respondents who were on their way to work at the airport reported that their employer subsidized transit expenses – 13 percent received a full transit subsidy and 3 percent a partial subsidy.

## 3 IDENTIFYING KEY TRANSIT MARKETS

Even the best transit services can never hope to capture a majority of trips to an airport, although previous work completed for the Airport Authority suggests that the number of transit riders could essentially double with improved service. Whether this is possible, there is nonetheless a substantial opportunity to improve transit ridership to the airport. Exploiting this opportunity at the airport, as elsewhere, requires analyzing its unique characteristics, which include early and late shift workers, the absolute need to be on time to catch a plane, the phenomenon of groups traveling together, and the proportion of business passengers whose costs may be paid by someone other than the traveler. These are just some of the factors which suggest that airports are unique in their transit choice behavior.

This chapter, therefore, provides additional information on travel behavior at the airport, discusses the factors that may influence demand in the different market segments, and identifies the opportunities for increasing ridership by improving service in the different access modes and transportation corridors.

### TRAVEL BEHAVIOR

Individual travel choice decisions may be based on many factors, but the two most common (after basic access – whether a destination can be arrived at using a mode of transportation) are travel time and the cost of travel. However, travelers may not make decisions based on actual costs or travel times, as perceptions of travel time and cost can vary significantly. Even though auto ownership is expensive (a national average of 59.2 cents per mile driven, according to the American Automobile Association’s 2014 survey), the financial incentives to use a car on any given trip are typically limited to the price of gas, tolls, and parking. At the same time, research has found that time spent waiting for transit may be perceived as much longer than it actually is, a factor that may be compounded if one must transfer, or when a bus or train is running late.

Travelers certainly take into account other factors. “Legibility,” or the ease of understanding a transit route, includes route directness, effectively posted passenger information and signage (wayfinding), and “clockface” headways. Passengers are more comfortable reading, and best recall, schedules based on every 10, 15, 20, 40 or 60 minutes. Marketing plays a role in all of this, from communicating functional travel information to promoting amenities and perceptions of safety, comfort, and qualitative and esthetic elements of the experience such as the “pleasantness” of landscaped pedestrian paths to and from transit stops. This marketing may be particularly important for travelers not familiar with their destination. Responding to the need for information both before their trip and upon arrival is critical, as visitors often make their access mode decisions before they arrive on site.

The comfort level and expectations for travel to and from an airport may vary considerably depending on the type of trip. For airline passengers on business or on vacation, often carrying luggage and on much more time-sensitive schedules, missing a trip or being late may have a much greater impact than for an employee regularly commuting. In terms of the financial incentives of visitors taking public transit, many air travelers include business passengers whose trips are being paid for by others. Saving a relatively small amount of money by taking a transit trip may have little impact on those traveling on expense accounts.

## **TRAVELER MARKETS**

Based on the factors discussed that influence travel behavior and the characteristics of each transit market for the airport – residents, visitors, and employees – this study has identified the opportunities within each market and each transit mode for increasing ridership.

### **Resident Travelers**

For residents who own cars, the decision whether to drive to the airport may be driven primarily by (a) the cost to park, and (b) the difference in travel time between driving and taking public transit or other modes.

The daily cost to park at the airport currently starts at \$13. Lower rates are available at nearby private lots. Overall, the cost for taking public transit should be less than parking, although for families, couples or friends carpooling, parking may cost less per person for short-term parking of just a day or two.

For most trips, public transit should be cost-competitive with driving to the airport; however, depending on origin and destination, the cost savings for public transit may be offset by substantially longer travel times – particularly in a relatively sprawling region such as San Diego County.

In developing alternatives to make public transit more attractive to residents, then, cost, travel time, and reliability will be major factors.

### **Visitors**

For visitors, the time-and-money calculus is somewhat different than for residents. While some visitors arrange to be picked up and dropped off by residents, many others consider whether to rent a car. This potentially laborious and expensive proposition is heavily influenced by the visitor's ultimate destination (is it a short trip to a downtown hotel or a resort along the coast?), as well as the cost of parking at the destination location. A visitor may decide on the access mode based largely on the need (or perceived need) for a car for the duration of their visit (such as for traveling to a business event or to tourist attractions), rather than on the quality of the transit option.

For visitors, awareness and understanding of transit options may be of particular importance. As relative strangers to a new area, visitors need information in advance of travel as well as upon arrival that gives a high degree of confidence that the transit service will meet all of their needs. Trips are also complicated by a factor specific to airport access: luggage. Can the transit mode, for example, efficiently and comfortably accommodate a family's assemblage of overstuffed suitcases and souvenirs as well as a carry-on of business traveler impatient to get to the terminal? Based on

different objectives and expectations, these different types of visitors require transport that can flexibly accommodate their needs and different travel behaviors.

## **Airport Employees**

Finally, airport employees are the most cost-conscious in this market, as they must travel to the airport frequently. Because many employees work early or late shifts, service span may also be an issue as service may be unavailable at start or end times. Other factors in transit service such as frequency and numbers of transfers required are also issues.

## **MODES**

Existing public transit service to the airport is provided by bus routes comprising local stops. While relatively frequent stops increase access, they degrade travel time, especially over longer distances. This is why the “rapid” bus services recently introduced in San Diego have become increasingly popular: by stopping only at the busiest locations, they improve travel times for most potential users. Express buses and shuttles providing direct, non-stop, point-to-point access are similar in this regard.

Most residents and employees within the airport’s travel shed — the area from which most trips to the airport originate — do not live near a Trolley station. Nonetheless, the system does serve major corridors, and it will soon be extended north alongside I-5. Some stations provide free parking extending the reach of the system; but capacity is limited, and importantly for airport access, stays are limited to 24 hours.

Coaster commuter and Amtrak intercity trains serve the I-5 North corridor but bypass the airport without stopping. The nearest Coaster station is the Santa Fe Depot, where trains terminate; the nearest station in San Diego to the north is at Old Town. Coaster service is infrequent outside of peak commute hours, although a major expansion of service was included in SANDAG’s most recent Regional Transportation Plan. The Mid-Coast Corridor Trolley extension, an under-construction extension of the Trolley system from Old Town to University City, will serve UCSD and other interim destinations.

As this extensive description of the available transit network in the San Diego region may indicate, one of the most cost-effective tools available for improving transit access is improved awareness of existing service as well as simplifying and communicating its ease of use. Other opportunities may exist for enhanced wayfinding signage at the airport and other locations such as Downtown San Diego supported by a renewed marketing effort via digital and other platforms.

## **KEY TRAVEL CORRIDORS**

The travel market analysis found the greatest overall demand for travel to and from the airport is first, the immediate area of the airport, including downtown; second, the I-5 North/Coaster/Mid-Coast Trolley extension corridor; and third, the I-8/Trolley Green Line corridor. Each has distinct transportation-related characteristics that suggest different strategies for improving transit access and market share.

## **Airport Area**

In the immediate area of the airport, including downtown, most of those traveling to and from the airport are visitors, and existing transit service to the airport is relatively convenient. Route 992

provides relatively frequent connections between the airport and downtown at most times. The first and most obvious way to improve airport access within the area of the airport, then, would be to make improvements to the speed, frequency, and span of Route 992 service.

However, much of downtown, including the Gaslamp Quarter, is not served by Route 992. Visitors carrying luggage are especially sensitive and averse to transfers or long walks to and from stops. Another strategy for improving airport access, then, might be to provide transit service to parts of downtown not directly served by Route 992, particularly hotels. The Port of San Diego currently operates seasonally the Big Bay shuttle service along the downtown waterfront that might be expanded to operate year-round and serve the airport and downtown hotels.

## **I-5 North/Coaster**

The different rail services within the I-5 North corridor might be leveraged in a number of ways to increase ridership to and from the airport. First, additional esthetic and safety improvements could be made to the Green Line's Trolley to Terminal connection, particularly the pedestrian walkway between the Middletown Trolley Station and airport terminals. Second, shuttle service could be provided between the airport and the Old Town Transit Center, which is both a Trolley and Coaster stop, although the limited space and high competition for parking in this area would have to be addressed. And third, rail service in the corridor could be expanded as planned, including the Mid-Coast Corridor Trolley project as well as more frequent Coaster service.

Additional opportunities may exist to introduce express bus service between the airport and remote parking lots in this corridor and others. For example, there are a few existing moderately sized park-and-ride lots in the I-5 corridor, and a larger lot is planned at Manchester Avenue in Encinitas. There are managed (HOV and toll) lanes north of I-805 and several public parking lots in the I-15 corridor, where there are also managed lanes. These could be used for FlyAway-style express bus service.

## **Other Corridors**

Existing transit infrastructure might also be leveraged in other corridors including the Trolley lines in the I-8/Green, Orange, and Blue Line corridors, as well as the I-15 corridor. Both the Green and Orange Lines stop at Old Town; the Blue Line will be extended to Middletown, Old Town, and the University of California San Diego (UCSD) by 2021 as part of the Mid-Coast Corridor project. A new airport express service could be created and use the managed lanes in the I-15 corridor, now used by a new Rapid bus service. Alternately, Rapid bus service might be extended to the airport.

# 4 TRANSIT ALTERNATIVES AND RECOMMENDATIONS

## SUMMARY OF ALTERNATIVES CONSIDERED

This transit plan considered a wide range of alternatives with the goal of maximizing transit ridership to and from the airport. The alternatives were evaluated, based on the travel demand and market analysis:

- The primary markets for travelers accessing the airport are the short-distance market in the greater downtown area, and close-in destinations on the I-5 and I-15 corridors. Visitors to San Diego overwhelmingly travel to close-in destinations, whereas San Diego residents are more likely to take longer trips along the highway corridors. The short distance trips, however, represent the largest proportion of both visitor and local traveler trips to and from the airport.
- The primary markets for employee trips are along corridors well served by transit, particularly the Trolley's Green Line in the I-8 corridor, the Blue Line in the Southeast corridor, and the Coaster service area along I-5. Alternatives that provide quality connecting services in these corridors have the opportunity to capture new airport trips.
- The needs of airport passengers and employees for travel both earlier and later than most transit services operate, as well as the need to carry luggage and to arrive within a constrained window create a unique limitation on the transit market to an airport compared with other major destinations, such as tourist attractions. In addition, visitors may choose to rent a car at the airport because they have a perceived need for the car during their visit to the City; therefore they are unlikely to use transit, however well designed. Even with these limitations, public transit provides important airport access for those markets that can take advantage of the service.

Figure 17 summarizes all alternatives studied in relation to their estimated capital and operating costs and the projected additional annual transit riders that each alternative will generate. Although presented together as a separate alternative, marketing and wayfinding are low cost additions designed to optimize the benefits of all the new alternatives. Marketing and wayfinding are essential to the success of any new investment, in addition to enhancing the ridership experience.

None of these alternatives is designed to be implemented or funded by the Airport Authority alone. Restrictions on airport funding sources, described in Chapter 5, limit the Airport Authority's ability to provide either capital or operating funds for projects off airport property that are not dedicated entirely to benefit airport passengers. Nonetheless, the Airport Authority remains a critical regional partner, working with the region's funding agencies and transit providers to maximize access to the regional assets at the airport. The Airport Authority has

recently made significant investments in on-airport infrastructure which complement regional operators' improvements in transit service.

Of the eight proposed alternatives, these four have the best performance prospects relative to estimated capital and operating costs:

- **Maximize marketing and passenger information utilizing airport and non-airport information channels.** The Airport Authority is already working on a comprehensive improvement in its communication of transit information to passengers and employees. Improvements to the airport's website, including links to regional and local transit trip planners, are already developed and many are in place, as well as improved signage, guides and brochures, and training for the information staff. Marketing could be further enhanced with new amenities at on-airport bus stops such as monitors that display real-time arrival information, which is being considered, and partnering with other agencies that can promote airport transit access, including NCTD, Amtrak, and Coaster. MTS has already agreed to a joint marketing campaign, as well as its own signage improvements.

Expanded joint marketing through chambers of commerce, tourism organizations, and advocacy groups like Circulate San Diego could further promote the concept of a "car free visit" to San Diego, encouraging visitors to consider transit as their airport access mode. Information should be designed with the distinct needs of different traveler groups in mind – from international travelers to senior citizens – and distributed through multiple platforms, including social media.

- **Enhance the new Trolley access, building on the Trolley to Terminal connection utilizing the new exclusive airport roadway and bus stop.** The San Diego Association of Governments (SANDAG) and the City of San Diego already have made interim improvements to the pedestrian pathway from the Middletown Station to this new on-airport bus stop, which will feature amenities such as signs displaying "next bus" information. More attention is needed to optimize that connection, with high-quality signage for wayfinding and improvements to the pedestrian pathway that crosses Pacific Highway. Security on the pedestrian path, at the shuttle stop, and aboard vehicles should also be an important consideration. Improvements should be made as soon as possible to encourage significant numbers of riders to use this connection.
- **Convert the existing MTS bus route between the airport and downtown San Diego, Route 992, to a "Rapid" route, with improvements to the operations on the airport and on the route through downtown.** MTS has a Bus Rapid Transit or BRT service comprised of a number of Rapid routes that have high frequency and limited stops for shorter travel times and increased reliability. Making the 992 a Rapid route would bring these benefits along with improved branding.

The MTS bus stops at the curb front directly outside the baggage claim at Terminals 1 and 2. Improvements at the airport are already underway in collaboration with MTS, including the installation of fare payment machines in Terminals 1 and 2, as well as stop consolidation. Real-time arrival information displays may be installed at airport stops. Rapid buses might also include airport-specific amenities such as luggage racks and information displays on which airlines are in each terminal.

- **Partner with transit operators to consider a transit line from the Old Town Transit Center and Amtrak Station to the airport.** Adding a new shuttle service from Old Town Transit Center would enhance airport access, not only for Coaster and

Trolley riders, but for many important bus lines such as Routes 9 and 28 that serve that site. Implementation of service from Old Town is dependent on further outreach to Old Town stakeholders to identify methods to ensure that airport passengers do not overrun the parking available for the Old Town San Diego State Historic Park, California Department of Transportation (Caltrans) offices, and area businesses.

These recommended alternatives are all entirely consistent with the California Coastal Commission conditions of approval for the airport’s parking plaza development, expected to take place over the next several years.

In addition to the four alternatives recommended in this report, four other services were studied and were not recommended at this time:

- **Regional express “FlyAway” style bus service in the I-5 and I-15 corridors.** This remains an interesting option for the long term, but is not recommended at this time, for two reasons. First, to be successful, a substantial amount of parking with easy freeway access is required – approximately 750 spaces in the I-5 corridor and 500 spaces in the I-15 corridor. This substantial amount of parking is necessary to justify the frequency of service that would be needed for the service to be viable. It is unlikely that this much parking could be developed in surface lots, and at costs of \$35,000 to \$50,000 per space, a new parking garage could cost upwards of \$25 million. Further, the success of FlyAway service in the LA area is largely based on the high level of traffic congestion for single-occupant cars, combined with the availability of HOV infrastructure making the bus service fast, reliable, and economical. Those conditions do not yet exist in San Diego and would require significant investments that are not yet planned.
- **Expansion of the Big Bay Shuttle to serve the airport.** The Big Bay Shuttle is a seasonal service that serves the waterfront area. It does not currently serve the airport. As a “waterfront connector” it would be difficult to expand to the airport without significant cost and would not compete well against the many airport shuttles offered by hotels in the area.
- **Consolidating shuttle services provided by hotels and others into a set of shuttle routes carrying visitors to and from the airport.** This alternative would combine the various hotel shuttles currently operating in the close-in areas including Mission Beach, Coronado, Old Town, and Downtown zones, creating a unified shuttle service that could serve a broader market. Such a service would be more efficient than the current ad hoc system of shuttles being provided by individual hotels, similar to the consolidation of rental car shuttles. However, unlike the consolidation of rental car shuttles, passengers are not all going to one place. A consolidated shuttle might benefit some passengers and open some new markets but would be seen as a negative impact on the current “point to point” shuttle rider. At this time, it appears more effective to improve public transit and allow the private shuttle market to evolve on its own.
- **Combining the upgraded 992 service with other routes to increase single seat access to the airport.** In the long term, it may be desirable to combine the 992 airport service with another route, serving major destinations that attract airport passengers. Options for combinations of transit service are shown on Figure 17. Combining the 992 with the 215 service in the El Cajon corridor and/or the 235 service in the Interstate 15 corridor would create a very high ridership Rapid Route. However, the high cost and complex funding arrangements in place between MTS and SANDAG make it difficult to implement at this time.

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Ridership numbers in the table are total annual boardings associated with airport trips, at full service maturity, assuming service reliability and frequencies are maintained. Costs are total project costs, and do not indicate funding responsibility or funding source. Cost and ridership figures for each alternative were developed using a variety of methodologies as appropriate, including methods based on peer review, case studies, academic literature, and adjustments based on local context.

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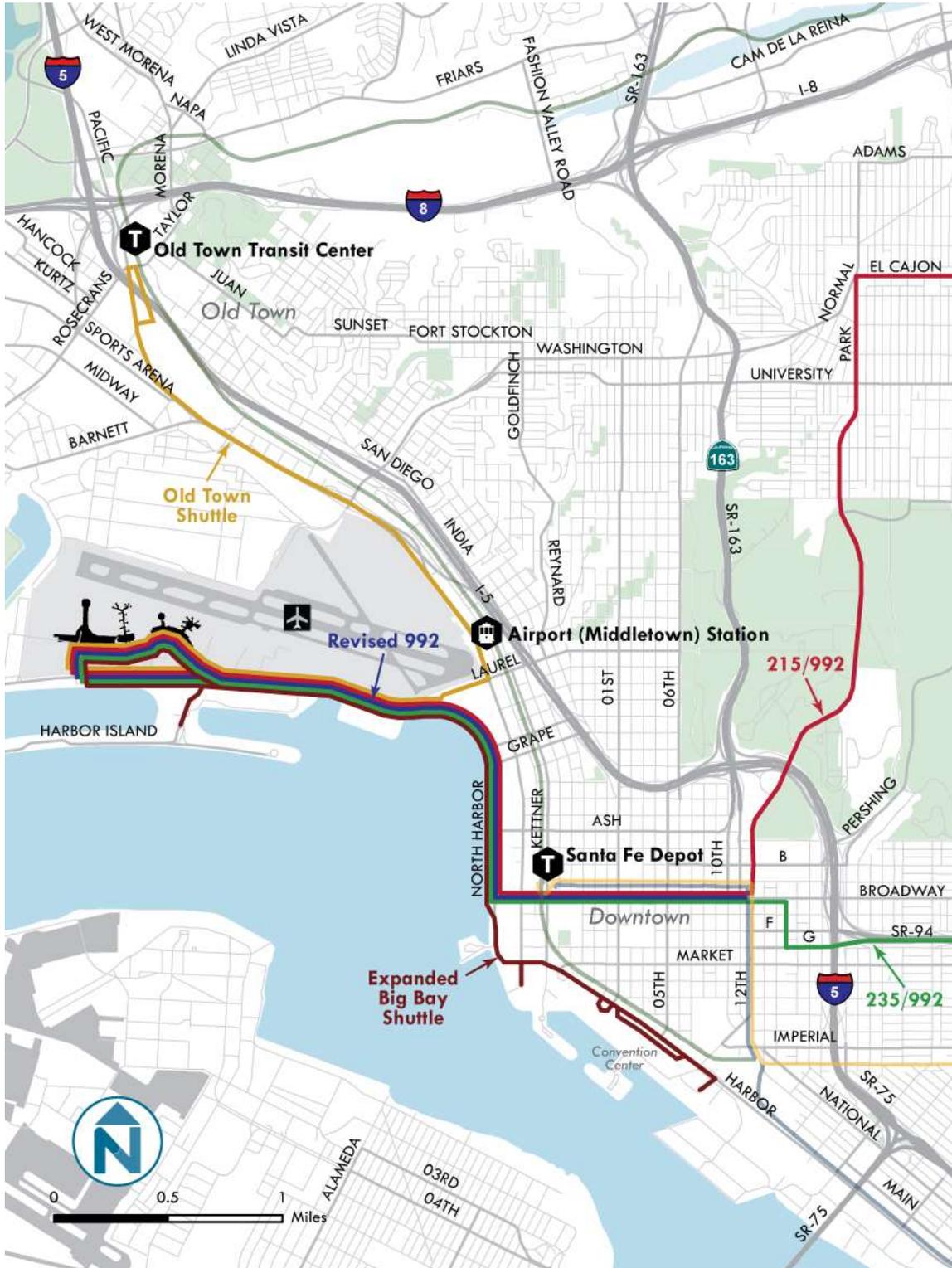
**Figure 17 Summary of Alternatives**

Alternative	Projected New Boardings (Annual)	Total Capital Cost	Annual Operating Cost
<b>Recommended Alternatives</b>			
<b>Airport Marketing and Wayfinding</b> <small>Includes signage, marketing materials, and \$100,000 for station rebranding</small>	12,500	\$200,000	N/A
<b>Middletown Station/Airport Trolley Access Improvements</b> <small>Highest range includes estimate for optional pedestrian bridge</small>	150,000	\$2,000,000 - \$4,500,000	N/A
<b>MTS Route 992 Rapid</b>	75,000	\$5,500,000	\$700,000
<b>Old Town Transit Center Shuttle</b>	170,000	\$2,000,000	\$1,200,000
<b>Studied but Not Recommended</b>			
<b>I-5 Express Bus (FlyAway style)</b> <small>Includes parking structure maintenance</small>	200,000	\$23,000,000 - \$32,000,000	\$2,000,000-\$3,000,000
<b>Expand Harbor Drive Shuttle</b> <small>Highest range includes estimate for optional new shuttle stop</small>	10,000	\$150,000 - 200,000	\$500,000
<b>Consolidate Hotel Shuttles</b> <small>Existing contributions to shuttles from hotels and others undetermined; incremental costs are unknown</small>	25,000	UNKNOWN	UNKNOWN
<b>MTS Route 992-215 Rapid combination</b> <small>Baseline cost adjusted for elimination of redundant service</small>	120,000	\$9,000,000	\$300,000
<b>MTS Route 992-235 Rapid combination</b> <small>Baseline cost adjusted for elimination of redundant service</small>	75,000	\$6,000,000	\$500,000

Figure 18 illustrates the local transit service options, not including the FlyAway-style Express Bus alternative.

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**Figure 18 Potential Transit Routes**



## RECOMMENDED TRANSIT SERVICE IMPROVEMENTS

The following sections describe each of the four recommended alternatives for improving transit services to the airport. For each alternative, a high level estimate of total costs and annual ridership at maturity is provided. The cost estimates represent total cost, and are not intended to be an estimate of the Airport Authority’s responsibility. The significant legal restrictions on the spending of airport revenue make it impossible for the Airport Authority to fund significant off-airport improvements.

### Marketing and Wayfinding

One simple and cost-effective way to improve transit service is to improve awareness of existing service. Existing service can also be made more useful, convenient, and attractive without making changes to the service itself.

#### Current Opportunities

Figures 19 and 20 illustrate current shortcomings in existing and previously existing (prior to implementation of a recommendation from this plan) signage at the airport for assisting passenger wayfinding. Each has simple remedies. Figure 19 shows existing signs in Terminal 1 intended to direct passengers toward bus and shuttle stops.

Figure 19 Terminal 1 Signage



In the photo, a Route 992 stop is immediately outside the door at left, but there is little indication of this: only a “City Bus” sign over the door. The sign directing passengers to the “Shuttle to Terminals” is more prominent, and those seeking “Ground Transportation” – which could be interpreted to include local buses – are directed to the sky bridge.

**Figure 20**     **Route 992 Stop at Terminal 2 (2015)**



Figure 20 shows a bus shelter outside Terminal 2 as it existed as of 2015. This shelter was shared by the airport’s existing internal circulator shuttle service (since discontinued, and replaced by Trolley to Terminal service) and Route 992. While signs for the airport circulator were prominent, only a small MTS logo to the side of the shelter indicated that the stop was also used by local buses. Additionally, the stop’s location was at the far end of the curb outside the terminal, further reducing the visibility of MTS service.

Since the photo shown in Figure 20 was taken, MTS stops at Terminal 1 have been consolidated, and new signage has been developed as part of the Trolley to Terminal program, as shown in Figure 21.

Figure 21 Trolley to Terminal Signage at Terminal Stop



Visitors to San Diego may be prepared to use transit, and the Internet has made it relatively easy to learn about service in advance. However, if upon arrival at the airport, passengers find it difficult to complete a task as seemingly simple as locating a bus stop, then they may choose to take a taxi or rent a car instead. Alternatively, when visitors can see or easily find transit service at the airport, and are aware that it exists, they may be more likely to use it.

### **Wayfinding Best Practices**

The best practice in wayfinding is, first, to guide users to their destinations using architectural design cues such as clear sightlines to destinations, rather than directional signs. If signs must be used, they need to simply display exactly the right amount of information, at the right locations, as clearly as possible. At airports such as San Diego's, many destinations compete for space on signs; nonetheless, signs reading "bus to downtown" and "shuttle to Trolley" would not contribute to clutter. Signs directing passengers to the airport might also be installed at major Route 992 stops downtown, such as the Santa Fe Depot.

Additional steps could be taken at bus stops themselves to make the experience of using transit more convenient. First, ticket vending machines, TVMs, like those found at rail stations, allow passengers to purchase tickets before boarding, speeding the loading process and reducing travel times for all passengers. Second, monitors providing real-time information on wait times, like those at rail stations and airport flight monitors themselves, serve to reassure passengers and reduce perceived waiting time. Research has found that when passengers lack this type of information, waiting times can seem much longer than they actually are. The signs might also provide information on destinations, for example, "The next bus for downtown leaves in 10 minutes" or "The next shuttle to the Trolley station leaves in 5 minutes."

Since this recommendation was developed, ticket vending machines and real-time information monitors have been added just inside the airport terminals, as shown in Figure 22, but not at the bus stops themselves.

Figure 22 Ticket Vending Machine and Real-Time Info Sign



## **Expanded and Ongoing Marketing Program**

Finally, additional marketing of existing airport transit service could be conducted via various platforms, including the airport’s website as well as smartphone applications.

The Airport Authority is already well underway in making improvements to its transit marketing program. With MTS and Airport Authority coordination, ticket vending machines have been installed in Terminals 1 and 2 in locations that will direct passengers to the transit stops. Transit stops have been consolidated at Terminal 1, resulting in a close connection between the ticket vending machine and the remaining bus stop. The Airport Authority is upgrading transit information on its website, which now features links to local transit agencies and to the Google Transit Trip Planner created for the San Diego region. Information brochures have been created, marketing both the existing service and Trolley to Terminal shuttle. Information staff have been trained to supply passengers with information in real time. In addition, the Airport Authority is reviewing all signage related to transit services, as well as the amenities at consolidated bus stops to improve the passenger experience.

Partner agencies are essential to a comprehensive marketing program. Transit agencies, including MTS, NCTD, and Coaster should update their materials to market airport routes more clearly. For example, an “airplane logo” could be added to key materials to provide a visual indication of airport transfer opportunities. Chambers of commerce, and business and visitor organizations may further market both the transit connections to the airport and the potential for a “car free/care free” visit to San Diego. Advocacy groups like Circulate San Diego, as well as supportive organizations like carsharing (Car2Go) and bike sharing companies could further extend the reach of the marketing effort.

Figure 23 summarizes the elements of a marketing program, including elements that might be undertaken by the Airport Authority and those that would be undertaken by others.

**Figure 23 Elements of a Marketing Program**

Elements Under Airport Control	Elements to be Completed by Others
Improve the airport’s website to include enhanced descriptions of transit services, including the new Trolley link, along with links to transit information and trip planners, such as Google’s Transit Trip Planner.	Work with transit operators to include an “airplane” logo on key connection points on their maps, including Middletown Trolley Station and Santa Fe Depot.
Provide information desks with quality information about transit services including schedules.	MTS to market the new Trolley to Terminal and 992 bus connections; ensure displayed properly in Google Transit.
Add signage and wayfinding within the terminals, clarifying location of 992 bus and Trolley connection stops.	Consider branding all buses that serve the airport with an airport logo; add logo to all signage for transit routes serving the airport.
Add automated ticketing machines at key locations within the terminals for passengers to purchase tickets with all media (cash and credit); include signage to point passengers to the bus stops.	Market the new Trolley to Terminal connection on all regional transit information.
Improve real-time and system information at bus stops.	Market opportunities to travel around the region without a car to encourage transit connections to the airport.

Market the Trolley to Terminal.	SANDAG, MTS and City of San Diego to improve pedestrian access and wayfinding to/from Middletown Station.
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**Costs:** Overall costs for marketing existing services are estimated at about \$200,000, including developing and installing new signs and preparing for ticket vending machines. Approximately 50 percent of this total would be allocated to rebranding the Middletown Station to include the airport brand for the Trolley to Terminal service.

Much of the cost for marketing is routinely absorbed in planned marketing updates; in particular, transit agencies update their materials on a regular basis and could add new functionality (such as the Google Transit Trip Planner) and information during a regular update cycle.

**Annual Ridership:** Without improved service, the benefits of increased marketing are relatively low. Approximately 12,500 boardings per year are estimated to be attributed to enhanced information. That number could be significantly higher with improved services to market.

## **Convert the Existing MTS Route 992 to a Rapid Route**

The simplest way to improve public transit to and from the airport would be to improve MTS Route 992, which already provides the sole bus connections to downtown and other major transit routes.

Route 992 could be improved a number of ways. It could reduce its headways on weekends so buses operate every 15 minutes rather than every 30 minutes as they do now. It could begin and end operations an hour or so earlier and later, better serving airport employees with early-morning or late-night shifts. Ideally, the first trip would arrive at the airport by 5 a.m. and the last trip would leave the airport after midnight to accommodate most shift workers.

Potentially, the most beneficial improvement is shortening the route’s travel time. Currently, scheduled travel times on weekdays between Terminal 1 and Horton Plaza downtown are between 18 to 19 minutes. Although this may not be an especially long time, it is not time-competitive with point-to-point shuttles, transportation network companies, or taxis. According to Google Maps, mid-day drive time is 11 minutes. Additionally, to access this route, many passengers must wait to transfer to or from the Trolley or other transit routes. Finally, passengers may have to wait up to 15 minutes (30 minutes on weekends) for Route 992 to arrive, and customers often perceive wait times to be much longer than they actually are.

At low cost, Route 992 could be made faster and with little impact by removing or combining some stops. As shown in Chapter 2, there is relatively little activity on the 992 between the airport and downtown, and almost no activity at the 10 stops along Harbor Drive. These stops are also served on weekdays by Route 923, which largely overlaps with Route 992 between the airport and the City College Trolley Station/Transit Center. The lightly used stops on the 992 could be removed without eliminating access on weekdays, and the number of riders who would benefit from faster travel times would be much greater than the number of riders potentially inconvenienced by the eliminated stops.

As Figures 4 and 5 illustrate, activity levels at stops along Broadway vary. The distance between some of these stops is as little as two short blocks or about 550 feet. Removing most of these stops, so the 992 would use only existing Rapid stops on Broadway, would reduce the number of stops to eight (including stops at the City College Transit Center and Santa Fe Depot).

Another significant opportunity for stop consolidation exists at the airport itself. MTS and the Airport Authority recently discontinued the little-used stop at the Commuter Terminal, and have consolidated the two Terminal 1 stops into a single one adjacent to the ticket vending machine inside the terminal. The two stops at Terminal 2 will remain due to the fact that ridership is relatively evenly divided between the two stops.

Overall, then, removing 10 stops on Harbor Drive, nine stops on Broadway, and two at the airport, plus shortening the route by eliminating the drive to the stop in the Commuter Terminal itself, should save several minutes per trip, depending on dwell, traffic re-entry delay and other factors.

Rapid service charges a higher fare than the standard MTS routes. This premium fare could have the virtual effect of making the route a solely dedicated airport service and eliminating the overcrowding airport passengers sometimes confront on the existing route, which is used for short trips on Broadway in addition to Harbor Drive trips. The higher Rapid fare would encourage use of other routes for short trips along Broadway, but would do little to discourage airport travelers, who tend to be less price-sensitive than other groups. This would improve travel time and benefit airport passengers who may otherwise be discouraged from entering an overcrowded bus.

Finally, in addition to these changes to improve the speed and reliability of the route, rebranding the 992 as a Rapid service, complete with updated Rapid buses, would provide an improved experience for all airport users.

**Costs:** The primary costs for this improvement are for the purchase of Rapid buses. Replacing the entire fleet of current buses on this route would cost about \$5 million; however, the buses operating on this route will need to be replaced in the next few years regardless of whether the route is converted. Therefore, the incremental cost of replacing the buses should be relatively small – likely about \$1 million. Additional costs for signage and stop improvements total about \$500,000.

Extending the service span by two hours per day, and reducing headways from 30 minutes to 15 minutes in the evenings on weekdays and weekends would add 6,458 annual vehicle revenue hours at an estimated operating cost of around \$700,000 per year. However, depending on the time savings, vehicle requirements and costs could be reduced, and fare revenue is expected to increase both with the incremental increase in Rapid service and from new ridership.

**Annual Ridership:** An increment of 75,000 new annual boardings is anticipated on an improved and expanded 992.

## **Improve Pedestrian Access to the Middletown Station to Enhance the Trolley to Terminal Connection**

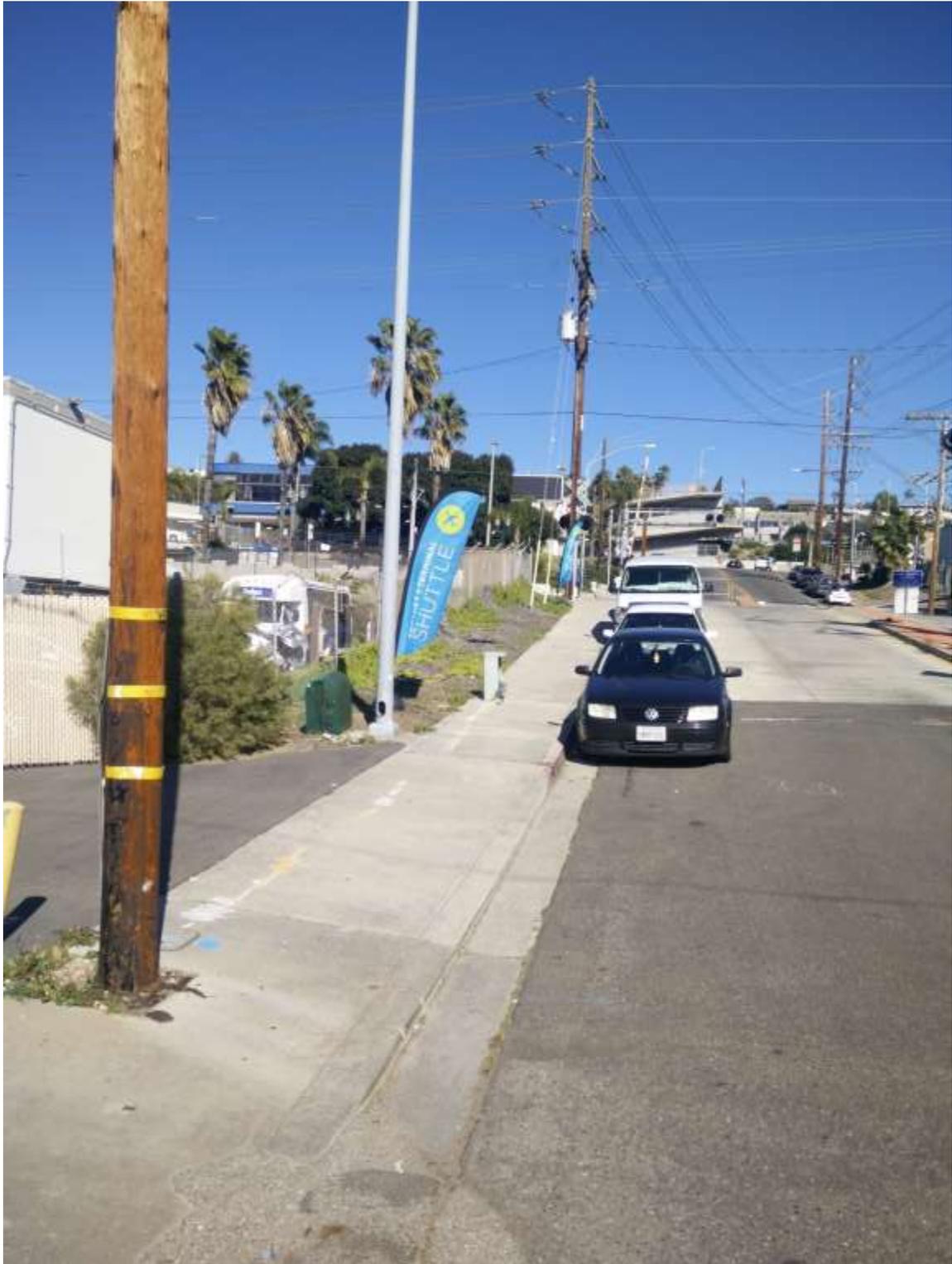
The Trolley to Terminal shuttle carries Green Line Trolley passengers from a newly created bus stop on the new airport roadway to the terminals. This shuttle is operated as an extension of the Economy Parking shuttle and uses the exclusive right-of-way of the new roadway, avoiding all traffic congestion. The airport’s transit waiting area is next to a new observation area that is now being developed, providing an additional amenity for transit passengers. An electronic sign at the stop will soon display “next bus” real-time passenger information.

The new shuttle route is serviced by the fleet of 10 buses currently operating between the Economy Parking lot and the terminals. These buses are “wrapped” in new distinct graphics identifying them as Trolley to Terminal shuttles. The service frequency is generally every 15 minutes, and more frequent service is planned as this service becomes more established.

The development of the Trolley to Terminal connection is a major contribution to transit access to the airport, and interim improvements have already been made by the Airport Authority to the access route – the pedestrian path between the Middletown Trolley station and the bus stop, which is about one-quarter of a mile from the station and visually separated from the station by the busy Pacific Highway. To make this connection as useful as possible, however, additional aesthetic, safety, and ADA-required improvements must be made.

SANDAG is funding some additional improvements to the pedestrian path, a project that it estimates will be completed by the end of 2016. The existing path and shuttle bus stop are shown in Figures 24 and 25, while a diagrammatic illustration of the path is shown in Figure 26.

Figure 24 Path from Middletown Trolley Station to Trolley to Terminal Shuttle Stop – June 2016



**Figure 25** Trolley to Terminal Shuttle Stop



Figure 26 Path from Middletown Trolley Station to Trolley to Terminal Shuttle Stop



### Off-Airport Improvements

SANDAG’s improvement plans include a number of important elements: (1) a widened sidewalk between the station and Pacific Highway; (2) new wheelchair ramps on all four corners of the intersection (directly aligned on one corner, although not on others); (3) high-visibility “ladder” crosswalks; and (4) a more direct crosswalk on the north side of the intersection. However, the SANDAG project could be improved in a variety of ways:

- Widen the sidewalk to provide at least eight feet of unobstructed clear space, enough for two pedestrians carrying luggage to comfortably pass. This would require removal of the existing curbside parking on the north side of Palm.
- Colorize the pathway connecting the Trolley station and bus stop, or otherwise provide directional markers on the sidewalk itself in addition to signage.
- Widen the center median to at least six feet to provide a pedestrian refuge between the northbound and southbound lanes of Pacific Highway. Without widening the street, this could be accomplished by narrowing traffic lanes slightly.
- Change signal phasing to reduce pedestrian wait times.
- Provide a “countdown” pedestrian signal.

Notably, a pedestrian refuge is not included in the SANDAG plan despite the removal of one of the two existing southbound left-turn lanes; instead, a buffer is added between the turn and through lanes, and the lanes themselves remain 12 feet wide, wider than is necessary for safe operation.

Another solution to these problems would be to construct a pedestrian bridge between the station and shuttle stop. Pedestrian bridges can be problematic due to the grade change and the stairs, ramps and elevators that would be required at each end. At this location, however, these would be required only at the shuttle end because the elevation of the station is about 16 feet higher than the stop. At the station end, the bridge could be at grade, level with the sidewalk. Two main factors work against this solution: the bridge would have to be located on the existing commercial property, and it may cost several million dollars to construct.

### **On-Airport Improvements**

Once passengers reach the airport property, the bus stop is in sight. Improvements already in place at the airport have made the waiting area pleasant and easy to identify.

One main factor that will be critical for the future success of the Trolley to Terminal program, however, is the frequency of the shuttle service. It is unreasonable to expect passengers who ride a Trolley and walk a significant distance to the bus stop to wait again more than a few minutes for their shuttle. Conventional transit planning suggests that service more frequent than every 15 minutes is necessary for riders to commit to a service without a set schedule. Given the time-sensitive nature of air travel, even more frequent service is needed here.

Wait times at the shuttle stop should be no longer than 10 minutes, with even more frequent service during peak hours. This will require a change in the way the parking shuttle currently operates. As currently configured, passengers arriving at the economy parking lot are met by a shuttle almost as soon as they park. As a result, shuttles often wait in the lot for a passenger to arrive. For the Trolley shuttle, however, shuttle drivers are not able to see whether passengers are waiting at the bus stop, so shuttles must regularly circulate between the parking lot, the bus stop, and the terminals.

In addition to the above changes, re-labeling the Trolley station as “Middletown/Airport” would create or reinforce the association in riders’ minds between the Trolley and the airport.

It is important that the success of the new Trolley to Terminal connection is not judged until the full pathway improvements have been made and a region-wide marketing effort is complete. Full maturation of any new service generally takes about 2 years after full implementation. This service cannot be considered fully implemented until on- and off-airport improvements are complete.

**Costs:** Without engineering input to assess the recommended changes to the SANDAG proposal, it is difficult to estimate the costs. Adding a pedestrian bridge would likely cost about \$2.5 million without land acquisition. Other improvements could total another \$2 million. Most of the changes other than the pedestrian bridge are relatively simple and could be engineered and added to the bid document before the contract for pathway improvement is finalized. The pedestrian bridge will likely require engineering and environmental studies and could take longer to get approved, financed, and constructed.

**Annual Ridership:** Despite the costs, this remains a cost effective project because of the number of potential riders at this location. A total of 150,000 annual boardings are expected on the shuttle if this connection can be optimized and adequate marketing completed.

## **Create a New Old Town Transit Center Shuttle Transit Route (OTTC Shuttle)**

The Old Town Transit Center (OTTC) operates as the second largest bus and rail hub in the region, offering service on Amtrak, Coaster, the MTS Trolley Green Line, and 10 MTS bus routes. Despite being located just 2 miles north of the airport property, and about 4.5 miles from the passenger terminal entrances, the OTTC lacks direct transit connections to the airport. Given the proximity to the airport and the high number of passengers passing through the station, the OTTC is an ideal location for a frequent airport shuttle stop. This service would not duplicate the new Trolley to Terminal shuttle, but would have some but not a full overlap with the 992 bus service.

The need for a shuttle from OTTC will be enhanced as Coaster service is added in both peak periods and mid-day. In particular, more frequent mid-day service will make the Coaster a realistic alternative for airport travel in the busy I-5 corridor. For estimating cost and ridership, a shuttle every 15 minutes was assumed.

Any service improvement from this station will require consideration of parking management in the Old Town area. Parking in the area is limited, and merchants will be concerned that airport passengers will take neighborhood spaces to avoid paying for parking at the airport. Premium pricing of the shuttle and a parking management program consisting of policies to ensure availability within the MTS-owned lot could potentially reduce neighborhood concerns.

**Costs:** The new shuttle service would be relatively inexpensive in terms of capital investment (\$2 million for four 40-foot coaches); however, because this is an entirely new service, operating costs would be high. Assuming the service is operating by MTS, the additional costs for a shuttle operating every 15 minutes 7/days per week would be about \$1.2 million per year. Parking management operations and capital costs would add other unknown costs.

**Annual Boardings:** About 170,000 annual transit boardings would be expected from this service. The number of boardings could increase substantially if Coaster service is fully improved.

## **5 IMPLEMENTATION PLAN**

Implementing new transit services to the airport requires a partnership with a variety of agencies in addition to actions taken by the airport itself. This chapter presents a general implementation plan for the four key recommendations in the transit plan:

- Enhanced marketing and wayfinding for existing service.
- Enhance and market the new connection between the airport and the Middletown Trolley station, using shuttle services on the new airport roadway.
- Expand and improve existing MTS transit service, including improvements on the airport and the creation of a 992 Rapid route.
- Evaluate opportunities to add an airport shuttle from the Old Town Trolley station, providing new and more convenient connections with Coaster, Trolley, and bus services at that station.

Improving transit service to the airport is challenging. Although convenient service for passengers and employees is a high priority for the Airport Authority itself, the transit needs of the airport must be evaluated by the transit providers and regional funding partners and weighed against an overall assessment of public transportation demand in San Diego. The Airport Authority may be a partner in defining transit needs, contributing to marketing, and enhancing the environment for transit on the airport property, but has a limited role in planning for or implementing services outside of its boundaries. This implementation plan outlines the important steps for implementing each of these recommendations, and identifies both lead and partner agencies each step of the way.

## **CALIFORNIA COASTAL COMMISSION CONDITIONS**

Separate from this plan, the Airport Authority applied for a permit to construct a parking structure as part of its Airport Development Plan. The site, located south of Terminal 2 and north of North Harbor Drive, would add 1,753 parking spaces at the airport, primarily for short-term use.

In approving the Airport Authority's application, the Coastal Commission has recommended a series of special conditions, two of which are integral to this plan and paraphrased below:

### **Special Condition 2 – Public Transit Outreach Program**

Prior to January 2016, the Airport Authority must submit a Public Transit Outreach Program to inform airport users of public transit opportunities to and from the airport and to encourage their use. The program shall include, but not be limited to the following:

- 2A) Create a prominent link on the airport website to alert visitors of transit opportunities. The link shall describe all transit options including those provided by MTS, Amtrak, Coaster, and the airport shuttle.
- 2B) Implement an in-airport advertising program to alert passengers to all public transit opportunities using a variety of media.
- 2C) Coordinate with relevant transit agencies to inform train and Trolley users of the new airport-operated connection to the Middletown Trolley Station.
- 2D) Include links to the appropriate transit agency in all website and advertising material.
- 2E) Review and update this material annually and submit an annual report on the state of transit at the airport, including ridership.

### **Special Condition 3 – Annual Progress Report on Public Transit Improvements**

At least 90 days before the opening of the Terminal 2 parking structure to the public, the Airport Authority shall submit to the Coastal Commission an update on the comprehensive Airport Transit Plan documenting the current status of efforts to improve existing and add new mass transit linkages to the airport for employees and passengers. This report will be updated annually and shall contain at a minimum these requirements:

- 3A) Documentation of the Airport Authority's coordination with relevant stakeholders to improve transit linkages to the airport.
- 3B) Evaluation of the progress and collaboration with partners toward the development of a future Intermodal Transit Center to the north of the rental car center, which will be connected via a pedestrian bridge and free shuttle to the airport.
- 3C) Evaluation of the progress and collaboration with partners toward providing airport transit services from the Old Town station.
- 3D) Evaluation of the progress toward providing bus/shuttle connections from Trolley stations along Pacific Highway to the airport.
- 3E) Evaluation of the progress in improving MTS bus services to the airport.

All of the conditions of the Coastal Commission are included in the recommendations of the Airport Transit Plan. Implementing the recommendations of this plan will fulfill all of the requirements of the Coastal Commission, as well as maximizing transit options to the airport.

## **PARTNERING FOR SUCCESS**

With the exception of the new shuttle service connecting the Middletown Station to the airport and a shuttle proposed for the prospective Intermodal Transit Center, the Airport Authority is not required to directly provide additional transit services. The Airport Authority does partner with regional agencies to reach a common goal. This chapter, therefore, outlines an approach to meeting those goals and the Coastal Commission's.

A long-term structure must be developed so the partnerships that have grown with the development of the Airport Transit Plan can continue through implementation. To that end, the plan recommends the following:

- The Airport Transit Committee should continue to meet with partner agencies and develop a work plan every year.
- The Airport Authority should name someone who will have primary responsibility for coordinating transit programs at the airport. This person will make sure marketing materials are maintained efficiently, signage continues to be maintained correctly, and that the Airport Authority is doing all it can to implement the combined work program. This individual will coordinate the preparation of the annual transit report for the California Coastal Commission as well as report to the Airport Authority Board on the progress implementing recommended improvements.

## **FUNDING TRANSIT IMPROVEMENTS**

The Airport Authority is funded primarily through fees paid by airlines and other concessionaires, as well as dedicated sources from federal programs. Each of these funding sources comes with strict limitations that make it difficult for the Airport Authority to fund off-airport improvements.

In general, airport funds must be used for purposes “directly and substantially related to the air transportation of passengers or property.” In some cases, airports have contributed to transit services that provide “closed door services” – services that are designed to benefit only airport passengers and affiliates. For example, Los Angeles World Airports contributes a guarantee of operating costs to private operators providing point-to-point FlyAway services. These operators provide non-stop, roundtrip bus service between LAX and about a half-dozen towns and central locations in the Los Angeles area. Those subsidies have varied depending on the route and the amount of fare charged to passengers, but have generally amounted to more than \$2 million per year in operating costs plus costs for leased parking.

While limitations on airport funds may not allow the Airport Authority to directly subsidize transit service, the Airport Authority remains an essential partner in the development of new transit services. The Airport Authority can provide quality waiting areas, curb space, signage, wayfinding and marketing, and can help its partnerships in obtaining grants and other funding for services.

## **IMPLEMENTATION TASKS**

### **Short-term Tasks**

Of the significant amount of effort required to meet the Coastal Commission's special conditions and prepare for new services, these four activities comprise the major objectives for this calendar year:

- The Airport Authority marketing team: Improve the transit links on the airport website (COMPLETED) and prepare a marketing campaign for passengers arriving at the airport. (UNDERWAY)
- The Airport Authority marketing team: Prepare for implementation of the new Trolley to Terminal shuttle service. (COMPLETED) Target in separate information campaigns air passengers and employees. (UNDERWAY)
- Partner agencies: Prepare marketing materials to promote the new Trolley to Terminal connection. (UNDERWAY)
- Airport Authority staff: Implement short-term improvements in the pedestrian environment planned for the area connecting Middletown Station with the airport shuttle; provide adequate wayfinding so that passengers are comfortable walking the link between the Trolley and the shuttle. (UNDERWAY)

Other 2016 tasks include the Airport Authority coordinating with staff at partner agencies including MTS to lay the groundwork for considering the implementation of both an Old Town Station shuttle service and enhancements to the MTS Route 992 bus service. The work for the Old Town shuttle includes a parking management plan for the area, which should be developed concurrently with the Airport Development Plan, and the 992 service includes developing it as a Rapid route. Finally, the Airport Authority will coordinate with SANDAG the improvements to the pedestrian pathway connecting the Middletown Trolley Station to the new terminal shuttle so they optimize and achieve the project's goals.

## **Longer-Term Tasks**

Over the medium and long terms, additional services, including the Old Town Shuttle and enhanced MTS Route 992, will be implemented, ideally by the time the new parking plaza is ready to open. This will take a concerted effort among the partners.

Beyond these tasks, the Airport Authority will remain a partner in discussions related to the development of the Intermodal Transit Center which is currently being considered by SANDAG and partner agencies.

As each of these efforts progress, regular reporting will be made available to the Airport Authority Board and an annual report will be made to partner agencies and the Coastal Commission. An annual report of transit ridership will be combined with a progress report on these efforts.

## **Implementation Task List**

Figure 27 summarizes the tasks for each of the recommended projects. The list identifies a lead agency and support agencies as well as a fiscal year for starting and completing each task.

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Figure 27 Project Tasks Summary

Project	Task	Start Date	End Date	Lead Agency	Partner Agencies	Coastal Commission	Estimated Capital	Notes
<b>A: Improve Airport/Transit Marketing</b>								
A.1	Improve public transit page on airport website.	Improve public transit page with links to MTS route and schedule. Identify connections to Trolley and Coaster service Add links to route maps and schedules.	9/1/2015	12/31/2015	Airport Marketing	MTS, Coaster	2A, 2D	
A.2	Incorporate new Trolley connection service on airport website.	Add new Trolley to Terminal route to airport website. Include detailed information about how to find the shuttle from the Trolley, hours, frequency, etc.	9/1/2015	12/31/2015	Airport Marketing		2A, 2D	UNDERWAY
A.3	Include transit stops on airport web interactive map.	Add transit stops on interactive map with links to more detailed explanation of service.	9/1/2015	12/31/2015	Airport Marketing		2A, 2B	UNDERWAY
A.4	Include Trolley connection service on MTS website for transit riders.	Add new Trolley to Terminal route to MTS website and include airport/Trolley information on MTS website.	9/1/2015	12/31/2015	MTS	Airport Marketing	2C	
A.5	Develop a marketing campaign for the implementation of the new Trolley connection service.	Develop a transit brochure showing the new connection with Trolley service, as well as other transit resources. Include links to MTS and Coaster information. Implement posters or other eye-catching signage pointing passengers to the new service.	9/1/2015	12/31/2015	Airport Marketing	MTS, Coaster, NCTD, AMTRAK	2B	UNDERWAY
A.6	Work with partner agencies to market the new connection service to regional transit passengers.	Regional transit agencies to include new Trolley connection service on their websites and in their rider marketing materials.	9/1/2015	1/18/2016	MTS, Coaster, NCTD, AMTRAK, others	Airport Marketing	2C	
A.7	Develop a press campaign tied to new Trolley connector service.	Develop a press campaign tied to the implementation of new Trolley connection service.	12/1/2015	1/31/2016	Airport Marketing	MTS	2C	
A.8	Improve in terminal signage directing passengers to both City bus and Trolley connector service.	Improve in terminal signage with increased wayfinding both inside and outside terminal directing passengers to transit resources. Consider unique branding for Trolley Connector and City bus services.	10/31/2015	1/1/2016	Airport Marketing		2B	\$75,000 Finalize after bus stops are reconsidered in Task C.2. Should be completed before Trolley connector service is initiated. Estimated at \$25,000 per stop and 3 stops.
A.9	Routinely update and coordinate marketing of transit services between the airport and partner agencies.	Routine updating of information including schedule or route changes. Annual reporting of coordination activities and ridership changes.	1/1/2016		Airport Marketing	MTS, Coaster, NCTD, AMTRAK, Coastal Commission, City, SANDAG	2E	To occur annually as services change.
<b>B: Enhance Connectivity between Airport and Middletown Station</b>								
B.1	Confirm final design elements and consider enhancements to SANDAG/City of San Diego improvements.	Consider improvements recommended in transit plan, including stencil on sidewalk indicating route to airport connection, improved pedestrian pathway, and enhanced intersection at PCH crossing.	9/1/2015	3/31/2016	SANDAG, City of San Diego	Airport	3A, 2C	\$2,500,000 Assumes improvements to SANDAG design and signal improvements at intersection.
B.2	Rebrand Middletown Station.	Rebrand station as Airport/Middletown.	9/1/2015	12/31/2016	SANDAG, San Diego Trolley	Airport	3A, 2C	\$1,000,000 Estimate for primary and wayfinding signage. Rebranding to occur after SANDAG improvements are complete.
B.3	Enhance bus stop on connector roadway.	Add amenities at the bus stop including comfortable shelter and real time bus information to announce arrival at airport at connection stop.	9/1/2015	12/31/2015	Airport		3A, 2C	\$400,000 COMPLETE
B.4	Enhance wayfinding at airport to identify Trolley connector and City bus services to Downtown/Old Town (when	Identify consolidated or unique stop locations and enhance airport signage and locator information.	10/1/2015	1/15/2016	Airport		3A, 2B, 2C	\$50,000 UNDERWAY

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Project	Task	Start Date	End Date	Lead Agency	Partner Agencies	Coastal Commission	Estimated Capital	Notes	
	implemented)								
B.5	Implement interim wayfinding along pedestrian pathway to transit stop.	Airport to coordinate with partner agencies to create temporary wayfinding and station signage prior to construction of SANDAG-sponsored pedestrian improvement project.	11/1/15	1/15/2016	Airport	SANDAG, City of San Diego, Port	2C	\$50,000	UNDERWAY. Need to get approval to place signs and trim excess vegetation.
B.6	Complete ped way construction.	SANDAG to lead construction effort to improve pedestrian connections to airport property.	1/1/16	10/1/16	SANDAG	Airport, City of San Diego, Port	2C	TBD	Project is critical to success of connector shuttle and should be completed ASAP.
B.5	Jointly market airport connection.	Airport, San Diego Trolley, City, MTS market new connection service.	10/1/2015	1/31/2016	Airport, San Diego Trolley, MTS	SANDAG, City of San Diego, Convention and Visitors Bureau	2C		Airport marketing plan is underway.
B.6	Create exterior bus graphics (wraps) to brand and advertise Trolley connection.	Design and produce unique bus wrap to emphasize Trolley connection.	1/1/2016	Ongoing	Airport		2C	\$250,000	COMPLETE
<b>C: Improve 992 and Develop a 992 Rapid Service</b>									
C.1	Establish stop locations for the 992 Rapid service at the airport.	Consider deleting and/or relocating stops at the airport so that there is one 992 stop per terminal in a prominent "front door" location for Terminal 1.	9/1/2015	10/31/2015	Airport Planning	MTS	3E	\$900,000	COMPLETED
C.2	Improve on-airport transit stops.	Implement improved shelters, signage, "next bus" information, seating areas and stop amenities for waiting passengers at final stop locations.	10/31/2015	1/1/2016	Airport Planning	MTS	3A, 2B	\$150,000	UNDERWAY. Assumes \$50,000 per stop for two airport terminal stops and one Trolley connector stop on connector roadway.
C.3	Provide ticket vending machines at Airport 992 stops.	Pursue grant funding to provide TVMs.	1/1/2016	7/1/2016	MTS	Airport		\$150,000	UNDERWAY. Machines to be installed in Terminals 1 and 2.
C.4	Identify funding for a 992 Rapid Bus.	Work with funding partners to identify appropriate rolling stock for 992 Rapid buses.	1/1/2016	7/1/2016	MTS	SANDAG, City of San Diego, Airport	3A, 3D, 3E	\$4,500,000	Costs assume new vehicles are required for Rapid service. Start date contingent on availability of vehicles. 5 vehicles @ \$900 K each.
C.5	Finalize stops for enhanced Rapid service to airport.	Work with MTS and funding partners to finalize route and stops.	1/1/2016	7/1/2016	MTS	SANDAG, City of San Diego, Airport	3D	\$500,000	Utilizing existing stops will reduce costs.
C.6	Develop marketing campaign to support route changes.	Airport, MTS, and partners: market enhanced bus connection to airport.	7/1/2016	12/31/2016	MTS	MTS, Airport, SANDAG, City of San Diego	2E		
C.7	Implement enhanced Rapid service.	Complete service implementation.		12/31/2016	MTS	SANDAG, Airport	3D		May add about \$750K per year to operating costs for 992; responsibility for funding might shift in full or in part from MTS to SANDAG, pending negotiation.
<b>D: Implement Old Town Shuttle Service</b>									
D.1	Work with partners to resolve parking concerns at Old Town Station and eliminate barriers to implementing service.	Develop an acceptable parking management program so airport passengers and employees do not park in Old Town to take shuttle.	6/1/2015	5/31/2016	MTS, City of San Diego	State Parks, Caltrans, Airport, SANDAG, MTS, Coaster, AMTRAK,	3C	TBD	Costs TBD depending on parking solution.
D.2	Improve bus/train connectivity at Old Town Station and provide terminus for airport shuttle.	Implement enhanced bus connectivity at Old Town Station including terminus for airport shuttle.	1/1/2016	12/31/2016	MTS	State Parks, City of San Diego, SANDAG, Coaster, AMTRAK	3A, 3C	TBD	Costs TBD depending on solution identified.
D.3	Finalize route plan and fare levels for shuttle to airport and identify funding for	Finalize route, service plan, and vehicle needs. Develop performance criteria for determining whether service is successful.	6/1/2016	12/31/2016	MTS	Airport, SANDAG,	3C	\$2,000,000	Estimate \$2M for rolling stock.

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	Project	Task	Start Date	End Date	Lead Agency	Partner Agencies	Coastal Commission	Estimated Capital	Notes
	operations and rolling stock.								
D.4	Develop marketing campaign for new service implementation.	Market to MTS, Coaster, AMTRAK, Airport, and other potential rider groups.	9/1/2016	12/31/2016	MTS, Airport	SANDAG, Coaster, AMTRAK, State Parks, Tourism and Convention Bureau, City of San Diego	2E		
D.5	Implement Old Town Shuttle Service.			1/1/2017	MTS, Airport	SANDAG, Coaster, AMTRAK, State Parks, Convention and Visitors Bureau, City of San Diego	3C, 3A		Requires approximately \$1.2 M per year in operating costs if operated by MTS.

## PUBLIC INVOLVEMENT

The Airport Transit Plan was developed with the benefit of partner agencies. As each new service is more fully developed, the implementing agency and the Airport Authority will partner on a public process to provide information and solicit public opinions about airport transit in a way that may enhance service planning.

## ADDITIONAL IMPLEMENTATION CONSIDERATIONS

As recommended services are finalized, changes may be recommended based on additional considerations. Consideration of many of these issues will fall to the implementing agency. For example, for bus service changes, the MTS will need to consider impacts on ridership and route cycle times as part of their detailed planning.

### Ridership and Customer Service Impacts

The desired increases in ridership may not be achieved in the first months of redesigned or new service, but this does not indicate failure. Typically, it takes several months before ridership starts to build as the benefits of the new service are noticed. Routes should be allowed up to two years to reach their true ridership potential, and should be accompanied by marketing efforts, both on the part of the Airport Authority and the implementing and partner agencies.

Complaints sometimes arise when new services are implemented. Complaints alone do not suggest a lack of success. Those who benefit from the recommended services may begin using the service gradually. Negative feedback is always louder than positive feedback in the wake of the service change, regardless of the overall benefit to the community. Ridership, after several months, is a better indication of overall success and therefore should be monitored.

### Further Service Revisions

Since ridership resulting from new service patterns can take two years to develop, a complete cycle of seasonal variations must be observed.

There are only three reasons to make service changes in the first year of a major new service:

- **Cycle Time Failure.** If a line is failing to meet its scheduled travel time, causing timed connections to be missed or providing inadequate driver breaks, service may be streamlined to eliminate this problem. Incidence of cycle time failure will be minimized by field-testing the route against the schedule.
- **Safety.** Safety problems must be corrected immediately. Field testing will minimize safety concerns, and should take place during implementation steps such as the placement of bus stops.
- **Overloads and Pass-ups.** If buses are overloaded beyond agency standards or if buses must pass up passengers due to lack of space, immediate corrective action is required. Passengers must have complete confidence that they will be able to board the services of their choice. Chronic pass-ups may require corrective action such as additional service.

## **Monitoring After Implementation**

Once the new service is in place, performance should be monitored. Close attention should be given to running times to verify that the lines are meeting their schedules. Small schedule adjustments, such as shifting a few minutes from one time point to another, are sometimes in order after three months of observations. However, as earlier noted, no significant changes should be made for one year except in cases of overall cycle time failure, safety problems, or overloads and pass-ups.

Determining the success of a service change should be based on a review of service performance factors over a one- to two-year period.