



Travel Demand Forecasting Results Report

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Chapter 1

Introduction

1.1. Overview of Project

The proposed Anaheim Rapid Connection project (ARC) provides a new east-west transit connection between the planned Anaheim Regional Transportation Intermodal Center (ARTIC) and the general area of The Anaheim Resort™ and the Platinum Triangle. ARC is envisioned to operate as a high-capacity system, providing convenient and efficient transfers to Metrolink, Amtrak, bus rapid transit (BRT), local bus, and future high-speed train services connecting at ARTIC. This connection will link Orange County's "backbone" Metrolink commuter rail system to the City of Anaheim's major employment and activity centers in the Platinum Triangle and The Anaheim Resort. This system can help stimulate and support economic development and land use objectives along the corridor between these activity centers that are destinations for approximately 20 million annual visitors.

ARC will address transportation issues and deficiencies related to highway congestion, transit, population and employment, parking demand, and air quality in the corridor. The primary purpose of ARC is to provide a safe, convenient, frequent, and easy-to-navigate transportation connection for residents, employees, and visitors to local and regional destinations.

The purpose of the Anaheim Fixed-Guideway Transit Corridor Study for the Anaheim Rapid Connection Project (ARC Study) is to prepare the Alternatives Analysis including technical studies and conceptual engineering to support the adoption of a locally preferred alternative (LPA). The ARC Study is a cooperative effort with participation from the City of Anaheim, OCTA, Metrolink, California Department of Transportation (Caltrans) and the Federal Transit Administration (FTA).

1.2. Overview of Modeling Approach

The modeling approach for the ARC transit system is a custom application that is responsive to changes in service alternatives such as technology, travel times, service frequency, and station locations. The modeling approach is designed to represent the unique transportation characteristics of the corridor such as Metrolink activity at the Anaheim station and the visitor market within The Anaheim Resort.

The custom modeling approach was designed to use key elements of the Orange County Transportation Analysis Model (OCTAM version 3.4) including the zonal and transportation network representations, socioeconomic forecasts, trip generation procedures, and mode choice

parameters. These data have been combined with survey- and count-derived information on Metrolink and Anaheim Resort Transit (ART) ridership patterns to develop a spreadsheet-based model to estimate travel on ARC.

By combining key elements of OCTAM with corridor-specific data, the study team has created a model with the ability to focus on the specific attributes of the ARC corridor while maintaining the regional strengths of OCTAM. This approach to forecasting was developed in conjunction with staff from the Federal Transit Administration (FTA). FTA staff have reviewed the model and forecasts and have concurred with the findings. FTA procedures require that key components of demand be separately reported to allow decision-makers to understand the relationship between this project and other major transportation initiatives in California.

To fulfill this requirement, model results presented in this report are segmented into seven markets:

- Metrolink access and egress trips: Travel between the corridor and ARTIC for riders connecting to and from Metrolink services to Los Angeles and other locations in the Metrolink service area.
- Disneyland Resort¹ and Anaheim Convention Center guests using transit to access resort destinations from their hotels: Local guest travel currently served by ART between hotels, the Disneyland Resort, the Anaheim Convention Center, and other destinations within the corridor.
- High-Speed Rail access and egress trips: Travel between the corridor and ARTIC for riders of the proposed California High-Speed Rail system.
- Amtrak access and egress trips: Travel between the corridor and ARTIC for riders of existing Amtrak intercity rail services.
- Intra-corridor travel that may use transit: Travel that begins and ends within the corridor that may use ARC as part of a transit trip.
- Disneyland Resort remote parking trips: Approximately 10 days per year, Disneyland Resort parking is over capacity. On these days, the Disneyland Resort has an agreement with the Anaheim Convention Center and Angel Stadium of Anaheim to use their parking lots and to shuttle park guests by bus from those locations to the Disneyland Resort. It is assumed that ARC will provide this shuttle service on these days.
- Angel Stadium and Honda Center event trips: Trips by Disneyland Resort or Anaheim Convention Center guests who would travel to Angel Stadium or the Honda Center for a sporting event or concert.

¹ The Disneyland Resort includes Disneyland and Disney's California Adventure theme parks.

The full methodology is documented in the *Anaheim Fixed-Guideway Transit Corridor Study Travel Demand Forecasting Methodology and Application Report, July 2011*. The remainder of this report describes the alternatives that were modeled and the resulting forecasts of ridership.

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Chapter 2

Background Forecasting Assumptions

2.1. Introduction

This chapter describes the underlying socioeconomic and transportation network conditions that describe the ARC corridor. These background assumptions are important because the ridership on ARC will be highly dependent on the assumed level of economic and visitor activity in the corridor, which will be affected by on-going public and private development initiatives. Key assumptions affecting the forecast include:

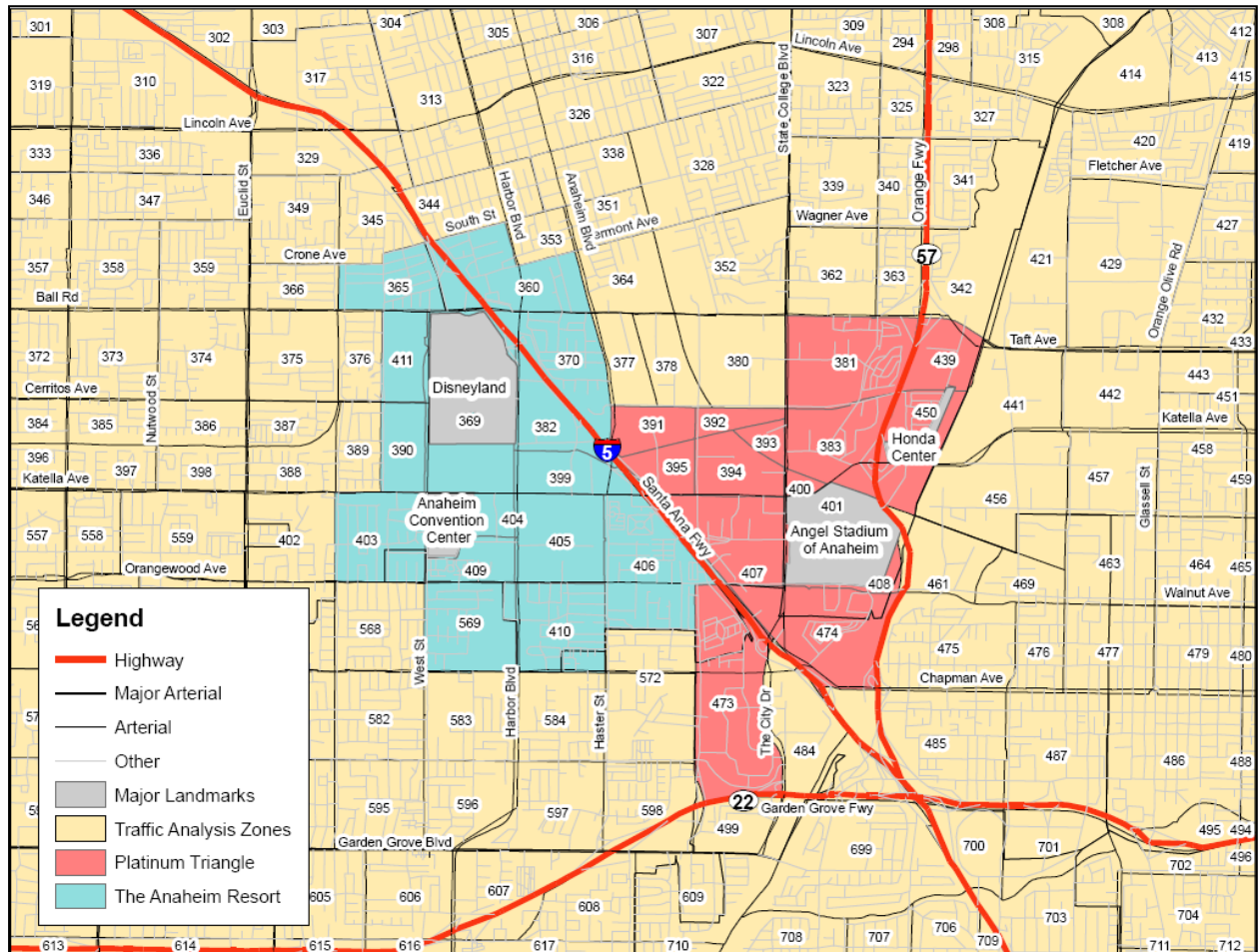
- Population and employment assumptions
- High-Speed Rail assumptions
- Disneyland Resort growth assumptions

The following sections describe these key background assumptions used in forecasting ridership for the ARC transit system.

2.2. Population and Employment Assumptions

Population and employment are based on Version 3.4 of the Orange County Transportation Analysis Model (OCTAM) which, in turn, is consistent with the 2010 Orange County Plan (OCP 2010) and formed the basis of Orange County population and employment forecasts in the Southern California Association of Governments (SCAG) 2012 Regional Transportation Plan (RTP). Figure 1 presents a Traffic Analysis Zone (TAZ) map defining the geographic subdivisions of the corridor. Table 1 summarizes corridor population and employment in the Year 2010. Table 2 summarizes population and employment for the Year 2035.

Figure 1. Map of Study Area with Traffic Analysis Zone Numbers



**Table 1. 2010 Socioeconomic Data for the Platinum Triangle
and The Anaheim Resort Zones from OCP 2010**

			Employment			
TAZ	Population	Households	Retail	Service	Basic	Total
Platinum Triangle Zones						
381	2,027	800	223	283	1,054	1,560
383	0	0	477	572	2,215	3,264
391	5	1	14	42	260	316
392	0	0	16	29	532	577
393	0	0	0	6	77	83
394	1,132	685	275	334	332	941
395	0	0	102	246	336	684
400	0	0	89	10	55	154
401	0	0	0	0	38	38
407	288	279	150	254	1,868	2,272
408	811	500	78	79	814	971
439	0	0	127	161	90	378
450	0	0	529	448	2,166	3,143
473	2,032	885	310	2,736	796	3,842
474	2,290	1,202	233	334	1,929	2,496
<i>Total</i>	<i>8,585</i>	<i>4,352</i>	<i>2,623</i>	<i>5,534</i>	<i>12,562</i>	<i>20,719</i>
The Anaheim Resort Zones						
360	5,183	1,188	139	385	17	541
365	2,025	503	131	759	92	982
369	7	2	661	21,411	2,057	24,129
370	3,719	784	250	733	194	1,177
382	6	2	303	582	260	1,145
390	0	0	123	367	50	540
399	11	3	62	769	26	857
403	2,458	706	81	211	71	363
404	3	1	529	1,767	749	3,045
405	3,957	857	5	392	24	421
406	7,931	1,794	178	102	554	834
409	649	251	45	1,278	0	1,323
410	3,980	1,150	271	61	131	463
411	2	1	0	2,069	25	2,094
569	2,606	733	71	376	385	832
<i>Total</i>	<i>32,537</i>	<i>7,975</i>	<i>2,849</i>	<i>31,262</i>	<i>4,635</i>	<i>38,746</i>
Grand Total	41,122	12,327	5,472	36,796	17,197	59,465

**Table 2. 2035 Socioeconomic Data for the Platinum Triangle
and The Anaheim Resort Zones from OCP 2010**

			Employment			
TAZ	Population	Households	Retail	Service	Basic	Total
Platinum Triangle Zones						
381	2,201	819	224	282	1,054	1,560
383	1,516	898	1,857	11,145	3,617	16,619
391	5	1	14	42	260	316
392	0	0	14	31	532	577
393	0	0	0	6	77	83
394	4,231	2,610	875	1,433	800	3,108
395	0	0	823	561	338	1,722
400	0	0	84	16	54	154
401	0	0	0	0	38	38
407	8,699	5,583	916	5,456	2,818	9,190
408	11,934	7,546	578	5,638	1,317	7,533
439	0	0	129	158	91	378
450	0	0	529	448	2,166	3,143
473	3,793	1,614	362	3,188	892	4,442
474	5,559	3,166	456	2,049	2,219	4,724
<i>Total</i>	<i>37,938</i>	<i>22,237</i>	<i>6,861</i>	<i>30,453</i>	<i>16,273</i>	<i>53,587</i>
The Anaheim Resort Zones						
360	5,829	1,262	140	385	16	541
365	2,202	513	131	759	92	982
369	7	2	660	21,411	2,058	24,129
370	5,565	1,113	362	733	194	1,289
382	6	2	303	582	260	1,145
390	0	0	123	367	50	540
399	15	4	87	1,005	1,384	2,476
403	2,666	723	81	211	71	363
404	3	1	528	1,768	749	3,045
405	4,295	877	5	392	24	421
406	9,161	1,955	180	104	460	744
409	705	257	44	1,278	1	1,323
410	4,319	1,177	272	60	133	465
411	2	1	1	2,163	21	2,185
569	2,816	752	73	387	396	856
<i>Total</i>	<i>37,591</i>	<i>8,639</i>	<i>2,990</i>	<i>31,605</i>	<i>5,909</i>	<i>40,504</i>
Grand Total	75,529	30,876	9,851	62,058	22,182	94,091

2.3. High-Speed Rail Assumptions

A key motivation for the ARC transit system involves serving passengers arriving and departing at the future ARTIC facility. Many of these passengers will be users of existing Amtrak and Metrolink services. ARTIC may also serve a much larger market—users of the various proposed High-Speed Rail (HSR) systems—which could lead to significantly higher ridership on the ARC system. The exact configuration of HSR service is not fully known at this time and leads to uncertainty with regards to ARC ridership projections.

Under most circumstances, FTA New Starts guidance recommends that assumed future year transportation infrastructure outside of the study corridor be based on the regionally-adopted, fiscally-constrained long-range plan. The 2012 SCAG RTP for 2035 assumes that HSR in Southern California will consist Phase I of the California High-Speed Rail (CHSR) system between Los Angeles and the Antelope Valley.² Beyond the boundaries of the SCAG region, the current plans of the California High Speed Rail Authority (CHSRA) call for a completion of the Blended Phase I system with one-seat service between Los Angeles and San Francisco by the Year 2029. Passengers travelling to and from Anaheim will utilize upgraded Metrolink service to connect to CHSR trains at Los Angeles Union Station³.

Ridership forecasts in the CHSRA 2012 Business Plan also include a scenario in which full Phase 1 California High Speed Rail is constructed between Anaheim and San Francisco. Ridership at Anaheim Station is projected to range from 15,800 daily boardings (low scenario) to 20,300 daily boardings (high scenario) in the Year 2030.⁴ A similar number of travelers can be expected to detrain at Anaheim. The high scenario represents the maximum expected rail usage at ARTIC in the Year 2030 but is still 5 years short of the forecast year for the ARC project.

Earlier Business Plans projected ridership for the Year 2035—the analysis year for the ARC project. Those forecasts indicate that Anaheim station would attract 23,500 daily boardings in the Year 2035.⁵ Given the additional five years of growth, these forecasts are approximately consistent with the high ridership forecast for the 2012 Business Plan.

² Southern California Association of Governments, Regional Transportation Plan 2012-2035, Executive Summary, Page 5.

³ California High Speed Rail Authority, April 2012 Business Plan Executive Summary, Page ES-13.

⁴ Cambridge Systematics, California High-Speed Rail 2012 Business Plan, Page 5-40

⁵ California High Speed Rail Authority, Report to the Legislature, December 2009, Page 72

The California High Speed Rail Authority forecasts from December 2009 also included additional information on the share of travelers walking and using shuttles or transit to access the facility as shown in Table 3.

Given the importance of CHSR ridership to Anaheim in determining the maximum potential ridership on the ARC system, but also given the fact that this service is not included in the current SCAG RTP nor in the 2012 Business Plan of the CHSRA, the effect of this system on ARC ridership will be separately reported so that decision makers can evaluate the performance of the ARC system with and without the contribution of CHSR. Ridership forecasts will be based on the December 2009 Business plan since these forecasts represent the Year 2035, the year used in other elements of the forecast.

Table 3. Mode of Access/Egress to CHSR Service at Anaheim

Mode of Access/Egress	Share	Trips
Bus and Shuttle	15%	7,050
Walk	14%	6,580
Auto	71%	33,370
Total	100%	47,000

Source: Parking needs data summary provided by CHSRA to ARTIC EIS team. Shares multiplied by December 2009 Business Plan boardings at Anaheim to estimate mode of access. Mode of egress for alighting passengers assumed to equal mode of access for boarding passengers.

2.4. Disneyland Resort Growth Assumptions

Projections of future trip-making activity at the Disneyland Resort used for preparing ARC ridership forecasts come from three sources:

- Growth in intra-corridor travel is based on OCTAM projections of Disneyland Resort trip making as shown in Table 4.
- Growth of guests using transit to access resort locations from their hotels are based on estimates of hotel room contained in OCP 2010. The only new hotel in the immediate vicinity of the project is a new hotel just north of the intersection of Katella Avenue and Clementine Street that will have 1,628 rooms.
- Annual growth of Disneyland Resort remote parking is estimated at 0.75% per year. Between 2010 and 2035, this results in an increase in remote parking of 20 percent.

**Table 4. OCTAM Version 3.4 Estimates of Disneyland Resort
Home-Based Work and Non-Home Based Trip Attractions**

Trip Purpose	Year 2010	Year 2035
Home-Based Work		
Income Group 1	3,540	3,618
Income Group 2	16,490	16,707
Income Group 3	16,595	16,364
Subtotal Home-Based Work	36,625	36,689
Home-Based Other	120,073	118,559
Non-Home Based	39,782	39,350
Truck	1,805	1,811
Total	198,285	196,409

Source: OCTAM Version 3.4 trip generation outputs for 2010 and 2035.

Chapter 3

Project Definitions

This section describes the project definitions for each of the modeled alternatives.

3.1. No-Build Alternative

The No-Build Alternative is based on the OCTAM Year 2035 Build-Out Network. This version of the model is the closest available OCTAM model run to the SCAG 2012 RTP and assumes full build-out of Orange County's Master Plan of Arterials (MPAH). This program is a subset of the RTP's project set in Orange County.

Key transit improvements contained in the 2035 No-Build Alternative (as compared to the 2010 network) include:

1. BRT service on Harbor Boulevard and Bristol/State College Boulevard, operating at a 15-minute headway during peak periods and 24- and 14-minute headways, respectively, in off-peak periods.
2. Increase frequency of OCTA Route 50 on Katella Avenue from 30-minute headways to 26-minute headways during peak periods.
3. Increase frequency of OCTA Route 43 on Harbor Boulevard from 15-minute headways to 14-minute headways during peak and off-peak periods.
4. Increase frequency of OCTA Route 47 between Fairview and Anaheim from 15-minute headways to 13-minute headways during peak periods and from 20-minute to 17-minute headways during the off-peak periods.
5. Increase Metrolink service frequency on the Orange County Line between Fullerton and Laguna Niguel; increase number of trains from 19 per day to 38 trains per day by 2035.
6. Construct the ARTIC Project, which will be completed in 2014. This facility will include a multi-level transportation terminal which will serve regional and interstate rail, buses and other supporting transit services, and approximately 1,000 surface parking spaces.
7. Provide enhanced Metrolink connections: there are two proposed bus transit projects under the Anaheim Go Local program, along with the ARC project. The proposed Bus Rapid Transit (BRT) projects would connect passengers arriving at ARTIC to other activity centers in the City of Anaheim:
 - ARTIC to Downtown Anaheim Connector – a BRT line that will operate in mixed-flow traffic and connect Downtown Anaheim, the Platinum Triangle, and ARTIC, with a possible extension to the Fullerton Transportation Center.

- ARTIC to Anaheim Canyon Station Connector – a BRT line that would operate in a mixed-flow configuration either along La Palma Avenue and State College Boulevard, or along the SR-57 Freeway, connecting the ARTIC to the Metrolink Anaheim Canyon Station.
8. Construct CHSR service from San Francisco to Los Angeles Union Station and ARTIC as discussed in Chapter 2.

3.2. Enhanced Bus Alternative

The Enhanced Bus Alternative includes all improvements in the No-Build Alternative plus additional improvements that address the project purpose and need without a major capital investment. The Enhanced Bus Alternative includes branded service, and where possible, dedicated lane operations and signal preemption to improve this option's operational performance over existing fixed-route bus service, and provide a level of service similar to that of a street-running rail system. The proposed system would operate at-grade in several configurations: in a semi-exclusive configuration; in exclusive lanes on Disney Way where sufficient roadway traffic capacity exists to dedicate a lane to bus operations, while maintaining the required level of service for traffic operations; and in mixed-flow traffic where future traffic service conditions would not allow for dedicated lane operations. Signal priority would be provided for bus operations through intersections where possible.

The Enhanced Bus alignment starts at the ARTIC facility on S. Douglass Road and travels north to Katella Avenue, west to State College Boulevard, south to Gene Autry Way, across the I-5 Freeway west to Haster Street (which is named Anaheim Boulevard north of Katella Avenue), north to Disney Way, west to Harbor Boulevard, and south to a terminus on Harbor Boulevard at Convention Way near the Anaheim Convention Center.

Five proposed stops along this alignment would serve the Study Area's activity centers:

- ARTIC;
- Triangle – on State College Boulevard just north of Gene Autry Way;
- Haster – on Haster Street between Katella Avenue and Gene Autry Way;
- Resort – on Disney Way between Clementine Street and Harbor Boulevard; and
- Convention – on Harbor Boulevard north of Convention Way.

Based on conceptual-level traffic studies, an exclusive lane was identified as feasible only on Disney Way between Anaheim Boulevard and Harbor Boulevard. To improve schedule adherence, reduce operating costs, and allow for better service reliability, signal priority/preemption was proposed for the dedicated operational sections of the Enhanced Bus alternative. Signal priority/preemption in mixed-flow operations was not seen as providing a benefit based on the possibility of a bus waiting behind other vehicles in a queue. Based on conceptual-level analysis, the following intersections were identified as locations where bus signal priority/preemption appears feasible and will be evaluated further:

- Douglass Road and ARTIC entrance;
- I-5 southbound off-ramp to Disney Way;
- Disney Way and Clementine Street;
- Disney Way and The Shops at Anaheim GardenWalk parking lot entrance;
- Harbor Boulevard and Disney Way (westbound); and
- Convention Way at bus turnaround (possible).

The headway for this service is assumed to be 10 minutes and will be provided over a service day sufficient to satisfy the needs of the markets identified. The fare for the Enhanced Bus will be consistent with the fare charged for all other OCTA bus services, currently a regular cash fare of \$1.50.

A map of the Enhanced Bus alternative is presented in Figure 2. Table 5 displays the assumed station to station travel times. Each segment includes an allowance of 20 seconds for station dwell to allow time for passengers to board and alight from the service.

Figure 2. Enhanced Bus Alignment

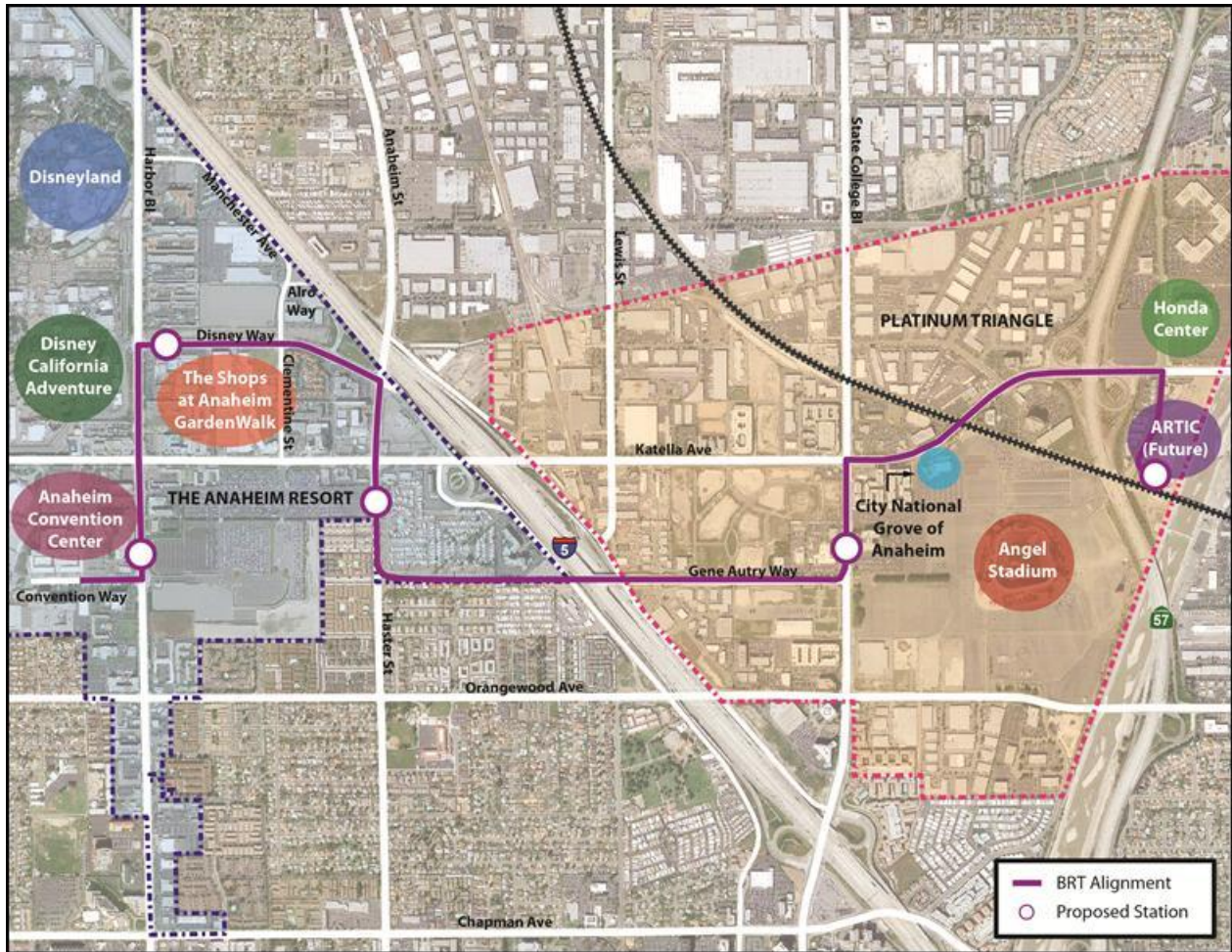


Table 5. Enhanced Bus Travel Times

Station	Travel Time (Minutes)	Cumulative Travel Time from ARTIC (Minutes)
ARTIC Station	-	-
Triangle Station (State College Boulevard and Gene Autry Way)	5.40	5.40
Haster Station	4.33	9.73
Resort Station	4.13	13.86
Convention Station	6.30	20.16

3.3. Streetcar Alternative

The Streetcar Alternative alignment starts at ARTIC, in the surface parking lot north of Angel Stadium and in close proximity to the Metrolink/Amtrak platforms, travels west parallel to the Metrolink/Amtrak tracks, then between Katella Avenue and The City National Grove of Anaheim to Katella Avenue where it enters the street at a signalized intersection, then travels west on Katella Avenue, crossing under the I-5 Freeway to Clementine Street, travels north on Clementine Street (which becomes Manchester Avenue) to the intersection of Alro Way and Manchester Avenue, turns west towards Harbor Boulevard, south on Harbor Boulevard, and west on Convention Way where a terminus station would be located just west of Harbor Boulevard.

The following five station locations are associated with this alternative:

1. ARTIC – center platform station in the surface parking lot north of Anaheim Stadium and in close proximity to the Metrolink/Amtrak platforms. As previously indicated, there is the potential for the alignment to be extended as a single-track alignment eastward under the SR-57 Freeway with a station located east of the freeway. This extension and station would be on an interim basis until the proposed CHSR project is implemented.
2. Triangle – curbside station on Katella Avenue between State College Boulevard and Lewis Street;
3. Clementine – median station on Clementine Street just north of Katella Avenue;
4. Resort – center platform station on the east side of Harbor Boulevard opposite the main entrance of the Disneyland Resort theme parks (approximately 800 feet north of Disney Way). The station would incorporate many of the transit functions currently handled by the Disneyland Resort Transportation Center on the west side of Harbor Boulevard. Based on area available in the transit center and future design information, the station will include bus bays for Anaheim Resort Transportation (ART) and OCTA, and possibly Los Angeles Metro Line 460, services as well as taxi and passenger drop-off. This station includes a pedestrian walkway across Harbor Boulevard to connect the Resort station to the Disneyland and Disney’s California Adventure theme parks.
5. Convention – center platform station on the south side of Convention Way west of Harbor Boulevard.

The headway for this service is assumed to be 10 minutes and will be provided over a service day sufficient to satisfy the needs of the markets identified. The fare for the streetcar service will be consistent with the fare charged for OCTA bus services, currently a regular cash fare of \$1.50.

A map showing the Streetcar Alignment is presented in Figure 3. Station to station travel times are presented in Table 6.

Figure 3. Streetcar Alignment and Station Locations

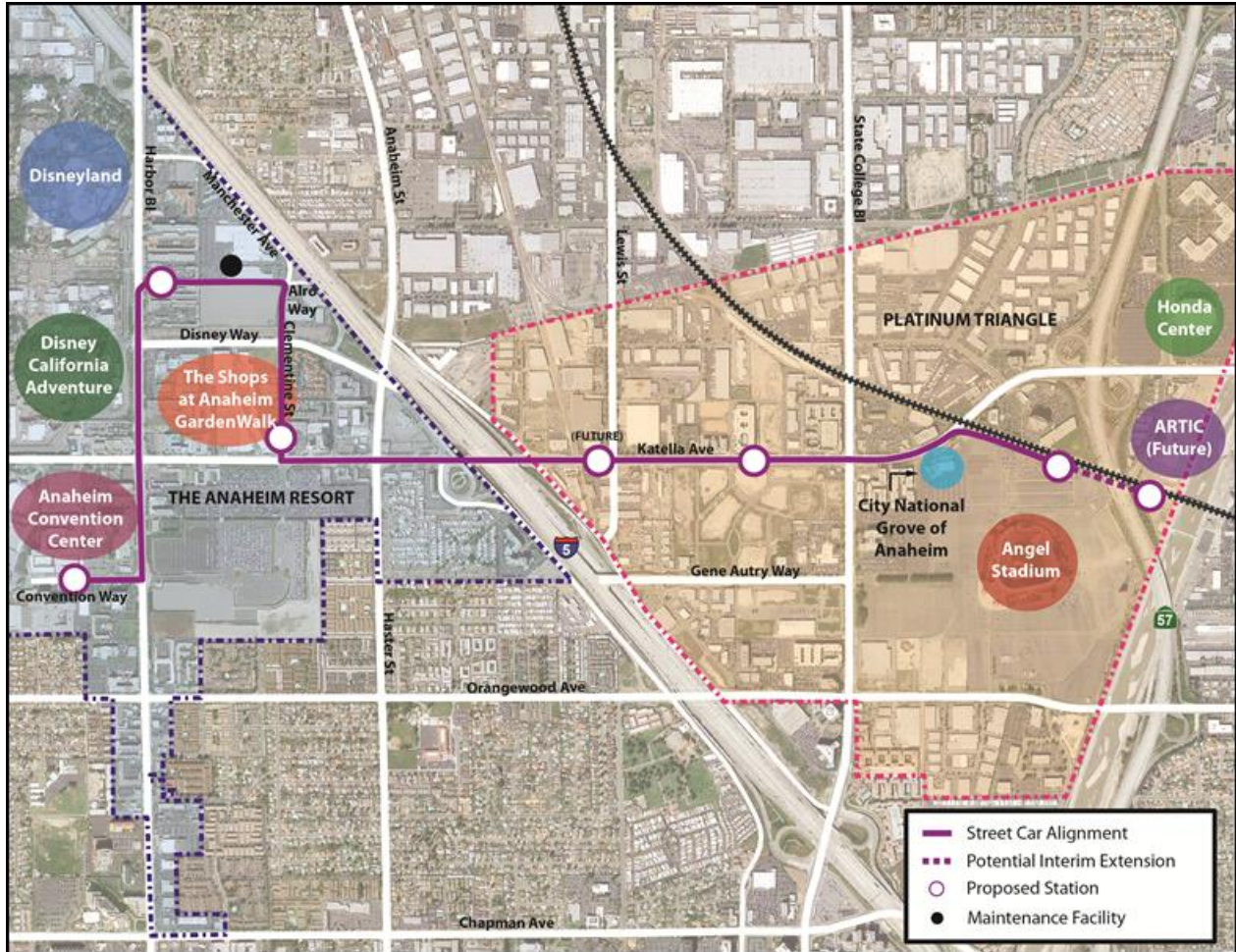


Table 6. Streetcar Travel Times

Station	Travel Time (Minutes)	Cumulative Travel Time from ARTIC (Minutes)
ARTIC Station	-	-
Triangle Station (State College Boulevard and Gene Autry Way)	5.49	5.49
Haster Station	6.00	11.49
Resort Station	2.58	14.07
Convention Station	4.00	18.07

3.4. Elevated Fixed-Guideway Alternative

The Elevated Fixed-Guideway Alternative is a fully grade-separated alternative that would operate on a guideway structure on columns located primarily in the existing street right-of way using one of the following automated technology options: rubber-tire, low-speed magnetic levitation (maglev), or monorail.

The alignment for the Elevated Fixed-Guideway Alternative would start north of Angel Stadium adjacent to the Anaheim Metrolink/Amtrak platforms, traverses the Angel Stadium parking lot, proceeds west across the intersection of State College Boulevard/Gene Autry Way; runs west along Gene Autry Way, crossing over the I-5 west to Haster Street (which is named Anaheim Boulevard north of Katella Avenue), travels north on Haster Street, travels north parallel to the I-5 Freeway, turning west at the intersection of Manchester Avenue/Alro Way towards Harbor Boulevard, and runs south on Harbor Boulevard to a terminus station south of the intersection of Harbor Boulevard and Convention Way. A tail track extension would be located on Harbor Boulevard south from Convention Way to just north of West Oranewood Avenue to provide train layover space.

This alternative would primarily travel on columns located within the existing city street right-of-way, either in a side-running alignment or in the median, and the Angel Stadium surface parking area. Property acquisition is required (approximately 22.9 acres) to accommodate the system structure adjacent to the I-5 Freeway and connecting west to Harbor Boulevard, and to provide station and related facilities in the Resort station area and for an operations and maintenance facility in the area located at the northwest corner of the Manchester Avenue/Alro Way intersection.

Five proposed stations would serve the Study Area's major activity centers:

- ARTIC;
- Triangle – on Gene Autry Way west of the State College Boulevard intersection;
- Haster – on Haster Street between Katella Avenue and Gene Autry Way;
- Resort – on the east side of Harbor Boulevard opposite the main entrance of the Disneyland Resort theme parks (approximately 800 feet north of Disney Way). The station would incorporate many of the transit functions currently handled within the Disneyland Resort Transportation Center on the west side of Harbor Boulevard; based on area available within the transit center and future design information, the station will include bus bays for ART, OCTA, and possible Los Angeles Metro, service as well as

taxi and passenger drop-off. This station includes a pedestrian walkway across Harbor Boulevard to connect the Resort station to the Disneyland and Disney's California Adventure theme parks.

- Convention – on Harbor Boulevard just south of the Convention Way intersection.

The Elevated Fixed-Guideway Alternative would operate in an elevated structure ranging from a minimum 18 feet to 40 feet above street level depending on the station type and location. The aerial structure would generally be 30 feet wide, but would widen at station segments (with center platforms) and at switches or cross-over locations to a maximum width of 72 feet. Three pedestrian connectors linking stations to study area activity centers are also proposed for this alternative:

1. Triangle station across State College Boulevard east to Angel Stadium;
2. Resort station south across Disney Way to The Shops at Anaheim GardenWalk; and
3. Resort station west across Harbor Boulevard to the Disney theme parks' entrance on the west side of Harbor Boulevard.

Grade separated pedestrian access is provided across roadways where the elevated stations are located in the median. For example, the pedestrian connections across Harbor Boulevard at Convention Way are required to provide access to the elevated station in the median, so are integral to the station design. The same case exists at Haster Street where pedestrian connections are integral to the station design. The Triangle station, which is located in a median, has grade-separated pedestrian connections across Gene Autry Way that are required to provide station access.

The headway for this service is assumed to be 10 minutes and will be provided over a service day sufficient to satisfy the needs of the markets identified. The fare for the streetcar service will be consistent with the fare charged for OCTA bus services, currently a regular cash fare of \$1.50.

A map showing the Elevated Fixed-Guideway Alignment is presented in Figure 4. Station to station travel times are presented in Table 7.

Figure 4. Elevated Fixed-Guideway Alignment and Station Locations

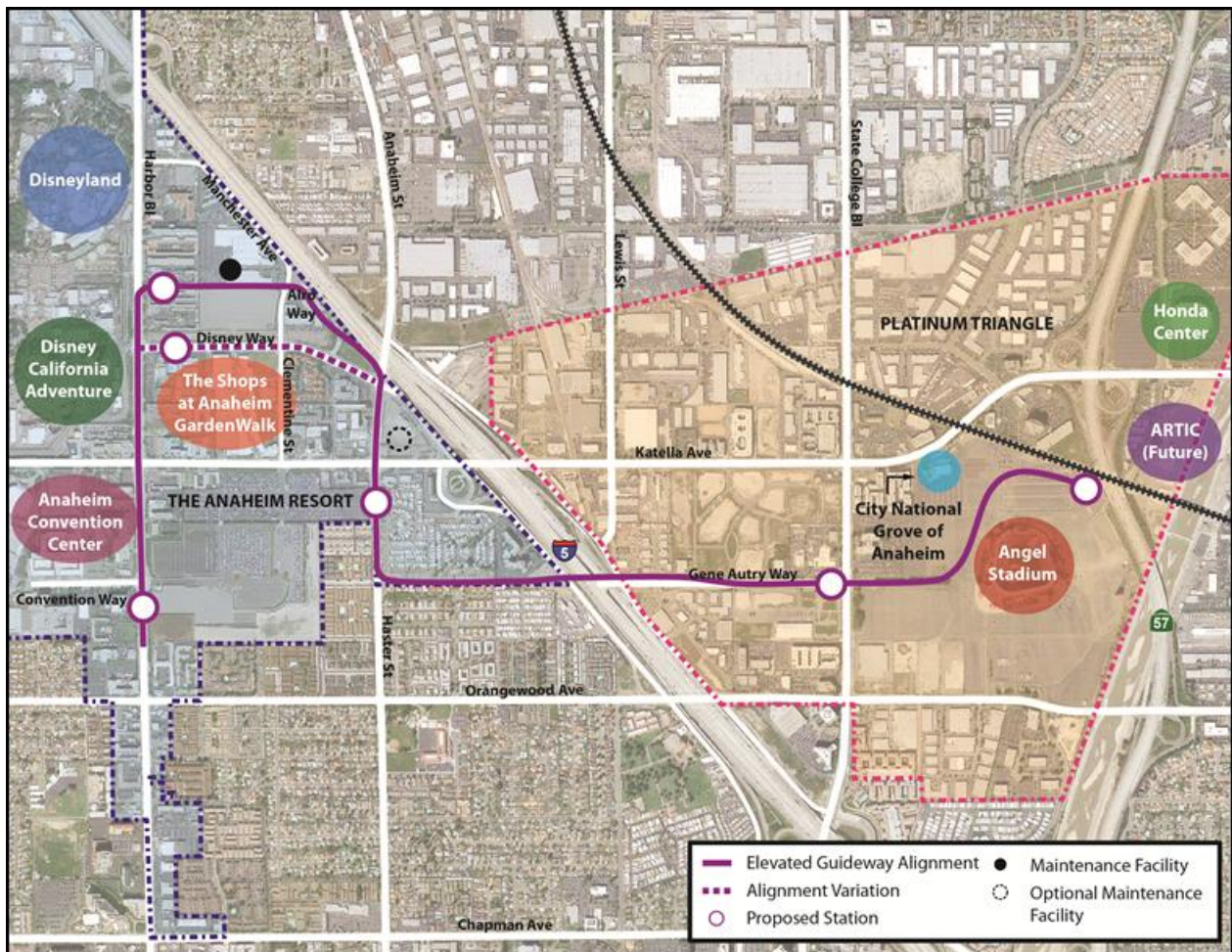


Table 7. Elevated Fixed-Guideway Travel Times

Station	Travel Time (Minutes)	Cumulative Travel Time from ARTIC (Minutes)
ARTIC Station	-	-
Triangle Station (State College Boulevard and Gene Autry Way)	2.20	2.20
Haster Station	3.08	5.28
Resort Station	1.87	7.15
Convention Station	2.11	9.26

3.5. Station Access/Egress Times

The times required to travel between each zone and nearby bus or fixed-guideway stations are computed based on the latitude and longitude of both the zone centroids (or specific hotels in the case of the ART diversion model) and stations. Access time is computed from straight-line distance at the rate of 3 miles per hour.

Two situations required a more detailed assessment of station access times—the time required to connect from the ARTIC platforms to the ARC platforms and times required to travel between the Disneyland Resort and the Resort station. For these cases, the following access assumptions were made:

- ARTIC Platform to ARC platform – 2 minute (assumes direct ARC to ARTIC connection)
- Resort station to the Disneyland Resort entrance:
 - 5 minutes to walk from the exiting Transportation Center west of Harbor to the theme park entrances (No-Build condition)
 - 9 minutes from the new Resort Station east of Harbor to the theme park entrances (applies to Enhanced Bus, Streetcar, and Elevated Fixed-Guideway Alternatives)

Chapter 4

Projected Year 2035 Ridership for Each Alternative

4.1. Introduction

This chapter compares the potential Year 2035 ridership and mobility benefits of the Enhanced Bus, Streetcar and Elevated Fixed-Guideway Alternatives to the No-Build. This comparison of alternatives is an integral element of the FTA New Starts project development process and also provides key information to support the analysis of environmental impacts associated with the project.

The forecasts that are used to support this analysis are consistent with the 2012 SCAG RTP and the 2010 Orange County Plan. Key assumptions include:

- Year 2035 population and employment are based on forecasts developed by SCAG for the 2012 RTP.
- Travelers perceive a benefit for using the ARC Elevated Fixed-Guideway system that is equivalent to 15 minutes of travel time above and beyond any measurable improvement in travel time. Users of the Streetcar system perceive a benefit of 7.5 minutes and users of the Enhanced Bus Alternative perceive no additional benefit (beyond the estimated time savings) as compared to conventional bus.
- Phase I CHSR Service is implemented between Anaheim and San Francisco and this service attracts ridership at Anaheim according to the forecasts contained in the California High-Speed Rail Authority's December 2009 Business Plan.

Since the timing of CHSR service at Anaheim is not known with certainty and since this market contributes a large share of total riders to the ARC system, ridership results are presented before and after the introduction of CHSR service to illustrate the range of anticipated ridership on the ARC system.

4.2. Annual Year 2035 Corridor Linked Transit Trips by Alternative

Table 8 presents the annual corridor linked transit trips by alternative. This statistic describes the number of annual corridor linked transit trips in the Year 2035 within each of the markets considered in this analysis. Linked transit trips represent travel from a trip origin to a trip destination regardless of how many transit vehicles are boarded. This number includes both bus and fixed-guideway trips and is useful in understanding how a particular alternative builds the overall transit market.

Annual numbers are reported since each of the forecasted markets is likely to vary considerably over the course of a year. The annual ridership statistic best captures each alternative's contribution to corridor mobility. The bottom of Table 8 shows the equivalent number of daily linked trips. This statistic is computed by dividing annual ridership by 300 to provide a basis of comparison to other transit projects in the FTA New Starts pipeline.

As shown in Table 8, 5.8 million annual corridor linked transit trips are expected in the Year 2035 under the No-Build Alternative. The Enhanced Bus Alternative will increase this figure to 6.6 million annual trips and the Streetcar Alternative will further increase transit ridership to 6.9 million annual trips in the corridor. Finally, the Elevated Fixed-Guideway Alternative will result in 7.6 million annual linked trips in the corridor.

When converted to equivalent daily trips (by dividing by 300) and compared to the No-Build Alternative, the various build alternatives result in the following estimates of daily incremental ("new") riders in the Year 2035:

- Enhanced Bus: 2,600 daily incremental linked trips (vs. No-Build)
- Streetcar: 3,400 daily incremental linked trips (vs. No-Build) and 800 daily incremental linked trips (vs. Enhanced Bus)
- Elevated Fixed-Guideway: 6,000 daily incremental linked trips (vs. No-Build) and 3,300 daily incremental linked trips (vs. Enhanced Bus)

Table 8. Annual Year 2035 Corridor Linked Transit Trips by Alternative

Market	Year 2035 Annual Corridor Linked Transit Trips (2012 SCAG RTP)			
	No-Build	Enhanced Bus	Streetcar	Elevated Fixed-Guideway
<i>Perceived min. of time savings vs. local bus</i>	0	0	7.5	15
Metrolink Access/Egress				
- Disneyland Employees	31,477	81,496	113,800	218,768
- Disneyland Guests	6,292	19,762	24,918	40,504
- Commuters living in Corridor	2,119	5,257	7,950	18,812
- Commuters Working in Corridor	18,633	39,819	52,445	80,900
- Non-Disney non-work trips from Corridor	2,934	5,608	6,358	9,359
- Non-Disney non-work trips to Corridor	3,352	7,057	7,654	10,291
Subtotal Metrolink Access/Egress	64,806	158,998	213,125	378,634
Resort Area Guests	3,530,611	3,606,889	3,734,846	3,781,196
Amtrak Access/Egress	45,127.30	98,554	115,447	172,675
Other Intra-Corridor Trips - Peak Period	296,100	307,200	303,000	313,500
Other Intra-Corridor Trips - Off-Peak	260,100	282,600	278,100	289,800
Game Day Riders (150 days/year)	7,500	60,000	60,000	60,000
Disneyland Remote Parking (10 days/year)	62,040	62,040	62,040	62,040
Total Before Introduction of California High Speed Rail	4,266,284	4,576,281	4,766,559	5,057,845
California High Speed Rail Access/Egress	1,576,539	2,057,317	2,103,360	2,578,920
Total After Introduction of California High Speed Rail	5,842,823	6,633,599	6,869,919	7,636,765
Daily Equivalent (Grand Total/300)	19,476	22,112	22,900	25,456

Note: Linked corridor transit trips include both corridor bus and fixed-guideway transit trips

4.3. Annual Year 2035 Project Boardings by Alternative

Table 9 presents annual project boardings for each alternative. The least complex project, Enhanced Bus service, would attract 1.90 million riders per year, which is roughly equivalent to 6,300 riders per day on other New Starts projects when using a typical annualization factor of 300 days per year. Of this ridership, 50% (949,000 annual riders) is related to serving CHSR passengers traveling to and from Anaheim Resort. Another 31% (590,000 annual riders) are resort area guests who are diverted from existing ART services. The remaining 19% are divided among special events, Metrolink and Amtrak access or egress, and internal corridor travel. Before implementation of the CHSR service to Anaheim, ridership in 2035 is expected to equal 0.95 million trips per year.

By providing modest time advantages over the Enhanced Bus Alternative and with the assumption that travelers will perceive an additional 7.5 minutes of benefit⁶, the Streetcar Alternative is forecasted to attract 2.32 million annual passengers. This is the equivalent to 7,700 riders per day. The distribution of riders among markets is similar to the Enhanced Bus Alternative with the exception that the share of riders coming from resort area guests (ART diversions) rises to 35% of the total market. Before implementation of CHSR service, the Streetcar Alternative attracts 1.25 million passengers per year.

Given the fact that the Elevated Fixed-Guideway system requires half the travel time and has the highest assumed perceived minutes of time savings, this alternative attracts the highest level of ridership. The Elevated Fixed-Guideway Alternative will attract 3.23 million annual customers in 2035. This is equivalent to 10,800 passengers per day. Before CHSR service is implemented, ARC ridership is expected to equal 1.59 million customers per year.

⁶ Specifically, travelers will react to the visibility and reliability of a Streetcar system in the same way that they would react to an additional 7.5 minutes of travel time savings.

Table 9. Annual Year 2035 Project Boardings By Alternative

Market	Year 2035 Annual Project Boarding Passengers (2012 SCAG RTP)			
	No-Build	Enhanced Bus	Streetcar	Elevated Fixed-Guideway
<i>Perceived min. of time savings vs. local bus</i>	0	0	7.5	15
Metrolink Access/Egress				
- Disneyland Employees	-	66,433	102,580	213,253
- Disneyland Guests	-	14,330	19,702	35,682
- Commuters living in Corridor	-	3,174	5,905	16,870
- Commuters Working in Corridor	-	24,740	39,757	70,973
- Non-Disney non-work trips from Corridor	-	2,797	3,594	6,671
- Non-Disney non-work trips to Corridor	-	3,904	4,544	7,306
Subtotal Metrolink Access/Egress	-	115,379	176,083	350,755
Resort Area Guests	-	590,297	821,813	892,585
Amtrak Access/Egress	-	56,334	73,948	132,619
Other Intra-Corridor Trips - Peak Period	-	32,100	27,600	51,300
Other Intra-Corridor Trips - Off-Peak	-	30,900	29,100	43,800
Game Day Riders (150 days/year)	-	60,000	60,000	60,000
Disneyland Remote Parking (10 days/year)	-	62,040	62,040	62,040
Total Before Introduction of California High Speed Rail	-	947,051	1,250,585	1,593,098
California High Speed Rail Access/Egress	-	949,339	1,064,511	1,637,333
Total After Introduction of California High Speed Rail	-	1,896,390	2,315,095	3,230,432
Daily Equivalent (Grand Total/300)	-	6,321	7,717	10,768

4.4. Annual Year Transportation System User Benefits by Alternative

Table 10 presents forecasted Transportation Systems User Benefits associated with each alternative. The Enhanced Bus Alternative is compared to the No-Build Alternative to display the impact that this low cost alternative offers as compared to taking no action beyond those plans already expected to occur by 2035. The two alternatives that involve major capital expenditures are compared to the low cost Enhanced Bus Alternative to demonstrate the value of these more expensive options as compared to lower cost actions. Benefits for the Enhanced Bus option are equivalent to 2,100 hours per day (as compared to the No-Build). The Streetcar and Elevated Fixed-Guideway alternatives offer an additional 1,100 and 2,700 hours of savings per day, respectively, as compared to the Enhanced Bus Alternative. The latter value is equivalent to about 14 minutes of benefit per passenger. Since average User Benefits per passenger are often approximately half of the maximum benefits⁷, the result is consistent with the alternative definition that offers a maximum of 10 minutes of real time savings and 15 minutes of mode-based perceived benefits.

4.5. Station and Link Level Estimates of Ridership

Tables 11 through 13 present maximum daily and time-specific station volumes and link loads for each alternative. These loads represent the peak day and are intended for use in determining the operating plan, fleet size and other project elements that depend on serving the highest expected load. Although derived from the same set of forecasts, these estimates are higher than the equivalent daily load reported in earlier sections that are used for describing the average daily impacts of each alternative.

⁷ End-to-end riders will receive the maximum benefit of the project while other riders are traveling in locations where the walking time required to access the guideway means there is very little advantage over competing bus services. If there are no passengers who are worse off as a result of the project, the average User Benefit must lie between these two extremes—often at 50 percent of the maximum value.

Table 10. Year 2035 Transportation System User Benefits By Alternative

Market	Year 2035 Annual Transp. System User Benefits (Hrs) (2012 SCAG RTP)			
	No-Build	Enhanced Bus vs. No-Build	Streetcar vs. Enhanced Bus	Elevated Fixed-Guideway vs. Enhanced Bus
<i>Perceived min. of time savings vs. local bus</i>	0	0	7.5	15
Metrolink Access/Egress				
- Disneyland Employees	-	15,859	12,118	60,678
- Disneyland Guests	-	5,541	2,453	10,881
- Commuters living in Corridor	-	538	483	2,572
- Commuters Working in Corridor	-	4,814	4,400	15,429
- Non-Disney non-work trips from Corridor	-	999	235	1,363
- Non-Disney non-work trips to Corridor	-	1,609	283	1,554
Subtotal Metrolink Access/Egress	-	29,361	19,972	92,477
Resort Area Guests	-	118,825	167,754	220,921
Amtrak Access/Egress	-	21,972	7,601	36,106
Other Intra-Corridor Trips - Peak Period	-	6,462	5,634	12,697
Other Intra-Corridor Trips - Off-Peak	-	6,220	5,940	10,841
Game Day Riders (150 days/year)	-	12,078	12,248	14,850
Disneyland Remote Parking (10 days/year)	-	12,488	12,664	15,355
Total Before Introduction of California High Speed Rail	-	207,407	231,814	403,249
California High Speed Rail Access/Egress	-	408,811	92,058	419,689
Total After Introduction of California High Speed Rail	-	616,217	323,872	822,938
Daily Equivalent (Grand Total/300)	-	2,054	1,080	2,743

Table 11. Maximum Daily and Time-of-Day Station and Link Level Ridership – Enhanced Bus Alternative

2035 Enhanced Bus: Daily Loads and Station Activity - All Markets										
Station	Westbound			Eastbound			Boardings	Alightings	Total	Miles
	On	Off	Lv. Load	On	Off	Ar. Load				
ARTIC	3,340	0	3,340	0	3,340	3,340	3,340	3,340	6,679	3,874
Triangle Station	55	514	2,881	514	55	2,881	569	569	1,138	6,510
Haster Station	529	164	3,245	164	529	3,245	692	692	1,385	3,570
Resort Station	1,838	3,045	2,039	3,045	1,838	2,039	4,883	4,883	9,767	2,610
Convention Station	0	2,039	0	2,039	0	0	2,039	2,039	4,078	
TOTAL	5,762	5,762		5,762	5,762		11,523	11,523	23,047	16,564
2035 Enhanced Bus: AM Peak Hour Loads and Station Activity - All Markets										
Station	Westbound			Eastbound			Boardings	Alightings	Total	Miles
	On	Off	Lv. Load	On	Off	Ar. Load				
ARTIC	394	0	394	0	79	79	394	79	473	274
Triangle Station	4	45	353	22	6	63	27	51	78	470
Haster Station	84	12	426	13	4	54	98	16	113	264
Resort Station	13	419	20	50	293	297	63	712	775	202
Convention Station	0	20	0	297	0	0	297	20	316	
TOTAL	496	496		382	382		878	878	1,755	1,211
2035 Enhanced Bus: Midday Hour Loads and Station Activity - All Markets										
Station	Westbound (Read Down)			Eastbound (Read Up)			Station Activity			Passenger
	On	Off	Lv. Load	On	Off	Ar. Load	Boardings	Alightings	Total	Miles
ARTIC	256	0	256	0	176	176	256	176	432	250
Triangle Station	2	26	232	22	2	156	24	28	52	438
Haster Station	60	7	285	7	37	186	67	44	111	259
Resort Station	130	281	134	183	210	214	313	491	804	223
Convention Station	0	134	0	214	0	0	214	134	348	
TOTAL	447	447		426	426		873	873	1,746	1,170
2035 Enhanced Bus: PM Peak Hour Loads and Station Activity - All Markets										
Station	Westbound (Read Down)			Eastbound (Read Up)			Station Activity			Passenger
	On	Off	Lv. Load	On	Off	Ar. Load	Boardings	Alightings	Total	Miles
ARTIC	318	0	318	0	576	576	318	576	893	518
Triangle Station	5	34	289	45	4	535	50	37	87	931
Haster Station	33	13	308	12	107	629	45	120	165	516
Resort Station	372	231	449	551	115	193	923	346	1,268	411
Convention Station	0	449	0	193	0	0	193	449	643	
TOTAL	727	727		801	801		1,528	1,528	3,056	2,377

Table 12. Maximum Daily and Time-of-Day Station and Link Level Ridership – Streetcar Alternative

2035 Streetcar: Daily Loads and Station Activity - All Markets										
Station	Westbound			Eastbound			Boardings	Alightings	Total	Miles
	On	Off	Lv. Load	On	Off	Ar. Load				
ARTIC	3,604	0	3,604	0	3,604	3,604	3,604	3,604	7,209	7,641
Triangle Station	45	600	3,049	600	45	3,049	644	644	1,289	4,269
Clementine Station	742	98	3,693	98	742	3,693	839	839	1,679	10,784
Resort Station	1,949	3,425	2,217	3,425	1,949	2,217	5,373	5,373	10,747	3,325
Convention Station	0	2,217	0	2,217	0	0	2,217	2,217	4,434	
TOTAL	6,339	6,339		6,339	6,339		12,678	12,678	25,356	26,019
2035 Streetcar: AM Peak Hour Loads and Station Activity - All Markets										
Station	Westbound			Eastbound			Boardings	Alightings	Total	Miles
	On	Off	Lv. Load	On	Off	Ar. Load				
ARTIC	426	0	426	0	90	90	426	90	515	546
Triangle Station	3	53	376	27	5	67	30	58	88	310
Clementine Station	118	7	486	8	6	66	125	14	139	806
Resort Station	14	474	26	58	310	318	72	784	856	258
Convention Station	0	26	0	318	0	0	318	26	344	
TOTAL	560	560		411	411		971	971	1,943	1,920
2035 Streetcar: Midday Hour Loads and Station Activity - All Markets										
Station	Westbound (Read Down)			Eastbound (Read Up)			Station Activity			Passenger
	On	Off	Lv. Load	On	Off	Ar. Load	Boardings	Alightings	Total	Miles
ARTIC	267	0	267	0	186	186	267	186	453	481
Triangle Station	2	29	239	26	2	162	27	31	58	281
Clementine Station	84	4	319	4	52	210	88	56	144	773
Resort Station	138	312	145	204	223	229	341	535	876	281
Convention Station	0	145	0	229	0	0	229	145	374	
TOTAL	490	490		463	463		953	953	1,906	1,815
2035 Streetcar: PM Peak Hour Loads and Station Activity - All Markets										
Station	Westbound (Read Down)			Eastbound (Read Up)			Station Activity			Passenger
	On	Off	Lv. Load	On	Off	Ar. Load	Boardings	Alightings	Total	Miles
ARTIC	332	0	332	0	603	603	332	603	935	991
Triangle Station	4	39	297	52	3	554	57	42	99	595
Clementine Station	46	8	335	7	149	695	54	156	210	1,504
Resort Station	394	253	477	610	121	206	1,005	375	1,379	512
Convention Station	0	477	0	206	0	0	206	477	682	
TOTAL	777	777		876	876		1,653	1,653	3,306	3,602

Table 13. Maximum Daily and Time-of-Day Station and Link Level Ridership – Elevated Fixed-Guideway Alternative

2035 Elevated Fixed-Guideway: Daily Loads and Station Activity - All Markets										
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Station	Westbound			Eastbound			Boardings	Alightings	Total	Miles
	On	Off	Lv. Load	On	Off	Ar. Load				
ARTIC	4,768	0	4,768	0	4,768	4,768	4,768	4,768	9,535	5,531
Triangle Station	66	1,220	3,613	1,220	66	3,613	1,285	1,285	2,570	8,166
Haster Station	776	193	4,197	193	776	4,197	968	968	1,937	4,617
Resort Station	2,010	3,826	2,381	3,826	2,010	2,381	5,835	5,835	11,671	3,048
Convention Station	0	2,381	0	2,381	0	0	2,381	2,381	4,762	
TOTAL	7,619	7,619		7,619	7,619		15,238	15,238	30,476	21,361

2035 Elevated Fixed-Guideway: AM Peak Hour Loads and Station Activity - All Markets										
Station	Westbound			Eastbound			Boardings	Alightings	Total	Miles
	On	Off	Lv. Load	On	Off	Ar. Load				
ARTIC	545	0	545	0	145	145	545	145	690	400
Triangle Station	5	105	446	56	7	96	62	111	173	612
Haster Station	123	15	553	15	7	88	138	22	160	353
Resort Station	14	533	34	71	320	337	85	854	939	237
Convention Station	0	34	0	337	0	0	337	34	371	
TOTAL	687	687		479	479		1,166	1,166	2,333	1,602

2035 Elevated Fixed-Guideway: Midday Hour Loads and Station Activity - All Markets										
Station	Westbound (Read Down)			Eastbound (Read Up)			Station Activity			Passenger
	On	Off	Lv. Load	On	Off	Ar. Load	Boardings	Alightings	Total	Miles
ARTIC	320	0	320	0	233	233	320	233	553	321
Triangle Station	2	60	262	52	2	183	55	63	117	503
Haster Station	88	8	342	8	54	229	96	62	158	314
Resort Station	142	331	153	218	230	241	360	561	921	252
Convention Station	0	153	0	241	0	0	241	153	394	
TOTAL	552	552		520	520		1,072	1,072	2,143	1,389

2035 Elevated Fixed-Guideway: PM Peak Hour Loads and Station Activity - All Markets										
Station	Westbound (Read Down)			Eastbound (Read Up)			Station Activity			Passenger
	On	Off	Lv. Load	On	Off	Ar. Load	Boardings	Alightings	Total	Miles
ARTIC	403	0	403	0	712	712	403	712	1,115	647
Triangle Station	6	81	328	105	5	611	111	86	196	1,062
Haster Station	49	15	362	15	156	752	64	171	234	613
Resort Station	407	272	497	660	125	218	1,066	397	1,463	457
Convention Station	0	497	0	218	0	0	218	497	715	
TOTAL	865	865		997	997		1,862	1,862	3,724	2,779

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Appendix A

Vehicle and Vehicle Miles Traveled Impact from the Anaheim Rapid Connection Alternatives

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Summary of Automobile Trip Reductions as Compared to No-Build

CORRIDOR BENEFITS						
Market	Reduction in Daily Auto Person Trips			Reduction in Daily Auto Vehicle Trips		
	Enhanced Bus	Streetcar	Elevated Fixed Guideway	Enhanced Bus	Streetcar	Elevated Fixed Guideway
- Metrolink Access	7	11	22	7	10	21
- Resort Guests	52	140	172	21	56	69
- Amtrak Access	4	4	7	3	4	6
- Other Intra Corridor	112	83	157	102	75	143
- Game Day Riders	144	144	144	58	58	58
- Disney Remote Parking	0	0	0	0	0	0
Total before CHSR	319	382	502	190	202	295
- HSR Access	521	628	837	439	529	707
Total after CHSR	841	1,010	1,339	630	732	1,002
Market	Reduction in Daily Auto Person Miles			Reduction in Daily Auto Vehicle Miles		
	Enhanced Bus	Streetcar	Elevated Fixed Guideway	Enhanced Bus	Streetcar	Elevated Fixed Guideway
- Metrolink Access	14	21	46	13	20	43
- Resort Guests	84	224	275	33	90	110
- Amtrak Access	3	4	7	3	3	6
- Other Intra Corridor	195	144	273	177	131	248
- Game Day Riders	245	245	245	98	98	98
- Disney Remote Parking	0	0	0	0	0	0
Total before CHSR	540	638	845	324	342	505
- HSR Access	1,120	1,404	1,734	945	1,186	1,470
Total after CHSR	1,661	2,042	2,580	1,269	1,528	1,975
REGIONAL BENEFITS						
Market	Reduction in Daily Auto Person Trips			Reduction in Daily Auto Vehicle Trips		
	Enhanced Bus	Streetcar	Elevated Fixed Guideway	Enhanced Bus	Streetcar	Elevated Fixed Guideway
- Metrolink Access	232	380	816	214	350	757
- Amtrak Access	126	175	322	105	146	268
Total before CHSR	358	555	1,137	319	496	1,025
- HSR Access	0	0	0	0	0	0
Total after CHSR	358	555	1,137	319	496	1,025
Market	Reduction in Daily Auto Person Miles			Reduction in Daily Auto Vehicle Miles		
	Enhanced Bus	Streetcar	Elevated Fixed Guideway	Enhanced Bus	Streetcar	Elevated Fixed Guideway
- Metrolink Access	7,075	11,592	24,873	6,588	10,835	23,345
- Amtrak Access	3,856	5,332	9,807	3,213	4,444	8,172
Total before CHSR	10,931	16,924	34,680	9,802	15,279	31,517
- HSR Access	0	0	0	0	0	0
Total after CHSR	10,931	16,924	34,680	9,802	15,279	31,517

Appendix B

ARC Ridership Based on 2010 Estimates of Population and Employment

Market	Year 2010 Annual Corridor Linked Transit Trips (2012 SCAG RTP)			
	No-Build	Enhanced Bus	Streetcar	Elevated Fixed-Guideway
<i>Perceived min. of time savings vs. local bus</i>	0	0	7.5	15
Metrolink Access/Egress				
- Disneyland Employees	31,395	81,200	113,348	217,766
- Disneyland Guests	6,373	20,017	25,241	41,029
- Commuters living in Corridor	1,385	2,814	4,164	11,149
- Commuters Working in Corridor	11,638	21,889	30,068	49,495
- Non-Disney non-work trips from Corridor	1,989	3,385	4,044	6,051
- Non-Disney non-work trips to Corridor	1,606	3,216	3,985	5,629
Subtotal Metrolink Access/Egress	54,386	132,522	180,849	331,120
Resort Area Guests	3,338,864	3,392,120	3,490,517	3,535,458
Amtrak Access/Egress	35,534	78,711	96,109	147,361
Other Intra-Corridor Trips - Peak Period	224,937	233,369	230,178	238,155
Other Intra-Corridor Trips - Off-Peak	197,589	214,681	211,263	220,151
Game Day Riders (150 days/year)	7,500	60,000	60,000	60,000
Disneyland Remote Parking (5 days/year)	31,020	31,020	31,020	31,020
Total	3,889,829	4,142,423	4,299,937	4,563,265
Daily Equivalent (Grand Total/300)	12,966	13,808	14,333	15,211

Market	Year 2010 Annual Project Boarding Passengers (2012 SCAG RTP)			
	No-Build	Enhanced Bus	Streetcar	Elevated Fixed-Guideway
<i>Perceived min. of time savings vs. local bus</i>	0	0	7.5	15
Metrolink Access/Egress				
- Disneyland Employees	-	66,192	102,173	212,276
- Disneyland Guests	-	14,516	19,957	36,145
- Commuters living in Corridor	-	1,453	2,824	9,880
- Commuters Working in Corridor	-	12,299	21,811	42,847
- Non-Disney non-work trips from Corridor	-	1,426	2,115	4,158
- Non-Disney non-work trips to Corridor	-	1,658	2,461	4,149
Subtotal Metrolink Access/Egress	-	97,544	151,342	309,455
Resort Area Guests	-	469,920	647,667	716,195
Amtrak Access/Egress	-	45,337	63,402	115,755
Other Intra-Corridor Trips - Peak Period	-	24,385	20,967	38,971
Other Intra-Corridor Trips - Off-Peak	-	23,474	22,106	33,273
Game Day Riders (150 days/year)	-	60,000	60,000	60,000
Disneyland Remote Parking (5 days/year)	-	31,020	31,020	31,020
Total	-	751,680	996,504	1,304,668
Daily Equivalent (Grand Total/300)	-	2,506	3,322	4,349

Market	Year 2010 Annual Transp. System User Benefits (Hrs) (2012 SCAG RTP)			
	No-Build	Enhanced Bus vs. No-Build	Streetcar vs. Enhanced Bus	Elevated Fixed-Guideway vs. Enhanced Bus
<i>Perceived min. of time savings vs. local bus</i>	0	0	7.5	15
Metrolink Access/Egress				
- Disneyland Employees	-	15,806	12,069	60,400
- Disneyland Guests	-	5,613	2,485	11,022
- Commuters living in Corridor	-	248	243	1,608
- Commuters Working in Corridor	-	2,464	2,685	10,169
- Non-Disney non-work trips from Corridor	-	497	225	985
- Non-Disney non-work trips to Corridor	-	666	350	1,130
Subtotal Metrolink Access/Egress	-	25,295	18,056	85,314
Resort Area Guests	-	83,077	126,516	177,819
Amtrak Access/Egress	-	17,530	7,886	33,850
Other Intra-Corridor Trips - Peak Period	-	4,311	4,096	9,676
Other Intra-Corridor Trips - Off-Peak	-	4,150	4,318	8,261
Game Day Riders (150 days/year)	-	10,607	11,720	14,897
Disneyland Remote Parking (5 days/year)	-	5,484	6,059	7,702
Total	-	150,454	178,652	337,519
Daily Equivalent (Grand Total/300)	-	502	596	1,125

