

Appendix B

Aviation Forecasts Technical Report

John Wayne Airport Settlement Agreement Amendment Environmental Impact Report

Aviation Forecasts Technical Report

April 2014

Prepared for:

**John Wayne Airport
County of Orange, California**

Prepared by:

**AECOM
999 Town and Country Road
Orange, CA 92868**

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Section 1 Introduction	
Objective	1-1
Scope of Work.....	1-1
General Approach	1-1
Section 2 Existing Conditions	
Introduction	2-1
Background	2-1
Existing Facilities.....	2-1
Existing Airfield Operations	2-4
Section 3 Passenger Forecasts	
Introduction	3-1
Historical Trends	3-1
Annual Passengers (MAP).....	3-2
Hourly ADPM Enplaned and Deplaned Passengers	3-2
Peak Hour ADPM Enplaned, Deplaned, and Total Passengers.....	3-5
Forecast of International Passengers	3-12
Section 4 Commercial Operations Forecast	
Introduction	4-1
Historical Trends	4-1
Forecast of Total Annual Commercial Operations.....	4-3
Commercial Passenger Aircraft Operations Associated with ADPM Passengers.....	4-5
Forecast of Peak Hour Cargo Operations	4-6
Forecast of Fleet Mix of Commercial Aircraft Departures.....	4-7
Forecast of Hourly Commercial Operations.....	4-7
Section 5 Forecast of Hourly Passengers and Operations in the Passenger Average Day Peak Month	
Introduction	5-1
Hourly Operations	5-1
Forecast of Hourly Passengers.....	5-1
Hourly Load Factors.....	5-1
Section 6 General Aviation Forecast	
Introduction	6-1
Historical Trends in Based Aircraft.....	6-1

TABLE OF CONTENTS (CONT'D)

<u>Section</u>	<u>Page</u>
Section 6 General Aviation Forecast (Cont'd)	
Based Aircraft Forecast	6-2
Historical Trends in General Aviation Operations.....	6-4
Forecast of General Aviation Operations.....	6-5
Section 7 Combined Operations Forecast and Fuel Flowage Projection	
Introduction	7-1
Combined Annual Operations.....	7-1
Commercial Fuel Flowage Forecast	7-1
Appendix A Supporting Documentation	
Appendix B Average Day Peak Month Passenger Calculations	

SECTION 1

INTRODUCTION

OBJECTIVE

The forecasts of aviation activity at John Wayne Airport contained in this report were developed in support of the Environmental Impact Report that is being performed for the proposed Settlement Agreement Amendment. The forecasts will be used to analyze gate capacity, including terminal components, evaluate roadway needs, and potential air quality and noise impacts.

SCOPE OF WORK

Projections of aviation demand at John Wayne Airport “JWA” have been developed for the following categories: commercial passengers based general aviation aircraft, aircraft operations, and aviation fuel flowage. Domestic and international passengers and aircraft operations will be distinguished.

The Environmental Impact Report “EIR” analysis for the Settlement Agreement Amendment includes a Proposed Project, three Alternatives, as well as the required No Project Alternative. The Proposed Project, three Alternatives, and No Project Alternative have three distinct phases. Each phase has corresponding Principal Restrictions, such as the term of the amendment, curfew, annual passenger limit (expressed in Million Annual Passengers “MAP”) and maximum number of Class A Average Daily Departures “ADDs” for passenger and cargo service, along with the number of passenger loading bridges permitted (see Table 1-1). Unique phases are referenced throughout the report by the phase number noted in Table 1-1. For example, when referencing Proposed Project Phase 2, the reference is being made to the January 1, 2021 to December 31, 2025 time frame of the Proposed Project. In all cases, it is assumed that the Principal Restriction maximum limits defined Table 1-1 are reached in the first year of the phase.

GENERAL APPROACH

The forecasts presented herein have been developed by following analytical procedures that included:

- Analysis of historical trends in aviation activity at the Airport.
- Collaboration with the noise consultant for the Environmental Impact Report to identify projection parameters, such as passenger load factors and average aircraft seating capacity.
- The maximum number of commuter passengers (500,000) is assumed to be used first in all scenarios, with the exception of Alternative C (all phases).
- It is assumed that all Class A ADDs will be used in each scenario.
- Testing of forecasted projections against identified MAP and ADD restrictions for each phase of the scenario.

The forecasts presented herein are based on accepted practices in the industry and relevant information available at the time of publication. The forecasts are reasonable for use in evaluating various environmental impacts related to aviation activity at the Airport and airport planning purposes. While there is no implied or express warranty regarding the future accuracy of the forecasts presented herein, they are a good faith estimate.

Table 1-1
PROPOSED PROJECT AND ALTERNATIVES

Principal Restrictions	Proposed Project	Alternative A	Alternative B	Alternative C	No Project**
Term	Through December 31, 2030	Through December 31, 2030	Through December 31, 2030	Not Applicable	Not Applicable—Settlement Agreement Expired
Curfew	Through December 31, 2035	Through December 31, 2035	Through December 31, 2035	Through December 31, 2020	No Change
Annual Passenger Limits (Million Annual Passengers “MAP”)					
Phase 1 (January 1, 2016 to December 31, 2020)	10.8 MAP	10.8 MAP	10.8 MAP	16.9 MAP	10.8 MAP
Phase 2 (January 1, 2021 to December 31, 2025)	11.8 MAP	11.4 MAP	13.0 MAP	16.9 MAP	10.8 MAP
Phase 3 (January 1, 2026 to December 31, 2030)	12.2 or 12.5 MAP*	12.8 MAP	15.0 MAP	16.9 MAP	10.8 MAP
Passenger Flights (Class A ADDs for passenger service)					
Phase 1 (January 1, 2016 to December 31, 2020)	85 Class A ADDs	107 Class A ADDs (+22)	100 Class A ADDs (+15)	228 Class A ADDs (+143)	85 Class A ADDs
Phase 2 (January 1, 2021 to December 31, 2025)	95 Class A ADDs (+10)	120 Class A ADDs (+13)	110 Class A ADDs (+10)	228 Class A ADDs (+0)	85 Class A ADDs
Phase 3 (January 1, 2026 to December 31, 2030)	95 Class A ADDs (+0)	135 Class A ADDs (+15)	115 Class A ADDs (+5)	228 Class A ADDs (+0)	85 Class A ADDs
Cargo Flights (Class A ADDs for all-cargo service)					
(January 1, 2016 to December 31, 2030)	4 Class A ADDs	4 Class A ADDs	4 Class A ADDs	4 Class A ADDs	4 Class A ADDs
Passenger Loading Bridges					
January 1, 2016 to December 31, 2020	20	20	20	No Limit	20
January 1, 2021 to December 31, 2030	No Limit	No Limit	No Limit	No Limit	20

* Trigger for capacity increase to 12.5 MAP: air carriers must be within 5 percent of 11.8 MAP (i.e., 11.21 MAP) in any one year during the January 1, 2021 through December 31, 2025 time frame.

** The No Project Alternative assumes operations at JWA would remain unchanged; however, there would be no limitation on the Board of Supervisors, at a subsequent time to increase the number of ADD and MAP being served at the Airport, subject to CEQA review.

Source: John Wayne Airport.

SECTION 2

EXISTING CONDITIONS

INTRODUCTION

This section provides a high level overview of the existing facilities at John Wayne Airport. This is not intended to be an extensive inventory or documentation of existing conditions. Information contained herein will be used to briefly describe the Airport in the Environmental Impact Report.

BACKGROUND

John Wayne Airport “JWA”, owned and operated by the County of Orange, is located approximately 35 miles south of Los Angeles, mostly in unincorporated Orange County between the cities of Costa Mesa, Irvine, and Newport Beach. Based on ten months data for 2013, it is estimated that 9.17 million annual passengers will use the Airport in scheduled passenger service in 2013. Annual passenger flight Class A ADDs used in 2013 was 78.7 and cargo Class A ADDs was 1.3. In 2011 Terminal C was completed which added 6 passenger loading bridges, resulting in a total of 20 passenger loading bridges at the Airport.

One of only two airports in the County which accommodate general aviation, JWA is served by two full service and two partial service fixed base operators and was home to 419 general aviation aircraft in 2013. Two runways serve commercial and private aircraft: a 5,701-foot main runway and a 2,887-foot general aviation runway.

EXISTING FACILITIES

Described below are some of the key features of the Airport and are depicted in Figure 2-1. The current version of the Airport Layout Plan “ALP” is included in Appendix A of this Report.

Design Aircraft

The design aircraft for John Wayne Airport is the Boeing B767-200. Characteristics of this aircraft (such as wing span and approach speed) are used to determine runway length requirements and also separation standards. The B767-200 is the design aircraft for the commercial runway and taxiway system. The short runway is for operations (takeoffs and landings) of small airplanes – aircraft weighing less than 12,500 pounds. The short runway is used as a taxiway during the morning departure peak and therefore of sufficient strength to accommodate a B767-200; however, the runway is too short to enable operations (takeoffs and landings) of a B767-200.

Runways

John Wayne Airport encompasses a total of 504 acres and has two parallel runways oriented in a north-south direction. The Airport Reference Point “ARP” is located approximately at 33°40’32.4” North latitude and 117°52’05.6” West longitude. The established airport elevation, defined as the highest point along any of the Airport’s runways, is 56.0 feet above mean sea level “MSL”.¹

¹ FAA Form 5010-1, accessed October 3, 2013:
<http://www.gcr1.com/5010Web/REPORTS/AFD08222013SNA.pdf>.



Figure 2-1
Existing Airside Facilities

The primary or commercial runway at JWA, designated as 1L-19R, is 5,701 feet in length, 150 feet in width, and is asphalt paved and grooved. Pavement strength of the primary runway is 70,000 pounds single wheel, 200,000 pounds dual wheel, and 300,000 pounds dual tandem wheel. The shorter, general aviation runway, Runway 1R-19L, is 2,887 feet in length, 75 feet in width, and is asphalt paved and features a porous course surface treatment. Pavement strength of the general aviation runway is 25,000 pounds single wheel and 60,000 pounds dual wheel.² The true bearing of the runways is S28°48'08"W. The centerlines of the runways are separated by 500 feet.³ This separation does not allow simultaneous commercial and general aviation operations.

Taxiways

The taxiway system affects the ability of an airport to handle aircraft traffic. Capacity benefits can be obtained if aircraft can exit the runway quicker and taxi to and from the terminal efficiently. The existing taxiway system is comprised of three parallel and a number of exit taxiways which facilitate the movement of aircraft while on the ground at JWA.

The following describes the existing taxiway system. With the exception of Taxiway C, all pavements are rated for 300,000 pound dual tandem wheel loads (see Appendix A for a pavement strength map).

- **Taxiway A.** Taxiway A links the south end of Runway 1L-19R with the south terminal apron area and Taxilane A. It lies alongside the general aviation area of the Airport and provides airfield access to these smaller aircraft. Taxiway A is 75 feet in width.
- **Taxilane A.** The terminal apron area is served by a 75-foot wide taxilane along its west side. All aircraft movements in the terminal area are via Taxilane A. The taxilane is parallel to Taxiway C and its centerline to centerline distance is 164 feet.
- **Taxiway B.** Runway 1L-19R is served by a parallel taxiway west of the runway that is 75 feet wide. The runway centerline to taxiway centerline separation is 400 feet. This separation distance widens to 450 feet at the north end of the Taxiway in order to stay clear of the ILS glide slope antenna's critical area.
- **Taxiway C.** Runway 1R-19L is served by a 35 foot wide parallel taxiway. Taxiway C serves only general aviation aircraft (up to a Gulfstream IV) and is located on the east side of the runway. The runway centerline to taxiway centerline separation is 240 feet. Pavement strength is 60,000 pounds for dual wheel configurations.
- **Other Taxiways.** All other taxiways connect the runways with the main taxiways. These are lettered from south to north as Taxiway D, E, F, G, H, J, K and L.
- **Runway 1R-19L.** Runway 1R-19L (the general aviation runway) is used as a commercial aircraft taxiway during the morning departure peak. The runway pavement strength supports 300,000 pound dual tandem wheel loads.

Overnight Parking "RON" Areas

The "remain overnight" "RON" parking apron is located primarily south of the passenger terminal with some RON positions also located at the north end of the terminal building. Approximately 41,000 square yards of apron area located south of the southern commuter building provides overnight parking for 10 narrow-body aircraft. This apron area also serves all-cargo aircraft and cargo staging during daytime

² Ibid.

³ Airport Layout Plan, December 21, 2012.

operating hours. The south RON apron area extends from the southernmost commercial gate of Terminal C to the north edge of general aviation aircraft ramp (and helipads). Approximately 15,000 square yards of apron at the north end of the terminal building provides three narrow-body parking positions for overnight parking. Therefore, the existing RON facilities encompass approximately 56,000 square yards and 13 narrow-body parking positions. The south RON apron is also used for cargo operations in the middle of the afternoon and serves as a queuing area for aircraft that have arrived when their gate/passenger loading bridge is not available.

Terminal Building

The terminal building is one contiguous building encompassing 730,505 square feet and providing 20 passenger loading bridges. Several improvements and expansions have occurred over time, with the most recent one being "Terminal C," completed November 2011, which added 282,000 square feet and 6 passenger loading bridges, for a total of 20 passenger loading bridges. The terminal includes security screening checkpoints, federal inspection services for international flights, baggage claim areas, and ticket counters along with a variety of concessions along with retail space for rental car companies and other ground transportation options.

Commuter hold areas are located at the north and south end of the concourses, at Gates 1A, 1B, and 1C and Gates 22A, 22B, and 22C, respectively. These facilities are sized to accommodate three CRJ-700 (70-seat) aircraft each. Commuter gate positions are ground loaded and do not have passenger loading bridges (thus are not part of the Settlement Agreement). It is important to note that "gates" are not equal to "passenger loading bridges." Further, additional passenger loading bridges are not proposed at this time and would be subject to additional CEQA analysis.

EXISTING AIRFIELD OPERATIONS

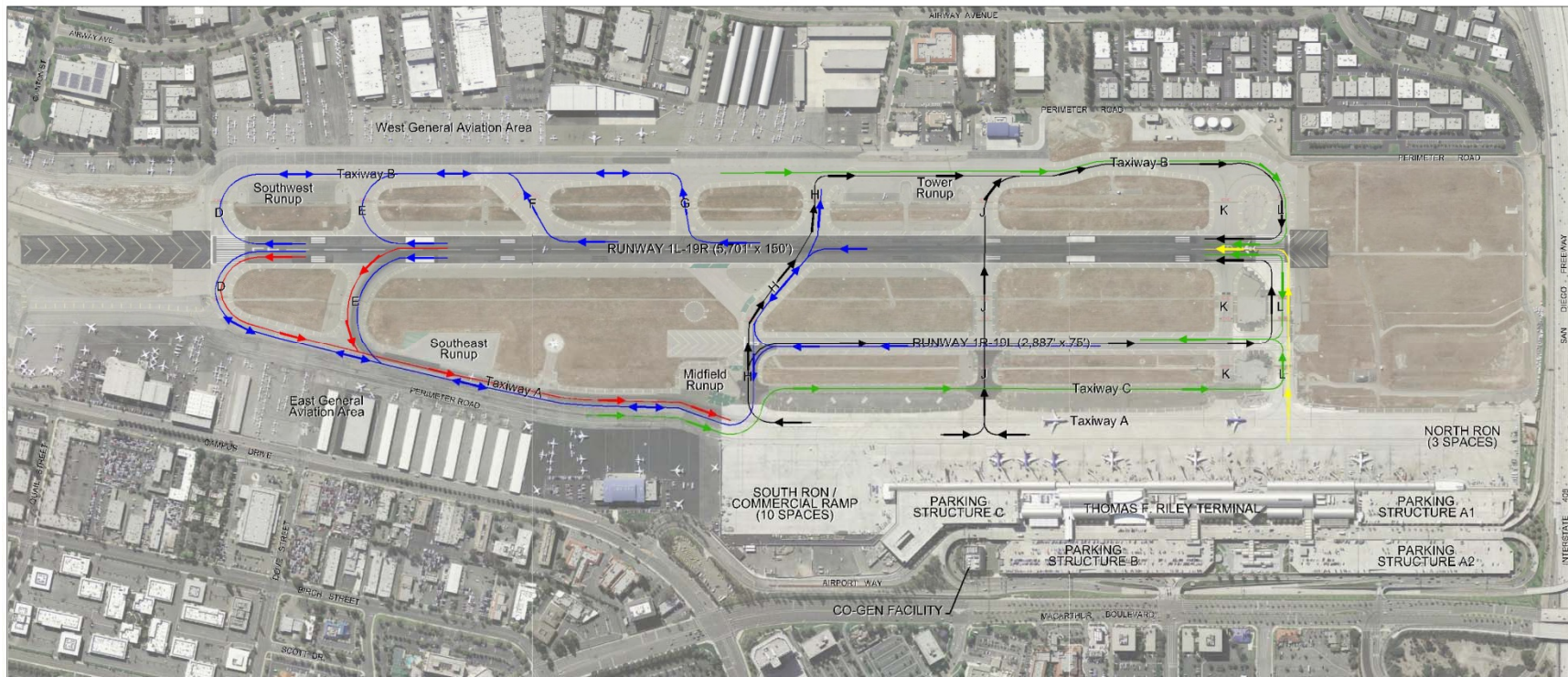
Two components of airfield operations are discussed below: 1) ground movement of aircraft during north and south flow and 2) curfew as defined in the Settlement Agreement.

Ground Aircraft Movement

Wind conditions at the Airport determine if the Airport is in a "south flow" or "north flow" configuration. South flow is the prevalent configuration for the Airport and indicates winds are from the south. North flow conditions (winds from the north) are more likely during Santa Ana winds. When winds are calm, south flow is the preferred condition. South flow operations occur over 90 percent of the time. See Figure 2-2 and Figure 2-3 for depictions of south and north flow operations, respectively.

South Flow

In the south flow configuration, commercial aircraft land on and take off from Runway 19R. For takeoffs, commercial and business jet aircraft access Runway 19R from Taxiway L. During the early morning peak, Runway 1R-19L is used as a taxiway to queue aircraft for departures. Approximately six to eight aircraft are queued on Runway 1R-19L. During the morning peak, all departing commercial aircraft are routed to the south end of Runway 1R-19L; commercial aircraft do not access Taxiway L directly from Taxiway A. General aviation operations are generally limited during the morning peak. Depending upon morning departure loads and departure sequences, aircraft may also queue on Taxiway B. Aircraft will access Taxiway B using Taxiway H or J. During non-peak departure periods smaller (piston engine) general aviation aircraft will access Runway 19L via Taxiway C then Taxiway L. Taxiway C is able to accommodate up to a Gulfstream IV sized aircraft. General aviation aircraft based on the west side of the Airport use Taxiway B to reach the north end of the Airport. If they are not a training flight, and the control tower can sequence them in, they will depart Runway 19R; otherwise they will cross the end of Runway 19R and access 19L.



Legend

- Non-Peak Commercial Aircraft Departures -
- Morning Peak Commercial Aircraft Departures -
- Commercial Aircraft Arrivals -
- General Aviation Arrivals -
- General Aviation Departures -

Notes:

1. General aviation operations are generally limited during the morning peak.
2. Taxiway C accommodates aircraft with wingspans up to 78 feet. General Aviation aircraft with larger wingspans will use Taxiway A

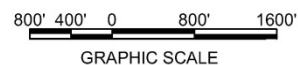
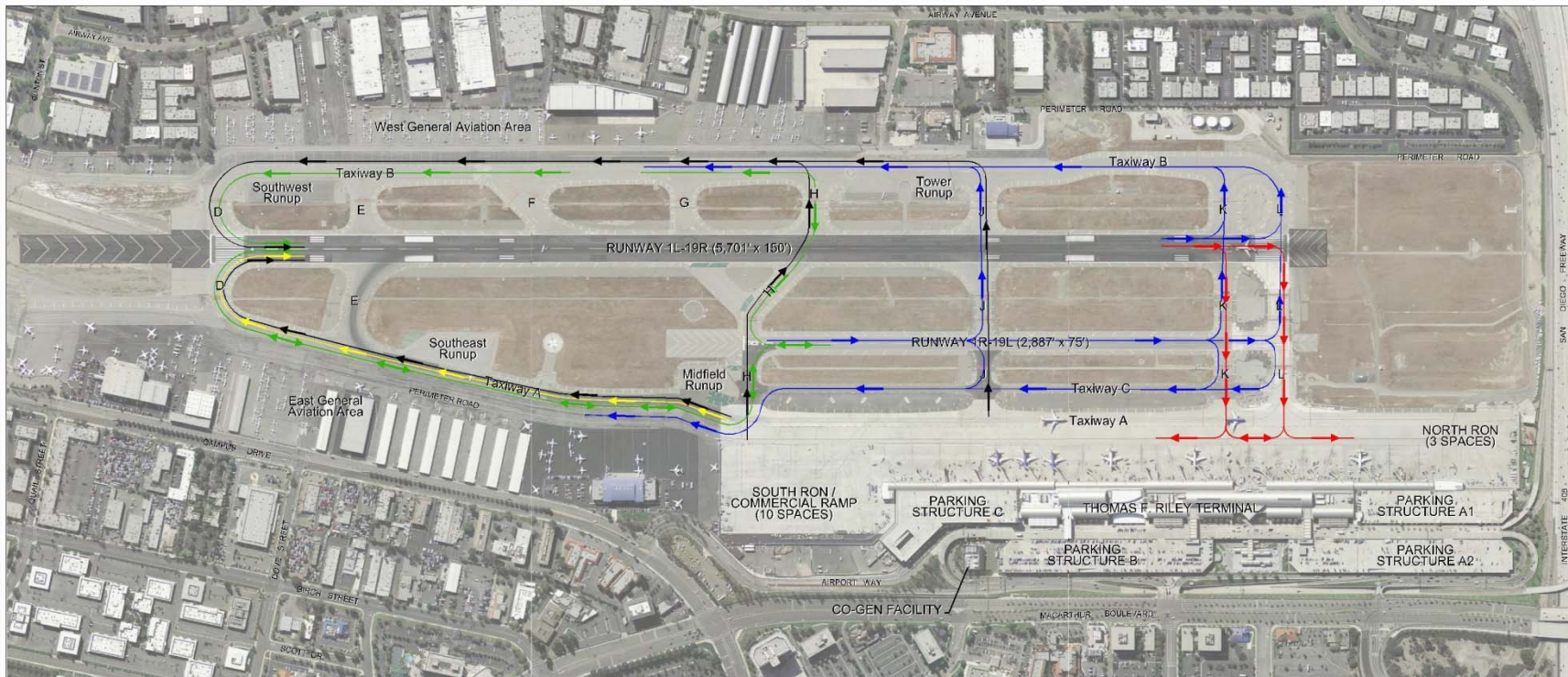


Figure 2-2
South Flow Operations



Legend

- Non-Peak Commercial Aircraft Departures -
- Morning Peak Commercial Aircraft Departures -
- Commercial Aircraft Arrivals -
- General Aviation Arrivals -
- General Aviation Departures -

Notes:

1. Potential conflicts exist with departing general aviation and commercial aviation aircraft as general aviation aircraft head north on Taxiway A and commercial aircraft head south.
2. Southwest and southeast run up areas are more heavily used by departing general aviation aircraft.
3. Taxiway C accommodates aircraft with wingspans up to 78 feet. General Aviation aircraft with larger wingspans will use Taxiway A



Figure 2-3
North Flow Operations

Commercial landings in the south flow land on Runway 19R and exit at Taxiway E or D, then travel northward on Taxiway A to reach the terminal building. General aviation aircraft landing on Runway 19R may be able to exit at Taxiway H, or if their destination is to the west side of the Airport Taxiways G and F may also be exit points. General aviation, smaller, piston engine aircraft operating on Runway 19L generally exit at the end of the runway.

East side general aviation operators have direct access to the Midfield and Southeast Run Up areas. These areas serve multiple purposes. The Midfield Run Up is the most heavily used. This area is used for run ups of departing general aviation aircraft. Midfield Run Up is also used to hold general aviation aircraft off Taxiway A to prevent conflicts with arriving commercial service aircraft. The Southeast Run Up also serves as a turnout for small general aviation aircraft. South field maintenance operators use this area to conduct run ups of aircraft they are working on. The use of the run ups as turn outs is only available to the smaller general aviation aircraft, such as a Beech Baron and smaller.

West side general aviation operators primarily use Tower Run Up; however, the Southwest Run Up is also available. Southwest Run Up is primarily used for maintenance engine runs.

Cargo operations function in a similar manner as the commercial operations.

North Flow

During north flow operations, commercial aircraft land on Runway 1L and exit at Taxiway K or L turning easterly towards the terminal. Departing commercial aircraft travel south on Taxiway A to Taxiway D reaching the Runway 1L threshold. Taxiway B is rarely used by commercial aircraft to access Runway 1L, but remains an option to ensure proper sequencing of departures.

Small aircraft general aviation operations take off on Runway 1R. Aircraft based on the east side of the runway will use Taxiway A to Taxiway H to access Runway 1R. For those aircraft based on the west side of the Airport will generally use Runway 1L. However, if they are performing training operations they will use either Taxiway H to directly access Runway 1R, or they will travel south on Taxiway B, crossing Runway 1L on Taxiway D, then travel north on Taxiway A to reach Taxiway H for direct access to Runway 1R.

For aircraft landing on Runway 1R, they will exit at Taxiway J, K, or L and turn west or east, depending upon destination.

Potential conflicts exist with departing general aviation and commercial aviation aircraft during north flows, as general aviation aircraft head north on Taxiway A and commercial aircraft are southbound.

In north flow operations the Southwest and Southeast Run Ups are more heavily used by departing general aviation aircraft.

Noise Abatement Procedures

John Wayne Airport currently operates under a curfew restriction in order to limit aircraft noise in the surrounding communities. The airport traffic control tower normally operates between the hours of 6:15 a.m. and 11:00 p.m.

Commercial Airline Operations

Commercial aircraft are allowed to takeoff between the hours of 7:00 a.m. and 10:00 p.m. Monday through Saturday, and 8:00 a.m. to 10:00 p.m. on Sunday. Landings are permitted from

7:00 a.m. up until 11:00 p.m. Monday through Saturday, and 8:00 a.m. to 11:00 p.m. on Sunday. Air carrier operations are subject to noise limits at certain fixed noise monitoring stations.

General Aviation Operations

General aviation aircraft can operate 24 hours a day, but are subject to daytime and very strict nighttime noise limits at certain fixed noise monitoring stations.

SECTION 3

PASSENGER FORECASTS

INTRODUCTION

For the purposes of this technical report, forecasts of Average Day Peak Month “ADPM” for each phase of the Proposed Project three Alternatives, and No Project Alternative were developed from the annual passenger figures specified in the description of the Proposed Project, Alternatives A through C and No Project Alternative. ADPM is the industry standard and method recommended by the FAA for use in evaluating the impacts of airport activity as it gauges the daily impacts under peak conditions rather than average annual conditions. These data will be used for Environmental Impact Report “EIR” impact analyses and airfield demand/capacity analysis. Overall passenger levels, expressed in Million Annual Passengers “MAP” are determined by the Settlement Amendment Agreement EIR.

HISTORICAL TRENDS

Passenger traffic at John Wayne Airport has been on an upward trend since 1982. Total passengers through JWA peaked in 2007, when nearly 9.98 MAP used the Airport. Since 2007, MAP tapered to 8.61 MAP in 2011 where it then increased to 8.86 MAP in 2012. It is anticipated that 9.17 MAP will use JWA in 2013. Historical data is presented in Table 3-1. Totals in Table 3-1 represent MAP, which equals enplaned plus deplaned passengers.

Table 3-1
ENPLANED AND DEPLANED PASSENGERS, 2003 TO 2013
JOHN WAYNE AIRPORT [a]

Year	Enplaned and Deplaned Passengers			Percent Commuter
	Air Carrier	Commuter	Total	
2003	8,081,356	453,774	8,535,130	5.3%
2004	8,754,885	517,509	9,272,394	5.6%
2005	9,106,877	520,295	9,627,172	5.4%
2006	9,113,904	499,636	9,613,540	5.2%
2007	9,547,682	432,017	9,979,699	4.3%
2008	8,605,049	384,554	8,989,603	4.3%
2009	8,270,624	434,575	8,705,199	5.0%
2010	8,444,307	219,145	8,663,452	2.5%
2011	8,423,039	185,969	8,609,008	2.2%
2012	8,705,625	152,319	8,857,944	1.7%
2013 [b]	9,043,000	125,000	9,168,000	1.4%

[a] Source: John Wayne Airport.

[b] Source: AECOM analysis, 2013.

Three carriers presently provide international service to four destinations from John Wayne Airport: Cabo San Lucas, Mexico (AirTran); Guadalajara, Mexico (Interjet); Mexico City, Mexico (AirTran and Interjet); and Vancouver, Canada (WestJet). Previously Air Canada provided international service; service was provided beginning in 2010 and ending in 2011. WestJet began international service in 2011 and AirTran and Interjet in 2012. Historical international passenger data is presented in Table 3-2.

Table 3-2
DOMESTIC AND INTERNATIONAL PASSENGERS, 2003 TO 2013
JOHN WAYNE AIRPORT [a]

Year	Domestic Passengers	International Passengers	Total Passengers	Percent International Passengers
2003	8,535,130	0	8,535,130	0.00%
2004	9,272,394	0	9,272,394	0.00%
2005	9,627,172	0	9,627,172	0.00%
2006	9,613,540	0	9,613,450	0.00%
2007	9,979,699	0	9,979,699	0.00%
2008	8,989,603	0	8,989,603	0.00%
2009	8,705,199	0	8,705,199	0.00%
2010	8,641,933	21,519	8,663,452	0.25%
2011	8,534,967	74,041	8,609,008	0.86%
2012	8,626,218	231,726	8,857,944	2.62%
2013 [b]	8,756,000	412,000	9,168,000	4.49%

[a] Source: John Wayne Airport, Access and Noise Office.

[b] Source: AECOM analysis, 2013.

ANNUAL PASSENGERS (MAP)

The basis of the forecasts contained herein is the passenger limits identified in the proposed Settlement Agreement Amendment. Additional details on the MAP levels and other principal restrictions are found in Section 1, Table 1-1.

HOURLY ADPM ENPLANED AND DEPLANED PASSENGERS

August is historically the peak month for John Wayne Airport passengers (see Table 3-3 for historical data). Over the past 10 years, peak month passengers have ranged from 9.2 to 9.9 percent of the annual total (Table 3-4) and has averaged 9.4 percent of annual passengers. Due to the Airport's facilities and role in the regional aviation system, it is anticipated that the nature of the Airport's traffic patterns (i.e., mix of short, medium and long haul stage lengths) will be similar in future years and that historical data thus serves as a reasonable guide to future years hourly passenger patterns. The Airport's facilities limit larger aircraft types that could service expanded non-North American long haul markets. In addition, these markets are generally served by LAX, the major international airport in the region and a major US international gateway. Based on historical data on peak month factors, a peak month factor of 9.4 percent of annual passengers is used.

Hourly demands for the ADPM were developed by reviewing historical hourly demands during the peak month and the assumed aircraft fleet mix and load factors. To determine average day passengers, the peak month total passengers were divided by 31 (there are 31 days in August). Table 3-5 summarizes ADPM passenger data for the Proposed Project, the three Alternatives, and No Project Alternative at the three unique phases identified (detailed tables can be found in Appendix B).

Table 3-3
PASSENGERS BY MONTH, 2003 TO 2013
JOHN WAYNE AIRPORT [a]

Month	2003	2004	2005	2006	2007	Year 2008	2009	2010	2011	2012	2013
January	617,319	673,701	704,106	697,403	751,423	707,126	592,370	651,224	636,742	636,573	698,237
February	577,722	673,627	688,066	688,848	733,034	702,327	583,016	599,114	605,390	613,201	653,118
March	656,048	759,365	821,898	814,981	868,533	819,638	713,196	736,104	741,489	727,841	771,554
April	660,392	766,924	815,145	818,040	857,484	775,205	722,797	745,302	722,815	727,523	764,308
May	701,036	761,268	831,462	818,789	875,576	771,124	739,093	739,421	734,671	742,204	799,755
June	745,140	823,290	856,085	852,482	900,969	797,943	785,878	772,155	749,815	784,849	811,447
July	814,123	869,481	898,521	876,431	913,172	823,922	821,905	792,532	784,927	816,536	834,328
August	845,548	872,271	899,923	882,910	946,426	833,655	833,962	802,065	802,534	838,623	850,988
September	693,273	720,014	765,708	748,989	782,896	687,603	709,101	683,999	701,135	707,510	728,971
October	760,130	788,897	796,249	807,074	833,593	731,985	769,373	732,106	726,513	776,658	791,710
November	715,573	779,056	781,302	796,199	782,059	649,486	700,223	690,859	705,465	750,800	739,031
December	748,826	784,500	768,707	811,394	734,534	689,589	734,285	718,571	697,512	735,626	724,553[b]
Total	8,535,130	9,272,394	9,627,172	9,613,540	9,979,699	8,989,603	8,705,199	8,663,452	8,609,008	8,857,944	9,168,000[b]

[a] Source: John Wayne Airport, Access and Noise Office

[b] Source: AECOM analysis, December 2013.

Table 3-4
PASSENGERS IN THE PEAK MONTH, 2003 TO 2013
JOHN WAYNE AIRPORT [a]

Year	Total Passengers	Peak Month Passengers	Percent in Peak Month
2003	8,535,130	845,548	9.9%
2004	9,272,394	872,271	9.4%
2005	9,627,172	899,923	9.3%
2006	9,613,540	882,910	9.2%
2007	9,979,699	946,426	9.5%
2008	8,989,603	833,655	9.3%
2009	8,705,199	833,962	9.6%
2010	8,663,452	802,065	9.3%
2011	8,609,008	802,534	9.3%
2012	8,857,944	838,623	9.5%
2013 [b]	9,168,000	850,988	9.3%

[a] Source: John Wayne Airport, Access and Noise Office.

[b] Source: AECOM analysis, 2013.

Table 3-5
FORECAST OF AVERAGE DAY PEAK MONTH PASSENGERS
JOHN WAYNE AIRPORT

Airport Activity	Existing (2013)	Forecast				No Project
		Proposed Project	Alternative A	Alternative B	Alternative C	
Phase 1						
Million Annual Passengers	9.17	10.8	10.8	10.8	16.9	10.8
Peak Month Passengers	850,988	1,015,000	1,015,000	1,015,000	1,589,000	1,015,000
Percent Annual Passengers in the Peak Month	9.3%	9.4%	9.4%	9.4%	9.4%	9.4%
Average Day Peak Month Passengers	27,451	32,742	32,742	32,742	51,258	32,742
Phase 2						
Million Annual Passengers	9.17	11.8	11.4	13.0	16.9	10.8
Peak Month Passengers	850,988	1,109,000	1,072,000	1,222,000	1,589,000	1,015,000
Percent Annual Passengers in the Peak Month	9.3%	9.4%	9.4%	9.4%	9.4%	9.4%
Average Day Peak Month Passengers	27,451	35,774	34,581	39,419	51,258	32,742
Phase 3						
Million Annual Passengers	9.17	12.5	12.8	15.0	16.9	10.8
Peak Month Passengers	850,988	1,175,000	1,203,000	1,410,000	1,589,000	1,015,000
Percent Annual Passengers in the Peak Month	9.3%	9.4%	9.4%	9.4%	9.4%	9.4%
Average Day Peak Month Passengers	27,451	37,903	38,806	45,484	51,258	32,742

Source: AECOM analysis, 2013.

PEAK HOUR ADPM ENPLANED, DEPLANED, AND TOTAL PASSENGERS

Hourly enplaning (departing) and deplaning (arriving) passengers were identified for the peak month, August, 2013 (see Figure 3-1). Passenger enplanements peak in the morning in the 7:00 a.m. hour at approximately 2,100 enplanements. This drops significantly to the 9:00 a.m. hour where it then levels off until about the 1:00 p.m. hour. After 1:00 p.m. enplanements generally decrease at the Airport. Deplanements (arriving passengers) peak in the 9:00 a.m., 11:00 a.m., and 10:00 p.m. hours but are largely consistent from about 9:00 a.m. through the 10:00 p.m. hour. The passenger peak occurs in the 7:00 a.m. hour and steadily declines throughout the day, reaching its lowest point in the 10:00 p.m. hour. Hourly passenger volumes are related to operations; the 7:00 a.m. hour experiences the largest number of operations and thus the highest number of passengers.

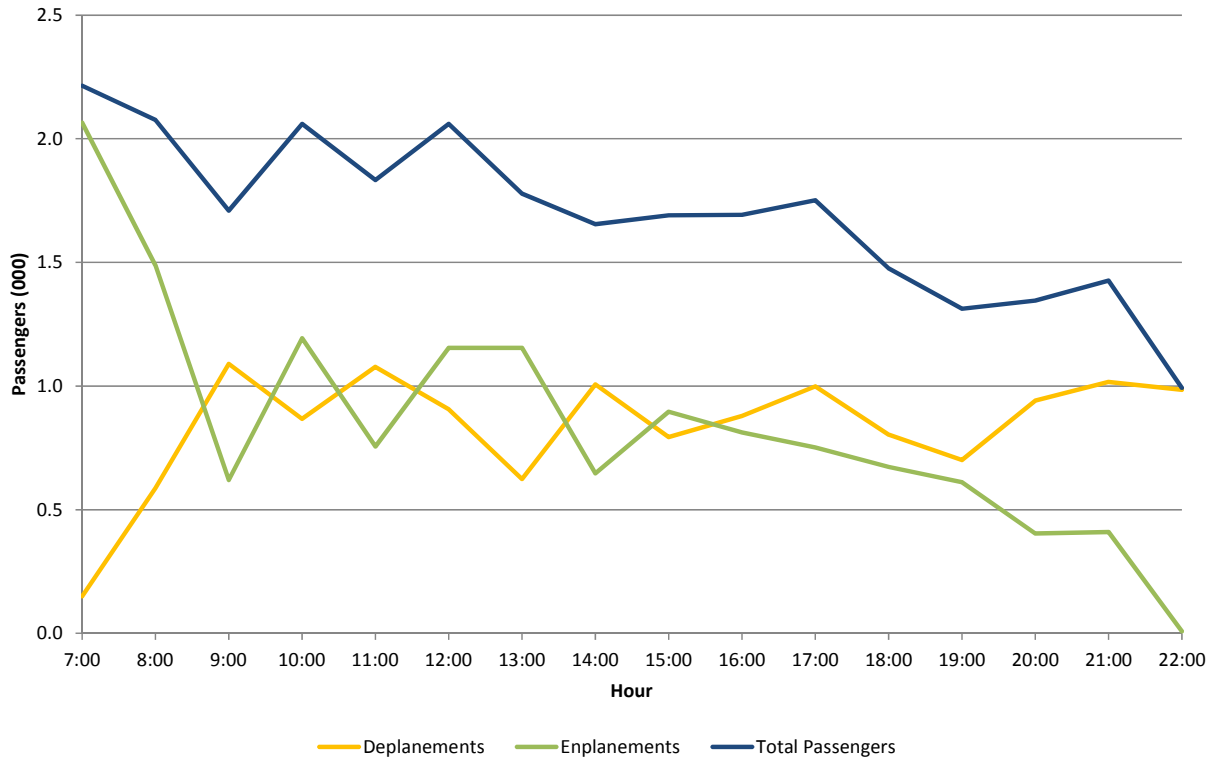


Figure 3-1
ADPM Hourly Passenger Enplanements
and Deplanements, August 2013

Based on commercial aircraft hourly operations profiles shown in Section 4, these peaking characteristics have been consistent at John Wayne Airport for more than 10 years and are expected to continue throughout the Settlement Agreement Amendment years (December 31, 2030). However, it is to be noted that the Proposed Project, Alternatives A and B, and No Project Alternative also reflect increased commuter operations than seen in recent years which tend to peak mid-morning and late evening. To accommodate the proposed MAP levels, each phase of the Proposed Project, three alternatives, and No Project Alternative assume the maximum number of Class A ADDs is used first. Once all Class A flights are utilized passengers are then allocated to commuter flights, up to a maximum of 500,000 commuter passengers. The remaining passengers are then assigned to air carrier flights in Class E ADDs. Due to the high number of Class A ADDs included in Alternative C, all passengers are included in Class A flights and no commuter operations are necessary. Peak hour information is tabulated in Table 3-6. Hourly passengers for the ADPM are illustrated for the Proposed Project, each Alternative, and No Project Alternative in Figure 3-2 through Figure 3-6.

Table 3-6
PEAK HOUR ENPLANED, DEPLANED, AND TOTAL PASSENGERS PROPOSED PROJECT,
ALTERNATIVES A, B, AND C, AND NO PROJECT ALTERNATIVE

Phase	Existing	Proposed Project	Alternative A	Alternative B	Alternative C	No Project
Phase 1						
Deplaned Number (000)	1.1	1.4	1.4	1.4	2.2	1.4
Time (24 hr.)	9:00 & 11:00	10:00	10:00	10:00	22:00	10:00
Enplaned Number (000)	2.1	1.9	2.0	2.0	3.6	1.9
Time (24 hr.)	7:00	7:00	7:00	7:00	7:00	7:00
Total Number (000)	2.2	2.8	2.7	2.7	4.1	2.8
Time (24 hr.)	7:00	20:00	10:00	10:00 & 20:00	7:00	20:00
Phase 2						
Deplaned Number (000)	1.1	1.5	1.5	1.7	2.1	1.4
Time (24 hr.)	9:00 & 11:00	10:00	10:00	10:00	10:00 & 11:00	10:00
Enplaned Number (000)	2.1	2.0	2.2	2.3	3.1	1.9
Time (24 hr.)	7:00	7:00	7:00	7:00	7:00	7:00
Total Number (000)	2.2	3.0	2.9	3.3	4.0	2.8
Time (24 hr.)	7:00	10:00 & 20:00	10:00	20:00	10:00	20:00
Phase 3						
Deplaned Number (000)	1.1	1.6	1.6	1.9	2.1	1.4
Time (24 hr.)	9:00 & 11:00	10:00	10:00	10:00	10:00 & 11:00	10:00
Enplaned Number (000)	2.1	2.1	2.5	2.6	3.1	1.9
Time (24 hr.)	7:00	7:00	7:00	7:00	7:00	7:00
Total Number (000)	2.2	3.2	3.2	3.8	4.0	2.8
Time (24 hr.)	7:00	20:00	10:00	20:00	10:00	20:00

Source: AECOM analysis, 2013.

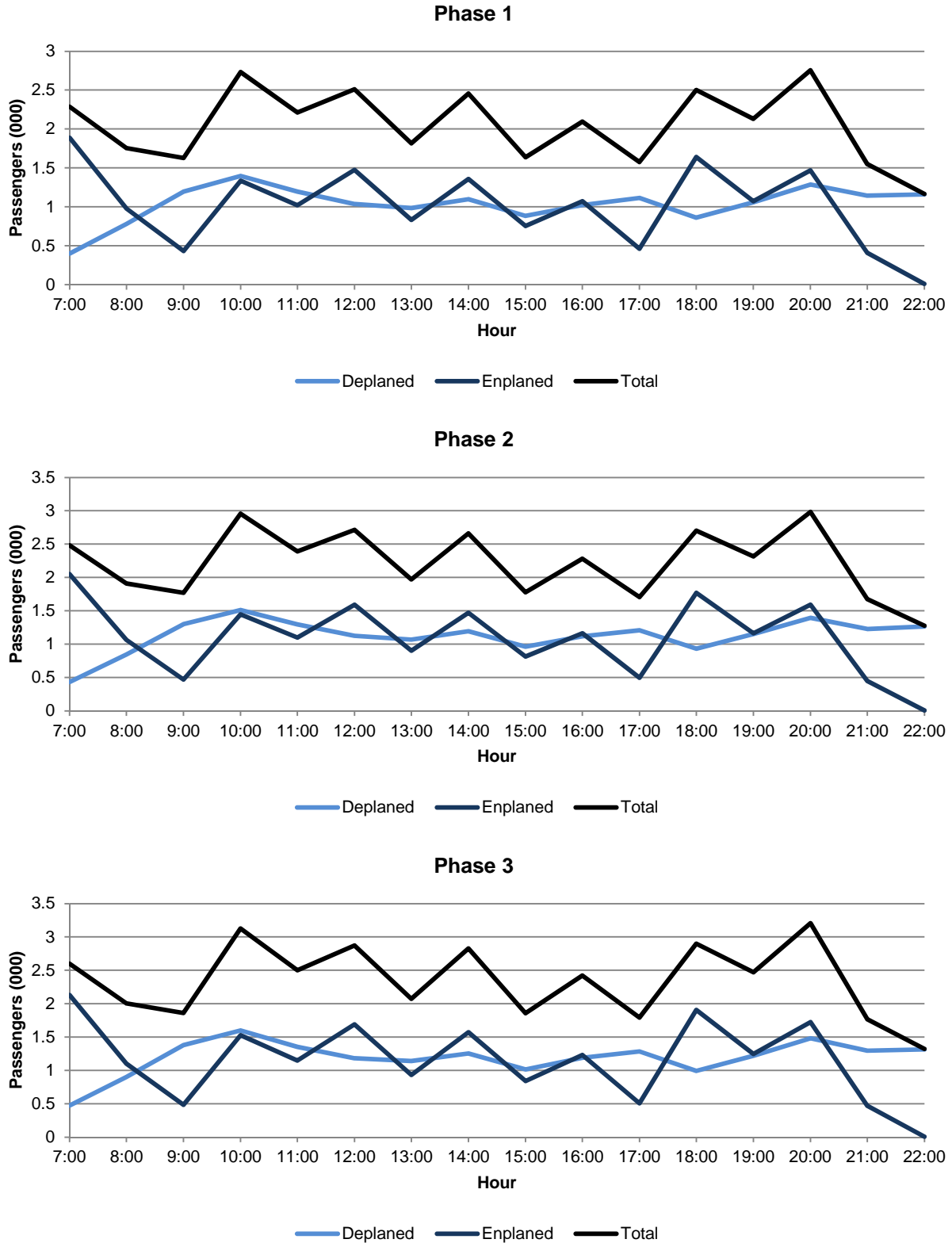


Figure 3-2
Proposed Project – ADPM Hourly Passengers

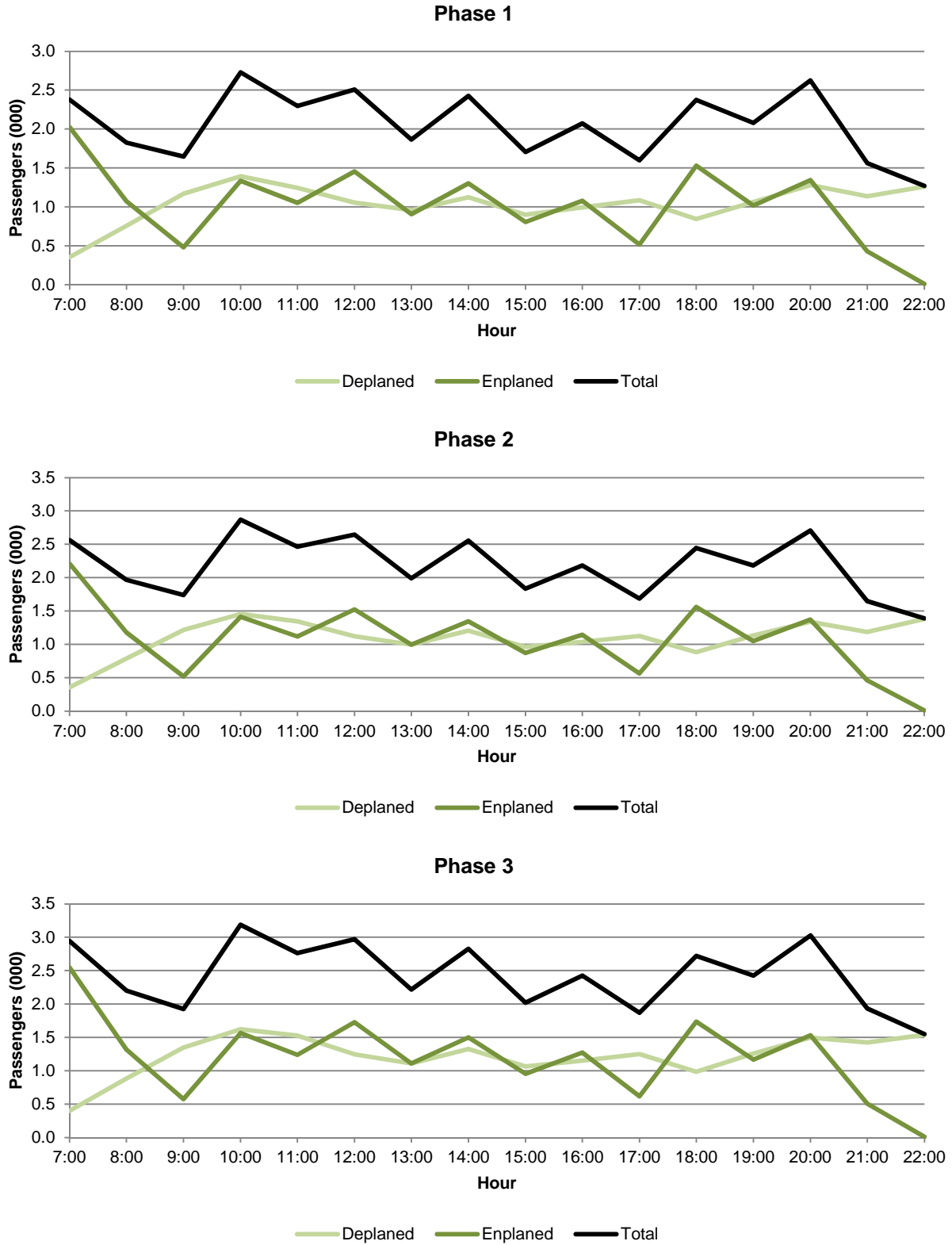


Figure 3-3
Alternative A – ADPM Hourly Passengers

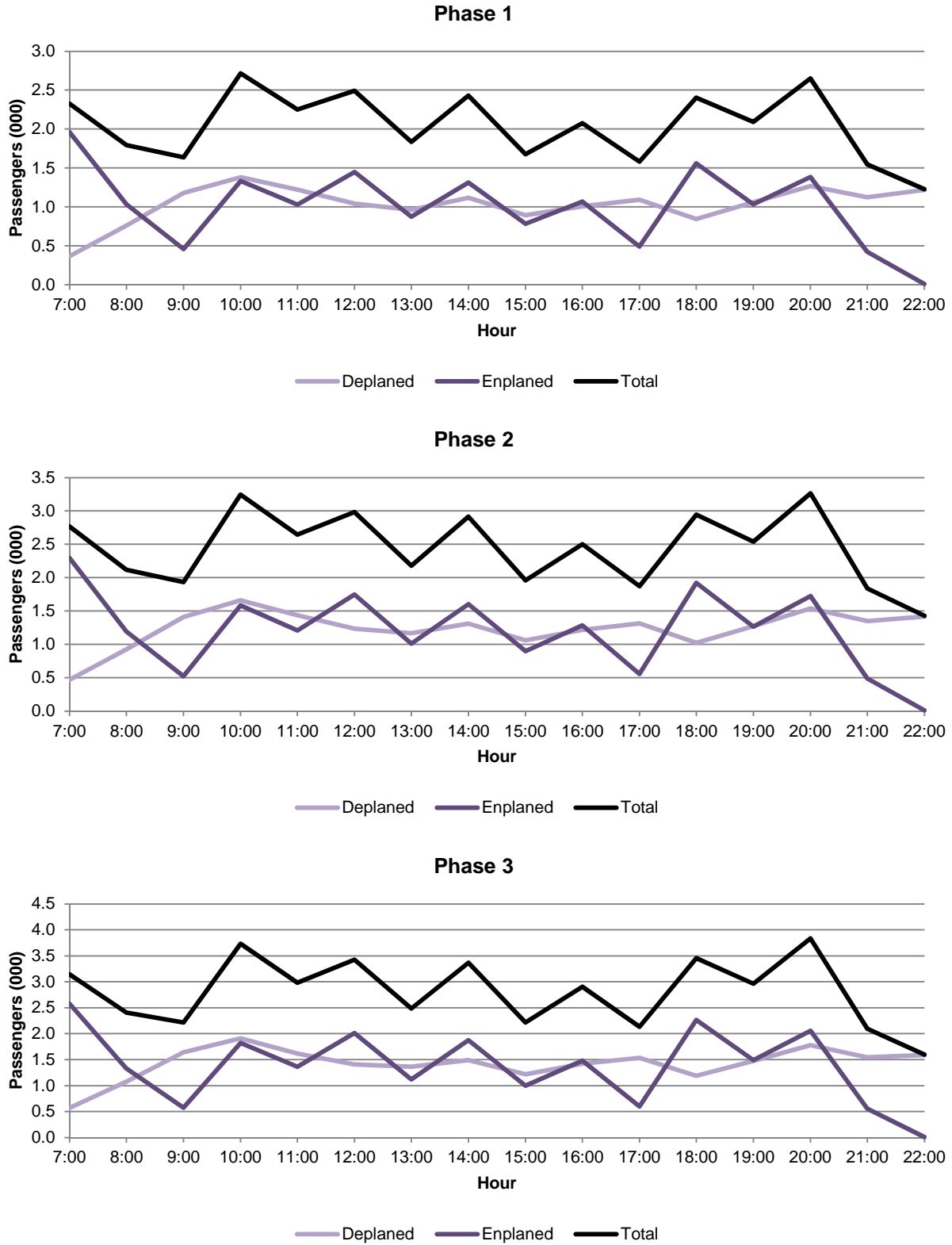


Figure 3-4
Alternative B – ADPM Hourly Passengers

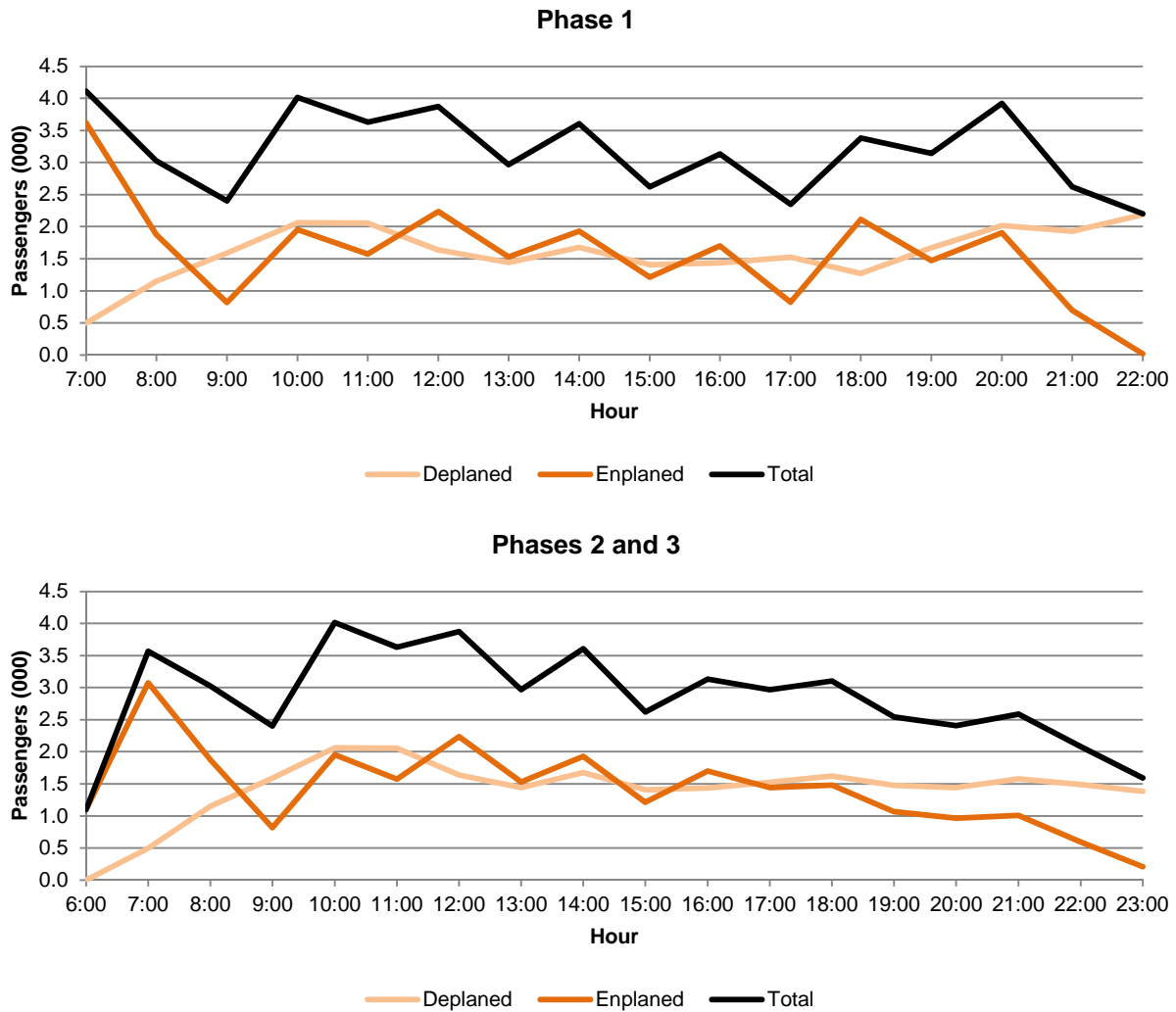


Figure 3-5
Alternative C – ADPM Hourly Passengers

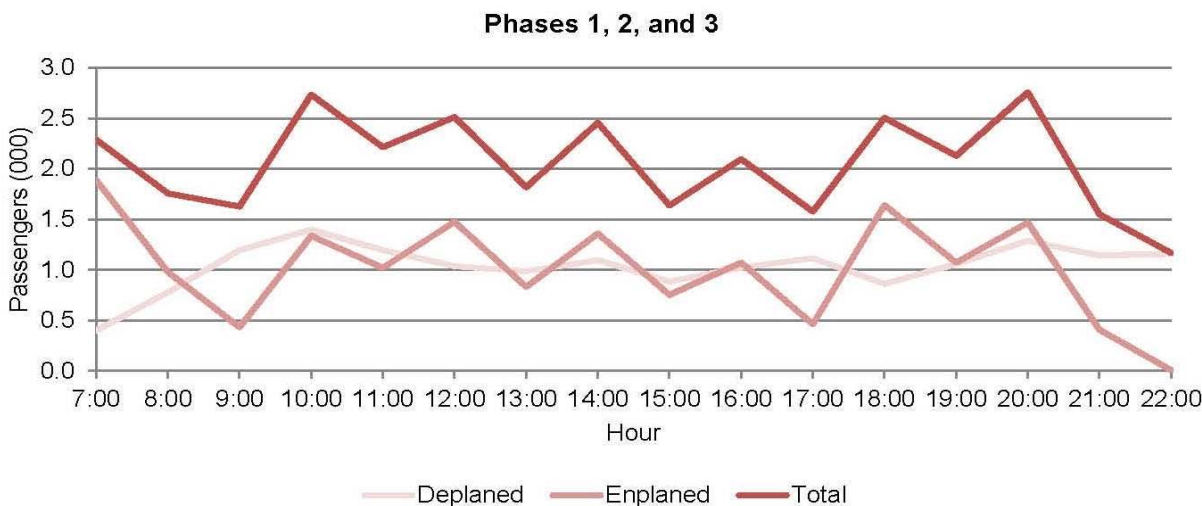


Figure 3-6
No Project Alternative – ADPM Hourly Passengers

FORECAST OF INTERNATIONAL PASSENGERS

As noted previously, international service at John Wayne Airport began in 2010 and currently four destinations in Canada and Mexico are being served. It is anticipated that there will be a continued demand for service to these markets, with a potential for increases through additional destinations or increases in daily flights to current destinations. As international flights at John Wayne Airport represent an emerging market, it is expected that international passenger traffic will continue to grow rapidly in Phase 1, begin to slow in Phase 2 and stabilize in Phase 3.

Projected international passengers are found in Table 3-7.

Presently international flights occur throughout the day, with no two flights occurring simultaneously. Therefore, the peak hour for international flights is when any flight arrives at the Airport and assumed to be a maximum of 150 passengers. All flights arriving from Mexico require passengers to go through Federal Inspection Services "FIS" at John Wayne Airport. FIS facilities are available in Terminal C. Flights arriving from Canada are currently prescreened in Canada and therefore passengers are not required to go through FIS at the Airport. This arrangement is assumed to be temporary in nature and all international flights will utilize FIS facilities in the future.

International operations currently occur from 9:00 a.m. through 6:00 p.m. and there is no hour that experiences more than one arrival or departure. As international operations increase in the future, individual hours may experience more than one arrival/departure. However, as there are only two international ready gates with passenger loading bridges at the Airport, flights will be spread throughout the day in an effort to avoid simultaneous arrivals/departures (due to facility size constraints) and peak hour activity will be limited to two arrivals/departures. The future peak hour is most likely to fall within the 9:00 a.m. to 6:00 p.m. time period (same as existing international flights) and multiple peaks may occur during this period.

Table 3-7
FORECAST OF INTERNATIONAL PASSENGERS
JOHN WAYNE AIRPORT

	Existing	Proposed Project	Alternative A	Alternative B	Alternative C	No Project
Phase 1						
MAP	9.17	10.8	10.8	10.8	16.9	10.8
International	412,000	756,000	756,000	756,000	1,183,000	756,000
Domestic	8,756,000	10,044,000	10,044,000	10,044,000	15,717,000	10,044,000
Phase 2						
MAP	9.17	11.8	11.4	13	16.9	10.8
International	412,000	1,062,000	1,026,000	1,170,000	1,521,000	756,000
Domestic	8,756,000	10,738,000	10,374,000	11,830,000	15,379,000	10,044,000
Phase 3						
MAP	9.17	12.5	12.8	15	16.9	10.8
International	412,000	1,250,000	1,280,000	1,500,000	1,690,000	756,000
Domestic	8,756,000	11,250,000	11,520,000	13,500,000	15,210,000	10,044,000

Source: AECOM analysis, 2013.

SECTION 4

COMMERCIAL OPERATIONS FORECAST

INTRODUCTION

A forecast of annual commercial passenger operations (takeoffs and landings) was prepared by applying projections of aircraft fleet mix and load factors to the assigned MAP levels. Cargo operations are also addressed in this section. The forecast approach is described further below. The forecast includes annual and peak month operations and mix of operations by aircraft.

HISTORICAL TRENDS

Aircraft operations are categorized by the FAA as air carrier (passenger and all-cargo operations), commuter and air taxi, general aviation, and military. Air carrier operations have fluctuated within a 10,000 operation range (approximately) since 2003, with the low experienced in 2011 (82,425 operations) and the high experienced in 2007 (92,601 operations). It is interesting to note that 2013 passenger levels of 9.17 MAP is very close to 2004 levels of 9.27 MAP, yet, due to increased load factors and fleet mix size, operations are over 4,000 less in 2013 than in 2004. As load factors increase, operations decrease.

Commuter operations have significantly declined at the Airport, with most operations noted as commuter and air taxi being air taxi operations. General aviation operations have also experienced a significant decline since 2003 for reasons further explained in Section 6. Military operations have increased in recent years, but represent less than 0.3 percent of all operations. Table 4-1 contains historical operations data for the Airport and respective MAP levels.

Table 4-1
AIRCRAFT OPERATIONS, 2003 TO 2013
JOHN WAYNE AIRPORT [a]

Year	MAP	Air Carrier	Commuter & Air Taxi	General Aviation	Military	Total
2003	8.54	84,961	22,896	249,551	161	357,569
2004	9.27	90,163	25,683	256,931	140	372,917
2005	9.63	88,088	25,987	252,813	151	367,039
2006	9.61	89,039	26,860	246,783	114	362,796
2007	9.98	92,601	25,180	224,159	121	342,061
2008	8.99	86,999	25,192	205,282	64	317,537
2009	8.71	90,673	14,140	191,012	82	295,907
2010	8.66	84,815	9,584	178,045	81	272,525
2011	8.61	82,425	9,290	169,870	227	261,812
2012	8.86	83,528	9,256	171,873	493	265,150
2013 [b]	9.17	86,000	10,000	163,000	700	259,520

[a] Source: FAA Air Traffic Activity System, accessed October 31, 2013.

[b] AECOM analysis, 2013.

Hourly arrivals and departures have generally shown similar characteristics since 2003, with the peak departure period occurring in the 7:00 a.m. hour, dropping sharply until about 10:00 a.m. where they remain relatively constant throughout the rest of the day. Arrivals increase as departures decline in the morning, where they then remain fairly constant throughout the day, peaking in the 10:00 p.m. hour.

Figure 4-1 graphically depicts the arrivals and departures in August for 2003, 2007 (the historical passenger peak experienced), and 2011.

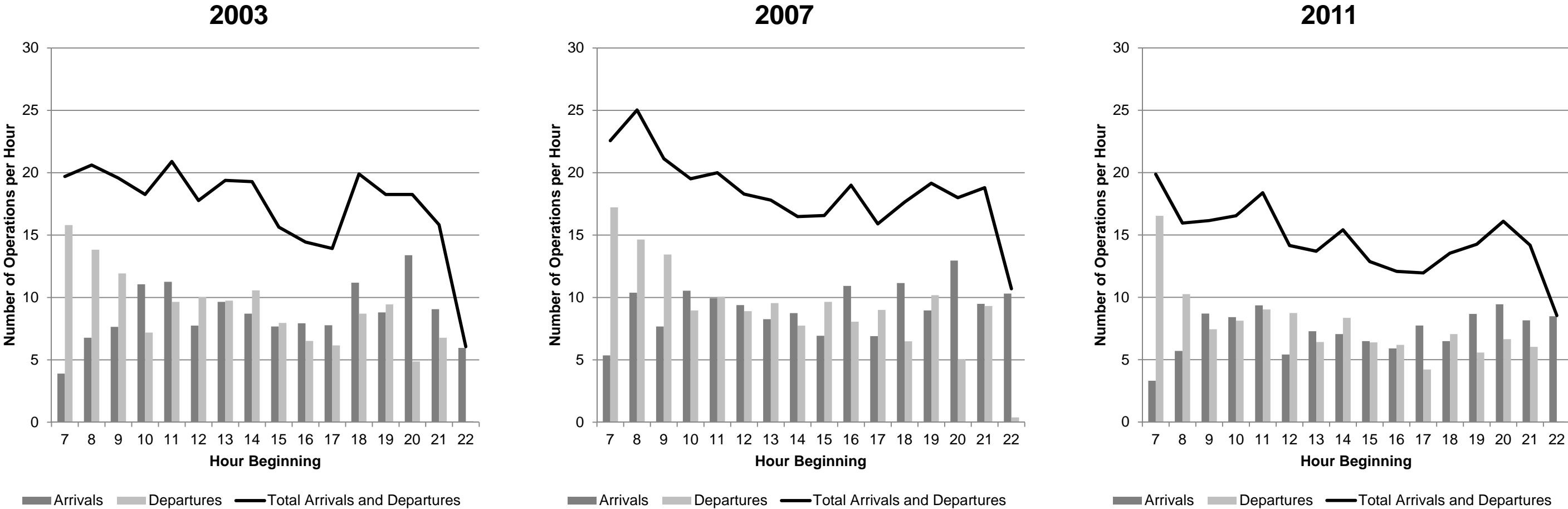


Figure 4-1
Historical Operations – Arrivals, Departures,
and Total Arrivals and Departures

FORECAST OF TOTAL ANNUAL COMMERCIAL OPERATIONS

Commercial Passenger Operations

Average load factor is the average number of passengers carried per operation. It is calculated by dividing the average number of passengers per operation by the average number of seats available per operation. Average annual load factors are the highest they have been over the last decade and have remained fairly stable since 2011 (Figure 4-2).

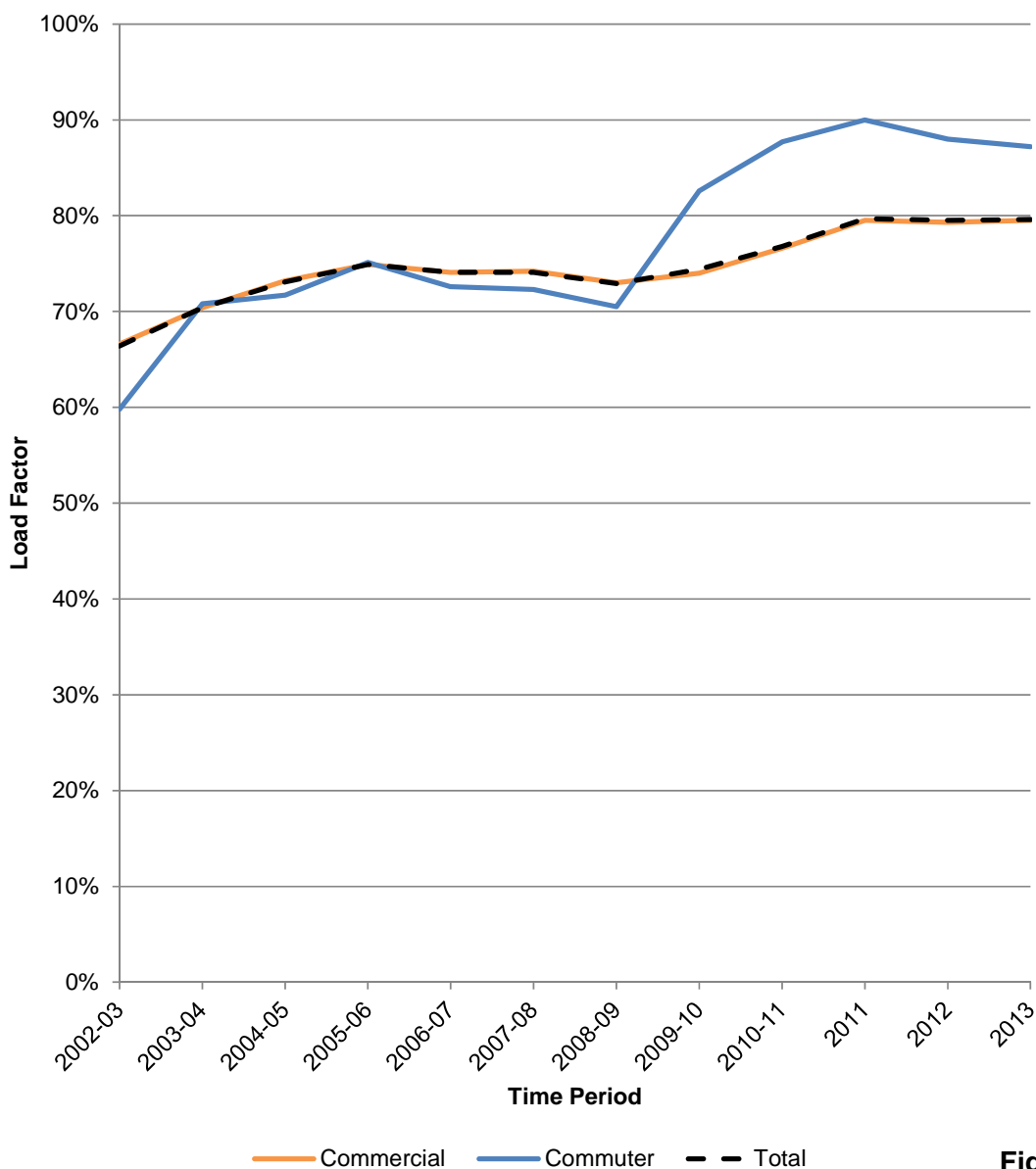


Figure 4-2
Historical Load Factors at
John Wayne Airport

Therefore, for the purpose of this analysis, existing (2013) load factors – by aircraft type – were applied in the forecasts (Table 4-2).

Table 4-2
LOAD FACTORS BY AIRCRAFT, 2013
JOHN WAYNE AIRPORT [a]

Aircraft	Load Factor
Class A	
A318	93.7%
A319	86.2%
A320	80.8%
A321	80.1%
B737-300	72.6%
B737-400	89.0%
B737-700	78.7%
B737-800	86.3%
B757	85.7%
CRJ900	66.4%
Class E	
B737-700	72.6%
B737-800	72.6%
CL60	87.2%
CRJ2	87.2%
CRJ700	87.2%
CRJ900	84.7%
E120	87.2%

[a] Source: John Wayne Airport,
Access and Noise Office.

The forecasts of annual air carrier and commuter operations are derived by dividing passenger levels for each phase of the Proposed Project, three Alternatives, and the No Project Alternative by these average numbers of passengers carried (average aircraft size x average load factor). Operations forecasts are presented in Table 4-3 along with associated MAP levels.

International Passenger Operations

International passenger operations are relatively new at John Wayne Airport. The approach to forecasting these operations is the same as the commercial passenger operations. International operations have rapidly increased since service began in 2010 (392 international operations) to approximately 4,900 operations in 2013. Table 4-4 presents forecasted international operations and associated MAP levels.

Commercial Cargo Operations

The Settlement Agreement Amendment allows for up to 4 daily cargo Class A ADDs, or a total of 8 daily operations. Therefore, the Settlement Agreement Amendment allows for up to 2,920 annual cargo operations. Per the EIR Project Description, the maximum number of cargo operations is assumed for the Proposed Project, three Alternatives, and No Project Alternative.

Table 4-3
ANNUAL COMMERCIAL PASSENGER OPERATIONS FORECASTS
JOHN WAYNE AIRPORT

	Proposed Project	Alternative A	Alternative B	Alternative C	No Project
Phase 1	(10.8 MAP)	(10.8 MAP)	(10.8 MAP)	(16.9 MAP)	(10.8 MAP)
Air Carrier	95,000	92,000	93,000	164,000	95,000
Commuter*	8,800	8,800	8,800	0	8,800
Total	103,800	100,800	101,800	164,000	103,800
Phase 2	(11.8 MAP)	(11.4 MAP)	(13.0 MAP)	(16.9 MAP)	(10.8 MAP)
Air Carrier	104,000	96,000	114,000	164,000	95,000
Commuter*	8,800	8,800	8,800	0	8,800
Total	112,800	104,800	122,800	164,000	103,800
Phase 3	(12.5 MAP)	(12.8 MAP)	(15.0 MAP)	(16.9 MAP)	(10.8 MAP)
Air Carrier	111,000	109,000	134,000	164,000	95,000
Commuter*	8,800	8,800	8,800	0	8,800
Total	119,800	117,800	142,800	164,000	103,800

* Excluding air taxi operations.
Source: AECOM analysis, 2013.

Table 4-4
ANNUAL INTERNATIONAL AND DOMESTIC OPERATIONS FORECASTS
JOHN WAYNE AIRPORT

	Proposed Project	Alternative A	Alternative B	Alternative C	No Project
Phase 1	(10.8 MAP)	(10.8 MAP)	(10.8 MAP)	(16.9 MAP)	(10.8 MAP)
International	6,100	6,100	6,100	9,500	6,100
Domestic	88,900	85,900	86,900	154,500	88,900
Total	95,000	92,000	93,000	164,000	95,000
Phase 2	(11.8 MAP)	(11.4 MAP)	(13.0 MAP)	(16.9 MAP)	(10.8 MAP)
International	8,600	8,300	9,400	12,300	6,100
Domestic	104,200	96,500	113,400	151,700	88,900
Total	112,800	104,800	122,800	164,000	95,000
Phase 3	(12.5 MAP)	(12.8 MAP)	(15.0 MAP)	(16.9 MAP)	(10.8 MAP)
International	10,100	10,300	12,100	13,600	6,100
Domestic	109,700	107,500	130,700	150,400	88,900
Total	119,800	117,800	142,800	164,000	95,000

Source: AECOM analysis, 2013.

COMMERCIAL PASSENGER AIRCRAFT OPERATIONS ASSOCIATED WITH ADPM PASSENGERS

The number of commercial passenger aircraft operations in the passenger average day peak month "ADPM" (August) is forecasted using a similar approach as the passengers in the peak month. As previously discussed, August is historically the peak passenger month for JWA, with commercial operations in that month constituting approximately 8.7 percent of the Airport's annual operations, on average (Table 4-5). Therefore, in order to calculate the commercial passenger aircraft operations

forecast associated with ADPM passengers, annual operations are multiplied by 8.7 percent. This amount is then divided by 31 (the total number of days in August) to determine ADPM operations. Table 4-6 below, presents commercial passenger aircraft operations associated with ADPM passengers for the Proposed Project, No Project Alternative, and Alternatives A through C.

Table 4-5
AUGUST OPERATIONS, 2003 TO 2013
JOHN WAYNE AIRPORT

Year	Total Operations	Operations in August	Percent in August
2003	84,961	7,282	8.6%
2004	90,163	7,912	8.8%
2005	88,088	7,672	8.7%
2006	89,039	7,803	8.8%
2007	92,601	8,041	8.7%
2008	86,999	7,338	8.4%
2009	90,673	7,953	8.8%
2010	84,815	7,340	8.7%
2011	82,425	7,235	8.8%
2012	83,528	7,477	9.0%
2013	86,000	7,338	8.5%
Average			8.7%

Source: FAA Air Traffic Activity System, accessed January 11, 2014.

Table 4-6
COMMERCIAL PASSENGER AIRCRAFT OPERATIONS FORECASTS ASSOCIATED WITH ADPM PASSENGERS
JOHN WAYNE AIRPORT

	Existing	Proposed Project	Alternative A	Alternative B	Alternative C	No Project
Phase 1						
Air Carrier	228	266	258	260	458	266
Commuter	6	24	24	24	0	24
Total	234	290	282	284	458	290
Phase 2						
Air Carrier	228	290	270	318	458	266
Commuter	6	24	24	24	0	24
Total	234	314	294	342	458	290
Phase 3						
Air Carrier	228	310	304	374	458	266
Commuter	6	24	24	24	0	24
Total	234	334	328	398	458	290

Source: AECOM analysis, 2013.

FORECAST OF PEAK HOUR CARGO OPERATIONS

Presently cargo operations occur in the middle of the afternoon. This is due to the fact that dedicated cargo facilities (apron) are not available at John Wayne Airport and because John Wayne Airport is a west coast airport, and afternoon departures are required to feed major cargo sorting hubs located in the

mid-west and meets delivery times. Cargo aircraft use the south RON apron for cargo loading operations. Cargo arrivals generally occur in the 4:00 p.m. hour and depart a few hours later at 7:00 p.m. This is expected to continue for the Proposed Project, No Project Alternative, and Alternatives A and B. Alternative C, Phase 1 also will retain this schedule. In Phases 2 and 3 of Alternative C the curfew could be modified after December 31, 2020. Should the County desire to modify the curfew after December 31, 2020, it would require further policy direction and discretionary action by the Board of Supervisors and be considered a project pursuant to CEQA, and separate environmental documentation would be required to address the potential impacts associated with that action. However, to be conservative, it is assumed that cargo operations will then move to night time hours, when cargo operations are typically conducted.

FORECAST OF FLEET MIX OF COMMERCIAL AIRCRAFT DEPARTURES

The forecasted mix of commercial aircraft departures assumes the same aircraft types operating at the Airport today will continue to operate at the Airport. The fleet mix was adjusted to utilize Class A ADDs in each the Proposed Project, the three Alternatives, and No Project Alternative first, with the remaining operations being Class E aircraft. This results in a slight change in fleet mix for each phase of the Proposed Project, three Alternatives, and No Project Alternatives as the number of Class A ADDs varies. Fleet mixes are presented in Table 4-7 through Table 4-9.

FORECAST OF HOURLY COMMERCIAL OPERATIONS

Forecasts of hourly operations of commercial aircraft based on the assumptions and analysis presented above are graphically shown in Figure 4-3 through Figure 4-7.

Table 4-7
MIX OF COMMERCIAL PASSENGER AIRCRAFT ASSOCIATED WITH ADPM PASSENGERS
BY AIRCRAFT TYPE, PHASE 1 (JANUARY 1, 2016)
JOHN WAYNE AIRPORT [a]

Type of Service and Aircraft	Existing	Proposed	Alternative	Alternative	Alternative
Typ. Seats	Dep.	% Dep.	% Dep.	% Dep.	% Dep.
Air Carrier Passenger Service					
A318	120	0	0.0%	0	0.0%
A319	127	14	11.9%	15	11.3%
A320	142	8	7.0%	11	8.3%
A321	187	2	1.7%	1	0.8%
B737-300	137	0	0.0%	0	0.0%
B737-400	144	0	0.0%	0	0.0%
B737-700	137	64	56.0%	78	58.6%
B737-800	153	17	14.6%	21	16.3%
B757	183	6	4.8%	5	3.8%
CRJ900	80	3	2.2%	4	3.1%
Subtotal	114	100.0%	133	100.0%	229
Average Aircraft Size (Seats)	138	138	139	139	142
Commuter Passenger Service					
CRJ700	66	3	100.0%	12	100.0%
Subtotal	3	100.0%	12	100.0%	0
Average Aircraft Size (Seats)	66	66	66	66	N/A
Cargo Service					
A300	N/A	1	50.0%	2	55.2%
A310	N/A	0	0.0%	0	0.3%
B757	N/A	1	50.0%	2	44.5%
Subtotal	2	4	4	4	4
Total Commercial Departures	119	149	145	146	233

[a] Source: AECOM analysis, 2013.

[b] Source: John Wayne Airport.

Table 4-8
MIX OF COMMERCIAL PASSENGER AIRCRAFT ASSOCIATED WITH ADPM PASSENGERS
BY AIRCRAFT TYPE, PHASE 2 (JANUARY 1, 2021)
JOHN WAYNE AIRPORT [a]

Type of Service and Aircraft	Existing	Proposed	Alternative	Alternative	Alternative
Typ. Seats	Dep.	% Dep.	% Dep.	% Dep.	% Dep.
Air Carrier Passenger Service					
A318	120	0	0.0%	0	0.0%
A319	127	14	11.9%	17	11.7%
A320	142	8	7.0%	12	8.3%
A321	187	2	1.7%	1	0.7%
B737-300	137	0	0.0%	0	0.0%
B737-400	144	0	0.0%	0	0.0%
B737-700	137	64	56.0%	84	57.9%
B737-800	153	17	14.6%	24	17.8%
B757	183	6	4.8%	5	3.4%
CRJ900	80	3	2.2%	7	4.8%
Subtotal	114	100.0%	145	100.0%	229
Average Aircraft Size (Seats)	138	138	140	138	142
Commuter Passenger Service					
CRJ700	66	3	100.0%	12	100.0%
Subtotal	3	100.0%	12	100.0%	0
Average Aircraft Size (Seats)	66	66	66	66	N/A
Cargo Service					
A300	N/A	1	50.0%	2	55.2%
A310	N/A	0	0.0%	0	0.3%
B757	N/A	1	50.0%	2	44.5%
Subtotal	2	4	4	4	4
Total Commercial Departures	119	161	151	175	233

[a] Source: AECOM analysis, 2013.

[b] Source: John Wayne Airport.

Table 4-9
MIX OF COMMERCIAL PASSENGER AIRCRAFT ASSOCIATED WITH ADPM PASSENGERS
BY AIRCRAFT TYPE, PHASE 3 (JANUARY 1, 2026)
JOHN WAYNE AIRPORT [a]

Type of Service and Aircraft	Existing	Proposed	Alternative	Alternative	Alternative	Alternative
Typ. Seats Dep.	% Dep.	% Dep.	% Dep.	% Dep.	% Dep.	%
Air Carrier Passenger Service						
A318	120	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
A319	127	14 11.9%	17 11.0%	25 16.4%	22 11.8%	43 18.8%
A320	142	8 7.0%	12 7.7%	17 11.2%	15 8.0%	30 13.1%
A321	187	2 1.7%	1 0.6%	2 1.3%	1 0.5%	3 1.3%
B737-300	137	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
B737-400	144	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
B737-700	137	64 56.0%	93 60.0%	71 46.7%	111 59.4%	94 41.0%
B737-800	153	17 14.6%	19 12.3%	26 17.1%	22 11.8%	44 19.2%
B757	183	6 4.8%	5 3.2%	7 4.6%	6 3.2%	13 5.7%
CRJ900	80	3 2.2%	8 5.2%	4 2.6%	10 5.3%	2 0.9%
Subtotal	114	100.0%	155 100.0%	152 100.0%	187 100.0%	229 100.0%
Average Aircraft Size (Seats)	138	137	140	137	142	
Commuter Passenger Service						
CRJ700	66	3 100.0%	12 100.0%	12 100.0%	12 100.0%	0 N/A
Subtotal	3	100.0%	12 100.0%	12 100.0%	12 100.0%	0 N/A
Average Aircraft Size (Seats)	66	66	66	66	N/A	
Cargo Service						
A300	N/A	1 50.0%	2 55.2%	2 55.2%	2 55.2%	2 55.2%
A310	N/A	0 0.0%	0 0.3%	0 0.3%	0 0.3%	0 0.3%
B757	N/A	1 50.0%	2 44.5%	2 44.5%	2 44.5%	2 44.5%
Subtotal	2	4	4	4	4	
Total Commercial Departures	119	171	168	203	233	

[a] Source: AECOM analysis, 2013.

[b] Source: John Wayne Airport.

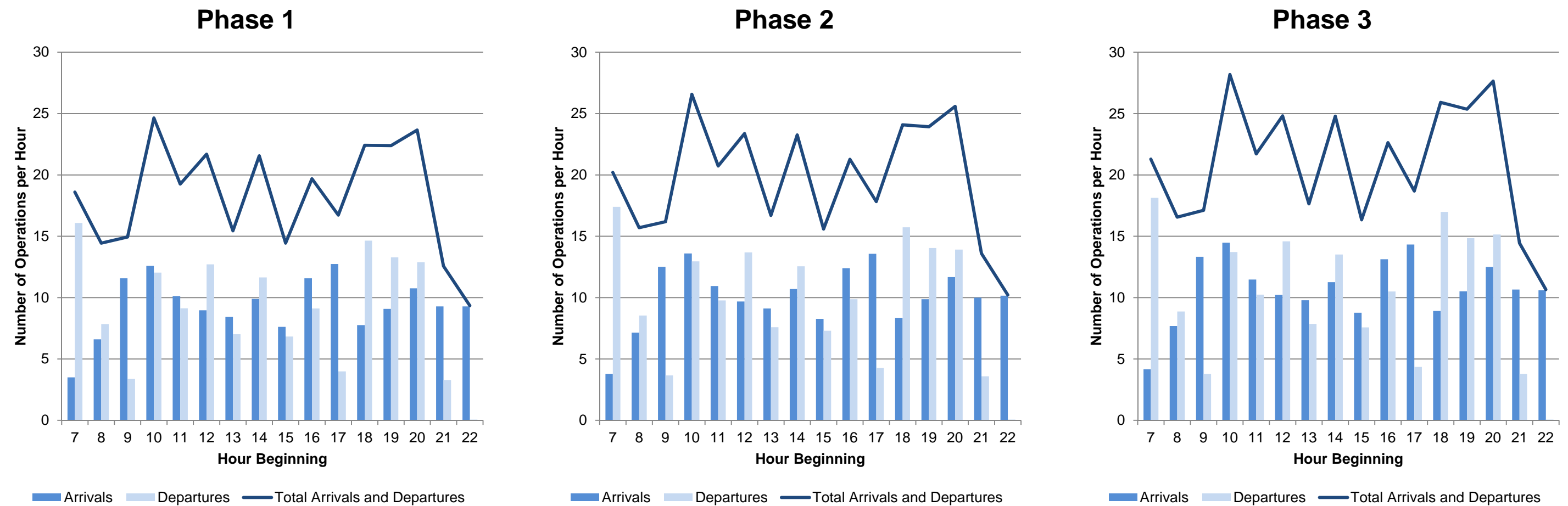


Figure 4-3
Forecast of Hourly Commercial Operations -
Proposed Project

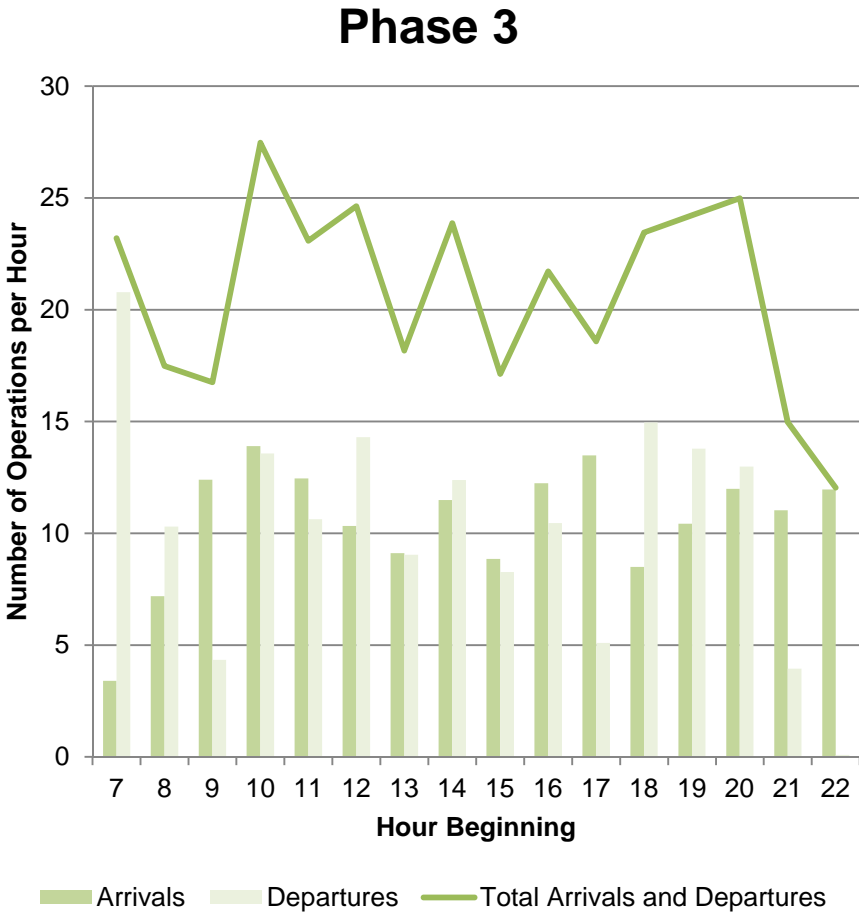
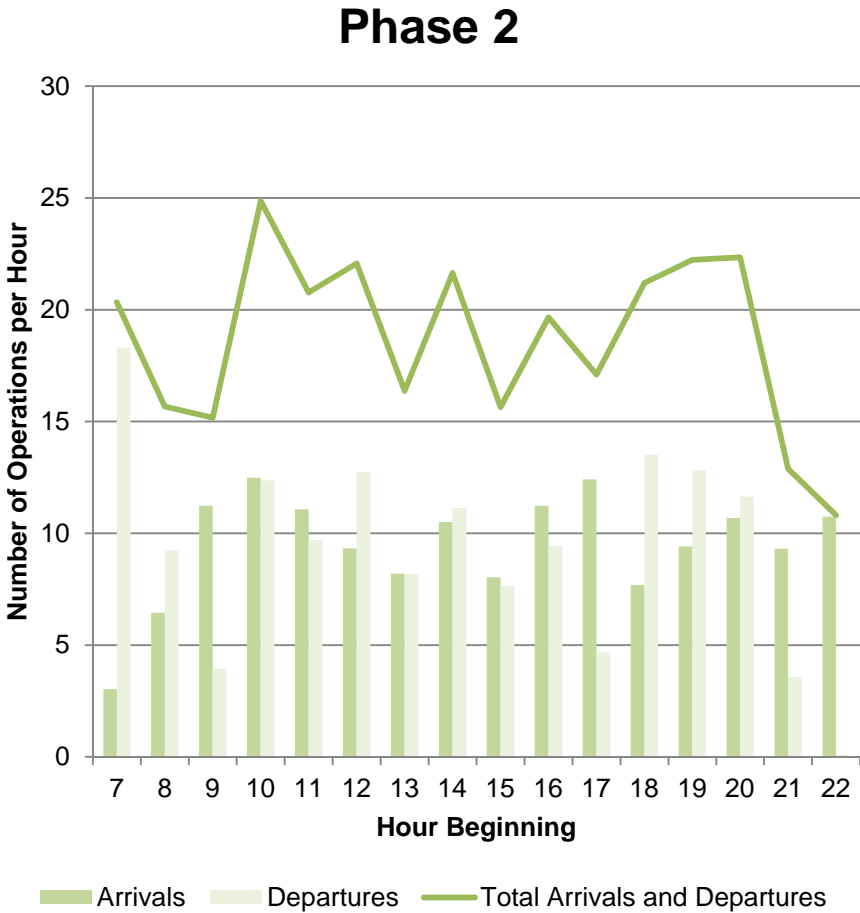
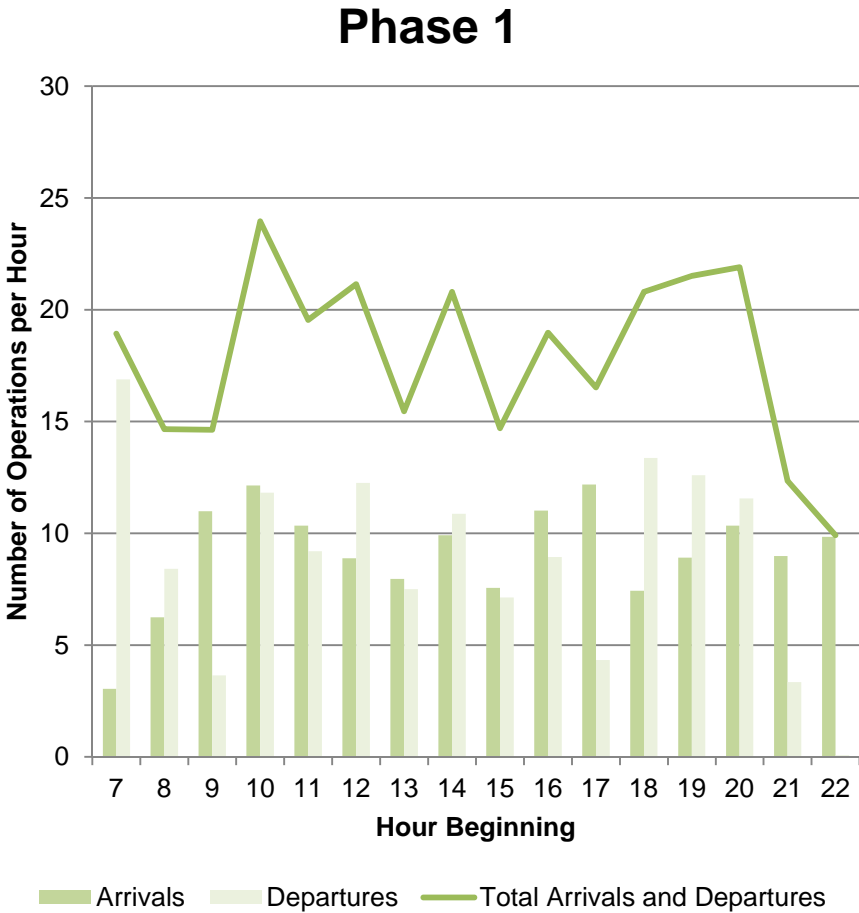


Figure 4-4
Forecast of Hourly Commercial Operations -
Alternative A

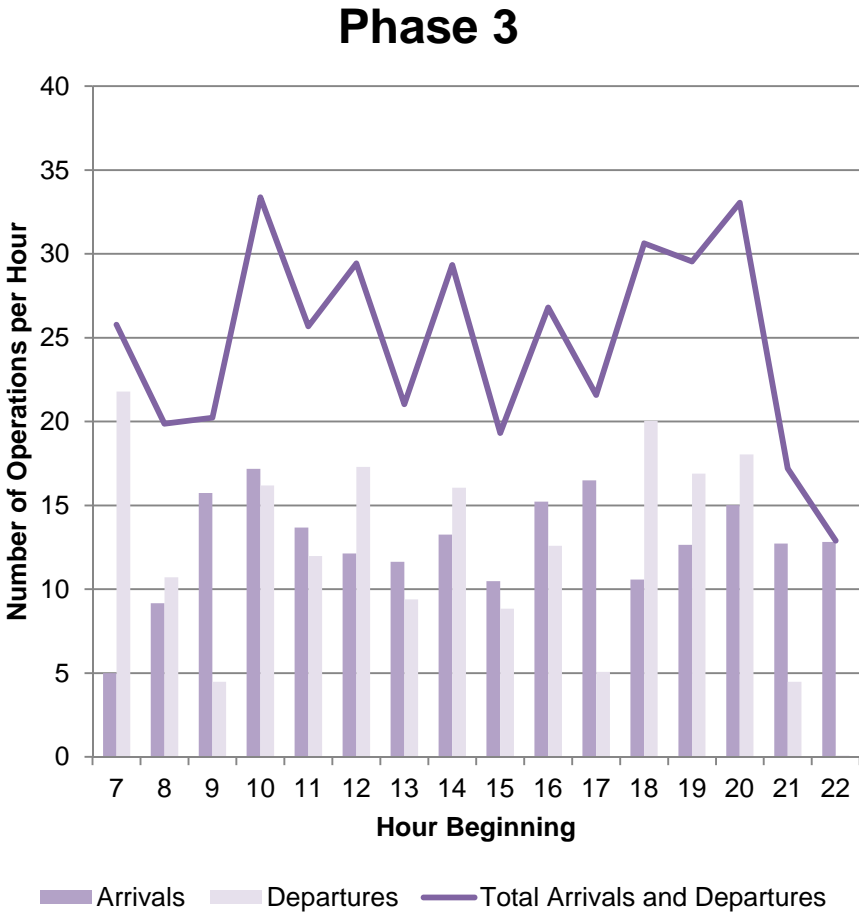
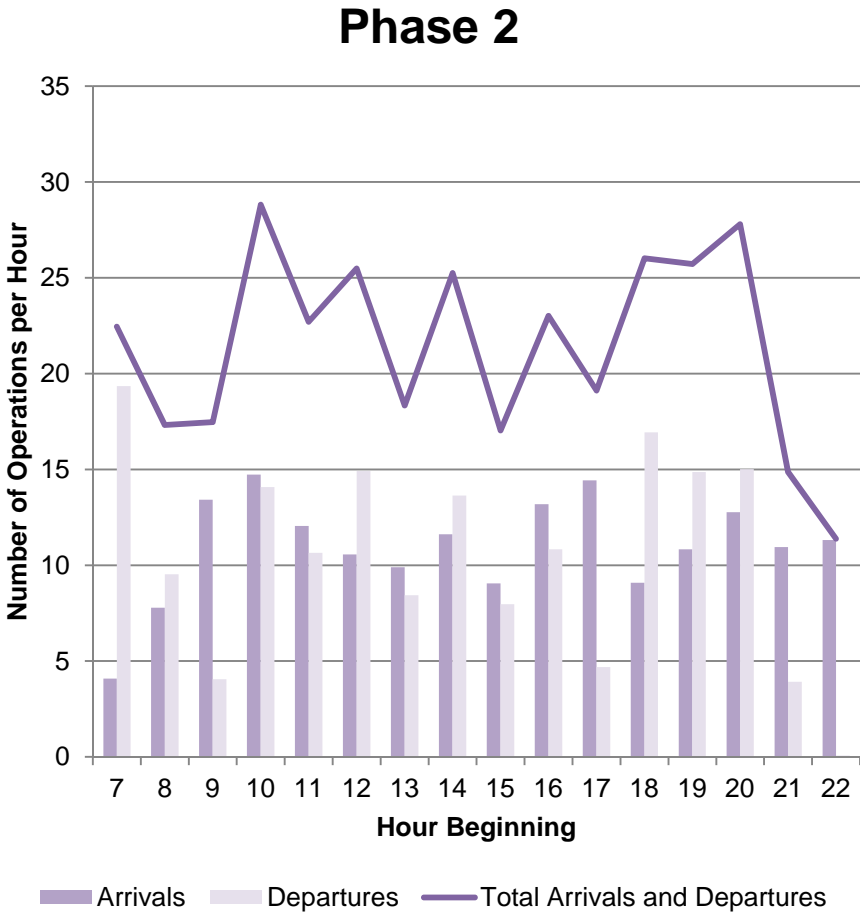
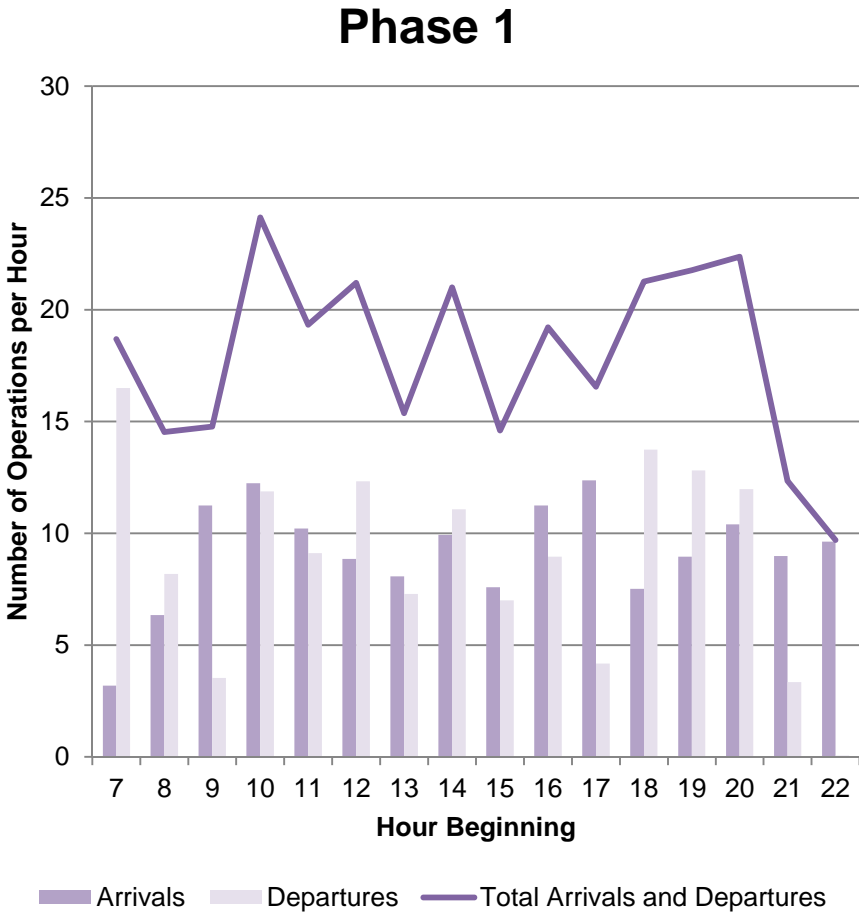


Figure 4-5
Forecast of Hourly Commercial Operations -
Alternative B

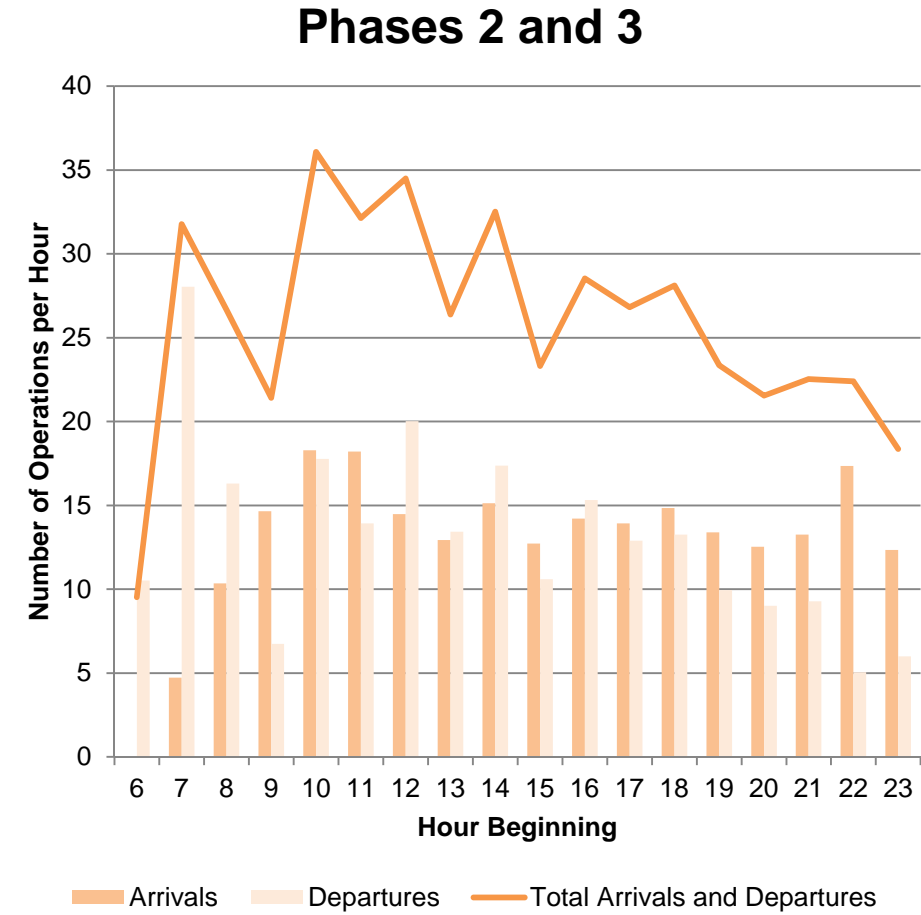
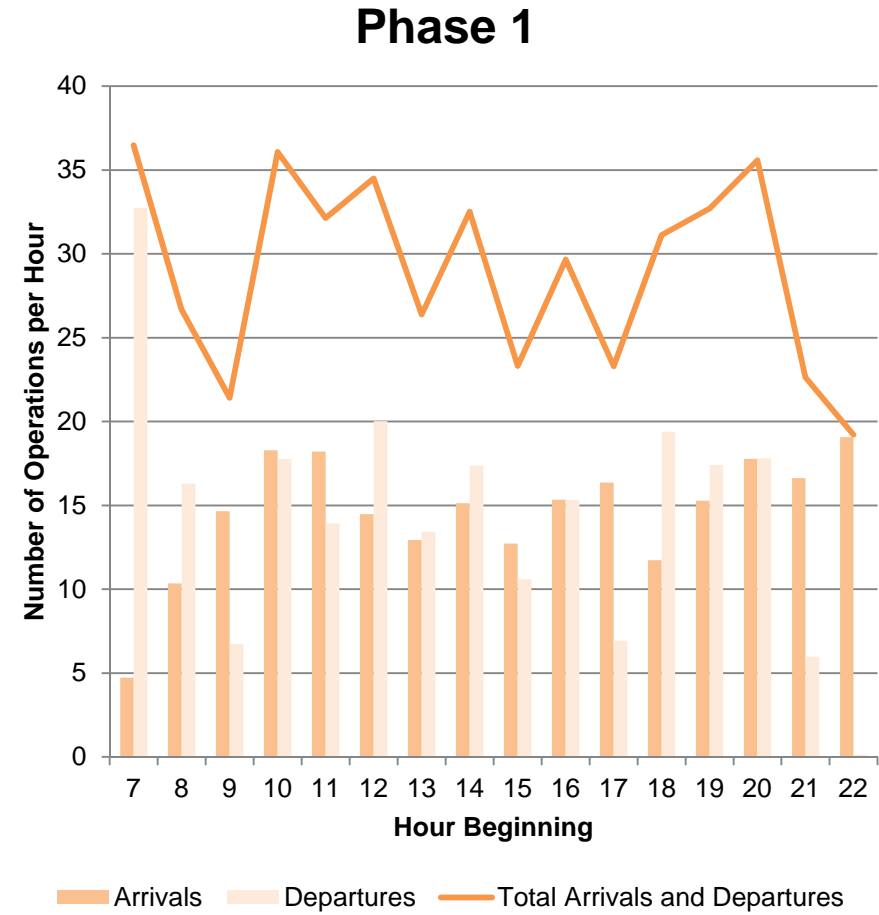


Figure 4-6
Forecast of Hourly Commercial Operations -
Alternative C

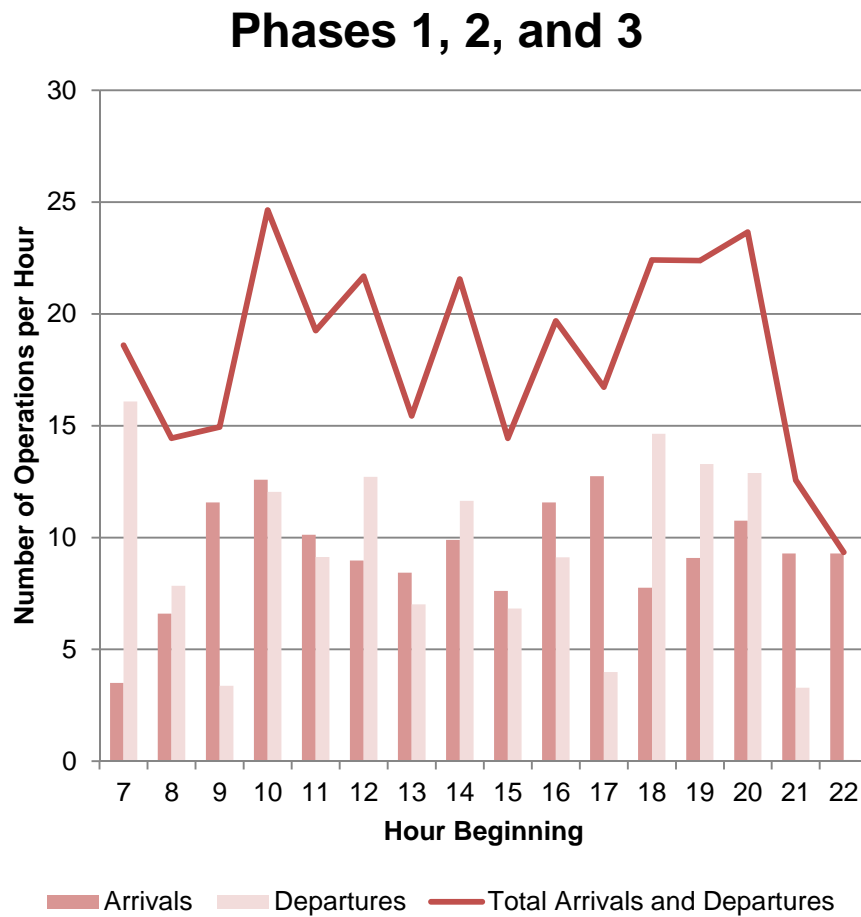


Figure 4-7
Forecast of Hourly Commercial Operations -
No Project Alternative

SECTION 5

FORECAST OF HOURLY PASSENGERS AND OPERATIONS IN THE PASSENGER AVERAGE DAY PEAK MONTH

INTRODUCTION

The number of hourly arriving and departing flights and passengers has been projected for the Proposed Project, three Alternatives, and No Project Alternative. The projections of future hourly operations were developed based on the average schedule over the last five years (2008 through 2013). This time period was used to account for recent trends of “right sizing” aircraft throughout the day and week to optimize load factors on routes and overall decline of commuter aircraft usage at the Airport.

HOURLY OPERATIONS

The future projections of hourly operations were derived by reviewing hourly operations profiles for the last five years. During this time significant trends started to form in which airlines started to right size equipment to routes, sometimes varying equipment for the same route during the week depending upon demand levels, higher load factors, and a decrease in commuter aircraft. These five-year hourly operations were then averaged by aircraft type and hour to develop the projections of hourly operations.

The resulting passenger average day peak month hourly operations for the Proposed Project, three alternatives, and No Project Alternative are shown in Tables 5-1 through 5-13.

FORECAST OF HOURLY PASSENGERS

The arriving and departing passengers in the average day peak month were projected for the Proposed Project, three Alternatives, and No Project Alternative by applying ADPM passengers to the hourly passenger profiles developed in Section 3. The results are also shown in Tables 5-1 through 5-13. Departing passengers peak in the 7:00 a.m. hour under all scenarios.

With the exception of Phase 1 of Alternative C, arriving passengers generally peak in the 10:00 a.m. hour under the Proposed Project, three alternatives and No Project Alternative. Peak hour arriving passengers in Phase 1 of Alternative C occur in the 10:00 pm hour. However, arrival peaks are also found at 11:00 a.m. or 10:00 p.m. for individual phases of Alternative C.

Total peak hour passengers (arriving plus departing passengers occur in a variety of hours under the Proposed Project, three alternatives, and No Project Alternative as detailed in Table 3-6.

HOURLY LOAD FACTORS

ADPM hourly load factors are developed using (1) average annual load factors based on 2013 data, which take into account load factors by airline and aircraft type, (2) ADPM passenger and commercial aircraft operations peaking factors as described in Sections 3 and 4, and (3) hourly passenger and operations profiles described in Sections 3 and 4. Future average annual load factors, with the exception of Alternative C, are assumed to remain constant. For Alternative C load factors decrease because it is assumed airlines fill all available Class A ADDs, resulting in passengers being spread among more flights. Hourly arriving and departing load factors are identified in Tables 5-1 through 5-13. Each, the Proposed Project and three Alternatives have three tables; one for each phase. The No Project Alternative only has one table, as all three phases have the same principal restrictions.

As these data indicate, ADPM load factors are very high throughout the day. Air carrier load factors for the Proposed Project and Alternatives A and B are in the high 80 percent range and commuter load factors are in the mid 90 percent range. Alternative C assumes no commuter flights and has lower load factors (high 70 percent range) as it is assumed that airlines will use all available Class A ADDs. As described in previous sections, the fleet mix is derived by using all available Class A ADDs first at the assumed load factors for the aircraft, then remaining passengers are first allocated to commuter flights (up to 500,000 passengers) and then allocated to Class E ADDs. As the fleet mix varies by project and hour, so does the availability of seats. The hourly available seats compared to hourly passenger demand results in the hourly load factors found in the tables. Due to the number of Class A ADDs in Alternative C, there is a greater seat capacity than the maximum 16.9 MAP available, thus load factors in Alternative C are lower throughout the day and no commuter passengers are present.

Aircraft Category and Type		Typical Seats	Arrivals																	Departures																		
			7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total		
Departures and Arrivals																																						
Air Carrier Passenger Service																																						
A318	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	127	0	0	1	1	1	1	0	1	1	1	1	1	2	1	1	2	15		3	2	0	2	1	1	1	0	1	1	1	1	1	0	0	0	0	15	
A320	142	0	0	0	1	2	1	0	1	1	0	1	0	1	1	1	11		2	1	0	0	1	1	1	1	0	1	0	0	0	0	0	0	0	11		
A321	187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
B737-300	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
B737-400	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
B737-700	137	3	5	5	6	5	5	6	5	4	5	5	5	6	5	4	78		6	3	1	7	4	8	2	8	2	5	1	11	7	11	2	0	78			
B737-800	153	0	1	1	1	1	1	1	1	1	1	1	1	1	1	2	17		2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	17			
B757	183	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	5		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
CRJ900	80	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6			
Total Air Carrier		4	6	9	11	9	8	8	8	7	8	9	7	9	11	9	133		15	8	3	10	7	12	6	11	5	9	3	13	9	12	3	0	133			
Commuter Passenger Service																																						
CRJ700	66	0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	12		0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12			
Total Commuter		0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	12		0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12			
Air Cargo Service																																						
A300	N/A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2			
A310	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
B757	N/A	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2		0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2				
Total Air Cargo		0	0	0	0</																																	

Section 5

Forecasts of Hourly Passengers and Operations

Table 5-1 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, PROPOSED PROJECT – PHASE 1 (JANUARY 1, 2016; 10.8 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	3	2	2	3	2	1	2	2	2	2	1	1	2	1	1	2	30
A320	3	1	1	2	3	2	2	1	1	1	1	1	1	1	1	1	22
A321	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
B737-300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-700	10	7	6	12	9	12	8	13	6	10	6	16	12	17	7	4	156
B737-800	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	34
B757	1	1	1	1	1	1	1	0	0	0	1	1	0	1	1	1	10
CRJ900	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	12
Total Air Carrier	19	14	13	21	17	20	14	19	12	17	12	20	17	23	12	9	266
Commuter Passenger Service																	
CRJ700	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Total Commuter	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	19	14	15	25	19	22	15	22	14	20	17	22	22	24	13	9	298
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	2.3	1.7	1.5	2.5	2.0	2.4	1.7	2.3	1.5	2.0	1.4	2.4	2.1	2.7	1.5	1.2	31.0
Commuter	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.5
Total	2.3	1.8	1.6	2.7	2.2	2.5	1.8	2.5	1.6	2.1	1.6	2.5	2.1	2.8	1.5	1.2	32.5

Note: Totals may not match due to rounding.

Aircraft Category and Type		Typical Seats	Arrivals																	Departures																
			7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																																				
Air Carrier Passenger Service																																				
A318	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	127	0	1	2	1	2	1	0	2	1	1	1	1	2	1	1	2	17		4	2	0	2	1	1	1	0	1	1	1	1	1	1	0	0	17
A320	142	0	0	1	1	2	1	1	1	1	0	1	0	1	1	1	12		3	1	0	0	1	1	1	1	0	1	0	0	0	0	0	0	12	
A321	187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
B737-300	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B737-400	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B737-700	137	3	5	5	6	5	5	6	5	4	5	6	5	6	7	6	4	84		7	3	1	7	4	8	2	9	2	6	1	12	7	11	2	0	84
B737-800	153	0	1	1	1	1	2	1	2	1	1	1	1	1	1	1	2	19		2	2	1	1	1	1	1	1	1	1	1	1	1	1	0	19	
B757	183	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	5		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
CRJ900	80	0	0	2	1	0	0	0	0	0	1	1	0	0	1	0	0	7		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
Total Air Carrier		4	7	10	12	10	9	9	9	8	9	10	8	9	12	10	10	145		16	8	3	11	8	13	7	12	6	9	3	14	10	13	4	0	145
Commuter Passenger Service																																				
CRJ700	66	0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	0	12		0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12
Total Commuter		0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	0	12		0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12
Air Cargo Service																																				
A300	N/A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
A310	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B757	N/A	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2		0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	
Total Air Cargo																																				

Section 5

Forecasts of Hourly Passengers and Operations

Table 5-2 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, PROPOSED PROJECT – PHASE 2 (JANUARY 1, 2021; 11.8 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	4	2	2	3	2	2	2	2	3	2	2	2	2	2	1	2	34
A320	3	1	1	2	3	3	2	1	1	1	1	1	1	1	1	1	24
A321	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
B737-300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-700	10	8	7	13	9	13	9	14	7	11	7	17	13	18	8	4	168
B737-800	2	3	2	3	3	3	2	3	2	2	2	2	2	3	2	2	38
B757	1	1	1	1	1	1	1	0	0	0	1	1	0	1	1	1	10
CRJ900	0	0	2	1	0	0	0	0	0	1	1	0	0	1	0	0	14
Total Air Carrier	20	15	14	23	18	21	16	21	13	19	13	22	19	25	13	10	290
Commuter Passenger Service																	
CRJ700	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Total Commuter	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	20	16	16	27	21	23	17	23	16	21	18	24	24	26	14	10	322
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	2.5	1.9	1.6	2.7	2.2	2.6	1.9	2.5	1.6	2.2	1.6	2.6	2.3	3.0	1.7	1.3	34.0
Commuter	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.5
Total	2.5	1.9	1.8	3.0	2.4	2.7	2.0	2.7	1.8	2.3	1.7	2.7	2.3	3.0	1.7	1.3	35.5

Note: Totals may not match due to rounding.

Table 5-3
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, PROPOSED PROJECT – PHASE 3 (JANUARY 1, 2026; 12.5 MAP)
JOHN WAYNE AIRPORT

[illegible]

Note: Totals may not match due to rounding.

Table 5-3 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, PROPOSED PROJECT – PHASE 3 (JANUARY 1, 2026; 12.5 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	4	2	2	3	2	2	2	2	3	2	2	2	2	2	1	2	34
A320	3	1	1	2	3	3	2	1	1	1	1	1	1	1	1	1	24
A321	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
B737-300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-700	11	9	7	15	10	15	10	15	8	12	7	19	15	20	8	4	186
B737-800	2	3	2	3	3	3	2	3	2	2	2	2	2	3	2	2	38
B757	1	1	1	1	1	1	1	0	0	0	1	1	0	1	1	1	10
CRJ900	0	0	2	2	0	0	0	0	0	1	1	0	0	1	0	0	16
Total Air Carrier	21	16	15	25	19	23	16	23	14	20	14	24	20	27	14	11	310
Commuter Passenger Service																	
CRJ700	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Total Commuter	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	21	17	17	28	22	25	18	25	16	23	19	26	25	28	14	11	342
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	2.6	2.0	1.7	2.9	2.3	2.7	2.0	2.7	1.7	2.3	1.6	2.8	2.4	3.2	1.8	1.3	36.1
Commuter	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.5
Total	2.6	2.0	1.9	3.1	2.5	2.9	2.1	2.8	1.9	2.4	1.8	2.9	2.5	3.2	1.8	1.3	37.6

Note: Totals may not match due to rounding.

Table 5-4
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE A – PHASE 1 (JANUARY 1, 2016; 10.8 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Typical Seats	Arrivals																	Departures																
		7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																																			
Air Carrier Passenger Service																																			
A318	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	127	0	1	2	1	2	1	1	2	1	1	1	1	2	1	1	2	19	4	2	0	2	1	1	2	1	2	1	1	1	1	1	0	0	19
A320	142	0	0	1	1	2	1	1	1	1	0	1	0	1	1	1	1	13	3	1	0	1	1	1	2	1	0	1	1	0	0	0	0	0	13
A321	187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
B737-300	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B737-400	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B737-700	137	3	4	4	5	4	4	5	4	3	4	5	4	5	5	4	3	65	5	2	1	5	3	6	2	7	2	5	1	9	6	9	1	0	65
B737-800	153	0	1	1	2	1	2	1	2	1	1	1	1	1	2	1	3	21	2	2	1	1	1	1	1	2	1	1	1	1	1	1	2	0	21
B757	183	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
CRJ900	80	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Total Air Carrier		3	6	9	11	9	8	8	8	7	8	8	7	8	10	9	10	129	16	8	3	10	7	11	7	10	5	8	3	12	8	11	3	0	129
Commuter Passenger Service																																			
CRJ700	66	0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	0	12	0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12
Total Commuter		0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	0	12	0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12
Air Cargo Service																																			
A300	N/A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
A310	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B757	N/A	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	
Total Air Cargo		0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	
Total Departures and Arrivals		3	6	11	12	10	9	8	10	8	11	12	7	9	10	9	10	145	17	8	4	12	9	12	8	11	7	9	4	13	13	12	3	0	145
Average Aircraft Size																																			
Air Carrier	139																																		
Commuter	66																																		
Load Factors by Hour																																			
Air Carrier		85%	88%	88%	88%	89%	88%	87%	89%	89%	88%	88%	88%	88%	88%	88%	90%		89%	90%	91%	88%	89%	88%	90%	87%	90%	88%	91%	86%	87%	86%	90%	94%	
Commuter		N/A	98%	94%	95%	85%	95%	95%	95%	98%	95%	96%	98%	100%	95%	95%	95%		95%	95%	100%	100%	82%	90%	95%	95%	95%	95%	93%	100%	100%	93%	95%	N/A	
Passengers by Hour (000)																																			
Air Carrier		0.4	0.7	1.0	1.3	1.2	1.0	0.9	1.0	0.9	0.9	1.0	0.8	1.0	1.3	1.1	1.3	15.5	2.0	1.1	0.5	1.2	0.9	1.4	0.9	1.3	0.7	1.0	0.5	1.4	1.0	1.3	0.4	0.0	15.5
Commuter		0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.8	
Total		0.4	0.8	1.2	1.4	1.2	1.1	1.0	1.1	0.9	1.0	1.1	0.8	1.1	1.3	1.1	1.3	16.2	2.0	1.1	0.5	1.3	1.1	1.5	0.9	1.3	0.8	1.1	0.5	1.5	1.0	1.3	0.4	0.0	16.2

Note: Totals may not match due to rounding.

Table 5-4 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE A – PHASE 1 (JANUARY 1, 2016; 10.8 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	4	3	2	3	3	2	2	2	3	3	2	2	3	2	1	2	38
A320	3	2	1	2	3	3	2	1	1	1	1	1	1	1	1	1	26
A321	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
B737-300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-700	8	6	5	10	7	10	7	11	5	9	5	13	10	14	6	3	130
B737-800	2	3	3	3	3	3	3	3	3	3	2	2	2	3	2	3	42
B757	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	12
CRJ900	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	8
Total Air Carrier	19	14	12	20	17	19	14	19	12	16	12	19	17	21	12	10	258
Commuter Passenger Service																	
CRJ700	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Total Commuter	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	19	15	15	24	20	21	15	21	15	19	17	21	22	22	12	10	290
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	2.4	1.8	1.5	2.5	2.1	2.4	1.8	2.3	1.6	2.0	1.4	2.3	2.0	2.6	1.6	1.3	31.0
Commuter	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.5
Total	2.4	1.8	1.6	2.7	2.3	2.5	1.9	2.4	1.7	2.1	1.6	2.4	2.1	2.6	1.6	1.3	32.5

Note: Totals may not match due to rounding.

Table 5-5
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE A – PHASE 2 (JANUARY 1, 2021; 11.4 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type		Typical Seats	Arrivals																	Departures																	
			7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total	
Departures and Arrivals																																					
Air Carrier Passenger Service																																					
A318	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	127	0	1	2	2	2	1	1	2	2	1	1	1	2	1	1	2	23	5	2	0	3	1	1	2	1	2	2	1	1	1	1	0	0	0	23	
A320	142	0	0	1	1	2	2	1	1	1	1	1	0	1	1	2	15	3	1	0	1	2	2	2	1	0	1	1	0	0	0	0	0	0	15		
A321	187	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
B737-300	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B737-400	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B737-700	137	3	4	4	5	4	4	5	4	3	4	4	4	4	5	4	3	63	5	2	1	5	3	6	2	7	2	4	1	9	6	9	1	0	63		
B737-800	153	0	1	1	2	2	2	2	2	2	2	1	1	1	2	1	3	24	2	2	2	2	2	2	1	2	1	1	1	2	1	1	2	0	24		
B757	183	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6		
CRJ900	80	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
Total Air Carrier		3	6	9	11	10	8	8	9	7	8	8	7	9	11	9	11	135	17	9	4	11	8	12	7	11	6	9	4	12	8	11	4	0	135		
Commuter Passenger Service																																					
CRJ700	66	0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	12	0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12			
Total Commuter		0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	12	0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12			
Air Cargo Service																																					
A300	N/A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2			
A310	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
B757	N/A	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2			
Total Air Cargo		0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4			
Total Departures and Arrivals			3	6	11	12	11	9	8	11	8	11	12	8	9	11	9	11	151	18	9	4	12	10	13	8	11	8	9	5	14	13	12	4	0	151	
Average Aircraft Size																																					
Air Carrier	140																																				
Commuter	66																																				
Load Factors by Hour																																					
Air Carrier		86%	88%	89%	89%	89%	89%	88%	90%	89%	89%	88%	89%	89%	89%	88%	91%		90%	91%	92%	89%	89%	88%	90%	88%	91%	89%	92%	87%	88%	87%	90%	94%			
Commuter		N/A	98%	94%	95%	85%	95%	95%	95%	98%	95%	96%	98%	100%	95%	95%	95%		95%	95%	100%	100%	82%	90%	95%	95%	95%	95%	93%	100%	100%	93%	95%	N/A			
Passengers by Hour (000)																																					
Air Carrier		0.4	0.8	1.1	1.4	1.3	1.1	1.0	1.1	0.9	1.0	1.0	0.8	1.1	1.3	1.2	1.4	16.4	2.2	1.2	0.5	1.3	1.0	1.5	0.9	1.3	0.8	1.1	0.5	1.5	1.0	1.3	0.5	0.0	16.4		
Commuter		0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.8			
Total		0.4	0.8	1.2	1.5	1.3	1.1	1.0	1.2	1.0	1.0	1.1	0.9	1.1	1.3	1.2	1.4	17.1	2.2	1.2	0.5	1.4	1.1	1.5	1.0	1.3	0.9	1.1	0.6	1.6	1.1	1.4	0.5	0.0	17.1		

Note: Totals may not match due to rounding.

Table 5-5 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE A – PHASE 2 (JANUARY 1, 2021; 11.4 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	5	3	3	4	3	2	3	3	4	3	2	2	3	2	1	2	46
A320	4	2	1	2	4	3	2	2	1	2	1	1	1	1	2	2	30
A321	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
B737-300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-700	8	6	5	10	7	10	6	10	5	8	5	13	10	14	6	3	126
B737-800	2	4	3	3	3	4	3	4	3	3	2	3	3	3	3	3	48
B757	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	12
CRJ900	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	6
Total Air Carrier	20	15	13	21	18	20	15	19	13	17	12	19	17	22	13	11	270
Commuter Passenger Service																	
CRJ700	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Total Commuter	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	20	16	15	25	21	22	16	22	16	20	17	21	22	22	13	11	302
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	2.6	1.9	1.6	2.7	2.3	2.5	1.9	2.4	1.7	2.1	1.5	2.3	2.1	2.7	1.6	1.4	32.8
Commuter	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.5
Total	2.6	2.0	1.7	2.9	2.5	2.6	2.0	2.6	1.8	2.2	1.7	2.4	2.2	2.7	1.6	1.4	34.3

Note: Totals may not match due to rounding.

Table 5-6
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE A – PHASE 3 (JANUARY 1, 2026; 12.8 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type		Typical Seats	Arrivals																	Departures																	
			7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total	
Departures and Arrivals																																					
Air Carrier Passenger Service																																					
A318	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	127	0	1	2	2	2	1	1	2	2	1	2	1	3	1	1	3	25	5	3	1	3	1	2	2	1	2	2	1	1	1	1	1	0	0	0	25
A320	142	0	0	1	2	2	2	1	1	1	1	0	1	1	2	2	17	4	2	0	1	2	2	2	1	0	1	0	0	0	0	0	0	0	0	17	
A321	187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
B737-300	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B737-400	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B737-700	137	3	4	4	5	4	4	5	4	4	4	5	4	5	6	5	3	71	6	3	1	6	4	7	2	8	2	5	1	10	6	10	2	0	71		
B737-800	153	0	1	1	2	2	2	2	2	2	2	1	1	1	2	1	3	26	2	2	2	2	2	2	1	2	1	2	1	2	1	1	2	0	26		
B757	183	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	7	1	1	1	0	1	1	1	0	1	0	1	0	0	0	0	0	7		
CRJ900	80	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4		
Total Air Carrier		3	7	10	12	12	9	9	10	8	9	10	8	10	12	11	12	152	20	10	4	12	9	13	8	12	7	10	4	14	9	13	4	0	152		
Commuter Passenger Service																																					
CRJ700	66	0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	0	12	0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12		
Total Commuter		0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	0	12	0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12		
Air Cargo Service																																					
A300	N/A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2		
A310	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
B757	N/A	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2		
Total Air Cargo		0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4		
Total Departures and Arrivals		3	7	12	14	12	10	9	11	9	12	13	9	10	12	11	12	168	21	10	4	14	11	14	9	12	8	10	5	15	14	13	4	0	168		
Average Aircraft Size																																					
Air Carrier	140																																				
Commuter	66																																				
Load Factors by Hour																																					
Air Carrier	86%	88%	89%	89%	89%	89%	88%	90%	89%	89%	88%	88%	89%	89%	88%	91%		90%	91%	92%	89%	89%	88%	90%	88%	91%	89%	92%	87%	88%	87%	90%	94%				
Commuter	N/A	98%	94%	95%	85%	95%	95%	95%	98%	95%	96%	98%	100%	95%	95%	95%		95%	95%	100%	100%	82%	90%	95%	95%	95%	95%	93%	100%	100%	93%	95%	N/A				
Passengers by Hour (000)																																					
Air Carrier	0.4	0.9	1.2	1.5	1.5	1.2	1.1	1.2	1.0	1.1	1.2	0.9	1.2	1.5	1.4	1.5	18.5	2.5	1.3	0.6	1.4	1.1	1.7	1.1	1.5	0.9	1.2	0.6	1.6	1.1	1.5	0.5	0.0	18.5			
Commuter	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.8			
Total	0.4	0.9	1.3	1.6	1.5	1.2	1.1	1.3	1.1	1.2	1.3	1.0	1.3	1.5	1.4	1.5	19.2	2.5	1.3	0.6	1.6	1.2	1.7	1.1	1.5	1.0	1.3	0.6	1.7	1.2	1.5	0.5	0.0	19.2			

Note: Totals may not match due to rounding.

Table 5-6 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE A – PHASE 3 (JANUARY 1, 2026; 12.8 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	6	3	3	4	3	2	3	3	4	3	2	2	4	2	1	3	50
A320	4	2	1	2	4	4	3	2	1	2	1	1	1	2	2	2	34
A321	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	4
B737-300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-700	9	7	6	11	8	11	7	12	6	9	6	14	11	16	6	3	142
B737-800	2	4	3	4	4	4	3	4	3	3	3	3	3	3	3	3	52
B757	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	14
CRJ900	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	8
Total Air Carrier	23	17	14	24	20	23	17	22	15	19	14	21	19	24	15	12	304
Commuter Passenger Service																	
CRJ700	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Total Commuter	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	23	17	17	27	23	25	18	24	17	22	19	23	24	25	15	12	336
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	2.9	2.2	1.8	3.0	2.6	2.8	2.1	2.7	1.9	2.3	1.7	2.6	2.4	3.0	1.9	1.5	37.0
Commuter	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.5
Total	2.9	2.2	1.9	3.2	2.8	3.0	2.2	2.8	2.0	2.4	1.9	2.7	2.4	3.0	1.9	1.5	38.5

Note: Totals may not match due to rounding.

Aircraft Category and Type		Typical Seats	Arrivals																	Departures																		
			7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total		7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total	
Departures and Arrivals																																						
Air Carrier Passenger Service																																						
A318	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
A319	127	0	1	2	1	2	1	1	2	1	1	1	1	2	1	1	2	18		4	2	0	2	1	1	1	1	2	1	1	1	1	1	0	0	0	18	
A320	142	0	0	1	1	2	1	1	1	1	0	1	0	1	1	1	1	12		3	1	0	0	1	1	1	1	0	1	0	0	0	0	0	0	12		
A321	187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
B737-300	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B737-400	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B737-700	137	3	4	4	5	4	4	5	4	4	4	5	4	5	6	5	3	69		6	3	1	6	4	7	2	7	2	5	1	10	6	9	2	0	69		
B737-800	153	0	1	1	1	1	2	1	2	1	1	1	1	1	2	1	2	20		2	2	1	1	1	1	1	2	1	1	1	1	1	1	1	0	20		
B757	183	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	5		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5		
CRJ900	80	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	5		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5		
Total Air Carrier		3	6	9	11	9	8	8	8	8	7	8	8	7	9	10	9	130		15	8	3	10	7	11	6	10	5	9	3	12	8	12	3	0	130		
Commuter Passenger Service																																						
CRJ700	66	0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	0	12		0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12		
Total Commuter		0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	0	12		0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12		
Air Cargo Service																																						
A300	N/A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2		
A310	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B757	N/A	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2		0	0	0	0	0</														

Section 5

Forecasts of Hourly Passengers and Operations

Table 5-7 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE B – PHASE 1 (JANUARY 1, 2016; 10.8 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	4	2	2	3	2	2	2	2	3	2	2	2	3	2	1	2	36
A320	3	1	1	2	3	3	2	1	1	1	1	1	1	1	1	1	24
A321	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
B737-300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-700	8	7	5	11	8	11	7	11	6	9	6	14	11	15	6	3	138
B737-800	2	3	2	3	3	3	2	3	2	3	2	2	2	3	2	2	40
B757	1	1	1	1	1	1	1	0	0	0	1	1	0	1	1	1	10
CRJ900	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	10
Total Air Carrier	19	14	12	21	17	19	14	19	12	17	12	19	17	22	12	10	260
Commuter Passenger Service																	
CRJ700	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Total Commuter	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	19	15	15	24	19	21	15	21	15	19	17	21	22	22	12	10	292
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	2.3	1.8	1.5	2.5	2.1	2.4	1.8	2.3	1.5	2.0	1.4	2.3	2.0	2.6	1.5	1.2	31.0
Commuter	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.5
Total	2.3	1.8	1.6	2.7	2.3	2.5	1.8	2.4	1.7	2.1	1.6	2.4	2.1	2.7	1.5	1.2	32.5

Note: Totals may not match due to rounding.

Table 5-8
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE B – PHASE 2 (JANUARY 1, 2021; 13.0 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type		Typical Seats	Arrivals																	Departures																	
			7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total	
Departures and Arrivals																																					
Air Carrier Passenger Service																																					
A318	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	127	0	1	2	1	2	1	1	2	1	1	1	1	2	1	1	2	20	4	2	0	2	1	1	2	1	2	2	1	1	1	1	1	0	0	0	20
A320	142	0	0	1	1	2	1	1	1	1	1	1	0	1	1	1	2	14	3	1	0	1	2	2	2	1	0	1	1	0	0	0	0	0	0	14	
A321	187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
B737-300	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B737-400	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B737-700	137	4	5	6	7	5	5	7	5	5	6	6	5	6	7	6	4	90	7	3	1	8	5	9	3	10	3	6	1	13	8	12	2	0	90		
B737-800	153	0	1	1	2	1	2	1	2	1	1	1	1	1	2	1	3	21	2	2	1	1	1	1	1	2	1	1	1	1	1	1	2	0	21		
B757	183	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6		
CRJ900	80	0	0	2	1	0	0	0	0	0	1	1	0	0	1	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7		
Total Air Carrier		4	8	11	13	11	10	10	10	9	10	11	8	10	13	11	11	159	18	9	4	12	9	14	8	13	6	10	4	16	10	15	4	0	159		
Commuter Passenger Service																																					
CRJ700	66	0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	0	12	0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12		
Total Commuter		0	0	2	2	1	1	0	2	1	1	1	1	0	0	0	0	12	0	0	0	2	2	1	1	1	2	0	1	1	1	0	0	0	12		
Air Cargo Service																																					
A300	N/A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2		
A310	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
B757	N/A	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2			
Total Air Cargo		0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4			
Total Departures and Arrivals		4	8	13	15	12	11	10	12	9	13	14	9	11	13	11	11	175	19	10	4	14	11	15	8	14	8	11	5	17	15	15	4	0	175		
Average Aircraft Size																																					
Air Carrier	138																																				
Commuter	66																																				
Load Factors by Hour																																					
Air Carrier	84%	86%	87%	87%	88%	87%	86%	88%	87%	87%	87%	86%	87%	87%	87%	89%		88%	89%	90%	87%	87%	86%	89%	86%	89%	87%	90%	85%	85%	84%	88%	94%				
Commuter	N/A	98%	94%	95%	85%	95%	95%	95%	95%	98%	95%	96%	98%	100%	95%	95%		95%	95%	100%	100%	82%	90%	95%	95%	95%	95%	93%	100%	100%	93%	95%	N/A				
Passengers by Hour (000)																																					
Air Carrier	0.5	0.9	1.3	1.6	1.4	1.2	1.1	1.2	1.0	1.2	1.2	1.0	1.2	1.5	1.3	1.4	18.8	2.3	1.2	0.5	1.5	1.1	1.7	1.0	1.6	0.8	1.3	0.5	1.8	1.2	1.7	0.5	0.0	18.8			
Commuter	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.8				
Total	0.5	0.9	1.4	1.7	1.4	1.2	1.2	1.3	1.1	1.2	1.3	1.0	1.3	1.5	1.3	1.4	19.5	2.3	1.2	0.5	1.6	1.2	1.7	1.0	1.6	0.9	1.3	0.6	1.9	1.3	1.7	0.5	0.0	19.5			

Note: Totals may not match due to rounding.

Table 5-8 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE B – PHASE 2 (JANUARY 1, 2021; 13.0 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	4	3	2	4	3	2	2	2	3	3	2	2	3	2	1	2	40
A320	3	2	1	2	3	3	2	1	1	2	1	1	1	1	2	2	28
A321	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
B737-300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-700	11	9	7	14	10	14	9	15	7	12	7	18	14	20	8	4	180
B737-800	2	3	3	3	3	3	3	3	3	3	2	2	2	3	2	3	42
B757	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	12
CRJ900	0	0	2	1	0	0	0	0	0	1	1	0	0	1	0	0	14
Total Air Carrier	22	17	15	25	20	24	17	23	15	20	14	24	21	27	15	11	318
Commuter Passenger Service																	
CRJ700	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Total Commuter	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	22	17	17	29	23	25	18	25	17	23	19	26	26	28	15	11	350
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	2.8	2.1	1.8	3.0	2.5	2.9	2.1	2.8	1.8	2.4	1.7	2.8	2.5	3.2	1.8	1.4	37.6
Commuter	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.5
Total	2.8	2.1	1.9	3.2	2.6	3.0	2.2	2.9	2.0	2.5	1.9	2.9	2.5	3.3	1.8	1.4	39.1

Note: Totals may not match due to rounding.

[illegible]

Section 5

Forecasts of Hourly Passengers and Operations

Table 5-9 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE B – PHASE 3 (JANUARY 1, 2026; 15.0 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	5	3	2	4	3	2	2	3	3	3	2	2	3	2	1	2	44
A320	4	2	1	2	4	3	2	2	1	2	1	1	1	1	2	2	30
A321	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
B737-300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-700	14	11	9	18	12	17	11	18	9	15	9	22	18	24	10	5	222
B737-800	2	3	3	3	3	3	3	4	3	3	2	2	2	3	2	3	44
B757	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	12
CRJ900	0	0	2	2	0	0	0	0	0	2	1	0	0	1	0	0	20
Total Air Carrier	26	19	18	30	23	27	20	27	17	24	17	28	25	32	17	13	374
Commuter Passenger Service																	
CRJ700	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Total Commuter	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	26	20	20	33	26	29	21	29	19	27	22	31	30	33	17	13	406
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	3.1	2.4	2.1	3.5	2.8	3.3	2.4	3.2	2.1	2.8	2.0	3.3	2.9	3.8	2.1	1.6	43.6
Commuter	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.5
Total	3.1	2.4	2.2	3.7	3.0	3.4	2.5	3.4	2.2	2.9	2.1	3.5	3.0	3.8	2.1	1.6	45.1

Note: Totals may not match due to rounding.

Table 5-10 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE C – PHASE 1 (JANUARY 1, 2016; 16.9 MAP)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	10	6	5	8	6	4	5	5	7	6	4	4	6	4	2	5	86
A320	7	4	2	4	7	6	5	3	2	3	3	2	2	3	3	3	60
A321	2	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	6
B737-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-7	11	9	7	15	10	15	10	16	8	12	8	19	15	21	8	4	188
B737-8	4	6	5	6	6	6	5	7	5	6	4	5	5	6	5	5	88
B757	2	2	1	3	2	2	2	1	1	1	2	1	1	2	2	1	26
CRJ9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Air Carrier	36	27	21	36	32	35	26	33	23	28	21	31	29	36	23	19	458
Commuter Passenger Service																	
CRJ7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Commuter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	36	27	21	36	32	35	26	33	23	30	23	31	33	36	23	19	466
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	4.1	3.0	2.4	4.0	3.6	3.9	3.0	3.6	2.6	3.1	2.4	3.4	3.1	3.9	2.6	2.2	50.8
Commuter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	4.1	3.0	2.4	4.0	3.6	3.9	3.0	3.6	2.6	3.1	2.4	3.4	3.1	3.9	2.6	2.2	50.8

Note: Totals may not match due to rounding.

Table 5-11
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS ALTERNATIVE C – PHASE 2 (JANUARY 1, 2021; 16.9 MAP; NO CURFEW)
JOHN WAYNE AIRPORT

Aircraft Category and Type		Typical Seats	Arrivals																		Departures																			
			6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Departures and Arrivals																																								
Air Carrier Passenger Service																																								
A318	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
A319	127	0	0	1	4	3	4	2	1	4	3	2	3	3	3	2	2	2	2	2	43	2	7	4	1	5	2	3	4	1	4	3	2	2	1	2	1	0	0	43
A320	142	0	0	1	1	3	4	3	1	1	1	1	1	1	1	2	3	2	2	30	2	5	3	1	1	3	3	3	2	1	2	1	1	1	1	0	0	0	30	
A321	187	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	3	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	
B737-3	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B737-4	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B737-7	137	0	4	6	6	7	6	5	7	6	5	6	7	7	6	4	3	6	5	94	2	7	3	1	8	5	9	3	10	3	7	7	7	7	5	6	2	2	94	
B737-8	153	0	0	2	2	3	3	3	3	4	3	3	2	3	2	2	2	3	3	44	2	6	4	3	3	3	3	2	3	2	3	2	3	1	1	2	3	0	44	
B757	183	0	0	0	1	2	1	1	1	0	0	0	1	1	1	2	2	1	1	13	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	13	
CRJ9	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total Air Carrier		0	5	10	15	18	18	14	13	15	13	13	14	15	13	13	13	13	12	229	10	27	16	7	18	14	20	13	17	11	15	13	13	10	9	9	5	2	229	
Commuter Passenger Service																																								
CRJ7	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Commuter		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Air Cargo Service																																								
A300	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	
A310	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B757	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total Air Cargo		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
Total Departures and Arrivals			0	5	10	15	18	18	14	13	15	13	14	14	15	13	13	13	17	12	233	11	28	16	7	18	14	20	13	17	11	15	13	13	10	9	9	5	6	233
Average Aircraft Size																																								
Air Carrier	142																																							
Commuter	N/A																																							
Load Factors by Hour																																								
Air Carrier		N/A	76%	79%	79%	79%	79%	79%	78%	79%	79%	79%	78%	79%	79%	79%	79%	79%	79%		79%	80%	80%	81%	79%	79%	78%	80%	78%	80%	79%	78%	79%	77%	78%	78%	80%	75%		
Commuter		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Passengers by Hour (000)																																								
Air Carrier		0.0	0.5	1.1	1.6	2.1	2.1	1.6	1.4	1.7	1.4	1.4	1.5	1.6	1.5	1.4	1.6	1.5	1.4	25.4	1.1	3.1	1.9	0.8	2.0	1.6	2.2	1.5	1.9	1.2	1.7	1.4	1.5	1.1	1.0	1.0	0.6	0.2	25.4	
Commuter		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total		0.0	0.5	1.1	1.6	2.1	2.1	1.6	1.4	1.7	1.4	1.4	1.5	1.6	1.5	1.4	1.6	1.5	1.4	25.4	1.1	3.1	1.9	0.8	2.0	1.6	2.2	1.5	1.9	1.2	1.7	1.4	1.5	1.1	1.0	1.0	0.6	0.2	25.4	

Note: Totals may not match due to rounding.

Table 5-11 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE C – PHASE 2 (JANUARY 1, 2021; 16.9 MAP; NO CURFEW)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																		
	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Departures and Arrivals																			
Air Carrier Passenger Service																			
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	2	7	6	5	8	6	4	5	5	7	6	4	5	4	4	3	2	2	86
A320	2	5	4	2	4	7	6	5	3	2	3	3	2	2	3	3	2	2	60
A321	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	6
B737-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-7	2	11	9	7	15	10	15	10	16	8	12	14	14	13	9	9	8	7	188
B737-8	2	6	6	5	6	6	6	5	7	5	6	4	6	3	3	4	6	3	88
B757	1	1	2	1	3	2	2	2	1	1	1	2	1	1	2	2	1	1	26
CRJ9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Air Carrier	10	32	27	21	36	32	35	26	33	23	28	27	28	23	21	23	18	14	458
Commuter Passenger Service																			
CRJ7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Commuter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Cargo Service																			
A300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	8
Total Departures and Arrivals	10	32	27	21	36	32	35	26	33	23	29	27	28	23	22	23	22	18	466
Average Aircraft Size																			
Air Carrier																			
Commuter																			
Load Factors by Hour																			
Air Carrier																			
Commuter																			
Passengers by Hour (000)																			
Air Carrier	1.1	3.6	3.0	2.4	4.0	3.6	3.9	3.0	3.6	2.6	3.1	3.0	3.1	2.5	2.4	2.6	2.1	1.6	50.8
Commuter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.1	3.6	3.0	2.4	4.0	3.6	3.9	3.0	3.6	2.6	3.1	3.0	3.1	2.5	2.4	2.6	2.1	1.6	50.8

Note: Totals may not match due to rounding.

Table 5-12
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE C – PHASE 3 (JANUARY 1, 2026; 16.9 MAP; NO CURFEW)
JOHN WAYNE AIRPORT

Aircraft Category and Type		Typical Seats	Arrivals																		Departures																			
			6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Departures and Arrivals																																								
Air Carrier Passenger Service																																								
A318	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	127	0	0	1	4	3	4	2	1	4	3	2	3	3	3	2	2	2	2	2	43	2	7	4	1	5	2	3	4	1	4	3	2	2	1	2	1	0	0	43
A320	142	0	0	1	1	3	4	3	1	1	1	1	1	1	1	2	3	2	2	30	2	5	3	1	1	3	3	3	2	1	2	1	1	1	1	0	0	30		
A321	187	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	3	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3		
B737-3	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B737-4	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B737-7	137	0	4	6	6	7	6	5	7	6	5	6	7	7	6	4	3	6	5	94	2	7	3	1	8	5	9	3	10	3	7	7	7	7	5	6	2	2	94	
B737-8	153	0	0	2	2	3	3	3	3	4	3	3	2	3	2	2	2	3	3	44	2	6	4	3	3	3	3	2	3	2	3	2	3	1	1	2	3	0	44	
B757	183	0	0	0	1	2	1	1	1	0	0	0	1	1	1	2	2	1	1	13	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	13		
CRJ9	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Total Air Carrier		0	5	10	15	18	18	14	13	15	13	13	14	15	13	13	13	13	12	229	10	27	16	7	18	14	20	13	17	11	15	13	13	10	9	9	5	2	229	
Commuter Passenger Service																																								
CRJ7	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Commuter		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Air Cargo Service																																								
A300	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	
A310	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
B757	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	
Total Air Cargo		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	
Total Departures and Arrivals			0	5	10	15	18	18	14	13	15	13	14	14	15	13	13	13	17	12	233	11	28	16	7	18	14	20	13	17	11	15	13	13	10	9	9	5	6	233
Average Aircraft Size																																								
Air Carrier	142																																							
Commuter	N/A																																							
Load Factors by Hour																																								
Air Carrier		N/A	76%	79%	79%	79%	79%	79%	78%	79%	79%	79%	78%	79%	79%	79%	79%	79%	79%		79%	80%	80%	81%	79%	79%	78%	80%	78%	80%	79%	78%	79%	77%	78%	78%	80%	75%		
Commuter		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Passengers by Hour (000)																																								
Air Carrier		0.0	0.5	1.1	1.6	2.1	2.1	1.6	1.4	1.7	1.4	1.4	1.5	1.6	1.5	1.4	1.6	1.5	1.4	25.4	1.1	3.1	1.9	0.8	2.0	1.6	2.2	1.5	1.9	1.2	1.7	1.4	1.5	1.1	1.0	1.0	0.6	0.2	25.4	
Commuter		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total		0.0	0.5	1.1	1.6	2.1	2.1	1.6	1.4	1.7	1.4	1.4	1.5	1.6	1.5	1.4	1.6	1.5	1.4	25.4	1.1	3.1	1.9	0.8	2.0	1.6	2.2	1.5	1.9	1.2	1.7	1.4	1.5	1.1	1.0	1.0	0.6	0.2	25.4	
Note: Totals may not match due to rounding.																																								

Table 5-12 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, ALTERNATIVE C – PHASE 3 (JANUARY 1, 2026; 16.9 MAP; NO CURFEW)
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																		
	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Departures and Arrivals																			
Air Carrier Passenger Service																			
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	2	7	6	5	8	6	4	5	5	7	6	4	5	4	4	3	2	2	86
A320	2	5	4	2	4	7	6	5	3	2	3	3	2	2	3	3	2	2	60
A321	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	6
B737-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-7	2	11	9	7	15	10	15	10	16	8	12	14	14	13	9	9	8	7	188
B737-8	2	6	6	5	6	6	6	5	7	5	6	4	6	3	3	4	6	3	88
B757	1	1	2	1	3	2	2	2	1	1	1	2	1	1	2	2	1	1	26
CRJ9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Air Carrier	10	32	27	21	36	32	35	26	33	23	28	27	28	23	21	23	18	14	458
Commuter Passenger Service																			
CRJ7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Commuter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Cargo Service																			
A300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	8
Total Departures and Arrivals	10	32	27	21	36	32	35	26	33	23	29	27	28	23	22	23	22	18	466
Average Aircraft Size																			
Air Carrier																			
Commuter																			
Load Factors by Hour																			
Air Carrier																			
Commuter																			
Passengers by Hour (000)																			
Air Carrier	1.1	3.6	3.0	2.4	4.0	3.6	3.9	3.0	3.6	2.6	3.1	3.0	3.1	2.5	2.4	2.6	2.1	1.6	50.8
Commuter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.1	3.6	3.0	2.4	4.0	3.6	3.9	3.0	3.6	2.6	3.1	3.0	3.1	2.5	2.4	2.6	2.1	1.6	50.8

Note: Totals may not match due to rounding.

[illegible]

Section 5

Forecasts of Hourly Passengers and Operations

Table 5-13 (Cont'd)
AVERAGE HOURLY COMMERCIAL PASSENGER AND CARGO ACTIVITY
AVERAGE DAY PEAK MONTH PASSENGERS, NO PROJECT ALTERNATIVE
JOHN WAYNE AIRPORT

Aircraft Category and Type	Total Arrivals and Departures																
	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Departures and Arrivals																	
Air Carrier Passenger Service																	
A318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A319	3	2	2	3	2	1	2	2	2	2	1	1	2	1	1	2	30
A320	3	1	1	2	3	2	2	1	1	1	1	1	1	1	1	1	22
A321	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
B737-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B737-7	10	7	6	12	9	12	8	13	6	10	6	16	12	17	7	4	156
B737-8	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	34
B757	1	1	1	1	1	1	1	0	0	0	1	1	0	1	1	1	10
CRJ9	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	12
Total Air Carrier	19	14	13	21	17	20	14	19	12	17	12	20	17	23	12	9	266
Commuter Passenger Service																	
CRJ7	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Total Commuter	0	0	2	3	3	2	1	2	2	1	2	2	1	1	0	0	24
Air Cargo Service																	
A300	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
A310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B757	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Total Air Cargo	0	0	0	0	0	0	0	0	0	1	2	0	4	0	0	0	8
Total Departures and Arrivals	19	14	15	25	19	22	15	22	14	20	17	22	22	24	13	9	298
Average Aircraft Size																	
Air Carrier																	
Commuter																	
Load Factors by Hour																	
Air Carrier																	
Commuter																	
Passengers by Hour (000)																	
Air Carrier	2.3	1.7	1.5	2.5	2.0	2.4	1.7	2.3	1.5	2.0	1.4	2.4	2.1	2.7	1.5	1.2	31.0
Commuter	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.5
Total	2.3	1.8	1.6	2.7	2.2	2.5	1.8	2.5	1.6	2.1	1.6	2.5	2.1	2.8	1.5	1.2	32.5

Note: Totals may not match due to rounding.

SECTION 6

GENERAL AVIATION FORECAST

INTRODUCTION

General aviation is all flying that is not for commercial service or the military. Overall general aviation activity at John Wayne Airport has declined during the past 10 years due in part to economic changes within the general aviation industry and the decline of active pilots in the area⁴. Although activity by small general aviation aircraft at the Airport has decreased, growth in business aircraft activity remains strong.

Since general aviation demand is not a function of MAP levels or Class A ADDs, but is a separate segment of aviation demand, one general aviation forecast was developed that is applicable to the Proposed Project, three Alternatives, and No Project Alternative. Additionally, no changes to the General Aviation Noise Ordinance ("GANO", as provided in Orange County Codified Ordinance Section 2-1-30.1 et. seq.) are proposed at this time.

HISTORICAL TRENDS IN BASED AIRCRAFT

Total general aviation based aircraft at John Wayne Airport have declined from 573 in 2003 to 419 in 2013 (see Table 6-1). Total general aviation based aircraft were relatively constant from 2003 through 2007, where a sharp decline occurred in 2008, followed immediately by the peak number of based general aviation aircraft experienced over the last 10 years: 604. From 2009 through 2013, total based general aviation aircraft declined rapidly.

Table 6-1
GENERAL AVIATION BASED AIRCRAFT, 2003 TO 2013
JOHN WAYNE AIRPORT [a]

Year	Single Engine	Multi- Engine	Turbine	Heli- copter	Total Based Aircraft	General Aviation Operations [b]	Operations per Based Aircraft
2003	446	77	42	8	573	249,551	436
2004	454	73	42	8	577	256,931	445
2005	451	78	48	8	585	252,813	432
2006	437	84	60	8	589	246,783	419
2007	441	65	68	11	585	224,159	383
2008	410	75	59	17	561	205,282	366
2009	445	73	68	18	604	191,012	316
2010	396	70	53	10	529	178,045	337
2011	369	56	46	10	481	169,870	353
2012	357	49	39	12	457	171,873	376
2013	340	31	37	11	419	163,000 [c]	389

[a] Source: John Wayne Airport, October 3, 2013.

[b] Source: FAA Air Traffic Activity System, accessed September 30, 2013.

[c] Source: AECOM analysis, 2013.

⁴ Southern California Association of Governments 2012 – 2035 RTP, Draft December 2011, accessed December 2013: http://rtpscs.scag.ca.gov/Documents/2012/draft/SR/2012dRTP_Aviation.pdf.

The mix of aircraft based at the Airport in 2013 was approximately 81.1 percent single engine piston aircraft, 7.4 percent multi-engine piston aircraft, 2.4 percent, turboprop aircraft, 6.4 percent jet aircraft, and 2.6 percent helicopters (see Table 6-2).

Table 6-2
GENERAL AVIATION BASED AIRCRAFT BY TYPE, 2013
JOHN WAYNE AIRPORT

Location	Single-Engine	Multi-Engine	Turbo-prop	Jet	Helicopter	Total
County Tie-downs	253	17	5	0	0	275
Atlantic Aviation	0	0	0	8	2	10
Executive Hangars, LLC	74	11	1	1	2	89
Signature Flight Support (East)	10	3	2	0	0	15
Signature Flight Support (West)	3	0	0	12	7	22
South Coast Associates	0	0	2	6	0	8
Total Airport	340	31	10	27	11	419
Percent	81.1%	7.4%	2.4%	6.4%	2.6%	100.0%

Source: John Wayne Airport, October 3, 2013.

The decline in general aviation based aircraft is largely found in the single- and multi-engine piston aircraft categories. Costs to own, operate, maintain, and insure general aviation aircraft continues to rise. The bright spot in general aviation aircraft over the last decade has been jet aircraft. These trends are expected to continue and are reflected in the forecast.

BASED AIRCRAFT FORECAST

Historical trends at the Airport have shown a consistent decline in piston engine aircraft since 1980 at the Airport. Multi-engine piston aircraft experienced a sharp decline in the early 1990s and have continued to decrease, though at a slower rate. Turbine powered aircraft (turbo prop and jet) experienced variable growth at the Airport. With the exception of helicopters, forecasts used a regression analysis of trends since 1980, adjusted to 2013 actuals. Helicopters are assumed to remain constant at present levels (11). Forecasts are presented in Table 6-3 and Figure 6-1.

Table 6-3
BASED AIRCRAFT FORECASTS
JOHN WAYNE AIRPORT [a]

Year	Single-Engine	Multi-Engine	Turbine	Helicopter	Total
2013 [b]	340	31	37	11	419
Phase 1 (2016)	317	27	38	11	393
Phase 2 (2021)	283	21	40	11	367
Phase 3 (2026)	252	17	42	11	322

[a] Source: AECOM analysis, 2013.

[b] Source: John Wayne Airport.

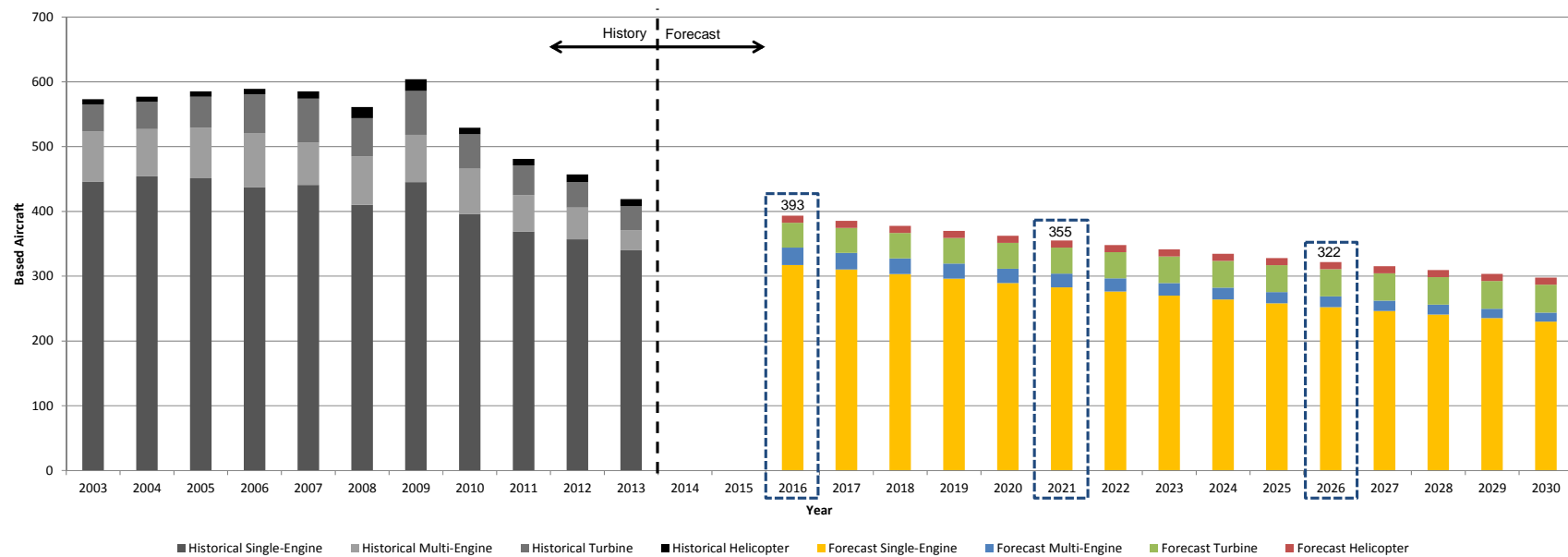


Figure 6-1
Based Aircraft Forecasts

HISTORICAL TRENDS IN GENERAL AVIATION OPERATIONS

In 2013, John Wayne Airport experienced its lowest number of general aviation operations at 163,000. In 2013, there averaged 389 operations (operations by based and visiting aircraft) for every aircraft based at the Airport (Table 6-1). Business jet operations steadily increased from 2003 to 2006, where it tapered to around 25,000 annual operations where it has remained relatively stable (Table 6-4 and Figure 6-2).

Table 6-4
BUSINESS JET OPERATIONS
JOHN WAYNE AIRPORT [a]

Year	Based Turbine	General Aviation Jet Operations	Jet Operations per Based Turbine
2003	42	21,558	513
2004	42	22,608	538
2005	48	31,534	657
2006	60	35,980	600
2007	68	35,759	526
2008	59	30,203	512
2009	68	24,602	362
2010	53	27,279	515
2011	46	26,719	581
2012	39	23,921	613
2013	37	23,585	637

[a] Source: John Wayne Airport.

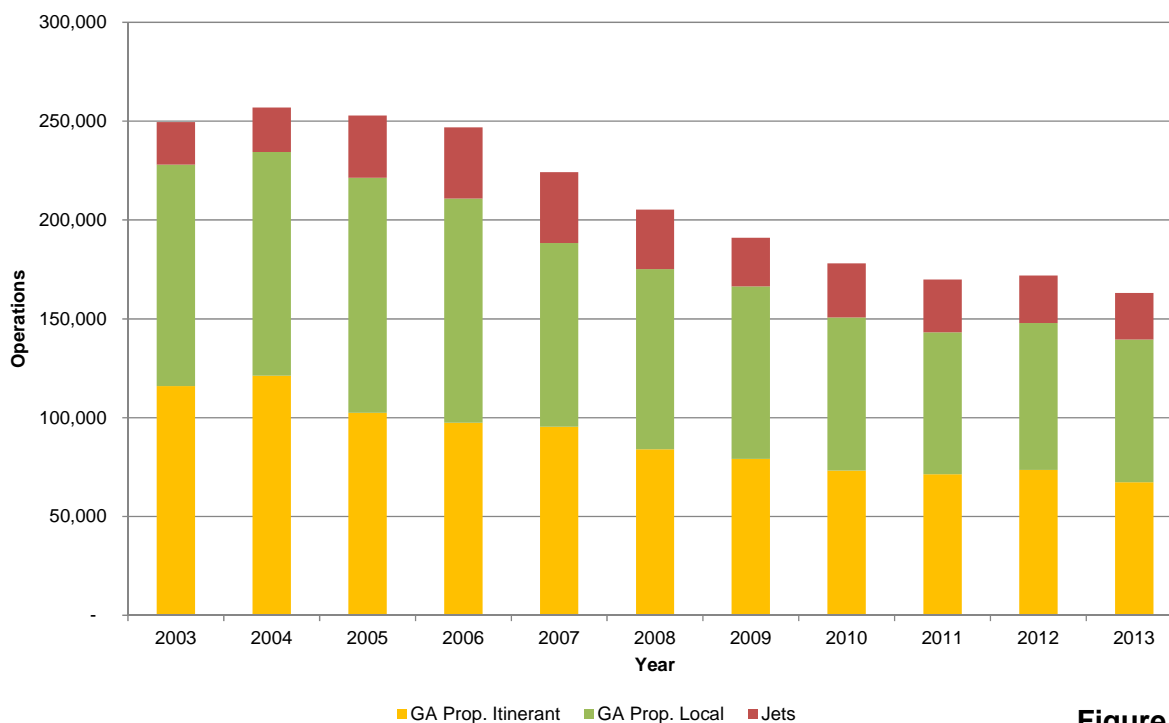


Figure 6-2
General Aviation Operations at John Wayne Airport

However, while the operations as a whole seemed to have leveled off, the number of operations per based jet has increased dramatically from 2003 at about 300 operations per based aircraft to 637 operations per based aircraft in 2013. In contrast, piston engine aircraft operations per based aircraft have generally declined from 2003 (432 operations per based aircraft) to 365 operations per based aircraft in 2013.

FORECAST OF GENERAL AVIATION OPERATIONS

General aviation operations are categorized as either local or itinerant. A local operation, as defined by the FAA, is one that is performed by aircraft that: (1) operate in the local traffic pattern or within sight of the airport (including touch-and-go operations), (2) are known to be departing for or arriving from flights in local practice areas located within a 20-mile radius of the airport, or (3) execute simulated instrument approaches or low passes at the airport. Itinerant operations are all operations other than local and generally include flights to and from other airports. In 2013, JWA had about 97,500 itinerant and 74,300 local operations (Table 6-5). Consistent with existing conditions, it is assumed that all local operations are training flights (touch and go's).

Table 6-5
GENERAL AVIATION OPERATIONS, 2003 TO 2012
JOHN WAYNE AIRPORT [a]

Year	Itinerant Operations	Local Operations	Total Operations	Percent Local Operations
2003	137,538	112,013	249,551	45%
2004	143,913	113,018	256,931	44%
2005	133,999	118,814	252,813	47%
2006	133,431	113,352	246,783	46%
2007	131,257	92,902	224,159	41%
2008	114,223	91,059	205,282	44%
2009	103,778	87,234	191,012	46%
2010	100,537	77,508	178,045	44%
2011	98,197	71,673	169,870	42%
2012	97,542	74,331	171,873	43%
2013 [b]	91,000	72,000	163,000	44%

[a] Source: Air Traffic Systems, accessed September 30, 2013.

[b] Source: AECOM analysis, 2013.

Local (training or touch and go) operations at JWA are forecast to remain at 50 percent of piston engine operations. Table 6-6 shows the history of piston engine operations since 2003, and the local operations consistently average about 50 percent of all piston operations. Ratios of turbine and piston engine aircraft are 550 and 370 operations per based aircraft respectively. Table 6-7 defines the general aviation forecasts.

Table 6-6
PISTON ENGINE LOCAL VS. ITINERANT OPERATIONS
JOHN WAYNE AIRPORT

Year	Piston Engine Itinerant Operations	Piston Engine Local Operations	Total Piston Engine Operations	Percent Local Piston Engine Operations
2003	115,980	112,013	227,993	49%
2004	121,305	113,018	234,323	48%
2005	102,465	118,814	221,279	54%
2006	97,451	113,352	210,803	54%
2007	95,498	92,902	188,400	49%
2008	84,020	91,059	175,079	52%
2009	79,176	87,234	166,410	52%
2010	73,258	77,508	150,766	51%
2011	71,478	71,673	143,151	50%
2012	73,621	74,331	147,952	50%
2013 [b]	67,000	72,000	139,000	52%

[a] Source: Air Traffic Systems, accessed September 30, 2013.

[b] Source: AECOM analysis, 2013.

Table 6-7
FORECAST OF GENERAL AVIATION OPERATIONS
JOHN WAYNE AIRPORT

Operation	Phase 1 (2016)	Phase 2 (2021)	Phase 3 (2026)
Piston Engine			
Itinerant	65,500	58,500	52,000
Local	65,500	58,500	52,000
Total	131,000	117,000	104,000
Turbine			
Itinerant	21,000	22,000	23,000
Local	0	0	0
Total	21,000	22,000	23,000
Subtotals			
Itinerant	86,500	80,500	75,000
Local	65,500	58,500	52,000
Total	152,000	139,000	127,000

Source: AECOM analysis, 2013.

Average Day Peak Month Hourly and Peak Hour Operations

In 2013, peak month general aviation operations were 15,974, about 9.8 percent of the annual total (Table 6-8). Over the last ten years, the peak month has averaged 9.6 percent of the total annual operations, which is used in the future year forecasts. Based on hourly general aviation operations profiles from August 2011 and conversations with Airport Traffic Control Tower personnel, general aviation operations in the peak hour are about 9.9 percent of the total for the average day of the peak month "ADPM". During the peak hour, 69.5 percent of the general aviation operations are local operations. Applying these percentages to the 2013 ADPM indicates there were approximately 51 general aviation operations in the peak hour of the average day peak month.

Table 6-8
GENERAL AVIATION OPERATIONS IN THE PEAK HOUR OF THE
AVERAGE DAY PEAK MONTH
JOHN WAYNE AIRPORT

Item	Existing (2013)	January 1, 2016	January 1, 2021	January 1, 2026
Annual General Aviation Operations	163,000	152,000	139,000	127,000
Peak Month General Aviation Operations	15,974	14,592	13,344	12,192
Percent of Annual Operations in Peak Month	9.8%	9.6%	9.6%	9.6%
Average Day Peak Month "ADPM" Operations	515	471	430	393
Operations in Peak Hour of ADPM				
Local	35	32	30	27
Itinerant	16	14	13	12
Total	51	47	43	39
Percent of ADPM Operations in Peak Hour				
Percent Local	69.5%	69.5%	69.5%	69.5%
Percent Itinerant	30.5%	30.5%	30.5%	30.5%

Source: AECOM analysis, 2013.

Busiest hours for general aviation are generally from 1:00 p.m. to 5:00 p.m. Peak hour operations are projected to decrease commensurate to overall decrease in activity, declining from 51 in 2013 to 39 in 2026⁵.

⁵ AECOM analysis of John Wayne Airport data.

SECTION 7

COMBINED OPERATIONS FORECAST AND FUEL FLOWAGE PROJECTION

INTRODUCTION

This section presents the total operations forecast for John Wayne Airport, which combines the air carrier and commuter projections in Sections 3, 4, and 5, the general aviation forecast in Section 6, and the cargo forecasts in Section 7. Also included is a fuel forecast for commercial aviation operations.

COMBINED ANNUAL OPERATIONS

The combined forecast of annual operations for passenger service, air cargo service and general aviation is shown in Table 7-1. Phase 3 Airport operations are forecast range from a low of 234,720 in the No Project Alternative to a high of 294,920 in Alternative C.

COMMERCIAL FUEL FLOWAGE FORECAST

Jet-A fuel dispensed in commercial operations at John Wayne Airport has decreased from about 82 million gallons in 2003 to about 63 million gallons in 2013 (Table 7-2).

To provide a basis for estimating future fuel usage, ratios were developed of Jet-A fuel per commercial departure and per passenger. In 2003, about 1,515 gallons were dispensed per commercial departure (Table 7-3). Over the last ten years 1,346 gallons were dispensed per commercial departure, on average, and has been generally trending down as airlines have continued to look for ways to reduce operating expenses and aircraft manufacturers increased fuel efficiencies of aircraft fleets. The last four years have been essentially flat and equal to the 10-year average of 1,346 gallons dispensed per departure.

The amount of Jet-A fuel dispensed per passenger has also trended down as load factors, on average, have increased at John Wayne Airport. Other variations could potentially be explained by variations in aircraft types and average trip distances.

Forecasts of Jet-A fuel demand were prepared for the Proposed Project, three Alternatives, and No Project Alternative using ratios of fuel dispensed per departure and passenger (Table 7-4 through Table 7-6). The projection based on fuel dispensed per passenger is considered more appropriate for planning purposes since this approach results in a more conservative estimate (higher forecast) and could be less affected by the relative amount of commuter operations. The fuel per passenger ratio represents a 5-year average of 7.4 gallons per passenger. Using this approach, Jet-A fuel dispensed varies from about 80 million to 125 million gallons in the first phase; 87 million to 125 million gallons in the second phase; and 93 million to 125 million gallons in the third phase of the project. Average daily gallons will increase from about 173,000 up to a maximum amount of 343,000 in the third phase of Alternative C.

Table 7-1
SUMMARY OF TOTAL ANNUAL OPERATIONS FORECAST
JOHN WAYNE AIRPORT [a]

Type of Operation	Existing (2013)	Proposed Project	Alternative A	Alternative B	Alternative C	No Project
Phase 1						
Passenger Service						
Air Carrier	86,000	95,000	92,000	93,000	164,000	95,000
Commuter	10,000	8,800	8,800	8,800	0	8,800
Subtotal	96,000	103,800	100,800	142,800	164,000	103,800
Air Cargo Service	1,460	2,920	2,920	2,920	2,920	2,920
General Aviation [b]						
Local	72,000	65,500	65,500	65,500	65,500	65,500
Itinerant	91,700	87,500	87,500	87,500	87,500	87,500
Subtotal	163,700	153,000	153,000	153,000	153,000	153,000
Total Operations	261,160	259,720	256,220	298,720	319,920	259,720
Phase 2						
Passenger Service						
Air Carrier	86,000	104,000	96,000	114,000	164,000	95,000
Commuter	10,000	8,800	8,800	8,800	0	8,800
Subtotal	96,000	112,800	104,800	122,800	164,000	103,800
Air Cargo Service	1,460	2,920	2,920	2,920	2,920	2,920
General Aviation [b]						
Local	72,000	58,500	58,500	58,500	58,500	58,500
Itinerant	91,700	81,500	81,500	81,500	81,500	81,500
Subtotal	163,700	140,000	140,000	140,000	140,000	140,000
Total Operations	261,160	255,720	247,720	265,720	306,920	246,720
Phase 3						
Passenger Service						
Air Carrier	86,000	111,000	109,000	134,000	164,000	95,000
Commuter	10,000	8,800	8,800	8,800	0	8,800
Subtotal	96,000	119,800	117,800	142,800	164,000	103,800
Air Cargo Service	1,460	2,920	2,920	2,920	2,920	2,920
General Aviation [b]						
Local	72,000	52,000	52,000	52,000	52,000	52,000
Itinerant	91,700	76,000	76,000	76,000	76,000	76,000
Subtotal	163,700	128,000	128,000	128,000	128,000	128,000
Total Operations	261,160	250,720	248,720	273,720	294,920	234,720

[a] Source: AECOM analysis, 2013.

[b] Includes a small number of military operations.

Table 7-2
JET-A FUEL DISPENSED IN COMMERCIAL
OPERATIONS, 2003 TO 2012
JOHN WAYNE AIRPORT [a]

Year	Gallons of Jet-A Fuel	
	Annual	Average Daily
2003	81,701,803	223,841
2004	82,768,115	226,142
2005	76,873,184	210,611
2006	72,581,668	198,854
2007	79,065,310	216,617
2008	71,968,555	196,635
2009	65,516,086	179,496
2010	64,365,508	176,344
2011	62,389,571	170,930
2012	62,290,447	170,192
2013 [b]	63,300,000	173,425

[a] Source: John Wayne Airport.

[b] Source: AECOM analysis, December 2013.

Table 7-3
RATIOS OF JET-A FUEL DISPENSED
PER COMMERCIAL DEPARTURE AND PASSENGER
JOHN WAYNE AIRPORT

Year	Jet-A Fuel Dispensed per Commercial Departure (Gallons)	Jet-A Fuel Dispensed per Passenger (Gallons)
2003	1,515	10.6
2004	1,429	12.0
2005	1,348	9.5
2006	1,252	8.3
2007	1,343	10.1
2008	1,283	10.7
2009	1,250	7.7
2010	1,364	7.5
2011	1,361	7.3
2012	1,343	7.1
2013	1,319	6.9

Source: AECOM analysis, 2013.

Table 7-4
FORECAST OF JET-A FUEL DISPENSED IN COMMERCIAL OPERATIONS,
JANUARY 1, 2016
JOHN WAYNE AIRPORT

Item	Existing (2013)	Proposed Project	Alternative A	Alternative B	Alternative C	No Project
Alternative Forecast Approaches						
Fuel Dispensed per Commercial Departure (Gallons)	1,319	1,360	1,360	1,360	1,360	1,360
Commercial Departures	48,000	51,830	50,370	50,735	81,760	51,830
Fuel Dispensed (Gallons)	63,300,000	70,488,800	68,503,200	68,999,600	111,193,600	70,488,800
Fuel Dispensed per Passenger (Gallons)	6.9	7.4	7.4	7.4	7.4	7.4
Passengers	9,168,000	10,800,000	10,800,000	10,800,000	16,900,000	10,800,000
Fuel Dispensed (Gallons)	63,300,000	79,920,000	79,920,000	79,920,000	125,060,000	79,920,000
Fuel Forecast						
Annual Gallons	63,300,000	79,920,000	79,920,000	79,920,000	125,060,000	79,920,000
Average Daily Gallons	173,425	218,959	218,959	218,959	342,630	218,959

Source: AECOM analysis, 2013.

Table 7-5
FORECAST OF JET-A FUEL DISPENSED IN COMMERCIAL OPERATIONS,
JANUARY 1, 2021
JOHN WAYNE AIRPORT

Item	Existing (2013)	Proposed Project	Alternative A	Alternative B	Alternative C	No Project
Alternative Forecast Approaches						
Fuel Dispensed per Commercial Departure (Gallons)	1,319	1,360	1,360	1,360	1,360	1,360
Commercial Departures	48,000	56,210	52,560	61,320	81,760	51,830
Fuel Dispensed (Gallons)	63,300,000	76,445,600	71,481,600	83,395,200	111,193,600	70,488,800
Fuel Dispensed per Passenger (Gallons)	6.9	7.4	7.4	7.4	7.4	7.4
Passengers	9,168,000	11,800,000	11,400,000	13,000,000	16,900,000	10,800,000
Fuel Dispensed (Gallons)	63,300,000	87,320,000	84,360,000	96,200,000	125,060,000	79,920,000
Fuel Forecast						
Annual Gallons	63,300,000	87,320,000	84,360,000	96,200,000	125,060,000	79,920,000
Average Daily Gallons	173,425	239,233	231,123	263,562	342,630	218,959

Source: AECOM analysis, 2013.

Table 7-6
FORECAST OF JET-A FUEL DISPENSED IN COMMERCIAL OPERATIONS,
JANUARY 1, 2026
JOHN WAYNE AIRPORT

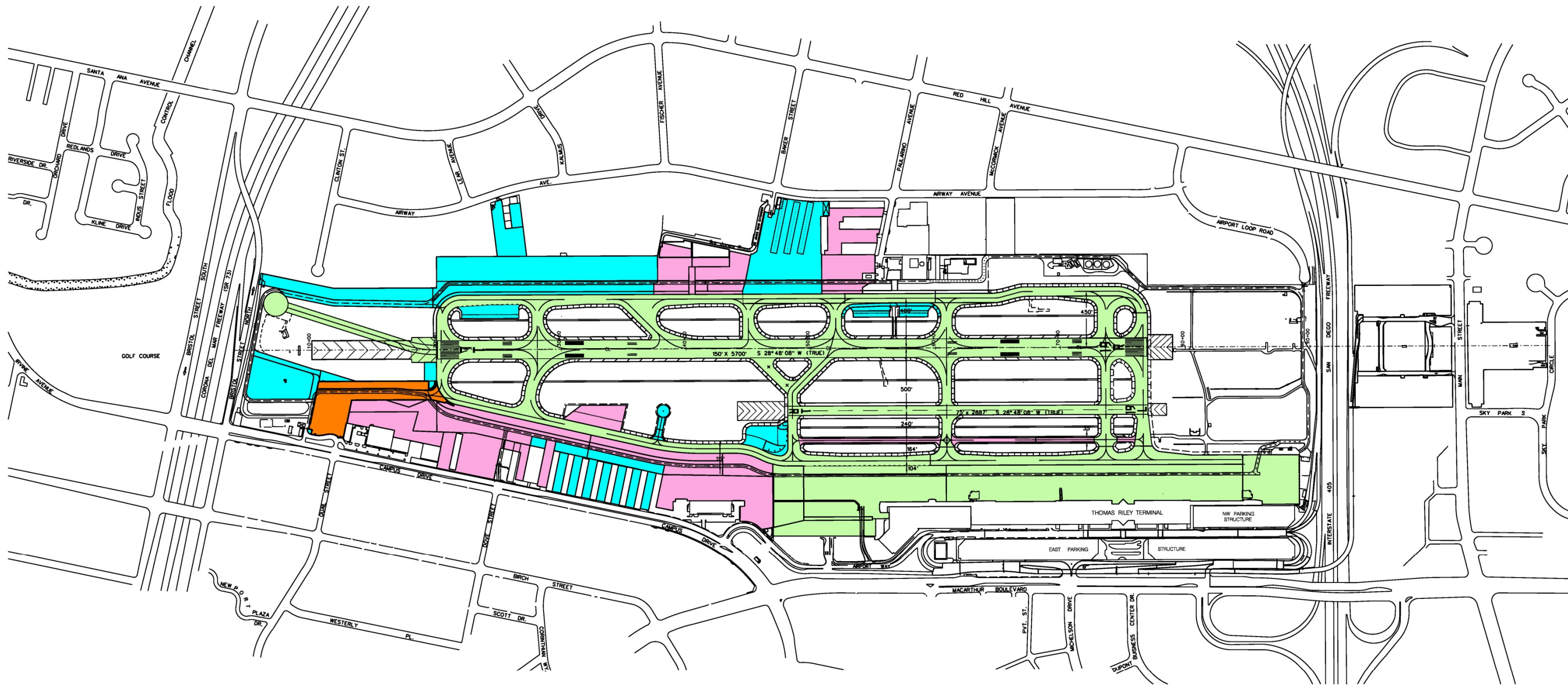
Item	Existing (2013)	Proposed Project	Alternative A	Alternative B	Alternative C	No Project
Alternative Forecast Approaches						
Fuel Dispensed per Commercial Departure (Gallons)	1,319	1,360	1,360	1,360	1,360	1,360
Commercial Departures	48,000	59,860	58,765	71,175	81,760	51,830
Fuel Dispensed (Gallons)	63,300,000	81,409,600	79,920,400	96,798,000	111,193,600	70,488,800
Fuel Dispensed per Passenger (Gallons)	6.9	7.4	7.4	7.4	7.4	7.4
Passengers	9,168,000	12,500,000	12,800,000	15,000,000	16,900,000	10,800,000
Fuel Dispensed (Gallons)	63,300,000	92,500,000	94,720,000	111,000,000	125,060,000	79,920,000
Fuel Forecast						
Annual Gallons	63,300,000	92,500,000	94,720,000	111,000,000	125,060,000	79,920,000
Average Daily Gallons	173,425	253,425	259,507	304,110	342,630	218,959

Source: AECOM analysis, 2013.

APPENDIX A

SUPPORTING DOCUMENTATION

BUILDINGS, FACILITIES & OTHERS										AIRPORT DATA										RUNWAY, CRITICAL AIRCRAFT & OTHER DATA																				
DESCRIPTION			EL	DESCRIPTION			EL	DESCRIPTION			EST. EL	DESCRIPTION			EXISTING			ULTIMATE	DESCRIPTION			COMMERCIAL AVIATION		GENERAL AVIATION		DESCRIPTION			COMMERCIAL AVIATION		GENERAL AVIATION									
FAA NAVIGATIONAL AIDS				AIRFIELD OPERATIONAL AREAS				AIRPORT FACILITIES (CON'T)				PROPOSED PROJECTS			AIRPORT ELEVATION			56.1'	SAME	RUNWAY DATA			RUNWAY 19R-1L		RUNWAY 19L-1R		CRITICAL AIRCRAFT DATA			RUNWAY 19R-1L		GENERAL AVIATION								
1 AIRPORT TRAFFIC CONTROL TOWER (ATCT)			154.9'	59 AIR CARRIER EMERGENCY AREA			67.0'	70 THOMAS RILEY TERMINAL			118.6'	60 BRISTOL STREET RETAINING WALL			AT GRADE	AIRPORT REFERENCE POINT (ARP)			LAT 33°40' 32.4" N1983 DATUM	SAME	RUNWAY DIMENSIONS			EXISTING	ULTIMATE	EXISTING	ULTIMATE	AIRCRAFT APPROACH CATEGORY-DESIGN GROUP/MILITARY CLASS			EXISTING	ULTIMATE	EXISTING	ULTIMATE						
2 ASOS TOUCHDOWN ANTENNA			54.3'	50 UPS AIR CARGO FACILITY			63.5'	61 GUARD SHELTER			60.3'	62 PERIMETER RD. RECONSTRUCTION PHASE II			AT GRADE	MEAN MAX TEMPERATURE (MONTH)			LONG 117°52'05.6"W1983 DATUM	SAME	RUNWAY LENGTH			5,700' X 150'	SAME	2,887' X 75'	SAME	CRITICAL AIRCRAFT			C	SAME	B	SAME						
3 ASOS WIND ANTENNA			49.2'	50 FEDEX AIR CARGO FACILITY			63.2'	60 BLAST WALL			61.3'	61 PENETRATION AIRCRAFT SKIN TRAINER (PAST)			67.5'	RUNWAY DESIGN			ARP (August)	SAME	RUNWAY WIDTH			5,700'	SAME	2,887'	SAME	CRITICAL AIRCRAFT			B767-200	SAME	KING AIR B100	SAME						
4 RUNWAY VISUAL RANGE (RVR)			58.8'	53 SOUTH RON			48.3'	60 ARFF STATION #33			50.8'	61 CANOPY STRUCTURES			75.0'	RUNWAY CODE			C-IV	SAME	RUNWAY BEARING (TRUE BEARING-DECIMAL DEGREES)			150'	SAME	75'	SAME	CRITICAL AIRCRAFT			WINGS PAN	SAME	45.9'	SAME						
5 CENTERFIELD WEATHER EQUIPMENT			80.9'	50 NORTH RON			43.3'	60 EXPLOSIVE DETECTION K-9 FACILITY			53.9'	61 TAXIWAY "A" RE-ALIGNMENT			AT GRADE	GPS AT AIRPORT			19R-1 L C-IV	19L-1R B-1	SAME	RUNWAY APPROACH SURFACES (F.A.R. PART 77)			N 28°48'08"	SAME	N 28°48'08"	SAME	CRITICAL AIRCRAFT APPROACH SPEED			156.2'	SAME	111 KNOTS	SAME					
6 FAA NAVAD CONTROLS			40.3'	59 EMERGENCY GATE			47.3'	61 OTHER PUBLIC AGENCY FACILITIES				62 TAXIWAY "D" RECONSTRUCTION			AT GRADE				19R 1 L	19L 1 R	SAME	RUNWAY APPROACH SURFACES (F.A.R. PART 77)			50.1'	SAME	20.1'	SAME	CRITICAL AIRCRAFT MAXIMUM CERTIFIED TAKEOFF WEIGHT			135 KNOTS ¹	SAME	11,795 LBS	SAME					
7 GLIDE SLOPE ANTENNA			63.6'	50 SIDA GATE			57.5'	60 COUNTY SANITATION DISTRICT PUMP STATION			52.1'	62 TAXIWAY "E" RECONSTRUCTION			AT GRADE				YES	YES	NO	NO	SAME	RUNWAY APPROACH SURFACES (F.A.R. PART 77)			50.1'	SAME	20.1'	SAME	CRITICAL AIRCRAFT MAXIMUM CERTIFIED TAKEOFF WEIGHT			300,000 LBS	SAME	N/A	SAME			
8 LOCALIZER-TYPE DIRECTIONAL AID EQUIPMENT SHELTER			48.2'	57 VEHICLE ENTRANCE			60.3'	60 FBO				62 TAXIWAY "A" RECONSTRUCTION			AT GRADE				YES	YES	NO	NO	SAME	RUNWAY APPROACH SURFACES (F.A.R. PART 77)			50.1'	SAME	20.1'	SAME	CRITICAL AIRCRAFT COCKPIT TO MAIN GEAR (CMG)			79.7'	SAME	N/A	SAME			
				58 ILS HOLD LINE			43.6'	60 ATLANTIC AVIATION CENTER			92.1'	61 RUNWAY REDESIGNATION			AT GRADE								SAME	RUNWAY APPROACH SURFACES (F.A.R. PART 77)			50.1'	SAME	20.1'	SAME	CRITICAL AIRCRAFT MAIN GEAR WIDTH (MGW)			35.4'	SAME	14.0'	SAME			
9 LOCALIZER ANTENNA (LS) & DME			74.4'	61 GENERAL AVIATION (GA) FACILITIES				60 ATLANTIC AVIATION CENTER			87.5'	61 EMERGENCY OPERATION CENTER/STORAGE			66.0'	AIRPORT TRAFFIC CONTROL TOWER (ATCT), ASOS TOUCHDOWN ANTENNA, ASOS WIND ANTENNA, GLIDE SLOPE ANTENNA, LOCALIZER ANTENNA (LS) & DISTANCE MEASURING EQUIPMENT (DME), LOCALIZER-TYPE DIRECTIONAL, AND ANTENNA (LDA) & DISTANCE MEASURING EQUIPMENT (DME), MIDDLE MARKER, NON-DIRECTIONAL BEACON (NDB), RUNWAY END IDENTIFICATION LIGHTS (REIL), RUNWAY VISUAL RANGE (RVR), REMOTE TRANSMITTER FACILITY (RTF), PRECISION APPROACH PATH INDICATOR (PAPI), MEDIUM-INTENSITY APPROACH LIGHTING SYSTEM (MALS), RUNWAY ALIGNMENT INDICATOR LIGHT SYSTEM (RAL), COMPASS CALIBRATION PAD, DISTANCE TO GO SIGNS, ROTATING BEACON, LIGHTED SEGMENTED CIRCLE AND WIND CONE.									RUNWAY LOW POINT ELEVATION			56.3'	SAME	52.2'	SAME	OTHER DATA								
10 LOCALIZER EQUIPMENT SHELTER			63.4'	70 COUNTY T- HANGARS			66.6'	60 ATLANTIC AVIATION CENTER			88.8'	61 AVIATION FUEL STORAGE			65.5'								SAME	RUNWAY THRESHOLD DISPLACEMENT			0'	SAME	0'	SAME	APPROACH VISIBILITY MINIMUMS			1/2MI (19R) 1/3MI (L)	SAME	VISUAL	SAME			
11 LOCALIZER-TYPE DIRECTIONAL AID ANTENNA (LDA) & DME			43.4'	71 TRANSIENT APRON			AT GRADE	60 SOUTH COAST HANGAR			72.0'	61 PAULARINO AVENUE GATE RELOCATION			60.0'								SAME	RUNWAY STOPWAY			0'	SAME	0'	SAME	F.A.R. PART 77 CATEGORY			PREC./NONPREC	SAME	VISUAL/VISUAL	SAME			
12 MIDDLE MARKER			49.8'	72 RESTROOMS			62.3'	60 EXECUTIVE HANGARS LLC.			69.7'	61 PORTION OF MAINTENANCE BUILDING TO BE DEMOLISHED			76.0'								SAME	RUNWAY SAFETY AREA WIDTH (RSA)			500'	SAME	150'	SAME	PERCENT OF WIND COVERAGE ² (13KTS/20KTS)			99.8X/100.0X	SAME	99.8X/100.0X	SAME			
13 NON-DIRECTIONAL BEACON (NDB)			70.8'	73 HELICOPTER PARKING AREA			AT GRADE	60 EXECUTIVE HANGARS LLC.			66.2'	61 CAMPUS DRIVE TURN LANE			AT GRADE	REF. NOTE 2)							SAME	RUNWAY SAFETY AREA (RSA) BEYOND RUNWAY STOP END			1,000'	SAME	300'	SAME	LINE OF SIGHT REQUIREMENT MET			YES	SAME	YES	SAME			
14 RUNWAY END IDENTIFICATION LIGHTS (REIL)			39.6'	75 GA & VEHICLE FUEL ISLANDS AND UNDERGROUND STORAGE FACILITY			56.0'	60 EXECUTIVE HANGARS LLC.			66.1'	61 TAXIWAY "B" CENTERLINE RE-ALIGNMENT			AT GRADE								SAME	RUNWAY OBSTACLE FREE ZONE (OFZ) BEYOND RUNWAY STOP END			400'	SAME	250'	SAME	MAXIMUM ELEVATION (ABOVE MSL) (NAVD 88)			65.1'	SAME	52.2'	SAME			
15 AIRPORT SURFACE DETECTION EQUIPMENT REMOTE UNIT-RUI THROUGH RUI7			115.0'	76 WASH RACK			61.3'	60 EXECUTIVE HANGARS LLC.			65.9'	61 PARKING STRUCTURE C EXPANSION			119.6'								SAME	RUNWAY OBSTACLE FREE ZONE (OFZ) BEYOND RUNWAY STOP END			200'	SAME	200'	SAME	LOWEST ELEVATION (ABOVE MSL) (NAVD 88)			41.1'	SAME	40.0'	SAME			
16 REMOTE TRANSMITTER FACILITY (RTF)			62.8'	77 WASTE OIL DISPOSAL			AT GRADE	60 EXECUTIVE HANGARS LLC.			65.9'	61 TERMINAL APRON REHABILITATION			AT GRADE								SAME	RUNWAY OBJECT FREE ZONE AREA WIDTH (OFA)			800'	SAME	500'	SAME	THE AIRPORT ACCOMMODATES AIRCRAFT WITH APPROACH SPEEDS UP TO 142 KNOTS									
17 PRECISION APPROACH PATH INDICATOR (PAPI)			56.4'	78 GA RUN-UP AREA			60.8'	60 SIGNATURE FLIGHT SUPPORT BUILDING			99.4'	61 TAXIWAY "C" REHABILITATION			AT GRADE								SAME	RUNWAY OBJECT FREE ZONE (OFA) BEYOND RUNWAY STOP END			1,000'	SAME	500'	SAME	RUNWAY 1L-19R 20 KNOTS; RUNWAY 1R-19L 13 KNOTS									
18 MEDIUM-INTENSITY APPROACH LIGHTING SYSTEM (MALS)			56.2'	60 AIRPORT FACILITIES				60 SIGNATURE FLIGHT SUPPORT HANGARS			78.9'	61 PORTION OF FORMER ARFF STATION BUILDING TO BE DEMOLISHED			94.8'								SAME	RUNWAY PAVEMENT SURFACE MATERIAL			ASPHALT-GRVD	SAME	ASPHALT-PPC	SAME	NO THRESHOLD SITING SURFACE (TSS) OBJECT PENETRATIONS									
19 RUNWAY ALIGNMENT INDICATOR LIGHT SYSTEM (RAL)				60 TRASH COMPACTOR FACILITIES			56.7'	60 SIGNATURE FLIGHT SUPPORT HANGARS			80.7'	61 MAINTENANCE BUILDING CONSTRUCTION			75.3'								SAME	RUNWAY PAVEMENT STRENGTH (S/D/DT) (000 LBS)			70S, 2000, 3000T	SAME	3000T	SAME	NO OBJECT FREE ZONE (OFZ) OBJECT PENETRATIONS									
				60 TRASH RAMP			72.5'	60 SIGNATURE FLIGHT SUPPORT HANGARS			89.0'	61 PARKING STRUCTURE C EXPANSION			119.6'								SAME	RUNWAY EFFECTIVE GRADIENT			0.26X	SAME	0.40X	SAME										
				60 1981 ORCHARD DRIVE BUILDING			76.8'	60 MARTIN AVIATION			89.8'	61 PORTION OF FORMER ARFF STATION BUILDING TO BE DEMOLISHED			94.8'								SAME	RUNWAY MAXIMUM GRADIENT			0.51X	SAME	0.48X	SAME										
				60 TIE DOWN SHADE STRUCTURE			65.4'	60 LYON AIR MUSEUM & HANGAR			89.8'	61 JAY'S AIRCRAFT MAINTENANCE			73.9'								SAME	RUNWAY TOUCH DOWN ZONE ELEVATION (TDZ) (ABOVE MSL)			19R-55.01 L-56.3	SAME	52.2'	SAME										
				60 TAXIRESTROOM			AT GRADE	60 JAY'S AIRCRAFT MAINTENANCE			73.9'	61 JAY'S AIRCRAFT MAINTENANCE			73.9'								SAME	RUNWAY MARKING			PRECISION	SAME	MRL	SAME										
				60 OIL/WATER SEPARATOR			70.1'	60 JAY'S AIRCRAFT MAINTENANCE			73.9'	61 JAY'S AIRCRAFT MAINTENANCE			73.9'								SAME	RUNWAY LIGHTING			HRL	SAME	MRL	SAME										
				60 COMMERCIAL FUEL FARM			84.8'	60 EDDIE MARTIN ADMINISTRATION BUILDING			60.6'	60 EXPLOSIVE MAGAZINE FOR K-9			76.0'								SAME	RUNWAY APPROACH LIGHTING			MALSR (19R)	SAME	NONE	SAME										
				60 EDDIE MARTIN ADMINISTRATION BUILDING			63.0'	60 EXPLOSIVE MAGAZINE FOR K-9			76.0'	60 MAINTENANCE BUILDING			73.9'								SAME	RUNWAY HOLD LINE POSITION (FROM RUNWAY CENTERLINE)			250'	SAME	150'	SAME										
				60 MAINTENANCE BUILDING			73.9'	60 MAINTENANCE OFFICE TRAILERS			88.5'	60 CO-GEN FACILITY			AT GRADE								SAME	RUNWAY VISUAL NAVIGATIONAL AIDS			PAPI (1L/19R), MALSR (19R), DIST. TO GO SIGNS	SAME	PAPI (19L), REL. (19L)	SAME										
				60 MAINTENANCE OFFICE TRAILERS			88.5'	60 CO-GEN FACILITY			AT GRADE					GENERAL NOTE: THE AIRPORT USES A MODIFIED TAXIWAY SEPARATION DISTANCE FROM TAXIWAY CENTERLINE TO FIXED OR MOVEABLE OBJECT OF 119.34'. THE SPONSOR WILL REQUEST A MODIFICATION OF STANDARD.																								
				60 CO-GEN FACILITY			AT GRADE																																	
				60 PARKING STRUCTURE A1			85.0'																																	
				60 PARKING STRUCTURE C			119.6'																																	
				60 PARKING STRUCTURE A2			72.9'																																	
				60 PARKING STRUCTURE B			73.2'																																	

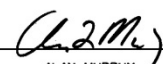
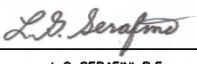


LEGEND

- 12,500 SINGLE
- 60,000 DUAL
- 100,000 DUAL
- 300,000 DUAL TANDEM / 200,000 DUAL / 70,000 SINGLE

* These pavement strengths are based on the pavement condition evaluation done in January 2002. The Pavement Strength Map may be obtained through the Airport Engineer's Office, JWA. The pavement strengths in areas under lease to fixed base operator were provided by the lessee and are not guaranteed as to strength or condition. The individual lessees are responsible for maintaining the airfield pavement within their lease hold. Any lessee pavement which is not in conformance with these strengths should be reported to the Airport Engineer, JWA.

Revised 5/11/2011

<p>JOHN WAYNE AIRPORT ORANGE COUNTY, CALIFORNIA</p> <p>PAVEMENT STRENGTH</p>		
 ALAN MURPHY AIRPORT DIRECTOR	 L.G. SERAFINI, P.E. DEPUTY AIRPORT DIRECTOR - FACILITIES / AIRPORT ENGINEER	
DRAWN BY: SN	DATE: June 24, 2004	SHEET 1 of 1

APPENDIX B

AVERAGE DAY PEAK MONTH PASSENGER CALCULATIONS

Table B-1
FORECAST OF AVERAGE DAY PEAK MONTH PASSENGERS, JANUARY 1, 2016 (PHASE 1)
JOHN WAYNE AIRPORT

Airport Activity	Existing (2013) (9.17 MAP)	Forecast				No Project (10.8 MAP)
		Proposed Project (10.8 MAP)	Alternative A (10.8 MAP)	Alternative B (10.8 MAP)	Alternative C (16.9 MAP)	
Total Annual Passengers						
Air Carrier	9,043,000	10,300,000	10,300,000	10,300,000	16,900,000	10,300,000
Commuter	125,000	500,000	500,000	500,000	0	500,000
Total	9,168,000	10,800,000	10,800,000	10,800,000	16,900,000	10,800,000
Percent Commuter Passengers	1.4%	4.9%	4.9%	4.9%	0.0%	4.9%
Peak Month Passengers						
Air Carrier						
Enplaned	419,693	484,000	484,000	484,000	794,500	484,000
Deplaned	419,693	484,000	484,000	484,000	794,500	484,000
Subtotal Air	839,385	968,000	968,000	968,000	1,589,000	968,000
Carrier						
Commuter						
Enplaned	5,801	23,500	23,500	23,500	0	23,500
Deplaned	5,801	23,500	23,500	23,500	0	23,500
Subtotal	11,603	47,000	47,000	47,000	0	47,000
Commuter						
Total Peak Month Passengers	850,988	1,015,000	1,015,000	1,015,000	1,589,000	1,015,000
Percent Annual Passengers in the Peak Month	9.3%	9.4%	9.4%	9.4%	9.4%	9.4%
Average Day Peak Month Passengers	27,451	32,742	32,742	32,742	51,258	32,742

Source: AECOM analysis, 2013.

Table B-2
FORECAST OF AVERAGE DAY PEAK MONTH PASSENGERS, JANUARY 1, 2021 (PHASE 2)
JOHN WAYNE AIRPORT

Airport Activity	Existing (2013) (9.17 MAP)	Forecast				No Project (10.8 MAP)
		Proposed Project (11.8 MAP)	Alternative A (11.4 MAP)	Alternative B (13.0 MAP)	Alternative C (16.9 MAP)	
Total Annual Passengers						
Air Carrier	9,043,000	11,300,000	10,900,000	12,500,000	16,900,000	10,300,000
Commuter	125,000	500,000	500,000	500,000	0	500,000
Total	9,168,000	11,800,000	11,400,000	13,000,000	16,900,000	10,800,000
Percent Commuter Passengers	1.4%	4.4%	4.6%	4.0%	0.0%	4.9%
Peak Month Passengers						
Air Carrier						
Enplaned	419,693	531,000	512,500	587,500	794,500	484,000
Deplaned	419,693	531,000	512,500	587,500	794,500	484,000
Subtotal Air Carrier	839,385	1,062,000	1,025,000	1,175,000	1,589,000	968,000
Commuter						
Enplaned	5,801	23,500	23,500	23,500	0	23,500
Deplaned	5,801	23,500	23,500	23,500	0	23,500
Subtotal Commuter	11,603	47,000	47,000	47,000	0	47,000
Total Peak Month Passengers	850,988	1,109,000	1,072,000	1,222,000	1,589,000	1,015,000
Percent Annual Passengers in the Peak Month	9.3%	9.4%	9.4%	9.4%	9.4%	9.4%
Average Day Peak Month Passengers	27,451	35,774	34,581	39,419	51,258	32,742

Source: AECOM analysis, 2013

Table B-3
FORECAST OF AVERAGE DAY PEAK MONTH PASSENGERS, JANUARY 1, 2026 (PHASE 1)
JOHN WAYNE AIRPORT

Airport Activity	Existing (2013) (9.17 MAP)	Forecast				No Project (10.8 MAP)
		Proposed Project (12.5 MAP)	Alternative A (12.8 MAP)	Alternative B (15.0 MAP)	Alternative C (16.9 MAP)	
Total Annual Passengers						
Air Carrier	9,043,000	12,000,000	12,300,000	14,500,000	16,900,000	10,300,000
Commuter	125,000	500,000	500,000	500,000	0	500,000
Total	9,168,000	12,500,000	12,800,000	15,000,000	16,900,000	10,800,000
Percent Commuter Passengers	1.4%	4.2%	4.1%	3.4%	0.0%	4.9%
Peak Month Passengers						
Air Carrier						
Enplaned	419,693	564,000	578,000	681,500	794,500	484,000
Deplaned	419,693	564,000	578,000	681,500	794,500	484,000
Subtotal Air Carrier	839,385	1,128,000	1,156,000	1,363,000	1,589,000	968,000
Commuter						
Enplaned	5,801	23,500	23,500	23,500	0	23,500
Deplaned	5,801	23,500	23,500	23,500	0	23,500
Subtotal Commuter	11,603	47,000	47,000	47,000	0	47,000
Total Peak Month Passengers	850,988	1,175,000	1,203,000	1,410,000	1,589,000	1,015,000
Percent Annual Passengers in the Peak Month	9.3%	9.4%	9.4%	9.4%	9.4%	9.4%
Average Day Peak Month Passengers	27,451	37,903	38,806	45,484	51,258	32,742

Source: AECOM analysis, 2013.