

Chapter 5: Master Plan Alternatives

5.1 INTRODUCTION

An outcome of the master planning process is the recommendation of an airport development plan. The recommended development plan is the master plan alternative that best addresses predefined goals and objectives, the aviation activity forecast demand, and accommodates facility requirements. The recommended master plan alternative is displayed on the Airport Layout Plan (ALP) and will ultimately direct future airport capital development.

The process leading up to the selection of a recommended alternative, generally called the alternatives development process, involves the development of multiple alternatives. These alternatives are continually refined and evaluated based on predefined master plan goals and objectives, as well as environmental and financial considerations.

The alternatives development process typically proceeds according the following basic steps:

- 1) Identify the primary or key requirements,
- 2) Develop concepts that accommodate those requirements,
- 3) Evaluate the concepts,
- 4) Refine the concepts into alternatives,
- 5) Evaluate the alternatives, and
- 6) Select and recommend a master plan alternative.

For PSP, following the completion of the aviation activity forecast and facility requirements analyses, Airport Staff and the Consultant Team met to determine an appropriate direction or underlying philosophy for the alternatives development process. This Chapter presents that philosophy and describe the developed alternatives.

5.2 ALTERNATIVES DEVELOPMENT PROCESS

A direction for the development of alternatives was influenced by results of the aviation activity forecast and facility requirements.

The PSP aviation activity forecast shows a potential for substantial growth at PSP in the long-term over the next 20 years. Total domestic and international enplanements are forecast to increase from just under 0.8 million in 2008 to 1.4 million in 2028, an average annual increase of 3.1 percent. Total aircraft operations are estimated to increase from 72,876 operations in 2008 to 108,875 operations in 2028. These forecast results reflect the recognition and consideration of the current national economic recession. It was recommended that alternatives be developed to also consider and be reflective of the potential financial hardships faced by the aviation industry.

Facility requirements were prepared for all functional airport components (airside, terminal, landside, general aviation, support / maintenance). However, facility requirement analyses indicate that accommodating the growth at PSP will require key terminal and landside improvements, particularly in the following areas:

- Baggage claim / transfer areas,
- Ticketing lobby,
- Rental car facilities, and
- Employee parking lot.

Improvements are recommended immediately in the baggage claim and baggage transfer areas, which already, in 2008, show deficiencies of about 10,000 square feet for each area. When passenger activity levels reach approximately 1.25 million enplanements (in approximately 2023), the deficiencies will more than double. In the same planning activity level year, ticketing area deficiencies will reach approximately 5,000 square feet. On the landside, rental car facility requirements indicate deficiencies of approximately 1.5 acres when planning activity levels reach approximately 1.0 million enplanements (by approximately 2013). Employee parking lot area deficiencies also reach approximately 1.5 acres in the same plan activity level year.

Following the completion of the aviation activity forecast and facility requirement analyses, alternatives were developed to consider the current economic recession and address all major facility area deficiencies. In addition, it was determined that any terminal improvements, or expansions would be made to the existing facility or directly to the south of the existing facility. The factors leading to the determination to keep the terminal in its existing location or expand south were based on the following assumptions.

- The Palm Springs International Airport will remain at its current site due to the cost and complexity of airport relocation.
- The terminal complex will not be relocated to another location on airport property due to the cost and complexity of such a move.
- The terminal complex is considered to be a community icon.
- The view corridor axis from the landscaped plaza near the Bono Concourse, through the hexagonal meeter greeter lobby, and along the landscaped view corridor in front of the airport terminal building is important to preserve.
- Expanding the terminal complex north or east is not advised due to potential airfield impacts.

Alternatives were also developed in consideration of the established Master Plan Goals & Objectives as documented in Chapter 1 and in consideration of alternatives proposed in the previous 2003 Master Plan.

5.2-1 Review of the 2003 Airport Master Plan Update

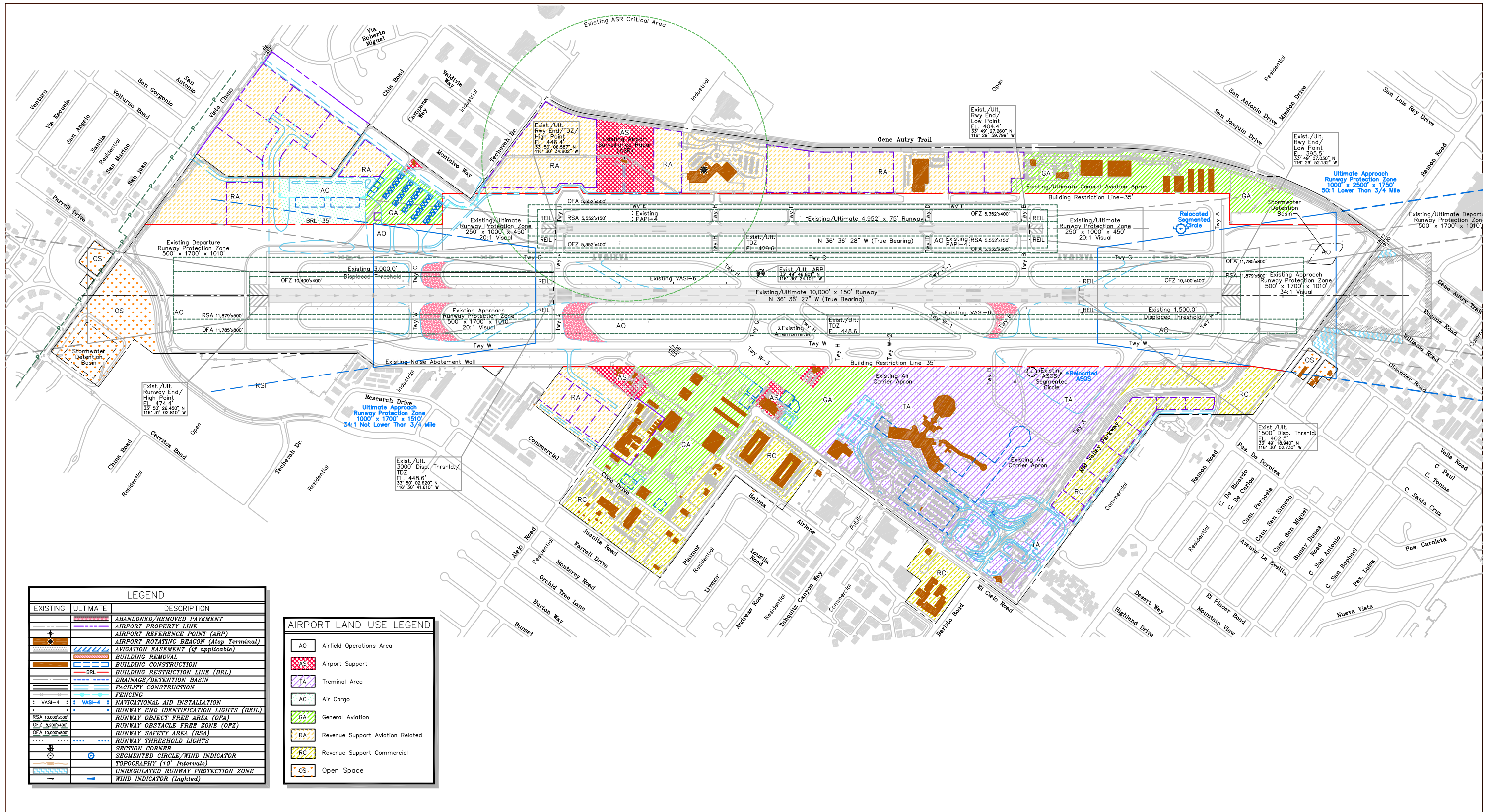
The previous Airport Master Plan Update was completed in 2003. The 2003 Master Plan Update was primarily focused on the development of additional gate positions, specifically through the construction of an additional second level octagonal concourse located south of the Bono Concourse. In 2007, the

Airport opened the Regional Concourse, an eight-gate ground loaded concourse that accommodates all of the Airport's regional flights. Although the new Regional Concourse was not proposed in the 2003 Master Plan Update, the facility is generally located on the footprint of the concourse proposed in the 2003 Master Plan. Proposed landside improvements were intended to increase parking capacity, alleviate curbside congestion, and improve rental car facilities.

The airfield development proposed in the previous Master Plan considered enhancements to safety and efficiency. The Master Plan proposed a reconfiguration of the Runway 13R-31L exit taxiways. Five replacement high speed exits were proposed along with reconstruction and realignment of five perpendicular taxiways. Declared distances were recommended and implemented to remedy the non-standard Runway Safety Area at the south end of Runway 13R-31L. The Master Plan also proposed implementing a Category I Instrument Landing System (ILS) approach for Runway 31L. Chapter 4 discusses why implementation of an ILS is not proposed in this Master Plan Update.

The previous land-use plan preserved considerable land for general aviation expansion and cargo processing. The options presented for development on the west side of the airport on the site of the seasonal rental car overflow storage lot north of Alejo Road included a new cargo facility, a new consolidated rental facility, and new corporate general aviation facility. Cargo, general aviation, and commercial facilities were proposed for development on the east side of the airport. **Figure 5-1** presents the Land Use Plan from the 2003 Airport Master Plan Update.

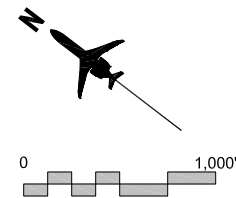
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EXISTING	ULTIMATE	DESCRIPTION
[Symbol]	[Symbol]	ABANDONED/REMOVED PAVEMENT
[Symbol]	[Symbol]	AIRPORT PROPERTY LINE
[Symbol]	[Symbol]	AIRPORT REFERENCE POINT (ARP)
[Symbol]	[Symbol]	AIRPORT ROTATING BEACON (Atop Terminal)
[Symbol]	[Symbol]	AVIGATION EASEMENT (if applicable)
[Symbol]	[Symbol]	BUILDING REMOVAL
[Symbol]	[Symbol]	BUILDING CONSTRUCTION
[Symbol]	[Symbol]	BUILDING RESTRICTION LINE (BRL)
[Symbol]	[Symbol]	DRAINAGE/DETENTION BASIN
[Symbol]	[Symbol]	FACILITY CONSTRUCTION
[Symbol]	[Symbol]	FENCING
[Symbol]	[Symbol]	NAVIGATIONAL AID INSTALLATION
[Symbol]	[Symbol]	RUNWAY END IDENTIFICATION LIGHTS (REIL)
[Symbol]	[Symbol]	RUNWAY OBJECT FREE AREA (OFA)
[Symbol]	[Symbol]	RUNWAY OBSTACLE FREE ZONE (OFZ)
[Symbol]	[Symbol]	RUNWAY SAFETY AREA (RSA)
[Symbol]	[Symbol]	RUNWAY THRESHOLD LIGHTS
[Symbol]	[Symbol]	SECTION CORNER
[Symbol]	[Symbol]	SEGMENTED CIRCLE/WIND INDICATOR
[Symbol]	[Symbol]	TOPOGRAPHY (10' Intervals)
[Symbol]	[Symbol]	UNREGULATED RUNWAY PROTECTION ZONE
[Symbol]	[Symbol]	WIND INDICATOR (Lighted)

AIRPORT LAND USE LEGEND	
[Symbol]	Airfield Operations Area
[Symbol]	Airport Support
[Symbol]	Terminal Area
[Symbol]	Air Cargo
[Symbol]	General Aviation
[Symbol]	Revenue Support Aviation Related
[Symbol]	Revenue Support Commercial
[Symbol]	Open Space

Source: Coffman Associates, 2003 Palm Springs International Airport Master Plan Update



2003 Airport Master Plan Land Use Plan
 Figure 5-1
 Palm Springs International Airport
 Master Plan

5.2-2 Airport Improvement Projects Since the 2003 Master Plan Update

The following projects have been completed at the Airport since the 2003 Master Plan was adopted (note that these projects were not necessarily recommended in the 2003 Master Plan):

- Opening of the Vehicle Inspection Plaza – 2003
- Eight gate ground-loaded 20,000 ft² Regional Concourse – 2007
- Consolidation of the Federal Aviation Administration (FAA) Terminal Radar Approach Control (TRACON) Facility to the Southern California TRACON – 2007
- Expansion of the rental car ready and return lot – 2007
- Signature Flight Support FBO Terminal – 2008
- Additional general aviation hangars on the west side of the Airport
- Expansion of the U.S. Customs and Border Patrol Facility – 2008

5.3 2009 AIRPORT MASTER PLAN ALTERNATIVES

In consideration of the current financial situation, facility requirements, and Master Plan Goal and Objectives, long-term development alternatives which meet aviation activity forecast demand through 2028 were developed. These long-term alternatives account for:

- Providing long range growth through 2028
- Maintaining a high level of service
- Maintaining the Airport's aesthetics consistent with the overall mid-century modern architecture present in Palm Springs

In addition, it was determined a near-term plan be developed to address the near-term deficiencies with rental car facilities and the terminal processor in a financially prudent manner. The near-term alternative accounts for:

- Providing modest improvements (no major expansion of the terminal footprint) with regards to terminal facilities
- Assumption that CFCs will be a feasible source of funding for improvements to rental car facilities
- Assumption that long-range demand at PSP will not be fully accommodated (but does not prevent or complicate envisioned long-range alternative improvements)

The current Master Plan alternatives are developed based upon the forecast facility requirements. The development process involved several stages of refinement, starting with a development of concepts for each of the four airport functional areas: airside, terminal, landside (specifically the landside area on the southwest corner of the airport property surrounding the terminal area), and support (includes general aviation).

Through a concept refinement process, which involved key airport staff, tenants, and other stakeholders, the terminal and landside concepts were integrated into combined terminal / landside alternatives because of their close functional interdependencies. In addition, following the identification of rental car facility requirements, several rental car concepts were developed and integrated into the terminal / landside alternatives. For the presentation of alternatives in this Chapter, airfield and support alternatives are presented as separate alternatives because the airside and support facilities operate somewhat independently from the terminal / landside area. Finally, all alternatives are combined in a future land use map, which is described later in this Chapter.

The alternatives described are organized by the following functional airport components:

- Airside
- Terminal
- Landside
- Support
- Land Use Plan

5.4 AIRSIDE ALTERNATIVES DEVELOPMENT

The Facility Requirements identified that the airfield has adequate capacity to serve forecast operations beyond 2028. Section 4.3 analyzed the geometric and safety area requirements for upgrading the general aviation runway, Runway 13L-31R, to an air-carrier capable runway. The forecast results, however, do not support the upgrading of Runway 13L-31R within the planning horizon for the purpose of reducing anticipated delays or increasing capacity at PSP. The airside development alternatives from the previous Airport Master Plan Update recommended a reconfiguration of the runway exit taxiways. Based on the updated forecast activity levels, a reconfiguration of the runway exit taxiways is not proposed in this Master Plan Update.

The main airside requirement from Chapter 4 is to improve the non-standard Runway Safety Area (RSA) on the south end of Runway 13R-31L. An RSA is a graded area at the end of the runway that is designed to protect an aircraft in the event of an aircraft overrun, undershoot, or aborted take-off. A standard RSA for an air-carrier runway extends 1,000 feet from the end of the runway and is 500 feet wide centered on the runway centerline. The south end of Runway 13R-31L only extends 857 feet from the end of the runway. To satisfy the requirement of having a 1,000 foot extension of the RSA, the Airport currently operates with declared distances. Under declared distances, the effective useable end of the runway is 143 feet shorter than the full paved length of the runway. Declared distances, however, are not a preferable solution by the FAA for achieving the standard RSA end length. Four different alternatives for meeting the standard RSA requirement are discussed below.

5.4-1 Airside Alternative 1 – EMAS

The first alternative for meeting the standard RSA length is through the use of an Engineered Materials Arresting System (EMAS). An EMAS is a bed of lightweight crushable concrete blocks that dissipates the kinetic energy of an aircraft. It is similar in concept to the gravel bed on a runaway truck escape found on

highways with steep downhill grades. An EMAS is considered an acceptable alternative to maintaining a full 1,000-foot RSA. A standard EMAS at minimum needs only to extend 600 feet past the end of the runway and be as wide as the runway plus the width of the shoulders.

A standard EMAS is designed to halt an aircraft that has exited the end of the runway at a speed of 70 knots. An EMAS consists of three main components; the first component is a set back from the end of the runway. The setback is a graded area of variable length that transitions into the second component, the lead-in ramp. The lead-in ramp is a sloped area that assists in slowing down approaching aircraft. The final component of the EMAS is a crushable concrete block arresting bed that increases in depth. **Figure 5-2** depicts the general layout of an EMAS on the south end of Runway 13R-31L. A detailed analysis would need to be conducted to determine the appropriate length of the setback, lead-in ramp and arresting bed.

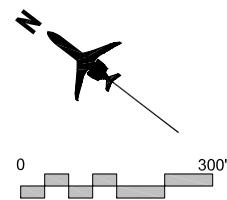
Implementation of EMAS would allow aircraft to utilize 100% of the available runway pavement for calculating allowable take-off distances.

Alternative Summary
 Provides a 200' x 600' Engineered Materials Arrestor System (EMAS) to satisfy the FAA's requirement for a standard RSA.



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Source: HNTB Analysis



- - - - Airport Property Line
- OFA Existing Runway Object Free Area (OFA)
- - - - Fully Extended Runway Object Free Area (OFA)
- RSA Existing Runway Safety Area (RSA)
- - - - Fully Extended Runway Safety Area (RSA)
- Engineered Materials Arresting System (EMAS)
- X Perimeter Fence

Alternative 1 - Runway Safety Area - EMAS
 Figure 5-2
 Palm Springs International Airport
 Master Plan

5.4-2 Airside Alternative 2 – East Ramon Road Tunnel

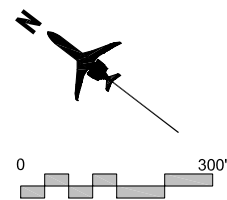
The second alternative for meeting the standard RSA length is to construct a tunnel for the portion of East Ramon Road that runs through the standard RSA and Object Free Area (OFA) dimension areas. An illustration of a potential tunnel is presented in **Figure 5-3**. Detailed surveying and analysis is needed to determine if it would be possible to tunnel the westbound direction of East Ramon Road only. East-bound East Ramon Road is an arterial that provides access to commercial properties. Additionally, Kirk Douglas Way would be realigned to feed back into East Ramon Road. The realignment of Kirk Douglas Road, however, provides additional future opportunities for airside and landside development.

Alternative Summary
 Proposes that a tunnel is constructed for Ramon Road under the portions of the Object Free Area that the road runs through and proposes that Kirk Douglas Way is re-aligned.

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Source: HNTB Analysis



- Airport Property Line
- OFA Existing Runway Object Free Area (OFA)
- Fully Extended Runway Object Free Area (OFA)
- RSA Existing Runway Safety Area (RSA)
- Fully Extended Runway Safety Area (RSA)
- Potential Ramon Road Tunnel Lead-in Section
- Potential East Ramon Road Tunnel Section
- Potential Kirk Douglas Way Realignment
- X Perimeter Fence

Alternative 2 - Runway Safety Area - Tunnel
 Figure 5-3
 Palm Springs International Airport
 Master Plan

5.4-3 Airside Alternative 3 – East Ramon Road Realignment

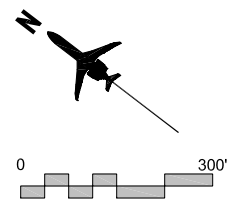
The third alternative for meeting the standard RSA length is to realign East Ramon Road to the south around the standard dimension Runway 13R-31L RSA and OFA. **Figure 5-4** depicts a potential realignment of East Ramon Road and the properties that the airport would potentially require acquisition.

Alternative Summary
 Proposes a realignment of Ramon Road to achieve a standard RSA and proposes an extension of Kirk Douglas Way to tie into realigned Ramon Road.



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Source: HNTB Analysis



- - - - - Airport Property Line
- OFA Existing Runway Object Free Area (OFA)
- - - - - Fully Extended Runway Object Free Area (OFA)
- RSA Existing Runway Safety Area (RSA)
- - - - - Fully Extended Runway Safety Area (RSA)
- - - - - Potential East Ramon Alignment
- - - - - Potential Kirk Douglas Way Realignment
- X Perimeter Fence
- Impacted Property

Alternative 3 - Runway Safety Area - Road Alignment

Figure 5-4

Palm Springs International Airport
 Master Plan

5.4-4 Airside Alternative 4 – No-Project Alternative

The fourth and final alternative is a no-project alternative. The existing declared distances, as depicted in **Figure 5-5** would be maintained.

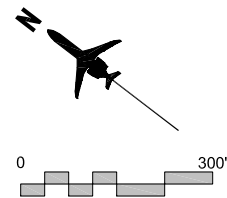
Alternative Summary

Maintains the existing declared distances for Runway 13R-31L. The alternative does not increase the useable runway pavement.



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Source: HNTB Analysis



- Airport Property Line
- Existing Runway Object Free Area (OFA)
- Existing Runway Safety Area (RSA)
- X Perimeter Fence
- Unusable Runway Pavement for Runway 13R Arrivals

Alternative 4 - Runway Safety Area - No-Project
Figure 5-5
Palm Springs International Airport
Master Plan

5.4-5 Airside Alternative Evaluation and Recommendation

All of the above alternatives provide for a standard RSA. There are two sources for the evaluation of the RSA alternatives:

- FAA funding potential
- Feasibility
- Cost benefit analysis

RSA improvement programs are typically awarded priority funding by the FAA. Alternative 1 likely has the best chance of immediate funding by the FAA as it does not require any additional land to be acquired, nor does it require the relocation or tunneling of a busy arterial. From a general cost perspective, Alternatives 2 and 3 are expected to be more expensive than Alternative 1 to implement due to their construction costs and potential for requiring property acquisition.

Alternative 1 is preferred to Alternatives 2 and 3 from a feasibility and constructability perspective. Over 100 EMAS systems have been successfully installed at airports across the United States. The existing RSA at the south end of Runway 13R-31L already conforms to the FAA's RSA grading requirement. An EMAS installation would not be expected to require substantial site preparation as would be required with Alternative 2. The feasibility of tunneling East Ramon Road is dependent on a number of geotechnical factors. Both Alternatives 2 and 3 would disrupt traffic conditions in surrounding areas and would require complex phasing plans.

It is recommended that an EMAS be implemented at the south end of Runway 13R-13L to provide a standard RSA. This resolution is superior to the current declared distances because it allows for the use of 100% of the available runway pavement for take-off distance calculations and minimizes the factors pilots must account for in determining aircraft performance at PSP. Further analysis could include a cost-benefit study to determine the costs of payload restrictions due to the shorter available runway take-off distances allowed with declared distances in place at PSP.

5.5 TERMINAL ALTERNATIVES DEVELOPMENT

The Facility Requirements highlights considerable current and future deficiencies within the passenger terminal complex. **Table 5-1** presents a summary of the terminal facility requirements through 2028. Terminal alternatives are intended to meet the 2028 terminal facility requirements and address deficiencies in baggage claim, ticketing, security, outbound baggage, inbound baggage, and circulation. The facility requirements determined that additional gates may be required towards the end of the planning horizon. The full-build alternatives presented in this section depict where concourse expansion could potentially occur.

Terminal facility requirements indicate improvements are needed in the following areas, based on the time at which deficiencies appear in the planning horizon.

- 2008
 - Ticketing (queuing)
 - Baggage Transfer (inbound and outbound baggage)
 - Baggage Claim (baggage claim frontage, baggage service office)
 - Restrooms
 - Mechanical / Electrical / Maintenance / Storage
- 2013
 - Ticketing (ticket counter area, ticketing circulation)
 - Passenger Security Screening (screening area)
 - Baggage Claim (baggage claim devices, baggage claim circulation area)
- 2018
 - Ticketing (ticket counter length)
 - Passenger Security Screening (checkpoint lanes)
 - Baggage Transfer (EDS in-line baggage screening area)

Table 5-1: Terminal Facility Requirements Summary

	Existing	2008	2013	2018	2023	2028
<i>Gates</i>	16	16	16	16	16	16
<i>Ticketing</i>	3	3	4	5	5	6
Ticket Counter Length (Lin. Feet)	248	206	244	278	319	363
Ticket Counter Area (Sq. Feet)	2,369	2,264	2,680	3,063	3,506	3,997
Ticket Counter Queuing (Sq. Feet)	2,384	4,116	4,872	5,568	6,374	7,268
Ticketing Circulation (Sq. Feet)	6,452	6,174	7,308	8,353	9,561	10,902
Airline Ticket Offices (Sq. Feet)	12,846	6,174	7,308	8,353	9,561	10,902
<i>Passenger Security Screening</i>						
Security Screening Checkpoint (lanes)	6	5	6	7	8	9
Security Screening Area (Sq. Feet)	7,354	6,500	7,800	9,100	10,400	11,700
<i>Baggage Transfer</i>						
Outbound Baggage Make-up (Sq. Feet)	7,404	11,874	14,055	16,064	18,387	20,967
Inbound Baggage (Sq. Feet)	2,339	8,959	10,604	12,120	13,872	15,819
EDS In-Line Baggage Screening (Square Feet)	7,303	5,988	7,088	8,101	9,273	10,574
<i>Baggage Claim</i>						
Baggage Claim Frontage (Lin. Feet)	675	779	922	1,054	1,206	1,376
Baggage Claim Devices	3	3	4	5	5	6
Baggage Service Office (Sq. Feet)	516	1,535	1,817	2,076	2,376	2,710
Baggage Claim Circulation (Sq. Feet)	9,834	9,815	11,619	13,279	15,199	17,332
Baggage Claim Total Area (Sq. Feet)	13,247	23,370	27,663	31,617	36,189	41,267
<i>Public Area</i>						
USO (Sq. Feet)	1,252	1,252	1,252	1,252	1,252	1,252
General Circulation (Sq. Feet)	24,325	11,611	14,338	16,388	18,757	21,390
Restrooms (Sq. Feet)	2,021	2,444	2,893	3,306	3,785	4,316
Concessions (Sq. Feet)	6,764	6,764	6,764	6,764	6,764	6,764
<i>Non Public Area</i>						
TSA Offices (Sq. Feet)	2,202	1,554	1,839	2,120	2,406	2,744
Airport Administration (Sq. Feet)	5,750	5,750	5,750	5,750	5,750	5,750
Airport Operations (Sq. Feet)	4,858	4,858	4,858	4,858	4,858	4,858
<i>Other</i>						
Mech/Elec/Maint/Storage (Sq. Feet)	7,529	15,271	17,738	19,953	22,515	25,361
<i>Total Processor Area (Sq. Feet)</i>	116,399	124,923	144,811	162,712	183,211	205,831
<i>Total Processor Area Deficiency (Sq. Feet)</i>		8,542	28,412	46,313	66,812	89,432

Source: HNTB Analysis

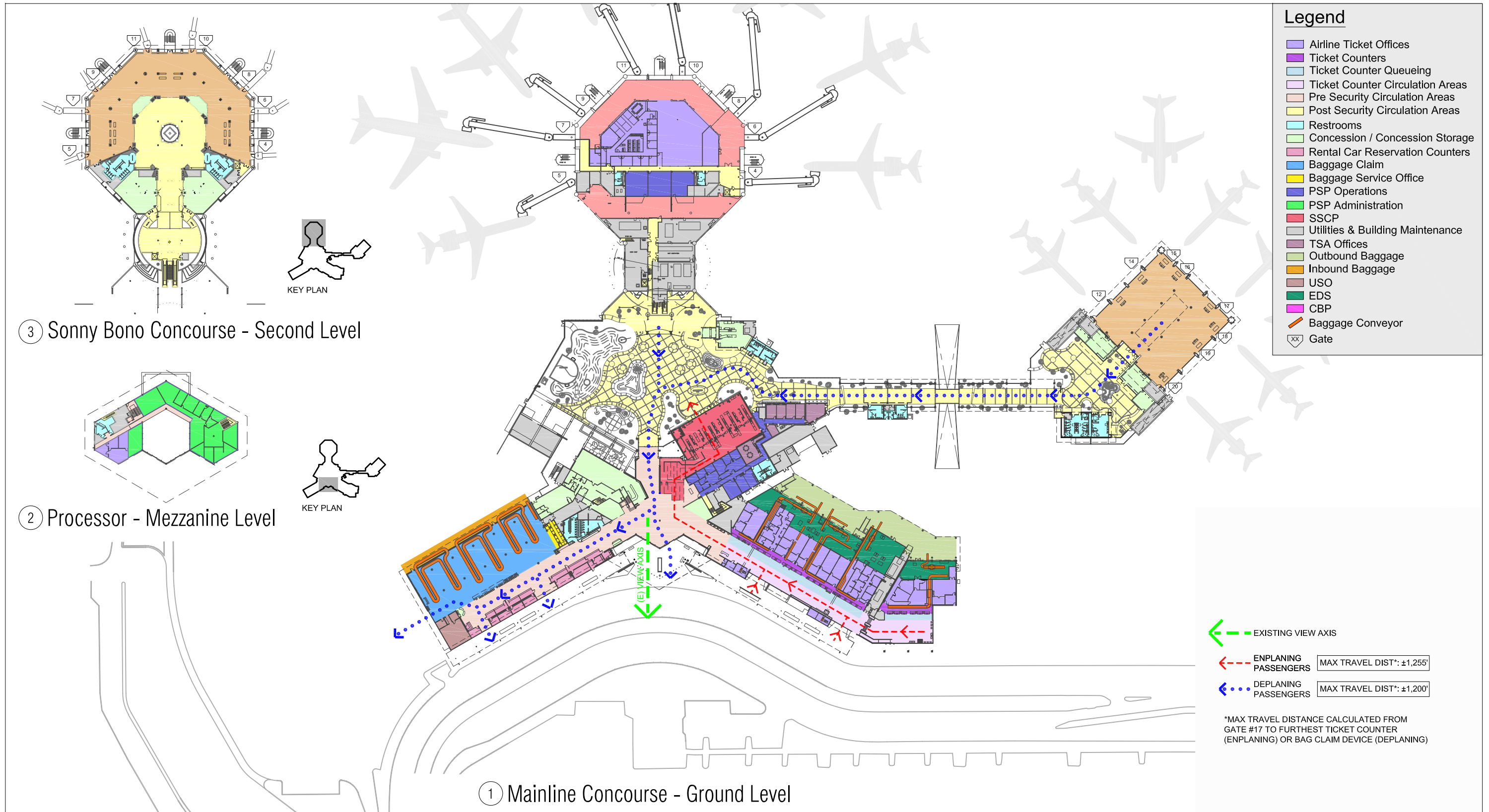
The alternatives development process began with an analysis of opportunities and constraints for development in order to understand where expansion is possible. Limitations of expansion due to landside and airside facilities resulted in the development of two main expansion themes: an expansion of facilities that maintains the Passenger Terminal complex's symmetrical axis, and an expansion of terminal facilities to the south. Substantial expansion of facilities to the north and west was ruled out because of the existing airport development in those areas. Relocating the terminal facilities to the east side of the

airport was also ruled out due to the high cost and unnecessary duplication of facilities. The first iteration of terminal alternatives development resulted in the creation of four terminal alternatives.

5.5-1 Terminal Alternative 1 – No-Build Alternative

Alternative 1, as presented in **Figure 5-6**, is a no-build alternative where no additional terminal facilities are constructed. It is included as an alternative as a means to compare all project alternatives to a no-build alternative, which would be required in any subsequent Federal or State environmental analysis. Alternative 1 does not address any of the future terminal facility deficiencies determined in the facility requirements analysis. However, while no new structures or significant improvements to the existing structure are proposed, slight changes can be made to increase the passenger throughput rate and maintain the existing space for terminal functions. For example, the configuration of the checkpoint lanes in the passenger security screening checkpoint area could be modified or additional self-service ticket kiosks could be placed outside the passenger ticketing lobby near the curbside as a means to improve passenger throughput. However, to meet long-term requirements and maintain PSP's high customer convenience levels, more substantial changes are required. Three additional alternatives propose substantial developments that address near-term (2008 – 2018) and long-term (2019 – 2028) terminal requirements.

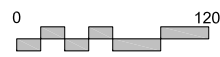
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Terminal Alternative 1 - No-Build (Existing Conditions)

Figure 5-6

Palm Springs International Airport
Master Plan



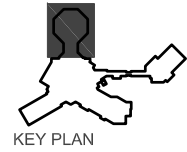
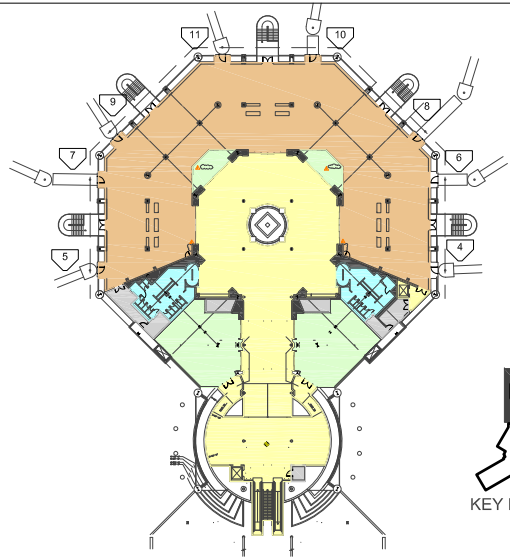
5.5-2 Terminal Alternative 2 – Hybrid Processor

Alternative 2, known as the Hybrid Processor and depicted in **Figure 5-7**, is a significant departure from the existing terminal layout and passenger flow pattern. It is called the hybrid because it maintains the existing axis and proposes the utilization of a new axis shifted to the south. Alternative 2 proposes the following terminal improvement changes.

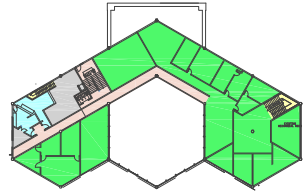
- The ticketing lobby is maintained in its current location, but expanded approximately 100 feet south.
- New facilities behind the ticket counters house the in-line EDS for baggage screening.
- The ATO is reconfigured to accommodate the ticket lobby redesign.
- A new five-carousel baggage claim facility is constructed south of the ticketing lobby.
- The existing baggage claim area can potentially be used for Customs and Border Protection services for international flights.
- The passenger security screening queue area is expanded. In addition, the number of checkpoint lanes is increased from 6 to 8 lanes.
- A new subterranean outbound and inbound baggage make-up area is located adjacent to the baggage screening area.
- A passenger connection is constructed from the Regional Concourse to the new baggage claim areas to allow separation of arriving and departing passenger traffic flows.

Alternative 2, while it meets the near-term (2008 – 2018) facility requirements, it does not meet the long-term 2028 terminal facility requirements. It fails to adequately address circulation and queuing in the ticketing lobby and fails to provide enough carousels and circulation space in the baggage claim area.

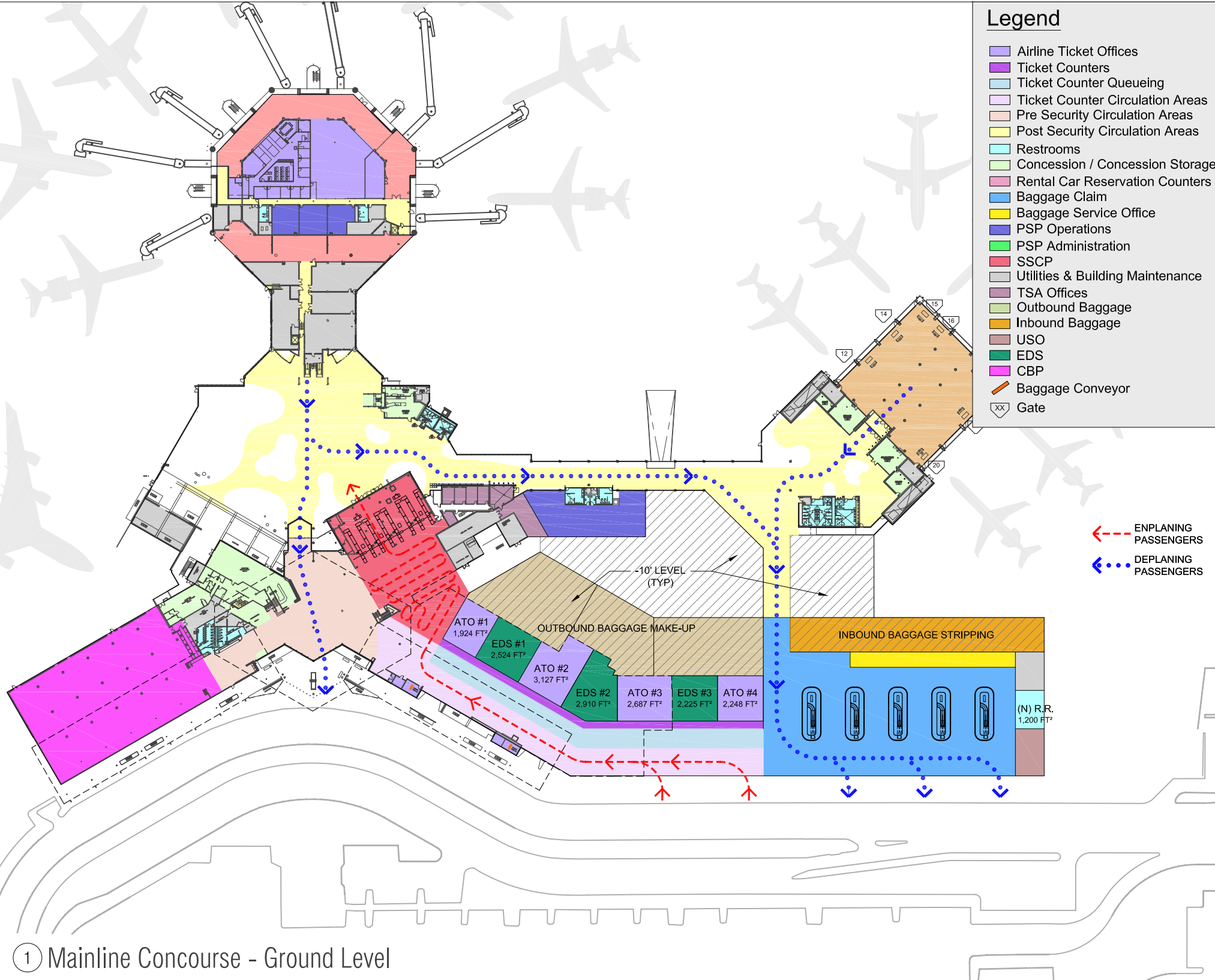
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③ Sonny Bono Concourse - Second Level



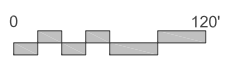
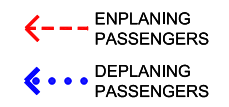
② Processor - Mezzanine Level



① Mainline Concourse - Ground Level

Legend

- Airline Ticket Offices
- Ticket Counters
- Ticket Counter Queueing
- Ticket Counter Circulation Areas
- Pre Security Circulation Areas
- Post Security Circulation Areas
- Restrooms
- Concession / Concession Storage
- Rental Car Reservation Counters
- Baggage Claim
- Baggage Service Office
- PSP Operations
- PSP Administration
- SSCP
- Utilities & Building Maintenance
- TSA Offices
- Outbound Baggage
- Inbound Baggage
- USO
- EDS
- CBP
- Baggage Conveyor
- Gate



Terminal Alternative 2 - Hybrid Processor
Figure 5-7
Palm Springs International Airport
Master Plan

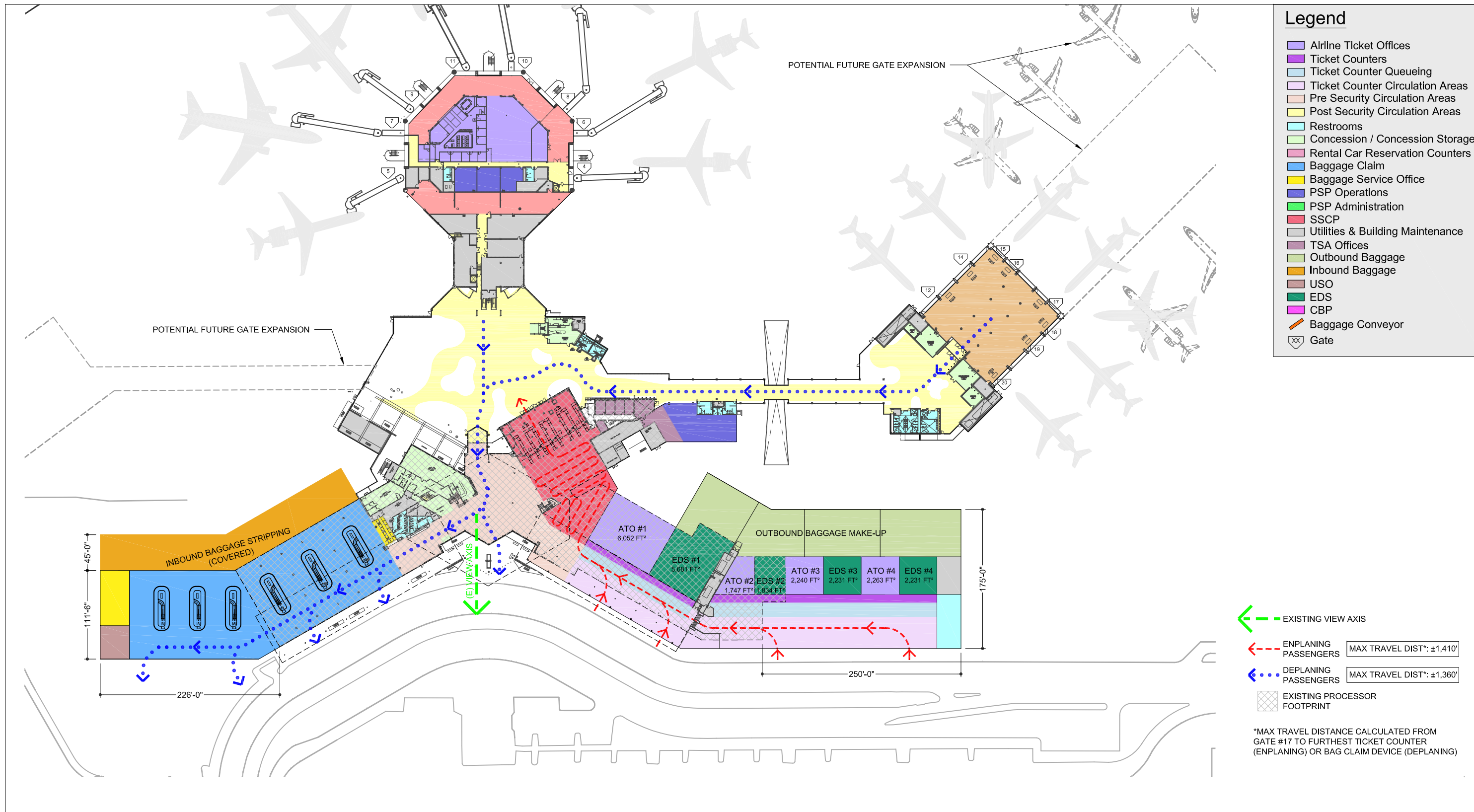
5.5-3 Terminal Alternative 3 – Expand-in-Place Alternative

Alternative 3, as depicted in **Figure 5-8**, is an expand-in-place alternative that maintains the Airport's existing symmetry axis. Alternative 3 was developed to meet the 2028 terminal facility requirements. Alternative 3 proposes the following terminal improvement changes.

- The baggage claim area is expanded to the north by approximately 225 feet and replaces the three existing baggage claim belts with six carousels, which individually have a greater baggage capacity. This expansion will increase the walking distance of patrons to public parking facilities.
- The baggage service office is expanded to better serve the high volume of oversized checked baggage.
- The rental car reservation counters and associated offices are removed from the baggage claim area.
- The ticketing lobby is expanded to the south by approximately 250 feet. The west façade is reconstructed and pushed approximately 21 feet outwards, principally to enhance queue and circulation space. Ticket counter length is extended to accommodate a wider range of growth scenarios.
- New facilities behind the ticketing counters house the in-line Explosive Detection System (EDS) for baggage screening
- Airline Ticket Offices (ATO) are reconfigured to accommodate the ticket lobby redesign.
- The passenger security screening area is expanded to increase the number of checkpoint lanes to 8 and increase the queue area. It is deficient by 1 lane to meet the 2028 requirement.

The expand-in-place alternative increases the distance between the ends of the ticketing and baggage claim halls, but maintains the overall terminal symmetry along the view corridor axis. It also maintains the flow pattern of passengers while increasing circulation space. Finally, it preserves opportunity for future expansion to the north or the south. Alternative 3 does not propose constructing additional gates within the planning horizon. However, it does not preclude future gate development at the airport. Implementation of Alternative 3 will require more detailed analysis of the existing structure to validate the structural feasibility of ticketing expansion. It also requires a change in the floor elevation in the middle of the ticketing lobby.

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Terminal Alternative 3 - Expand-in-Place

Figure 5-8

Palm Springs International Airport

Master Plan



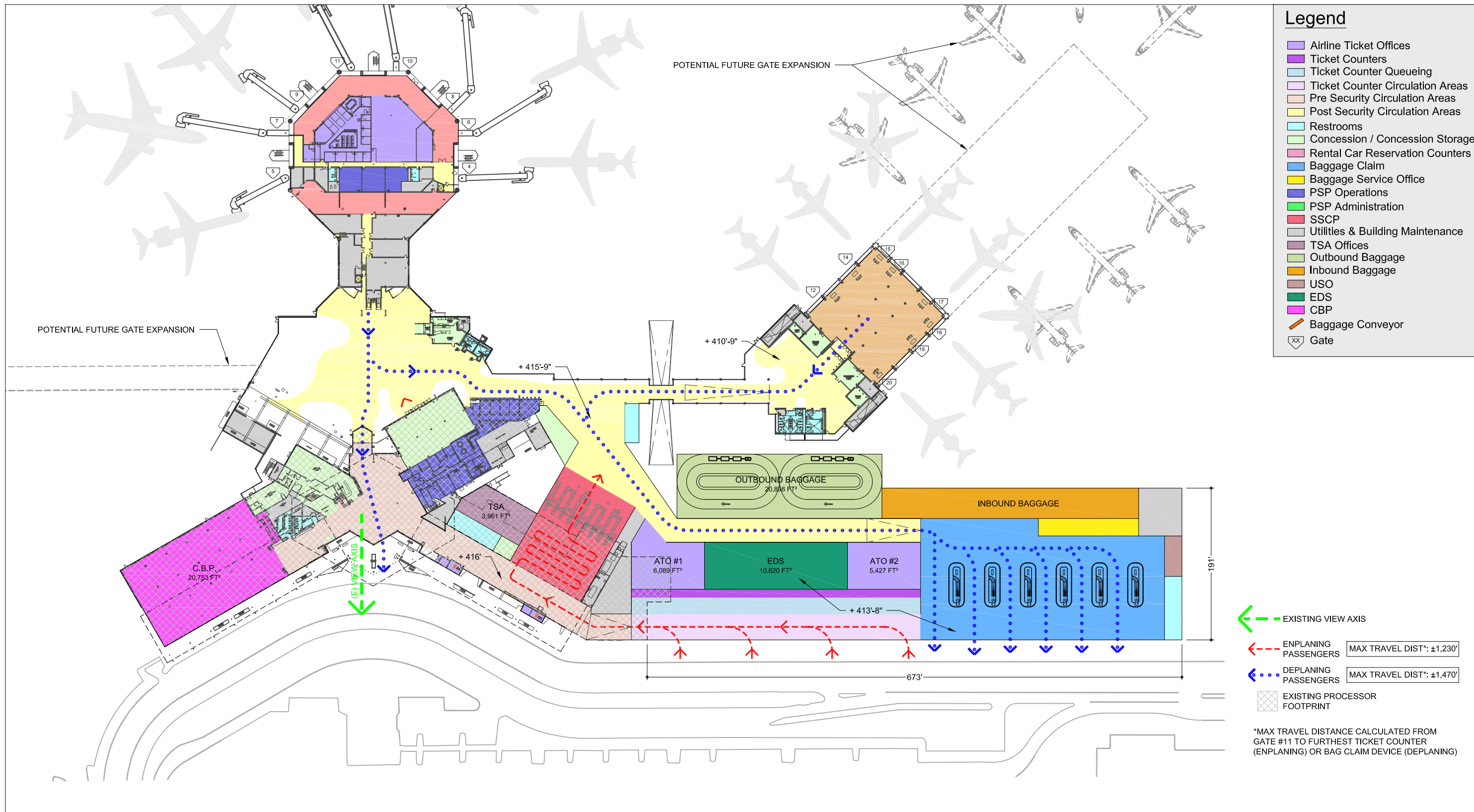
5.5-4 Terminal Alternative 4 – New Processor

Alternative 4 - New Processor, is a significant departure from the existing terminal layout and flow pattern. Alternative 4 proposes the following terminal improvement changes.

- The ticketing lobby is constructed south of the existing ticketing, ATO, and EDS areas to provide additional queuing and circulation area. This requires the demolition of the existing Allegiant / WestJet ticketing lobby and will allow for the resolution of the floor level change that is not dealt with in Alternatives 2 and 3.
- The in-line EDS and ATO areas are consolidated to maximize their operations efficiency.
- New inbound and outbound baggage make up areas are constructed.
- A new six-carousel baggage claim area is constructed south of the expanded ticketing lobby.
- The passenger security screening area is expanded. In addition, the number of checkpoint lanes is increased from 6 to 9 lanes.
- The U.S. Customs and Border Protection facility is relocated and expanded and would replace the existing baggage claim area.
- Three of the commuter terminal gates are realigned.
- The existing vehicle inspection plaza may need to be relocated.

Several different subsets of Alternative 4 - New Processor, were hypothesized during a design charrette. All of the subsets provided different passenger flow patterns and location of facilities. Based on facility sizing criteria, the ease of phasing, and balance with landside facilities, only one New Processor Alternative was carried forward. Alternative 4 is depicted in **Figure 5-9**.

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Terminal Alternative 4 - New Processor
 Figure 5-9
 Palm Springs International Airport
 Master Plan



5.5-5 Refinement of Initial Terminal Alternatives

Feedback from Airport Staff and vigorous analysis conducted during two design charrettes resulted in the refinement of the terminal alternatives discussed above. Alternative 2 - Hybrid Processor, did not adequately meet the facility requirements and was removed from further consideration. The Hybrid Processor fails to provide sufficient ticketing and baggage claim area space for a full-build alternative meeting requirements through 2028. To replace Alternative 2 - the Planning Team developed a new alternative known as the Immediate Action Plan.

The Immediate Action Plan provides a lower-cost alternative that would resolve some of the most pressing needs within the PSP terminal. It was developed in light of the recent economic recession to provide potential low cost, short term improvements because of the challenges facing the airport and airport tenants including airlines. The alternative maintains the existing terminal symmetry and moderately expands both the baggage claim and ticketing areas in their current location. The Immediate Action Plan, as depicted in **Figure 5-10**, is intended to be a near-term alternative, but it meets some of the long-term (2018 – 2028) requirements as well. It allows for a modular expansion process that is compatible with the option to develop either a full Expand-in-Place Alternative or the New Processor Alternative. Specifically, the Immediate Action Plan proposes the following terminal improvement changes.

- Rental car reservation counters currently located inside the baggage claim would be relocated out of the terminal building.
- The existing baggage claim devices would be extended to provide an additional 450 linear feet of frontage. This is the preferred option.
- An additional baggage claim carousel would be constructed in a sprung structure adjacent to the existing baggage claim. This is a secondary option.

The concept of creating an exterior sprung structure to accommodate another baggage claim carousel could also be an actual extension of the building. This addition could then either serves as a new carousel or house all rental car counters and offices in the short term and allow for the primary carousels to be extended. Once the long-term permanent structure is completed, the rental car counters and offices would be relocated.

The existing façade of the ticketing lobby could be pushed westward towards the terminal curbside to provide additional queuing space and circulation (optional).

The replaced Alternative 2 - Immediate Action Plan, addresses several of the most critical near-term terminal area deficiencies. It would improve baggage claim capacity and level of service by relocating rental car customer service counters, add additional footage to baggage claim devices, and improve ticketing queuing and level of service by widening the existing ticketing area. However, based on forecast activity, the alternative would not meet the required capacity beyond 2018.

Finally, the implementation of Alternative 2 would require additional detailed analysis of the existing structure to validate the structural feasibility of a potential ticketing expansion. This is partly a result of

the modern seismic requirements included in the most recent changes to the California Building Code and partly a result of tying multiple previous expansions together with another expansion. Additional analysis is recommended to determine if limited expansion could meet the appropriate requirements of the California Building Code without triggering a seismic upgrade of the existing structure.

EXTEND EXISTING BAG CLAIM DEVICES (450 L.F. ADDITIONAL)

PROPOSED OVERFLOW BAG CLAIM DEVICE IN SPRUNG STRUCTURE

RELOCATE EXISTING RENTAL CAR & USO

RECONFIGURE EXISTING ROADWAY TO ACHIEVE MIN. 20' DEPARTURE CURB

EXPAND EXISTING RAMP & CANOPY @ SOUTH END

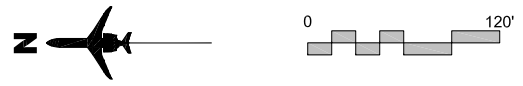
RELOCATE EXISTING FACADE TO FACE OF EXISTING COLUMNS

Legend

- Airline Ticket Offices
- Ticket Counters
- Ticket Counter Queueing
- Ticket Counter Circulation Areas
- Pre Security Circulation Areas
- Post Security Circulation Areas
- Restrooms
- Concession / Concession Storage
- Rental Car Reservation Counters
- Baggage Claim
- Baggage Service Office
- PSP Operations
- PSP Administration
- SSCP
- Utilities & Building Maintenance
- TSA Offices
- Outbound Baggage
- Inbound Baggage
- USO
- EDS
- CBP
- Baggage Conveyor
- Gate

- EXISTING VIEW AXIS
- ENPLANING PASSENGERS MAX TRAVEL DIST*: ±1,282'
- DEPLANING PASSENGERS MAX TRAVEL DIST*: ±1,200'
- EXISTING PROCESSOR FOOTPRINT

*MAX TRAVEL DISTANCE CALCULATED FROM GATE #17 TO FURTHEST TICKET COUNTER (ENPLANING) OR BAG CLAIM DEVICE (DEPLANING)



Terminal Alternative 2 - Immediate Action Plan (NEW)

Figure 5-10

