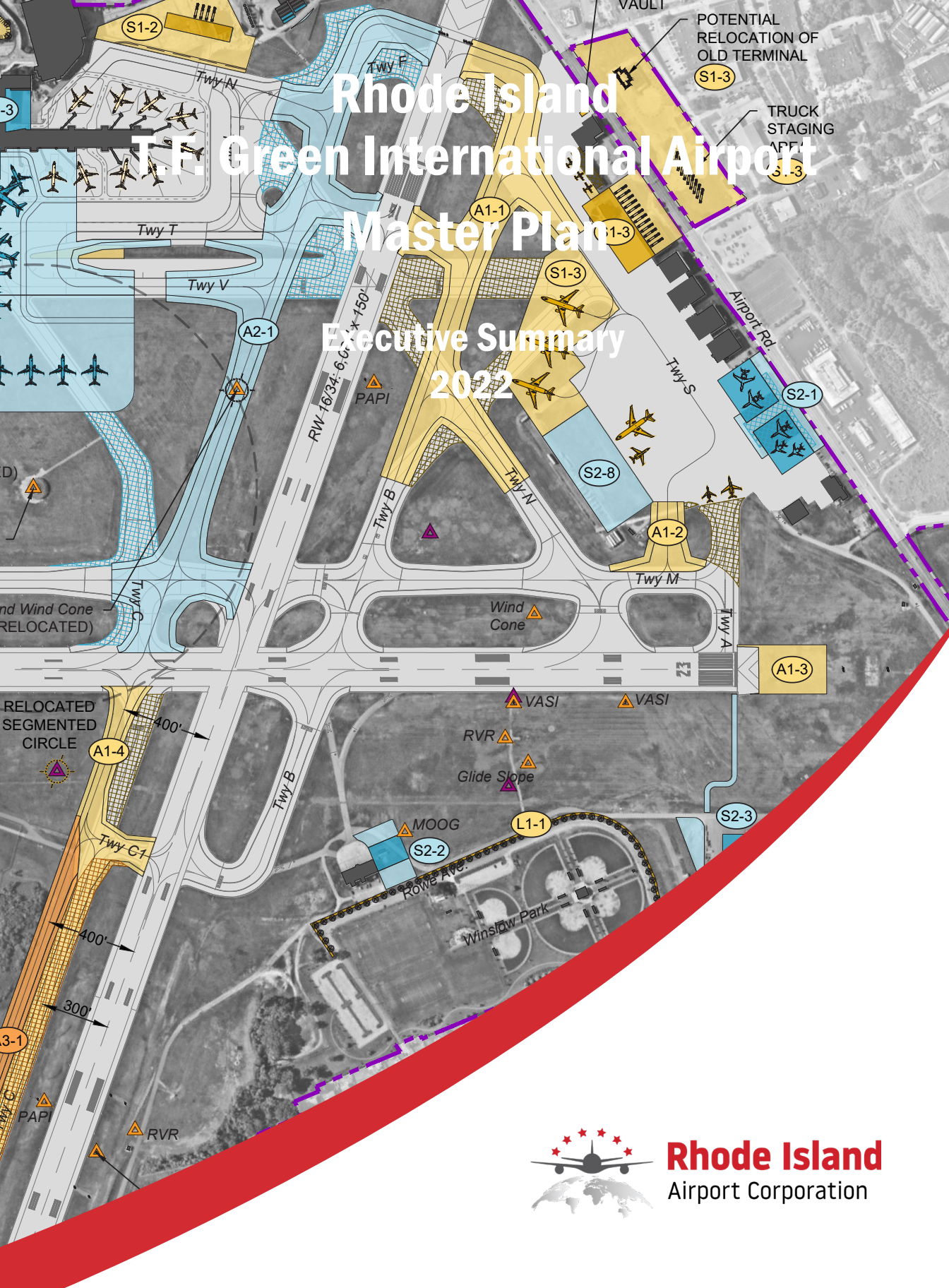


Rhode Island T.F. Green International Airport Master Plan

Executive Summary 2022



Rhode Island
Airport Corporation

**Rhode Island
T.F. Green International Airport
Master Plan**

**Executive Summary
2022**

Prepared by:





A Message From

Iftikhar Ahmad

Welcome and thank you for taking the time to peruse the Rhode Island T. F. Green International Airport (PVD) Master Plan!

The Rhode Island Airport Corporation (RIAC) began the process of updating the Master Plan for Rhode Island T. F. Green International Airport as required by the Federal Aviation Administration’s (FAA) guidance in 2018, drawing upon the input and expertise of a diverse Technical Advisory Committee. The completed Master Plan, approved by the FAA in 2021, does not include consideration of any runway lengthening or realignment. The main objectives of this Master Plan allow RIAC to:

- Ensure safe and operationally efficient facilities that meet FAA requirements
- Develop feasible and flexible alternatives to meet forecasted demand; and
- Define compatible land uses surrounding the airport.

To create the Master Plan, RIAC sought and received input from a wide range of stakeholders across the city and state regarding planning forecasts and preliminary development concepts for airside, terminal, landside and cargo/general aviation areas. Unlike past Master Plans, the current Rhode Island T. F. Green International Airport Master Plan does not call for further runway extensions, since the previous extension allows PVD to serve as an international airport as well as nonstop flights to the West Coast.

In general, the FAA estimates that aviation activity in Rhode Island, primarily at Rhode Island T. F. Green International Airport, provides over \$2.6 billion in economic impact for the state, while supporting nearly 20,000 jobs, including local construction jobs, and provides other economic benefits to the community. The final plan, approved by the FAA in 2021, can now be used as a tool to inform the Capital Improvement Plan (CIP), and sets the stage for development opportunities that are in-line with the City Centre Warwick Master Plan initiatives that may arise in the future.

The Master Plan also outlines numerous opportunities to foster economic development on behalf of the state, as demand for expanded air cargo capacity and other economic development opportunities create the potential for sustainable job creation, but only with the proper infrastructure planning and development. The Master Plan includes approximately \$840 million for almost 100 different projects that will support the local economy.

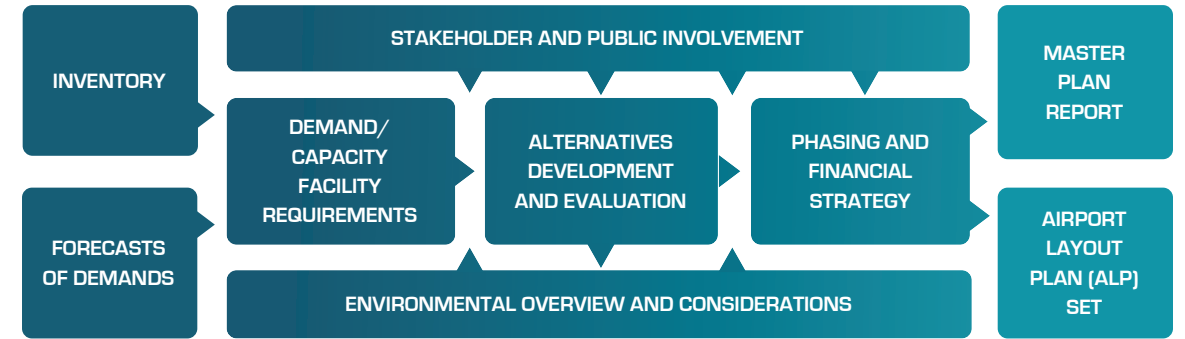
We hope you will find this comprehensive overview of landside and airside development concepts interesting and informative as we all eagerly look forward to the many opportunities the future holds for the City of Warwick and State of Rhode Island.

Sincerely,

Iftikhar Ahmad
President and CEO
Rhode Island Airport Corporation

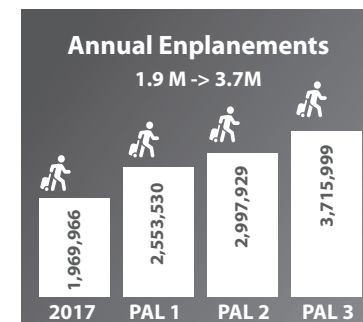
Airport Master Plan Process

The Master Plan process consisted of a number of tasks and incorporated stakeholder and public involvement throughout the process. A diagram of the Master Plan process is shown here.



Approved Forecasts of Aviation Demand

Passenger activity is tracked regularly against the FAA Terminal Area Forecast (TAF). COVID-19 resulted in the decline of passenger activity and operations. Master Plan projects will be pushed out to future years, but will be tracked and implemented by Planning Activity Levels (PALs).



Public Involvement Plan

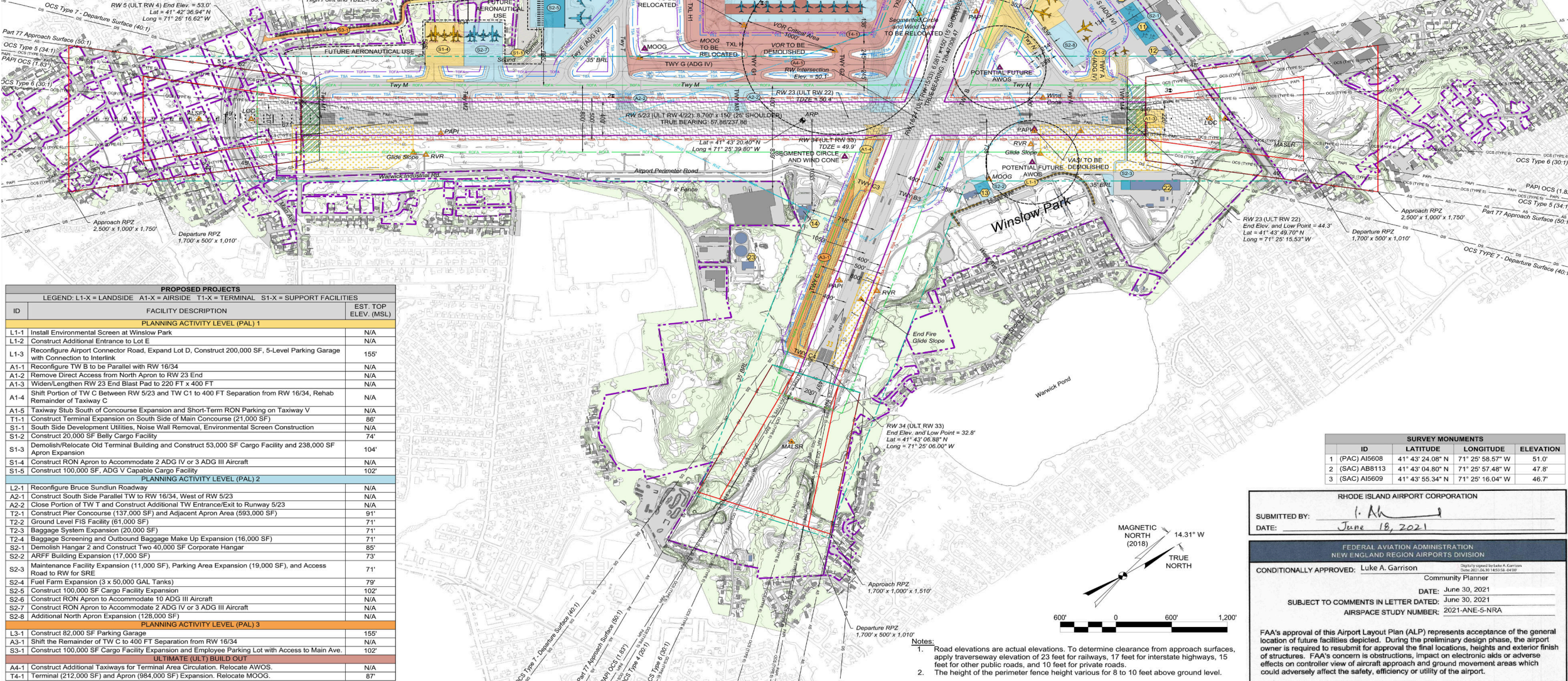
RIAC understands the importance of public participation in the development of a Master Plan. This Master Plan process strived to reach a broader consensus for its development recommendations in the greater community. For this Master Plan, public participation came from Technical Advisory Committee (TAC) meetings, RIAC Board briefings, RIAC Open Houses, and public workshops.

Two public workshops were held on June 25 and 26, 2019. The workshops provided an opportunity to review the Master Plan process, forecasts, requirements, environmental baseline information, and alternatives. The workshops and open houses were advertised locally and promoted on social media. Input from these workshops and all outreach efforts were used to shape the final development plan.

LEGEND		
EXISTING	ULTIMATE	DESCRIPTION
[Symbol]	Same	Buildings (Off-Airport)
[Symbol]	Same	Airport Property Line
[Symbol]	Same	Fence
[Symbol]	Same	Runway Safety Area
[Symbol]	Same	Runway Object Free Area
[Symbol]	Same	Runway Obstacle Free Zone
[Symbol]	Same	Runway Protection Zone
[Symbol]	Same	Taxiway Safety Area
[Symbol]	Same	Taxiway Object Free Area
[Symbol]	Same	Part 77 Approach Surface
[Symbol]	Same	OCS Type 4 (20:1)
[Symbol]	Same	OCS Type 5 (34:1)
[Symbol]	Same	OCS Type 6 (30:1)
[Symbol]	Same	OCS Type 7 (40:1)
[Symbol]	Same	PAPI Obstacle Clearance Surface
[Symbol]	Same	Building Restriction Line (35')
[Symbol]	Same	Runway Visibility Zone
[Symbol]	Same	Precision Obstacle Free Zone
[Symbol]	Same	Localizer Critical Area
[Symbol]	Same	Glide Slope Critical Area
[Symbol]	N/A	Tree Stand Area
[Symbol]	Same	Airport Reference Point
[Symbol]	N/A	Survey Monument
[Symbol]	N/A	Navigational Aid (NAVAID)
[Symbol]	N/A	Spot Elevation (Mean Sea Level)
[Symbol]	N/A	Future Aeronautical Use
[Symbol]	N/A	NAVAID Critical Area

LEGEND					
EXISTING	PAL 1	PAL 2	PAL 3	ULT. BUILD-OUT	DESCRIPTION
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	Buildings
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	Pavement
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	Demolition

EXISTING FACILITIES			
ID	FACILITY DESCRIPTION	TOP ELEV. (MSL)	OBSTRUCTION MARKING/LIGHTING
1	Terminal Building (TO BE DEMOLISHED)	131.7'	
2	Cargo Building (TO BE DEMOLISHED)	79.4'	
3	Fuel Management/Providence Equity	88.5'	
4	RI Aircraft Services/Misc. Equipment Storage (TO BE DEMOLISHED)	71.7'	
5	Vacant (TO BE DEMOLISHED / RELOCATED)	80.7'	
6	Textron	81.9'	
7	Textron	92.6'	
8	CVS	82.6'	
9	Textron	87.9'	
10	Lynx	81.8'	
11	Hangar No. 2 - Cargo (TO BE DEMOLISHED)	99.3'	
12	Hangar No. 3 - Horizon Aviation	65.9'	
13	ARFF Building	75.1'	
14	Airport Traffic Control Tower	128.8'	
15	Rental/Commuter Garage	148.7'	
16	Rental Car Service Building	113.5'	
17	Interlink	117.9'	
18	Parking Garages	127.1'	
19	Vacant (TO BE DEMOLISHED)	70.0'	
20	Vacant (TO BE DEMOLISHED)	75.5'	
21	Central Fuel Farm Glycol Blending Facility	N/A	
22	Airport Maintenance/Operations Facility/SRE	75.5'	
23	Deice Treatment Facility	74.5'	
24	Hangar No. 4 - Horizon Aviation	78' (est.)	



PROPOSED PROJECTS		
ID	FACILITY DESCRIPTION	EST. TOP ELEV. (MSL)
LEGEND: L1-X = LANDSIDE A1-X = AIRSIDE T1-X = TERMINAL S1-X = SUPPORT FACILITIES		
PLANNING ACTIVITY LEVEL (PAL) 1		
L1-1	Install Environmental Screen at Winslow Park	N/A
L1-2	Construct Additional Entrance to Lot E	N/A
L1-3	Reconfigure Airport Connector Road, Expand Lot D, Construct 200,000 SF, 5-Level Parking Garage with Connection to Interlink	155'
A1-1	Reconfigure TW B to be Parallel with RW 16/34	N/A
A1-2	Remove Direct Access from North Apron to RW 23 End	N/A
A1-3	Widen/Lengthen RW 23 End Blast Pad to 220 FT x 400 FT	N/A
A1-4	Shift Portion of TW C Between RW 5/23 and TW C1 to 400 FT Separation from RW 16/34, Rehab Remainder of Taxiway C	N/A
A1-5	Taxiway Stub South of Concourse Expansion and Short-Term RON Parking on Taxiway V	N/A
T1-1	Construct Terminal Expansion on South Side of Main Concourse (21,000 SF)	86'
S1-1	South Side Development Utilities, Noise Wall Removal, Environmental Screen Construction	N/A
S1-2	Construct 20,000 SF Belly Cargo Facility	74'
S1-3	Demolish/Relocate Old Terminal Building and Construct 53,000 SF Cargo Facility and 238,000 SF Apron Expansion	104'
S1-4	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft	N/A
S1-5	Construct 100,000 SF, ADG V Capable Cargo Facility	102'
PLANNING ACTIVITY LEVEL (PAL) 2		
L2-1	Reconfigure Bruce Sundun Roadway	N/A
A2-1	Construct South Side Parallel TW to RW 16/34, West of RW 5/23	N/A
A2-2	Close Portion of TW T and Construct Additional TW Entrance/Exit to Runway 5/23	91'
T2-1	Construct Pier Concourse (137,000 SF) and Adjacent Apron Area (593,000 SF)	91'
T2-2	Ground Level FIS Facility (61,000 SF)	71'
T2-3	Baggage System Expansion (20,000 SF)	71'
T2-4	Baggage Screening and Outbound Baggage Make Up Expansion (16,000 SF)	71'
S2-1	Demolish Hangar 2 and Construct Two 40,000 SF Corporate Hangar	85'
S2-2	ARFF Building Expansion (17,000 SF)	73'
S2-3	Maintenance Facility Expansion (11,000 SF), Parking Area Expansion (19,000 SF), and Access Road to RW for SRE	71'
S2-4	Fuel Farm Expansion (3 x 50,000 GAL Tanks)	79'
S2-5	Construct 100,000 SF Cargo Facility Expansion	102'
S2-6	Construct RON Apron to Accommodate 10 ADG III Aircraft	N/A
S2-7	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft	N/A
S2-8	Additional North Apron Expansion (128,000 SF)	N/A
PLANNING ACTIVITY LEVEL (PAL) 3		
L3-1	Construct 82,000 SF Parking Garage	155'
A3-1	Shift the Remainder of TW C to 400 FT Separation from RW 16/34	N/A
S3-1	Construct 100,000 SF Cargo Facility Expansion and Employee Parking Lot with Access to Main Ave.	102'
ULTIMATE (ULT) BUILD-OUT		
A4-1	Construct Additional Taxiways for Terminal Area Circulation, Relocate AWOS	N/A
T4-1	Terminal (212,000 SF) and Apron (984,000 SF) Expansion, Relocate MOOG	87'

SURVEY MONUMENTS				
ID	LATITUDE	LONGITUDE	ELEVATION	
1	(PAC) A15608	41° 43' 24.08" N	71° 25' 58.57" W	51.0'
2	(SAC) AB8113	41° 43' 04.80" N	71° 25' 57.48" W	47.8'
3	(SAC) A15609	41° 43' 55.34" N	71° 25' 16.04" W	46.7'

RHODE ISLAND AIRPORT CORPORATION

SUBMITTED BY: L. Garrison

DATE: June 18, 2021

FEDERAL AVIATION ADMINISTRATION
NEW ENGLAND REGION AIRPORTS DIVISION

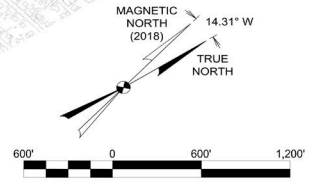
CONDITIONALLY APPROVED: Luke A. Garrison
Community Planner

DATE: June 30, 2021

SUBJECT TO COMMENTS IN LETTER DATED: June 30, 2021

AIRSPACE STUDY NUMBER: 2021-ANE-5-NRA

FAA's approval of this Airport Layout Plan (ALP) represents acceptance of the general location of future facilities depicted. During the preliminary design phase, the airport owner is required to resubmit for approval the final locations, heights and exterior finish of structures. FAA's concern is obstructions, impact on electronic aids or adverse effects on controller view of aircraft approach and ground movement areas which could adversely affect the safety, efficiency or utility of the airport.



- Notes:
- Road elevations are actual elevations. To determine clearance from approach surfaces, apply traverseway elevation of 23 feet for railways, 17 feet for interstate highways, 15 feet for other public roads, and 10 feet for private roads.
 - The height of the perimeter fence height varies from 6 to 10 feet above ground level.



Project T1-1: Construct Terminal Expansion on South Side of Main Concourse

This project consists of a two-level concourse expansion at the end of the south concourse. The lower level includes airport or airline space and the upper level includes hold room and concessions expansion. The total square footage of this expansion is approximately 21,000 SF and would allow for an additional two wide-body and two narrow-body gates.



Project S1-5: Construct Aircraft Design Group (ADG) V Capable Cargo Facility

This facility, located south of the terminal complex – north of Runway 5, would cater to a new all-cargo operator and would likely be privately funded. The size of the facility is approximately 100,000 SF and would include available apron space for two simultaneous ADG V aircraft to be parked nose-in to the building on the apron.



Project S1-3: Relocate Old Terminal Building and Construct Cargo Facility with Apron Expansion

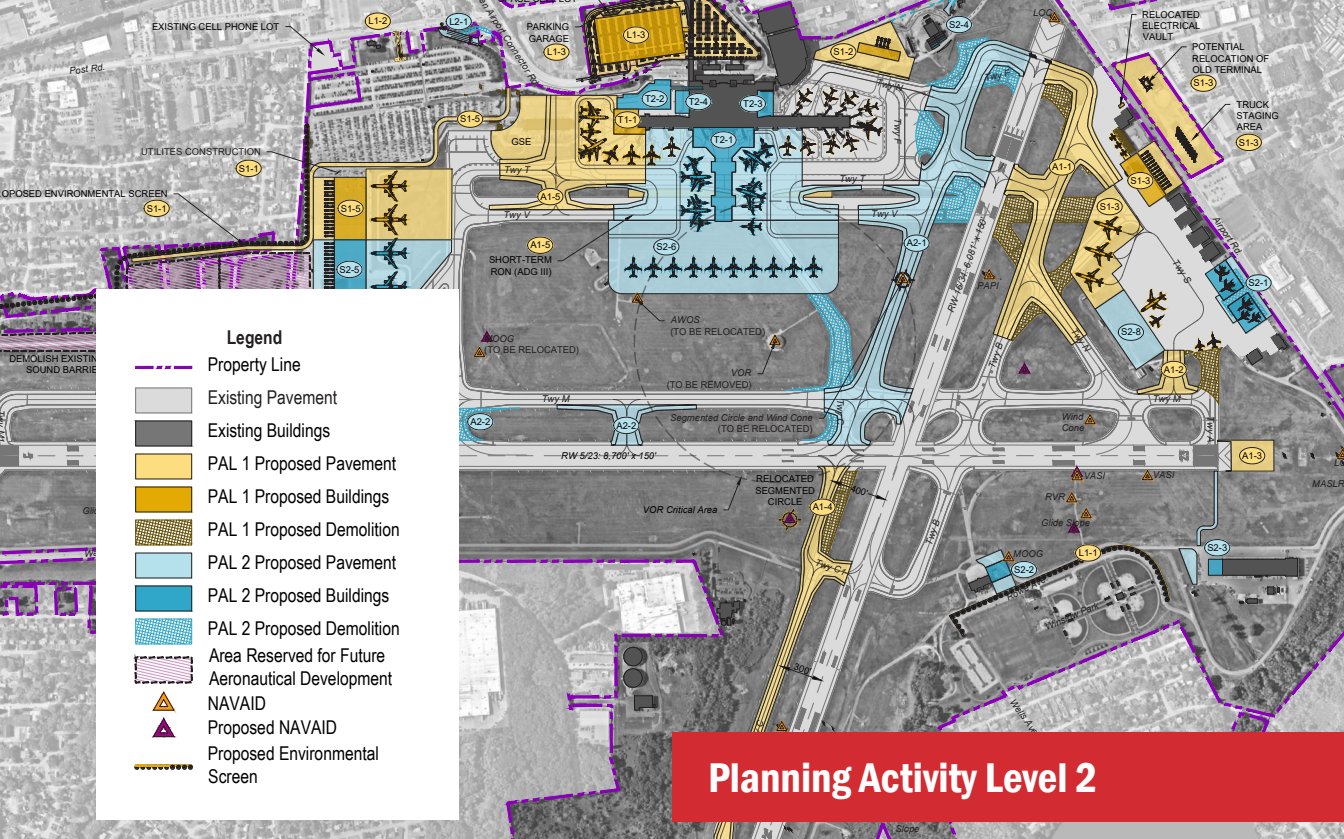
This project involves construction of a 53,000 SF cargo facility on the North Apron. This facility would replace the existing cargo operation that is occurring in Hangar 2 – an existing cargo building further east. Enabling projects include relocation of the electrical vault as well as demolition of the old terminal building. Due to the historic nature of the terminal, further analysis is required to determine the level of mitigation required, and options may include demolition or relocation. A preliminary area on the opposite side of Airport Road has been identified to potentially accommodate the relocation of the building along with additional truck staging positions.



Note: The images on this page are preliminary concept renderings only. Actual development at the time of project implementation may look different.

PROPOSED PROJECTS (L1-X = LANDSIDE A1-X = AIRSIDE T1-X = TERMINAL S1-X = SUPPORT FACILITIES)

ID	FACILITY DESCRIPTION
L1-1	Install Environmental Screen at Winslow Park
L1-2	Construct Additional Entrance to Lot E
L1-3	Reconfigure Airport Connector Road, Expand Lot D, Construct 5-Level Parking Garage with Connection to Interlink
A1-1	Reconfigure TW B to be Parallel with RW 16/34
A1-2	Remove Direct Access from North Apron to RW 23 End
A1-3	Widen/Lengthen RW 23 End Blast Pad to 220 FT x 400 FT
A1-4	Shift Portion of TW C Between RW 5/23 and TW C1 to 400 FT Separation from RW 16/34, Rehab Remainder of TW C
A1-5	Taxiway Stub South of Concourse Expansion and Short-Term RON Parking on Taxiway V
T1-1	Construct Terminal Expansion on South Side of Main Concourse (21,000 SF)
S1-1	South Side Development Utilities, Noise Wall Removal, Environmental Screen Construction
S1-2	Construct 20,000 SF Belly Cargo Facility
S1-3	Demolish/Relocate Old Terminal Building and Construct 53,000 SF Cargo Facility and 238,000 SF Apron Expansion
S1-4	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft
S1-5	Construct 100,000 SF, ADG V Capable Cargo Facility



Project T2-1: Construct Pier Concourse and Adjacent Apron Area

This project consists of a two-level concourse expansion at the mid-point of the existing concourse. The lower level will include airport or airline space as well as concessions storage. The upper level will contain a widened and expanded security checkpoint, a comprehensive concessions zone, and a hold room expansion. The total building expansion is an approximately 137,000 SF footprint along with 593,000 SF of apron improvements or expansion. This expansion will allow for four additional wide-body and five additional narrow-body gates.



Project S2-1 & S2-8: Demolish Hangar 2/Construct Two Corporate Hangars and Expand North Apron

Once Project S1-3 is completed, Hangar 2 will be vacant. This project proposes to demolish Hangar 2 and construct two 40,000 SF corporate hangars in its place. Due to the historic nature of Hangar 2, further analysis will be required at the time of this project to determine the extent of the mitigation required in order to demolish the hangar. This project is likely to be privately funded. The 128,000 SF expansion of the North Apron will allow additional operating space for the general aviation tenants in the area.

Project S2-5: Construct Additional Cargo Facility Expansion

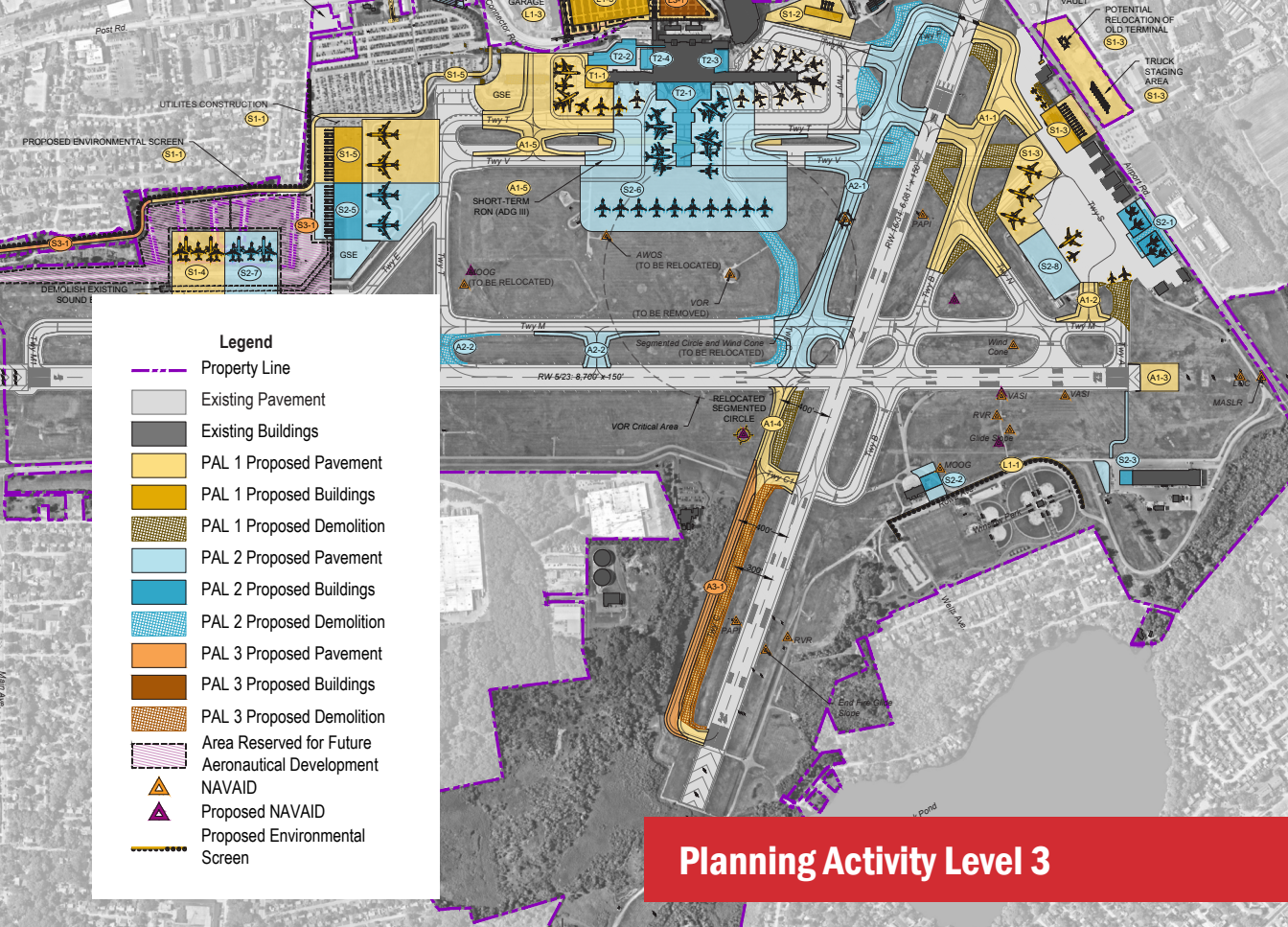
This expansion is Phase 2 of the Project S1-5 cargo facility. It would effectively double the size of the facility by adding 100,000 SF of building and enough ramp space for two ADG V aircraft. As with Phase 1 of the cargo facility, this project is anticipated to be privately funded.



Note: The images on this page are preliminary concept renderings only. Actual development at the time of project implementation may look different.

PROPOSED PROJECTS (L1-X = LANDSIDE A1-X = AIRSIDE T1-X = TERMINAL S1-X = SUPPORT FACILITIES)

ID	FACILITY DESCRIPTION
L2-1	Reconfigure Bruce Sundlun Roadway
A2-1	Construct South Side Parallel TW to RW 16/34, West of RW 5/23
A2-2	Close Portion of TW T and Construct Additional TW Entrance/Exit to Runway 5/23
T2-1	Construct Pier Concourse (137,000 SF) and Adjacent Apron Area (593,000 SF)
T2-2	Ground Level FIS Facility (61,000 SF)
T2-3	Baggage System Expansion (20,000 SF)
T2-4	Baggage Screening and Outbound Baggage Make Up Expansion (16,000 SF)
S2-1	Demolish Hangar 2 and Construct Two 40,000 SF Corporate Hangar
S2-2	ARFF Building Expansion (17,000 SF)
S2-3	Maintenance Facility Expansion (11,000 SF), Parking Area Expansion (19,000 SF), and Access Road to RW for SRE
S2-4	Fuel Farm Expansion (3 x 50,000 GAL Tanks)
S2-5	Construct 100,000 SF Cargo Facility Expansion
S2-6	Construct RON Apron to Accommodate 10 ADG III Aircraft
S2-7	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft
S2-8	Additional North Apron Expansion (128,000 SF)



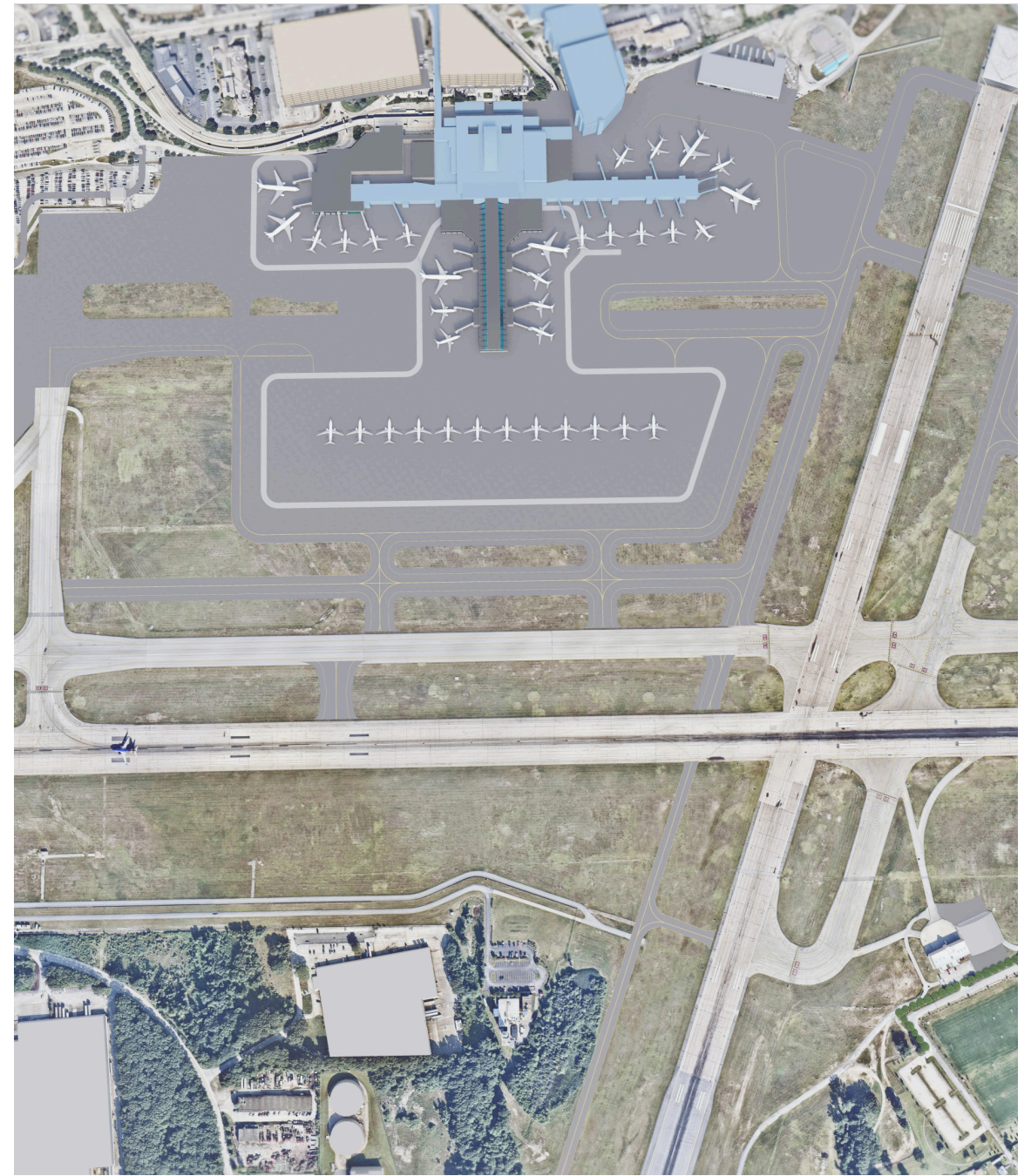
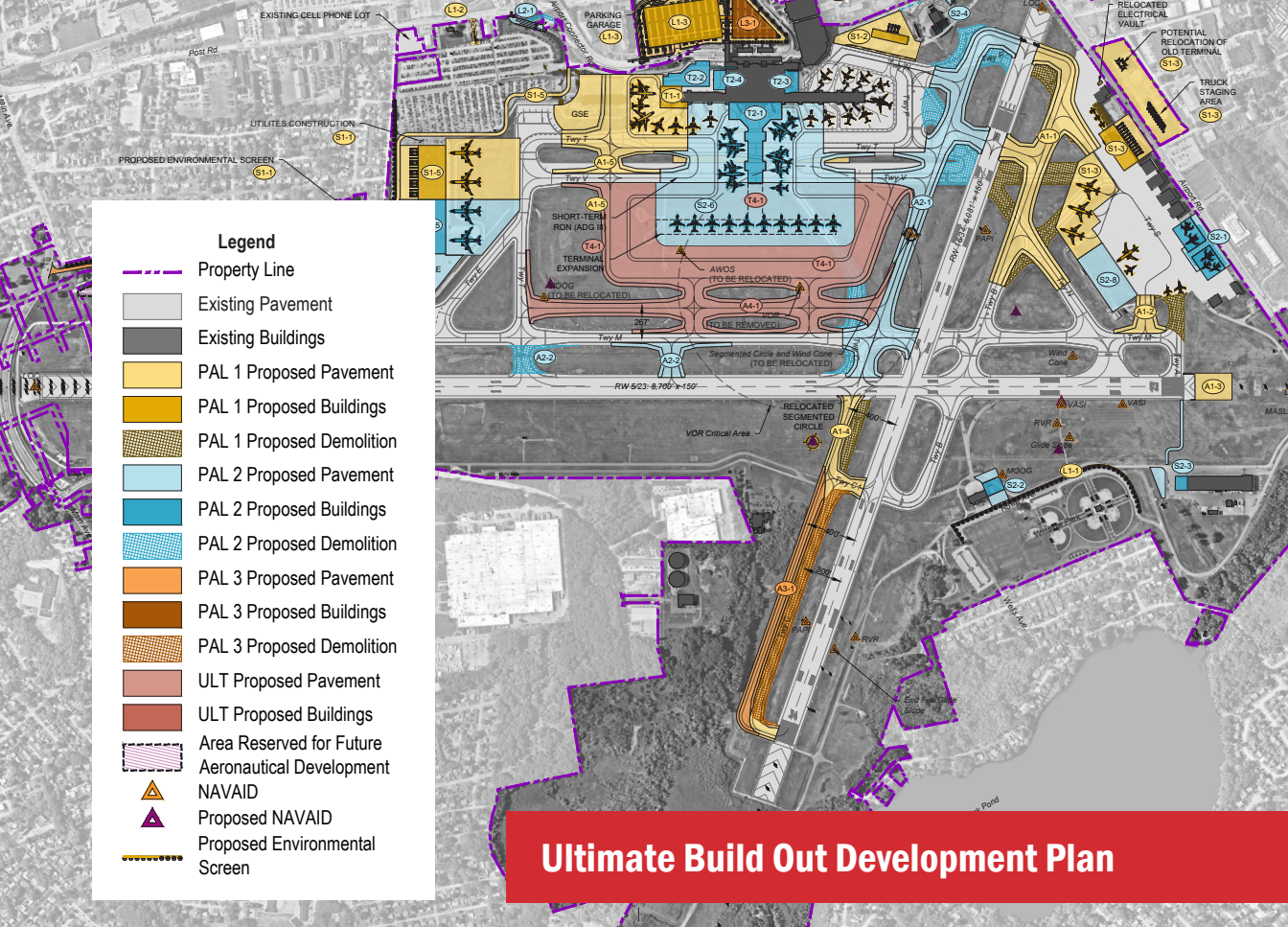
PROPOSED PROJECTS (L1-X = LANDSIDE A1-X = AIRSIDE T1-X = TERMINAL S1-X = SUPPORT FACILITIES)

ID	FACILITY DESCRIPTION
L3-1	Construct 82,000 SF Parking Garage
A3-1	Shift the Remainder of TW C to 400 FT Separation from RW 16/34
S3-1	Construct 100,000 SF Cargo Facility Expansion and Employee Parking Lot with Access to Main Ave.

Project L3-1: Construct New Parking Garage

A new parking garage would be constructed over the portion of Lot D to connect just north of the InterLink. It would be approximately 82,000 SF and have five levels. This graphic also highlights additional terminal expansion elements noted in PAL 2: new Federal Inspection Services facility, a baggage system expansion area, and a baggage screening and outbound baggage make up area expansion.

Note: The image on this page is a preliminary concept rendering only. Actual development at the time of project implementation may look different.



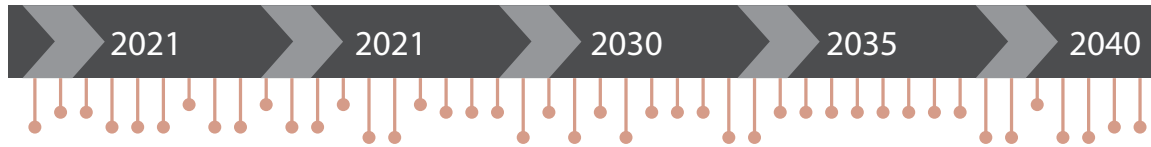
Ultimate Build-Out Projects: Beyond 20-Year Planning Period

The projects noted in the fourth or ultimate build-out phase are not part of the 20-year planning period associated with the Master Plan. The facility requirements analysis does not indicate these improvements or facilities are needed, but they are shown for future consideration and the preservation of potential development areas. The need or justification for these projects are susceptible to changes in airport activity and demand. These projects include a proposed two-level pier concourse expansion and the additional taxiways needed to support it.

PROPOSED PROJECTS (L1-X = LANDSIDE A1-X = AIRSIDE T1-X = TERMINAL S1-X = SUPPORT FACILITIES)

ID	FACILITY DESCRIPTION
A4-1	Construct Additional Taxiways for Terminal Area Circulation. Relocate AWOS.
T4-1	Terminal (212,000 SF) and Apron (984,000 SF) Expansion. Relocate MOOG.

\$840 MILLION IN DIRECT INVESTMENT → PVD CAPITAL IMPROVEMENT PLAN



96 PROJECTS INCLUDING:

- Airside Improvements
- Terminal Upgrades & Other Structures
- Technology & Communications
- Utilities & Transportation
- Safety Enhancements

The CIP represents a major, ongoing investment that will support businesses and families in the City of Warwick, State of Rhode Island, and even the nation. CIP investments extend beyond the already tremendous economic benefits PVD provides through its ongoing services and operations.

Total economic benefits of the CIP include a direct effect as businesses are compensated for CIP projects, along with the secondary “multiplier effect” as business and employee spending ripple across the region’s economy.

KEY TAKEAWAYS

Of \$840 million in total CIP spending, some \$450 million (54%) is expected to leverage federal and third-party sources, meaning that **the local RIAC share represents less than half of overall CIP spending.**

The CIP could support or maintain 3,200 local jobs in the City of Warwick as a result of these capital projects. Overall average labor income is more than \$66,000 per job annually.

Each dollar of in-state **spending generates an additional \$0.85 in economic activity** as benefits ripple through the state economy.

An estimated 40% of all **project spending could be spent with businesses in the City of Warwick** and 65% to businesses in the State of Rhode Island.

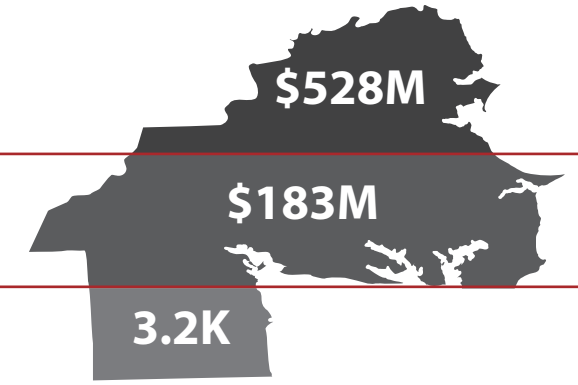
Approximately **\$14 million generated in state income tax revenue** and \$140 million in federal income tax revenue.

Economic Activity

Labor Income

Employment

CITY OF WARWICK

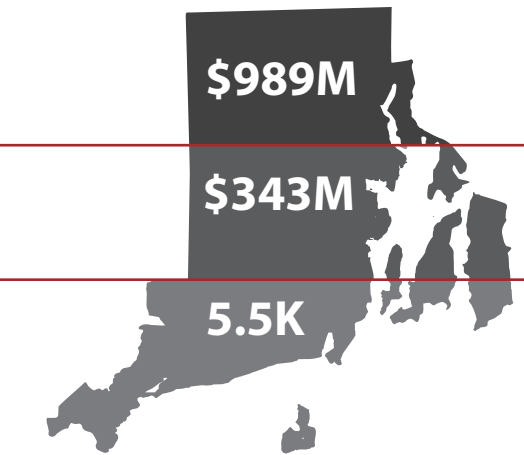


Economic Activity

Labor Income

Employment

STATE OF RHODE ISLAND

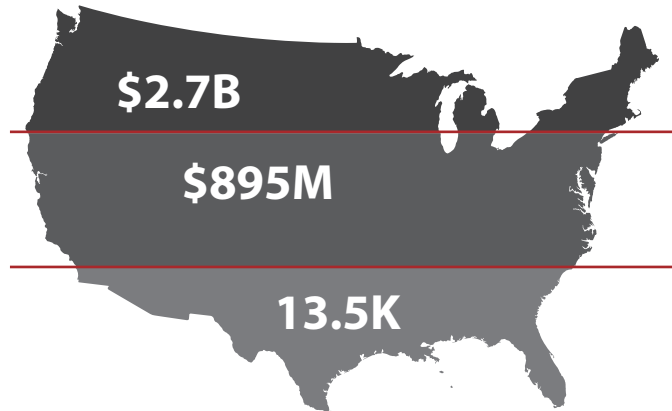


Economic Activity

Labor Income

Employment

UNITED STATES TOTAL



Note:
Employment in job-years; dollar values at current (2020) level.

Prepared by:



Rhode Island
Airport Corporation

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Warwick, RI 02886
401-691-2000

<https://www.flyri.com/passengers/general-information/>

