APPENDIX A

Correspondence

U.S. Department
of Transportation
**Federal Aviation
Administration**

Orlando Airports District Office
5950 Hazeltine National Dr., Suite 400
Orlando, FL 32822-5024

Phone: 407-812-6331

August 17, 2010

Mr. Noah Lagos, A.A.E.
Airport Director
St. Petersburg-Clearwater International Airport
14700 Terminal Blvd., Ste. 221
Clearwater, Florida 33762

Dear Mr. Lagos,

RE: St. Petersburg-Clearwater International Airport (PIE)
St. Petersburg, Florida
Airport Buffer Area

This letter responds to your July 20, 2010 correspondence and Value Analysis Report regarding the proposed 46.5 acre Airport "Buffer Area" at the St. Petersburg-Clearwater International Airport. Based on the Report, the Federal Aviation Administration (FAA) recognizes the following benefits of this proposal:

- The proposed "Buffer Area" is located on the eastern-most portion of airport property, adjacent to Moog Place. The "Buffer Area" is not contiguous to other airport properties (Moog Place bisects the airfield from this parcel.)
- Pinellas County is not requesting a perpetual conservation easement for this property.
- Due to the presence of wetlands and archeological areas, the subject property has little development potential, and/or would generate significant public opposition if developed.
- If designated as a "Buffer Area," the existing development rights of this parcel will be transferred to other airport properties, such as the Airco Golf Course property and/or parcels adjacent to Roosevelt Boulevard, which are properties ripe for development.
- The transferred development rights will create a $6,106,759 increase in airport land value which would not exist on the existing "Buffer Area" site. Designating this property as a "Buffer Area" and transferring the development rights is the highest and best use of this property.

Therefore, the FAA concurs with your request to designate this area as a "Buffer Area." Please update your Airport Layout Plan (ALP) to depict this change and submit 12 copies of the ALP to this office for approval.

If you have any questions, please feel free to contact me at (407) 812-6331, ext. 122.

Sincerely,

Rebecca R. Henry

Rebecca R. Henry
Planning Specialist

U.S. Department
of Transportation
Federal Aviation Administration

Orlando Airports District Office
8427 SouthPark Circle, Ste 524
Orlando, FL 32819
Phone: (407) 487-7720
Fax: (407) 487-7135

April 18, 2018
Mr. Thomas R. Jewsbury
Airport Director
14700 Terminal Blvd, Suite 221
Clearwater, FL 33762

RE: St. Petersburg-Clearwater International Airport, Clearwater, FL
AIP 3-12-0075-043-2017
Approval of Airport Forecast for Airport Master Plan

This letter responds to your submittal of “Chapter 3: Forecast of Aviation Activity” for St. Petersburg-Clearwater International Airport dated April 2018. The based aircraft, operations forecast and passenger enplanements shown in Table 3-43, of the report are approved to be used in your on-going master planning efforts.

If you have any questions, please feel free to contact me at 407-484-7234.

Sincerely,

Jenny Iglesias-Hamann
Program Manager/Community Planner

APPENDIX B

Public Outreach

Comment Form

St. Pete-Clearwater International Airport
Master Plan Public Workshop

Date: ____________________

Name: ____

Address: ____

____

Phone or Email: ____

Please provide comments in the area below (use back or attach additional sheets if necessary):

Comments may be submitted at the Workshop, by email, or to the address below.

ESA

EMAIL: info@piemasterplan.com

MAIL: **Douglas DiCarlo**
ESA
4200 West Cypress St, Suite 450
Tampa, FL 33607

GENERAL PUBLIC SURVEY

The St. Pete-Clearwater International Airport (PIE) Management and the Pinellas County Board of County Commissioners are continuously working to improve the airport for its tenants, the traveling public, and surrounding community. An important part of this effort is the creation of a new 20-year Airport Master Plan. We encourage your participation in the Master Plan process to learn about your experiences at PIE, ideas for the facilities, suggested improvements, desired services, and long-term vision for the airport. Please take a few minutes to complete and return this survey. Thank you!!

Name	
Address	
Phone Number	
Email Address	
Date	

1. In general, tell us about your overall impression of PIE and your experiences when using PIE for travel.

2. What would you like to see improved at PIE?

3. Looking to the future, what is your vision for PIE and what should be accomplished at the airport over the next 20-year period?

4. Additional Comments:

Your information is greatly appreciated!

Please return survey to:
Douglas DiCarlo

E-Mail: info@piemasterplan.com

Mail: ESA
4200 West Cypress Street, Suite 450
Tampa, FL 33607

GENERAL AVIATION USER SURVEY

The St. Pete-Clearwater International Airport (PIE) Management and the Pinellas County Board of County Commissioners are continuously working to improve the airport for its tenants, the traveling public, and surrounding community. An important part of this effort is the creation of a new 20-year Airport Master Plan. We encourage your participation in the Master Plan process to learn about your experiences at PIE, ideas for the facilities, suggested improvements, desired services, and long-term vision for the airport. Please take a few minutes to complete and return this survey. Thank you!!

Name	
Address	
Phone Number	
Email Address	
Date	

1. How long have you been a tenant or user of general aviation facilities at PIE? ____________________

2. Do you rent hangar space or an apron tie-down? __________ If you rent hangar space, what type hangar do you rent?
____

3. Do you participate in any airport aviation-related organizations or committees? If Yes, which ones? ____________________
____

4. In general, tell us about your experience as a tenant / airport user at PIE. ____________________
____
____
____

5. What <u>airside</u> improvements would improve your experience at PIE? *(i.e. hangars, taxiway improvements,etc.)* __________
____
____

6. What NAVAIDs / instrument approaches would improve your utilization of PIE? Are there any obstructions that hinder your use of the airport? ____________________
____

7. What la<u>ndside</u> improvements would improve your experience at PIE? *(i.e., parking, security improvements, etc.)*
____
____
____

8. What type of additional aircraft storage hangar facilities at PIE would best suit your needs? (*Select one or more*).

_____ Regular T-Hangar
_____ Clearspan Hangar (approx. 60' x 60')
_____ Corporate Hangar (150' x 150')
_____ Large T-Hangar
_____ Clearspan Hangar (approx. 100' x 100')
_____ Other ______________________________

9. Understanding that many general aviation services are provided by private commercial service providers (FBOs), what general aviation services do you feel need improvement at PIE?

_____ Fixed Base Operator Services
_____ Fuel Sales and Service
_____ Aircraft Maintenance Services
_____ Avionics Repair Services
_____ Flight Planning / Weather
_____ Aircraft Rental
_____ Counter Sales
_____ Flight Instruction
_____ Ground Transportation Services
_____ Apron Tie-Downs
_____ Apron Parking
_____ Vehicle Access and Parking
_____ Access to Wireless Networks
_____ Signage
_____ Food / Refreshments
_____ Concessions
_____ Security / Access Control
_____ Other ______________________________

Specifically, what would you like to see improved?______________________________

10. Looking to the future, what is your vision for PIE and what should be accomplished at the airport over the next 20-year period?

____

11. Additional Comments: ______________________________

Your information is greatly appreciated!

Please return survey to:
Douglas DiCarlo

E-Mail: info@piemasterplan.com
Mail: ESA
4200 West Cypress Street, Suite 450
Tampa, FL 33607

FBO AND SERVICE PROVIDER SURVEY

The St. Pete-Clearwater International Airport (PIE) Management and the Pinellas County Board of County Commissioners are continuously working to improve the airport for its tenants, the traveling public, and surrounding community. An important part of this effort is the creation of a new 20-year Airport Master Plan. We encourage your participation in the Master Plan process to learn about your experiences at PIE, ideas for the facilities, suggested improvements, desired services, and long-term vision for the airport. Please take a few minutes to complete and return this survey. Thank you!!

Name	
Address	
Phone Number	
Email Address	
Date	

1. How long have you been a tenant at PIE? ____________________

2. Do you participate in any aviation-related organizations or airport committees? If Yes, which ones? ____________________

3. In general, tell us about your experience as a tenant and commercial aviation service provider at PIE. ____________________

4. What airside improvements would help improve your services at PIE and your customer's experience? *(i.e., apron improvements)*

5. What type NAVAIDs/instrument approaches would improve your services at PIE? Do obstructions that hinder your use of the airport? ____________________

6. What landside improvements would improve your experience at PIE and your customer's experience? *(i.e.. parking, security improvements, etc.)* ____________________

7. What type of additional facilities and improvements at PIE would best suit your needs and those of your customers? (*Select all that apply*).

_____ Regular T-Hangars
_____ Clearspan Hangars (approx. 60' x 60')
_____ Corporate Hangars (150' x 150')
_____ Large T-Hangars
_____ Clearspan Hangars (approx. 100' x 100')
_____ Other ______________________________

_____ Building Maintenance/Repairs
_____ Fuel Storage Facilities
_____ Roadways
_____ Flight Planning/Weather
_____ IT Infrastructure
_____ Common Area Landscaping
_____ Site Drainage
_____ Ground Transportation Services
_____ Apron Tie-Downs
_____ Apron Parking
_____ Signage
_____ Gate Access Control
_____ Security and Lighting
_____ Solid Waste Services and Recycling
_____ Utilities ______________________________
_____ Other ______________________________

Specifically, what would you like to see improved?______________________________

8. Looking to the future, what is your vision for PIE and what should be accomplished at the airport over the next 20-year period?

____

9. Additional Comments: ______________________________

Your information is greatly appreciated!

Please return survey to:
Douglas DiCarlo

E-Mail: info@piemasterplan.com
Mail: ESA
4200 West Cypress Street, Suite 450
Tampa, FL 33607

<u>**PIE Airport Master Plan Communications Strategy**</u>

Public Meetings

- PIE Open House kick-off meeting at Hilton Carillon St. Pete – 11/30/17 5 pm-8 pm
- Public Workshop 2 – Forecast
- Public Workshop 3 – Alternatives analysis/Present concepts/Pros & cons
- BCC Presentation/ Adoption

Communications for Public

- Media Release of Kick-off meeting and additional public meetings distributed to
    - Full email distribution list (media, airport employees, tenants, aviation industry, TDC, County BCC/Admin/Communications, Chambers of Commerce, Hoteliers, etc.)
        - sent 10/30/17 to full list
    - Outreach to Chambers of Commerce Presidents
        - Sent individual Chamber emails to Chris Steinocher (SP), Robin Sollie (TB Beaches), Joni James (DP), Carol Hague (Clw), Darlene Kole (CLW Beaches); Kathleen Good sent to Tom Morissette (Central Pinellas), Michael (PP Chamber)
    - Email to Mayors of all municipalities (2nd time) – 11/21/17
    - Sent additional email to BCC, Barbara Hernandez, Mark Woodard, Michael Zas, Jake Stowers, David Downing, Mike Meidel
    - PCED distributing to 8000 on social media
    - SPDP distributed to membership
    - Website news subscribers – sent 11/21/17
    - Mark to send to Noise Abatement Task Force
    - post on social media – FB, Twitter – 11/21/17
    - post on PIE website – 10/30/17
    - Fly2PIE News Fall edition feature highlights from the director - 11/2/17
    - Info presented and distributed at Regional PIO meeting December 14th; follow-up email sent from County Communications to full PIO directory
- Meeting notice and info posted on Pinellas County Website – Public Meetings Section 10/30/17
- Website – create Airport Master Plan Update page – ESA 10/30/17

Communications Strategies for Employees/Tenants (Operations Division)

- All Tenant All Hands meeting – kick-off overview
- Tenant Manager Meetings (ongoing)

Tampa Bay Times – Interview with Rick Danielson 11/16 (Doug, Tom, Michele) – for publication 11/26
TBBJ – Fran McMorris – published article 11/30/17

Tampa Bay Times
tampabay.com

Ad Proof

St. Pete-Clearwater International (PIE) Airport Master Plan Public Kick-off Meeting

PIE and the Pinellas County Board of County Commissioners are beginning preparation of a comprehensive Airport Master Plan. The last Airport Master Plan Update for PIE was completed in January 2004. There have been a number of changes at the airport, as well as in the aviation industry, prompting the need for an updated Master Plan.

The primary goal is to create a 20-year airport development program to maintain a safe, efficient, economical, and environmentally acceptable airport facility for the Tampa Bay community. To achieve this goal, it is essential to receive input from key stakeholders, including the interested public and surrounding community, and users and tenants of the airport's facilities. PIE is required to provide periodic updates of their planning documents for receiving development grants from the Federal Aviation Administration (FAA) and Florida Department of Transportation (FDOT).

PIE is hosting a public informational meeting on November 30, 2017 to kick-off the Airport Master Plan study and the public is encouraged to attend. This meeting will be conducted in an open house format and the public is welcome to attend anytime between 5:00 p.m. and 8:00 p.m. The meeting will be held at the Hilton St. Petersburg Carillon Park (950 Lake Carillon Dr., St. Petersburg, FL 33716) with directional signage on site for attendees. Please come out and learn more about PIE, the Airport Master Plan process, and to provide input to the overall Master Plan study.

(547797) 10/29, 11/5/2017

-Ad Proof-

This is the proof of your ad scheduled to run on the dates indicated below. Please proof read carefully if changes are needed,
please contact us prior to deadline at
or email at jharrison@tampabay.com.

Date: 10/27/17

Account #: 56252
Company: ST PETE CLEARWATER INTERNATIONAL AIRPORT

Contact: LAURIE GRIFFITH

Address: 14700 TERMINAL BLVD
SUITE 221
CLEARWATER, FL
33762

Telephone: (727) 453-7806
Fax: (727) 453-7846
Email: llgriffith@fly2pie.com

Ad ID: 547797

Start: 10/29/17
Stop: 11/05/17

Total Cost: $640.00
Billed Lines: 58.0
Total Depth: 2.58
# of Inserts:

Phone #
Email: jharrison@tampabay.com

Publications:
Tampa Bay Times
TampaBay.com

Zones or Sections:
Baylink All Pinellas

Classification:
Legal

St. Pete-Clearwater International
TAMPA BAY THE EASY WAY

MEDIA RELEASE

fly2pie.com
@iflypie
facebook.com/Fly2PIE

October 30, 2017

St. Pete-Clearwater International Airport (PIE) Airport Master Plan Public Kick-off Meeting

PIE is hosting a public information open house meeting to kick-off its Airport Master Plan study. The meeting is Thursday, November 30th at the Hilton St. Pete Carillon Park (950 Lake Carillon Drive) and the public is welcome and encouraged to attend anytime from 5 pm – 8 pm.

PIE and the Pinellas County Board of County Commissioners are beginning preparation of a comprehensive Airport Master Plan. The last Airport Master Plan Update was completed in January 2004. There have been a number of changes at the airport, as well as in the aviation industry, prompting the need for an updated Master Plan. A website dedicated to the PIE Master Plan development will be launched November 1st, visit piemasterplan.com

The primary goal is to create a 20-year airport development program to maintain a safe, efficient, economical, and environmentally acceptable airport facility for the Tampa Bay community. To achieve this goal, it is essential to receive input from key stakeholders, including the interested public, surrounding community, and users and tenants of the airport's facilities. PIE is required to provide periodic updates of their planning documents for receiving development grants from the Federal Aviation Administration (FAA) and Florida Department of Transportation (FDOT).

This meeting will be conducted in an open house format and conducted by airport representatives and ESA, the consultant contracted to complete the Master Plan. Please come out and learn more about PIE, the Airport Master Plan process, and to provide input to the overall Master Plan study.

Contact: *Michele Routh, Airport Public Relations Director mrouth@fly2pie.com 727-453-7879*

Douglas DiCarlo

From: Yarley, Scott A <syarley@fly2pie.com>
Sent: Monday, October 30, 2017 12:44 PM
To: Jewsbury, Thomas R.; Routh, Michele G; Douglas DiCarlo
Subject: FW: updated masterplan media release
Attachments: AirportMasterPlanPublicKick-offMeeting2017.docx

I'm good with this media release. I have talked with Doug and have asked him to go live with the website on Wednesday, November 1. I thought it would be best to go live on the same day we have the official kick-off.

St. Pete-Clearwater International
TAMPA BAY THE EASY WAY

Scott Yarley, P.E.

Airport Engineer
St. Pete-Clearwater International Airport
14700 Terminal Blvd.
Suite 221
Clearwater, FL 33762

Office: (727) 453-7830
Fax: (727) 453-7846
syarley@fly2pie.com

From: Routh, Michele G
Sent: Monday, October 30, 2017 11:07 AM
To: Jewsbury, Thomas R. <jewsbury@fly2pie.com>; Yarley, Scott A <syarley@fly2pie.com>
Subject: updated masterplan media release

Added the website – please let me know when I can send.

Michele Routh, Public Relations Director
mrouth@fly2pie.com 727-453-7879

St. Pete-Clearwater International
TAMPA BAY THE EASY WAY
www.fly2pie.com

St. Pete-Clearwater International ×

Not secure | www.piemasterplan.com

Apps · Southwest Airlines | · LinkedIn · MLB · MLB AP MP · Fly2PIE · Naples Municipal Ai · Lightning · My Bolts Account · Info@PIE · PIE MP · Albert Whitted · FTZ 193 - Pinellas C · » · Other bookmarks

pie St. Pete-Clearwater International

WELCOME | PIE MASTER PLAN | PUBLIC PARTICIPATION | DOCUMENTS | LINKS

Welcome to the St. Pete-Clearwater International Airport Master Plan website!

The St. Pete-Clearwater International Airport (PIE) Management and Pinellas County Board of County Commissioners have begun the process to prepare a new comprehensive Airport Master Plan and Airport Layout Plan drawing set. The last update of the Airport Master Plan for PIE was completed in January 2004. Since that time there have been a number of changes at the airport, as well as in the aviation industry.

On this website, you will be able to:

- Learn about the Master Plan process.
- Find out about opportunities for Public Participation.
- Read Master Plan related documents as they become available.
- Provide feedback and comments.

This website will be updated on a regular basis as new information becomes available.

Airport Master Plan Public Outreach

ESA

St. Pete-Clearwater International Airport
Airport Master Plan
Public Kick-off Meeting

November 30, 2017

Name	Representing	Phone Number	E-Mail Address
Ty Winthrop	Pepper Contracting	727-639-0155	TyW@peppercontracting.com
Neil C. McMullen	Fwd Pin CAC Chair	813-532-5245	nmcmullen220@gmail.com
William Quillen	Self N3794F	813-335-2849	aviatorwsq@gmail.com
Steve Birens	Cavotec	727-401-1106	steve.birens@cavotec.com
Patrick Morris	Cavotec	407-714-713 5619	patrick.morris@cavotec.com
Ricardo DiPego	Avis Budget	224 244 4881	RDIpego@me.com
Karnardo Garnett	Legacy Concessions	813-783-3327	KGarnett@legacyconcessions.com
Del Brenn	self	727-452-5526	delbrenn@gmail.com
Lee	Pinellas Forward CAC		RLALLEN255@GMAIL.com
Nicholas Sellas	Self	727-938-1959	nsellas5@gmail.com
Catherine Sellas	Self	727-938 1959	csellas520@gmail.com
Richard Perez	City of Largo	727-586-7350	rperez@largo.com
Mallory McClellan	St. Pete EDC	727 767 0209	mmcclellan@stpeteedc.com
Kevin Gordon	Self	727 430 4781	KGORDON@Franbiz.com

(14)

ESA

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St. Pete-Clearwater International Airport
Airport Master Plan
Public Kick-off Meeting

November 30, 2017

Name	Representing	Phone Number	E-Mail Address
AL BARTOLOTTA	FORWARD PINELLAS	464-8250	abartolotta@pinellascounty
MIKE MEIDEL	PINELLAS COUNTY	464-8114	mmeidel@pinellascounty.org
MIKE JACKSON	U.S. COAST GUARD	305-278-6719	michael.w.jackson@uscg.mil
KEN PETTERSON	HENSEL PHELPS	407-701-3860	KPETTERSON@HENSELPHELPS.COM
Louis Garcia	Zackary Group.	813-361-7625	lg@zackarygroup.com
Steve Ochsner	Feather Sound	898-7315	SSochsner@msn.com
Suzanne Ochsner	Feather Sound	573-1411	" " "
JASON Landahl		813-245-7960	JASONLANdahl@yahoo.com
VINCENT CROCE	FEATHER SOUND	727 871 6695	Vc11743@AOL
KEVIN YOUNGBERG	RESIDENT FEATHER SOUND		
GARY KONOW	FEATHER SOUND	727-572-0053	gkonow@tampabay.rr.com
Heather + David Dixon	Feather Sound	727-572-0047	David.A.Dixon@tampabay.rr.com
Ann & Biff Baker	Feather Sound	727-573-5265	rbaker2@tampabay.rr.com

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ESA

St. Pete-Clearwater International Airport
Airport Master Plan
Public Kick-off Meeting

November 30, 2017

Name	Representing	Phone Number	E-Mail Address
Jim Stroh	AOPA ASN	813 679 9494	JIMSTROH@YAHOO.COM
JD LENTINE	USCG ASCW	727-259-3347	john.david.valentine@uscg.mil
TERESA BRYDON	City of Largo	727 586-7342	TBRYDON@LARGO.COM
Louis Claudio	Safety Harbor	ON File	ON File
Steven Henriquez	Tampa	813 792 8939	sjohhen@aol.com
JOHN PADAVICH	City of Safety Harbor	813 917 3364	jpadavich@aol.com
Caitlin Farley	vi aeronautical	727 424 6747	caitlin@viaeronautical.com
Richard Lesniak	COSP - Albert Whitted airport	727-893-7657	richard.lesniak@stpete.org
Rob Copenhaver	Clearwater	727 215 3154	Rob@robcopenhaver.com

9a

ESA

St. Pete-Clearwater International Airport
Airport Master Plan
Public Kick-off Meeting

November 30, 2017

Name	Representing	Phone Number	E-Mail Address
Kristen Terry			
Aaron Terry			
Paul Dorsey	Manhattan Const.	(972) 822-8893	pdorsey@manhattanconstruction.com
Kelvin Davis, LCDR	USCG	305 278 6764	Kelvin.J.Davis@uscg
Roy Nystrom	Biltmore Const.	727.336 0551	Rnystrom@biltmoreconstruction.com
Dean & Cindy Cohrs		727-550-9262	dcohrs@cohrslaw.com

ESA

St. Pete-Clearwater International Airport
Airport Master Plan
Public Kick-off Meeting

November 30, 2017

Name	Representing	Phone Number	E-Mail Address
Thomas Jessbury	PIE		
Michele Routh	PIE		
Scott Varley	PIE		
Mark Sprague	PIE		
Yvette Aehle	PIE		
Erin Johnson	PIE		
Jeff Clauss	PIE		
Kathleen Good	PIE		
Mike Iguina	PIE		

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ESA

St. Pete-Clearwater International Airport
Airport Master Plan
Public Kick-off Meeting

November 30, 2017

Name	Representing	Phone Number	E-Mail Address
Doug DiCarlo	ESA		
Mike Arnold	"		
Joe Halisky	"		
Peter Green	"		
Autumn Ward	"		
Kerrick Stegmeier	C&S		
Ben Siwinski	VHB		
Peter	VHB		
Bob Ori	PTI		

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St. Pete-Clearwater International
TAMPA BAY THE EASY WAY

fly2pie.com
@iflypie
facebook.com/Fly2PIE

MEDIA RELEASE

April 23, 2018

St. Pete-Clearwater International (PIE) Airport Master Plan Public Workshop #1

PIE and the Pinellas County Board of County Commissioners are preparing a comprehensive Airport Master Plan. The last Airport Master Plan Update for PIE was completed in January 2004. There have been a number of changes at the airport, as well as in the aviation industry, prompting the need for a new Master Plan.

The primary goal is to create a 20-year airport development program to maintain a safe, efficient, economical, and environmentally acceptable airport facility for the Tampa Bay community. To achieve this goal, it is essential to receive input from key stakeholders, including the interested public and surrounding community, and users and tenants of the airport's facilities. PIE is required to provide periodic updates of their planning documents for receiving development grants from the Federal Aviation Administration (FAA) and Florida Department of Transportation (FDOT).

PIE is hosting the first public informational workshop on May 30, 2018 to provide information on the first working paper of the Airport Master Plan study. This includes study background information, the existing airport conditions, forecasts of aviation activity, and an assessment of the passenger terminal building condition. **As with the previous Kick-off Meeting, this workshop will be conducted in an open house format and the public is welcome to attend anytime between 5:00 p.m. and 7:00 p.m. The meeting will be held at the Hilton St. Petersburg Carillon Park (950 Lake Carillon Dr., St. Petersburg, FL 33716)** with directional signage on site for attendees. Please come out and learn more about PIE, the Airport Master Plan process, and to provide input to the overall Master Plan study.

Airport Contact: *Michele Routh, Airport Public Relations Director*
mrouth@fly2pie.com 727-453-7879

629928

Tampa Bay Times

Published Daily

STATE OF FLORIDA } ss
COUNTY OF Hernando & Citrus Counties, Hillsborough County, Pasco County, Pinellas County

Before the undersigned authority personally appeared **Virginia Marshall** who on oath says that he/she is **Legal Clerk** of the **Tampa Bay Times** a daily newspaper printed in St. Petersburg, in Pinellas County, Florida; that the attached copy of advertisement, being a Legal Notice in the matter **RE: PIE Master Plan** was published in **Tampa Bay Times: 4/29/18, 5/6/18.** in said newspaper in the issues of **Baylink All Pinellas, Baylink Hernando Citrus, Baylink Hillsborough, Baylink Pasco**

Affiant further says the said **Tampa Bay Times** is a newspaper published in Hernando & Citrus Counties, Hillsborough County, Pasco County, Pinellas County, Florida and that the said newspaper has heretofore been continuously published in said Hernando & Citrus Counties, Hillsborough County, Pasco County, Pinellas County, Florida, each day and has been entered as a second class mail matter at the post office in said Hernando & Citrus Counties, Hillsborough County, Pasco County, Pinellas County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement, and affiant further says that he/she neither paid not promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper

Virginia M Marshall

Signature of Affiant

Sworn to and subscribed before me this 05/06/2018.

Jill A Harrison

Signature of Notary Public

Personally known ____________ or produced identification

Type of identification produced______________________

NOTARY PUBLIC STATE OF FLORIDA
Notary Public State of Florida
Jill A Harrison
My Commission GG 166212
Expires 12/06/2021

St. Pete-Clearwater International (PIE) Airport Master Plan Public Workshop #1

PIE and the Pinellas County Board of County Commissioners are preparing a comprehensive Airport Master Plan. The last Airport Master Plan Update for PIE was completed in January 2004. There have been a number of changes at the airport, as well as in the aviation industry, prompting the need for a new Master Plan.
The primary goal is to create a 20-year airport development program to maintain a safe, efficient, economical, and environmentally acceptable airport facility for the Tampa Bay community. To achieve this goal, it is essential to receive input from key stakeholders, including the interested public and surrounding community, and users and tenants of the airport's facilities. PIE is required to provide periodic updates of their planning documents for receiving development grants from the Federal Aviation Administration (FAA) and Florida Department of Transportation (FDOT).
PIE is hosting the first public informational workshop on May 30, 2018 to provide information on the first working paper of the Airport Master Plan study.
This includes study background information, the existing airport conditions, forecasts of aviation activity, and an assessment of the passenger terminal building condition. As with the previous Kick-off Meeting, this workshop will be conducted in an open house format and the public is welcome to attend anytime between 5:00 p.m. and 7:00 p.m. The meeting will be held at the Hilton St. Petersburg Carillon Park (950 Lake Carillon Dr., St. Petersburg, FL 33716) with directional signage on site for attendees. Please come out and learn more about PIE, the Airport Master Plan process, and to provide input to the overall Master Plan study. (629928) 04/29, 05/06/2018

ESA

St. Pete-Clearwater International Airport
Airport Master Plan
Public Workshop

May 30, 2018 5:00pm – 7:00pm

Name	Representing	Phone Number	E-Mail Address
Ken Spillett	KCCS	(813) 477-7890	Kenneth.Spillett@KisingerCampo.com
Matt Weber	EHI	813 261 8069	Matthew.Weber@EHI.com
Kyle Doyle	Enterprise Holdings	703-434-2461	KyleJ.Doyle@EHI.com
Mary Fulton		727-572-4540	mcfulton2003@yahoo.com
Ray Frey	Floor & Decor	727-278-4333	raymond.frey@flooranddecor.com
Sharon Beatty	Mainlands Resident	847-650-8357	SBEA626@gmail.com
Donald Neumann			DSNKODA@Gmail.com
Sheryl Prasker	Ø	724-422-3513	
Moises Faroy	CCTV Core	727-573-2333	mfaroy@cctvcore.com
M. Olson		516 448 2075	olson256@yahoo.com
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Steve Engelhardt	Airport Business Center	727 410 7090	Steve@HallmarkDevelopment.Net.

ESA

St. Pete-Clearwater International Airport
Airport Master Plan
Public Workshop

May 30, 2018 5:00pm – 7:00pm

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Charlie Stanphill	Manhattan Construction	813.675.1966	cStanphill@manhattanconstruction.com
Kevin YOUNBERG	Homeowner		
~~PAUL PIRO~~	~~FEATHERSOUND~~		
PAUL PIRO	KIMLEY-HORN		

ESA

St. Pete-Clearwater International Airport
Airport Master Plan
Public Workshop

May 30, 2018 5:00pm – 7:00pm

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ESA

St. Pete-Clearwater International Airport
Airport Master Plan
Public Workshop

May 30, 2018 5:00pm – 7:00pm

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Scott Tumolo	C&S ~~CSE~~		
Kerrick Stegmeier	C&S		
Jake Shuper	C&S		

ESA

St. Pete-Clearwater International Airport
Airport Master Plan
Public Workshop

May 30, 2018 5:00pm – 7:00pm

Name	Representing	Phone Number	E-Mail Address
Doug DiCarlo	ESA		
Mike Arnold	ESA		
Autumn Ward	ESA		
Joe Hausky	ESA		
Peter Green	ESA		
Tom Jewsbury	PIE		
Scott Yarley	PIE		
Mark Sprague	PIE		
Michele Routh	PIE		
Erin Johnson	PIE		
Yvette Aehle	PIE		
Jeff Clauss	PIE		
Steve Goetzinger	ESA		

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St. Pete-Clearwater International (PIE) Airport Master Plan Public Workshop #2

PIE and the Pinellas County Board of County Commissioners are preparing a comprehensive Airport Master Plan. The last Airport Master Plan Update for PIE was completed in January 2004. There have been a number of changes at the airport, as well as in the aviation industry, prompting the need for a new Master Plan.

The primary goal is to create a 20-year airport development program to maintain a safe, efficient, economical, and environmentally acceptable airport facility for the Tampa Bay community. To achieve this goal, it is essential to receive input from key stakeholders, including the interested public and surrounding community, and users and tenants of the airport's facilities. PIE is required to provide periodic updates of their planning documents for receiving development grants from the Federal Aviation Administration (FAA) and Florida Department of Transportation (FDOT).

PIE is hosting a public informational workshop on November 5, 2018 to provide information on the most recent sections of the Airport Master Plan study, including the assessment of airport facilities and potential alternatives for improvements. This meeting will be conducted in an open house format and the public is welcome to attend anytime between 5:00 p.m. and 7:00 p.m. The meeting will be held at the Hilton St. Petersburg Carillon Park (950 Lake Carillon Dr., St. Petersburg, FL 33716) with directional signage on site for attendees. Please come out and learn more about PIE, the Airport Master Plan process, and to provide input to the overall Master Plan study. (688129) 09/30, 10/14/2018

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Contact:

Address: 14700 TERMINAL BLVD
SUITE 221
CLEARWATER, FL
33762

Telephone: (727) 453-7806
Fax: (727) 453-7846
Email: llgriffith@fly2pie.com

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St. Pete-Clearwater International
TAMPA BAY THE EASY WAY

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September 22, 2018

St. Pete-Clearwater International Airport (PIE) Airport Master Plan Public Workshop #2 Presents Facility Assessment and Alternatives for Improvement – November 5th 5:00-7:00 PM at Hilton Carillon

PIE and the Pinellas County Board of County Commissioners are preparing a comprehensive Airport Master Plan. The last Airport Master Plan Update for PIE was completed in January 2004. There have been a number of changes at the airport, as well as in the aviation industry, prompting the need for a new Master Plan.

The primary goal is to create a 20-year airport development program to maintain a safe, efficient, economical, and environmentally acceptable airport facility for the Tampa Bay community. To achieve this goal, it is essential to receive input from key stakeholders, including the interested public and surrounding communities, and users and tenants of the airport's facilities.

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Please visit, www.piemasterplan.com for more information and to provide input for the Airport Master Plan.

Airport Contact: *Michele Routh, Airport Public Relations Director*
mrouth@fly2pie.com 727-453-7879


PIE Airport Master Plan Public Workshop Promo 100318
We Want Your Help.
Your Ideas.
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pie
St. Pete-Clearwater
International
Airport Master Plan Public Workshop
Hilton Carillon • November 5th • 5pm - 7pm
950 Lake Carillon Dr., St. Petersburg
0:11 / 0:50

APPENDIX C

Terminal Building Conditions Assessment

Submitted by:

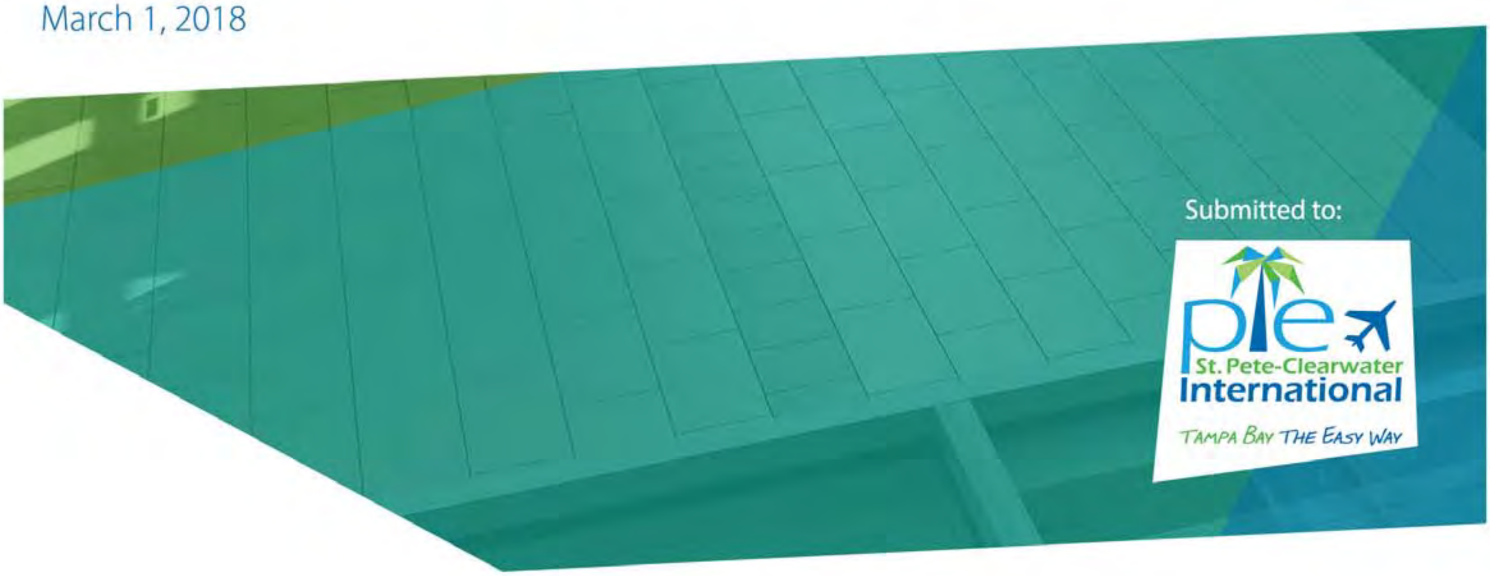
C&S COMPANIES®

C&S Companies, Inc.
4830 W Kennedy Blvd, Suite 600
Tampa, FL 33609

St. Pete-Clearwater International Airport

Terminal Building Conditions Assessment

March 1, 2018



Submitted to:

St. Pete-Clearwater International

TAMPA BAY THE EASY WAY

Introduction/ Overview

For the last five years, St. Pete-Clearwater International Airport (PIE or The Airport) has experienced unprecedented growth, averaging double-digits each year. Because of the significant growth, the Airport surpassed 2 million annual passengers (MAP) for the first time in it's history. The primary reason for this growth is Allegiant Air, which now serves nearly 60 destinations from PIE. PIE is one of Allegiant's strongest hubs in Florida, and there is a commitment from the airline to expand service.

While passenger numbers are at record levels, terminal facilities have struggled to keep up with the pace of growth. Until Allegiant's presence, the airport had limited air service and the terminal facilities were adequate. However, the terminal facilities are now operating well beyond their capacity and not up to the level of service standards that is expected at most US airports. The Airport has tried to keep up with growth by adding small additions to the terminal building, one at a time, and adding or improving apron areas to accommodate Allegiant's aircraft. Recently completed or ongoing projects to improve the terminal facility include security checkpoint expansion, holdrooms expansion, baggage makeup reconfiguration, and apron area improvements. These are all incremental improvements that improve the facility. However, the result of this is an ad hoc approach to terminal development instead of a comprehensive terminal strategy.

Currently, the Airport is developing a "from-scratch" airport master plan that will review all airport facilities, including the terminal building, and develop a comprehensive development strategy that meets passenger demand and can be implemented in an incremental, fiscally responsible manner. The terminal is a major element of the master plan. Proposed terminal alternatives will remain at a high-level, but this document will serve as a basis of understanding for some of the terminal challenges and opportunities.

Purpose of this Document

The purpose of this document is to present a high-level building conditions assessment. Existing airport records, drawings, and reports on key backbone site utilities, architectural elements, structural elements, and mechanical, electrical, and plumbing (MEP) systems were reviewed. An overview of facility condition related to architectural, structural, MEP, and site utilities facilities and equipment is provided. This information will be utilized as a baseline for developing Master Plan alternatives, including projecting future needs for proposed development. Additional capacity assessments for specific areas of development will be identified during the Master Plan alternatives phase. These focused assessments will be defined by the Airport and the Consultant team based on the most promising terminal development alternatives.

Building Architecture Assessment

Introduction/ Overview

The terminal building is comprised of multiple building projects throughout its lifespan, whether renovations, demolitions, or additions. The construction of the front façade, which serves as the main circulation spine and entry to the terminal, provides a unifying aesthetic from the street to the piece by piece construction. In addition, there is a current project underway performing a rehabilitation and adding on to the structure on the north side of the building. This portion of the building under construction is assumed to meet all the current codes and has been excluded from this portion of the assessment with exception of the roof condition.

The following is a summation of what was found during visual inspection of the building, the plans that were available, and discussions with Airport staff.

Building Code Compliance

The terminal building has seen continuous renovations and additions over the last 5 years and no major Code related issues were noted during the visual inspection and walk-through. The terminal building also appears to be accessible and in compliance with the American with Disabilities Act (ADA) throughout.

In the Electrical and Mechanical rooms adjacent to the Gate 2-6 exit there was evidence of incomplete thru-penetration fire proofing following new piping and conduit penetrations that should be properly sealed for a complete assembly. It is unclear whether or not this is a typical condition throughout the building or only in this location. The other relevant items were operational, maintenance, or layout related and not specifically a violation of the Building Code. These items are noted in the next section.

Electrical room near Gates 2.6, incomplete firing proofing for piping and conduit.

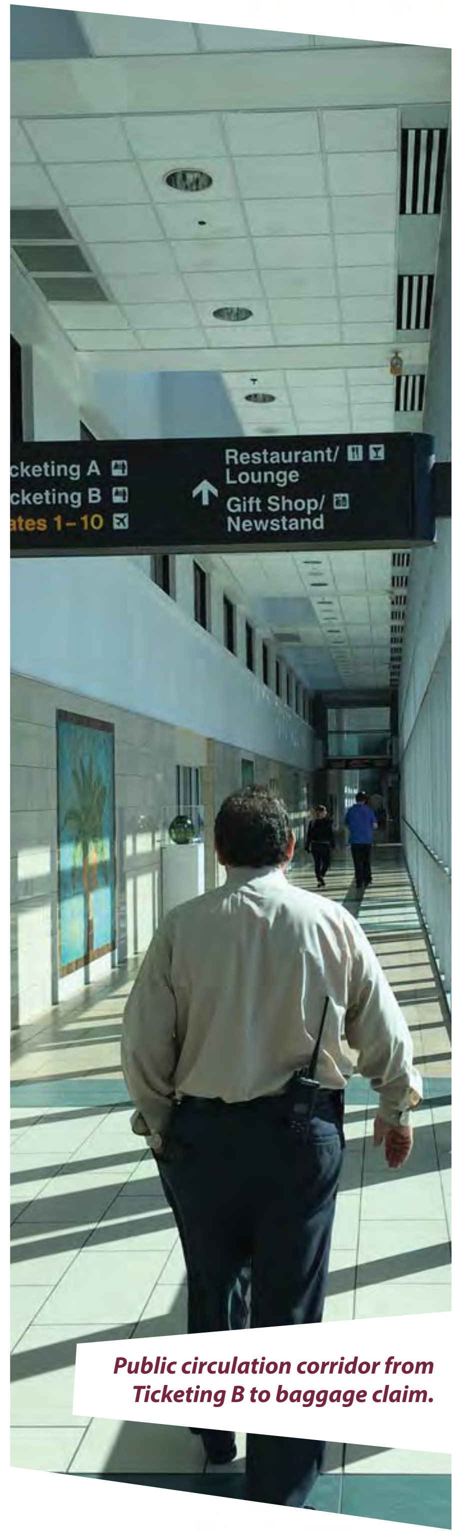
Operation, Maintenance, and Building Layout

The following operation, maintenance, and building layout issues were noted and discussed with Airport staff during the site walk-through and subsequent meetings.

Building Entry Corridor

Airport staff noted energy efficiency concerns and water infiltration issues at the main corridor, running the length of the front of the building.

The corridor serves as the Energy Code required vestibule between conditioned space of the terminal and the exterior. The corridor is separated from the main terminal space by sliding aluminum doors. The overall corridor depth, frequency of use, and lack of interlock of the two sets of doors does not block air leakage between the building areas allowing conditioned air to escape quicker than it can be replenished. When passengers use the corridor for egress to the baggage claim, walking in front of the exterior, automatic doors triggers them to open, further negatively impact-ing the building's heating and cooling capability and efficiency. Additional-ly, the height of the curtain wall and overall volume of space seem to have caused conditioning problems in the corridor itself and lead to continual condensation issues. Sealant failures at the roof parapet, causing some in-filtration of water and ponding issues, were noted on the roof areas above. The corridor serves the purpose of a more modern front façade, unilateral connector of the interior, and vestibule, but it makes wayfinding confusing and is mostly redundant circulation space. This creates an inefficient build-ing layout. The exterior canopies, while tied to the building aesthetic, are not efficient in stopping a driving rain due to their design and separation from the building face. This allows additional water to enter through the door openings.



Public circulation corridor from Ticketing B to baggage claim.

Gates 4 and 5 Ramps

Airport staff expressed maintenance and safety concerns with the dual ramp access to the Gate 4 and 5 Passenger Boarding Bridges (PBBs). These are high, narrow spaces that make routine maintenance difficult, such as changing a lightbulb or other repair work due to the ramped floor.

Water

Evidence of continual water intrusion issues were noted at the second level flooring of the concessions space. This may be a combination of tenant or typical usage or an inefficient drainage system for the current equipment layouts.

Entry lobby

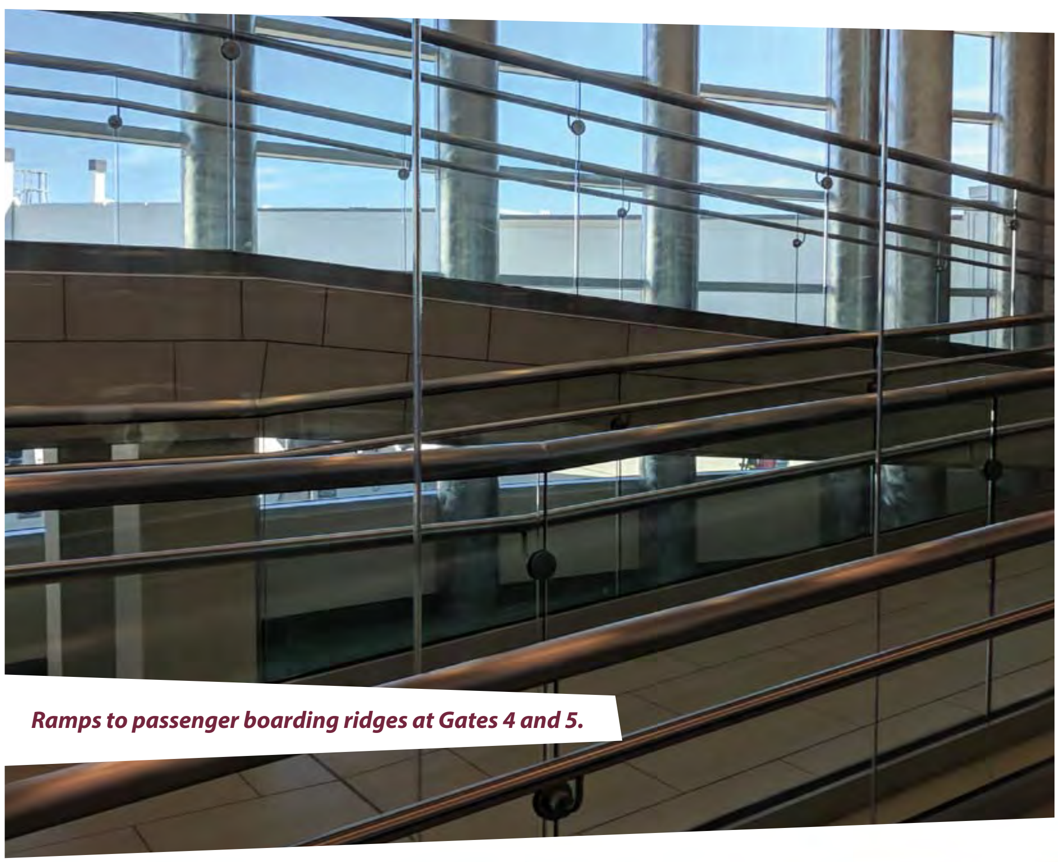
At the entry lobby outside the TSA screening for Gates 2 through 6, continual maintenance issues exist above the ceiling in relation to roof drainage systems. The repairs have been completed in a piecemeal manner that have not addressed the full concerns in this area. Repairs have been made difficult by the presence of multiple existing ceiling levels above the current Acoustic Ceiling Tile (ACT) ceiling system. These ceiling areas could be removed to allow proper maintenance access as well as raise the ceiling height in the interior corridor, which is proportionally low for the space. Additionally, it is recommended that all of the abandoned infrastructure be removed too. Trying to assess leaks in pipes that end up being a dead end is not an efficient use of maintenance staff.

Restrooms

The main restroom areas have been upgraded recently, are ADA compliant, and appear to meet the overall building capacity needs. However, from a functional layout perspective, they are disproportionately sized between the pre-secure lobby and the post-security holdroom uses. Capacity for the holdroom toilets is undersized for the occupant load and the pre-security restrooms have significant excess. Reconfiguration of this area could alleviate usage issues and improve the travel experience.

Airport offices

The Airport office area on the second level is typical of an old military layout with a double loaded corridor. Currently, the area is near capacity, with only two open offices. The materials are consistent throughout and are in good condition, but the layout is inefficient and confusing for public access. A modern building design would likely make more efficient use of the same square footage.



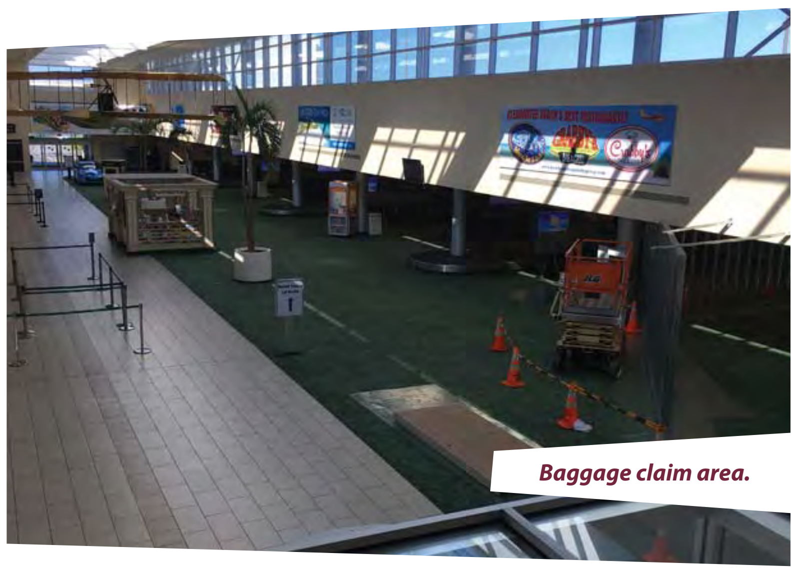
Ramps to passenger boarding ridges at Gates 4 and 5.

Interior Elements and Equipment

The following interior elements and equipment were noted and discussed with Airport staff during the site walk-through and subsequent meetings.

Interior finishes

Overall the facility is in very good condition and finishes are well-kept and modernized, with few exceptions. Wall coverings vary between paint, vinyl and tile. Ceilings are ACT or suspended gypsum, and flooring varies between carpet, tile and terrazzo. There is a make-shift ceiling access panel between Ticketing B and the Customs entry that is inconsistent with the remaining level of finish. Some water damage was apparent in the Baggage Claim restrooms as well. It is understood that both of these areas will be renovated in an upcoming project.



Baggage claim area.

Interior doors

Interior doors are a mix of wood and hollow metal, and visually appear in good shape. The Gate 2-6 exit corridor mechanical room door hinges were missing multiple screws which impede operation and could result in a safety concern. There are a few examples like this around the airport, but generally not a widespread concern.

Baggage systems

The baggage handling systems are reliable and the only issues that have arisen are with TSA staffing related issues. Baggage system capacity issues are noted to exist in Ticketing A but it is understood this is being addressed in a current construction project. Baggage claim belts are reliable, but all 7-9 years old, which may be getting towards the end of their useful life. Baggage belts are not standardized, in terms of controllers, making maintenance cumbersome.

Passenger Boarding Bridges

There are only two PBBs, located at Gates 4 and 5. The two PBBs are Thyssen-Krupp models from 2009 and are operating properly.

Building Envelope

The following Building Envelope issues were noted and discussed with Airport staff during the site walk-through, and subsequent meetings.

Building exterior at baggage claim area.

Facade

The exterior façade is comprised mainly of concrete masonry units (CMU), exterior insulation and finish system (EIFS), or glazed aluminum curtain wall. All items are generally in good condition with some localized areas of damage.

Doors

Exterior doors are either hollow metal or glazed aluminum and are in good condition. Metal overhead doors are in fair condition due to frequency of use and show some signs of damage. These could require replacement in the near future.

Roof

The roof consists of multiple roof levels and areas. Walkway pads exist throughout for maintenance traffic. The membrane is generally white in color and varies from poor to good condition depending upon building area, though no irreparable areas of visual water damage on the interior were noticed.

The roof above Ticketing A is in very good condition with only minor ponding noted, and some minor membrane non-adhesion at the parapet, but not considered a significant issue.

The roof area above CBP is in good condition with minor ponding noted.

The roof above the Gate 2-6 hold room is in poor condition visually. A concentrated area of ponding and subsequent loose membrane were noted at the second floor access door landing. Significant areas of patching at removed equipment was noted on the high roof area above concessions.

On the roof areas above the second floor spaces there are significant ponding areas and poor drainage patterns, especially over the main corridor which could be contributing to water issues noted there. This area also shows a substantial amount of fasteners that have become loose from the deck and insulation that are starting to push on the membrane, and in some instances have punctured the membrane.

Insulation fastener pushing through membrane.

Cracked wall paneling and roof ponding.

The second floor walls extending above the first floor roof level are clad in EIFS. Some areas show cracking and ensuing repairs. While the repairs have been completed and no new damage is noted, this could be indicative of moisture infiltration and should be monitored closely.

Loose membrane and incomplete seam.

The new hold room addition is incomplete and missing edge flashing. This area also has visual craftsmanship concerns with areas of loose insulation, loose membrane, and seam poor quality. This area will likely need to be completely reroofed.

The Baggage Claim roofing is in good condition, but has one area that needs repairs from recent wind damage. Areas above rental car counters where skylights were infilled do show signs of water damage and roofing needs to be repaired. This is the only roof area that has lightning protection in place.

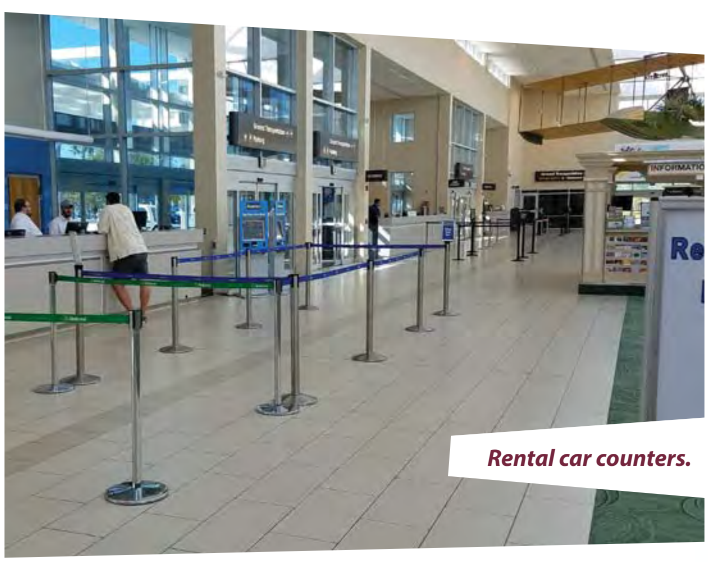
Opportunities/ Challenges Summary

The main issue from an architectural design perspective that is noted regarding the existing building is the piecemeal approach to renovations and additions. This has resulted in a disjointed building layout and inefficient circulation pattern. The biggest opportunity from a renovation perspective would be to review the building holistically and simplify the building in terms of massing and flow. The massing piece will allow various plan changes and roof levels to be normalized reducing the areas where energy efficiency and weather-tightness are most compromised. Simplifying the building layout will clarify the traffic patterns and help de-stress and improve the overall traveler experience.

An entirely new facility would allow this holistic approach to occur without the existing constraints and also afford the opportunity for centralized passenger screening and back-of-house baggage handling operations. This will further simplify the building usage and result in reduced operational costs that exist with two separate ticketing halls and check-points.

Phasing of renovations to the existing building will be a challenge, specifically in terms of not impacting day-to-day operations and causing flight delays. Careful consideration will need to be paid to phasing plans, maintaining Code required egress, and safety of passengers.

Overall, this building has many opportunities for renovation and expansion. The structure is simple enough in many areas that improvements could be economical and beneficial as long as the above challenges have been taken into consideration.



Rental car counters.

Structural Systems

Introduction/ Overview

At a quick glance from the exterior, the terminal building appears to be one cohesive structure. However, it is, in fact, an assembly of many types of construction that have been added in piecemeal fashion numerous times through the life of the building. The earliest drawings found on site were from the mid 1940's, spanning through 2017. There have been multiple iterations of construction, demolition, and rehabilitation to all parts of the structure. In addition, there is a current project underway performing a rehabilitation and adding on to the structure on the north side of the building. This portion of the building under construction is assumed to meet all the current codes and has been excluded from this portion of the assessment.

Based on visual inspection, the building appears to be in good structural condition. There were no major issues found, nor did the staff of the airport bring up any current conditions that warranted concern.

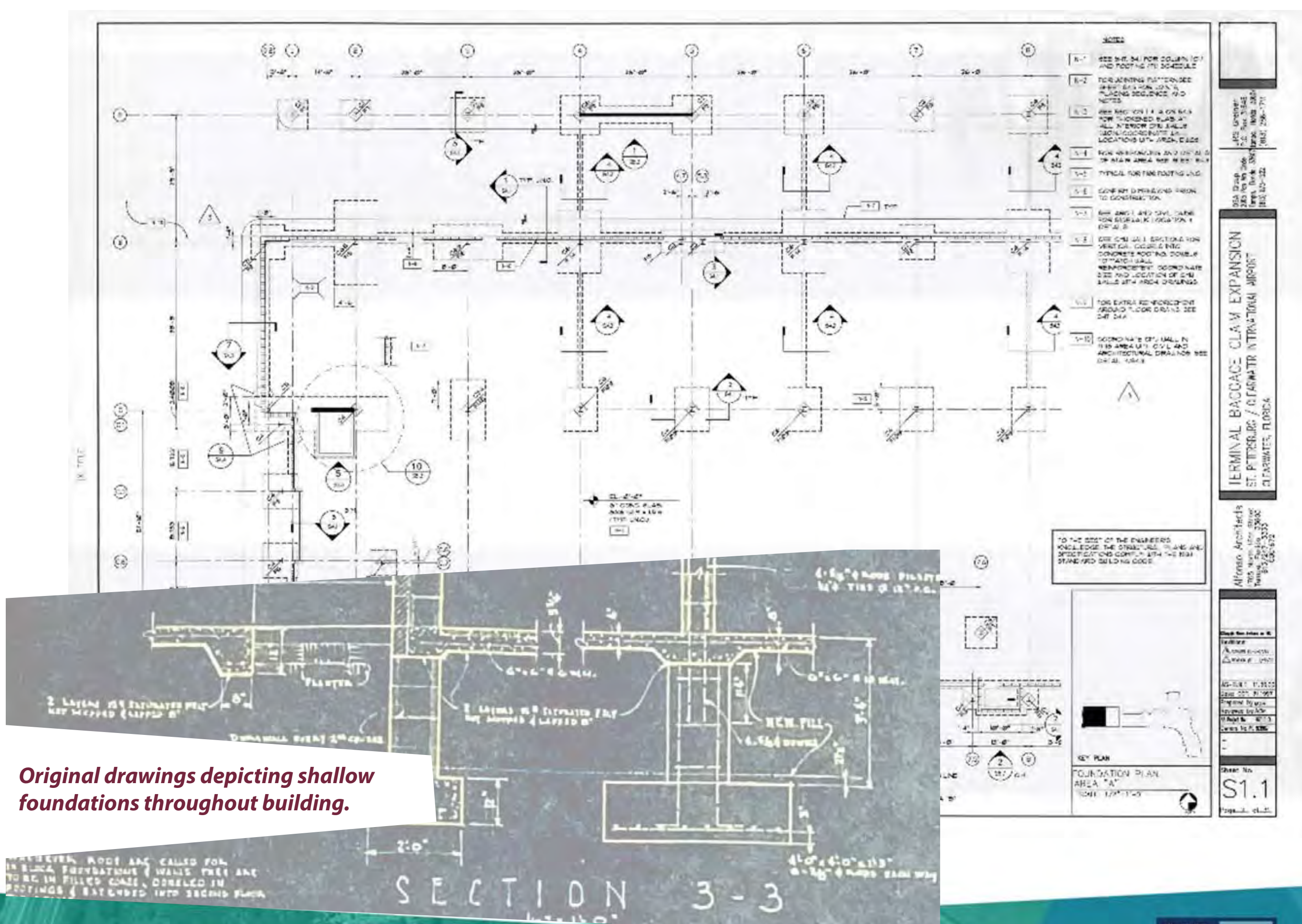
The following is a summation of what was found during visual inspection of the building and the plans that were available.

Foundations

The foundations of the building were not inspected due to the inaccessible nature of subgrade foundations. Partial demolition and digging equipment would have been required, which was outside the scope of this project. Based on the existing plans, there are various foundation types including CMU stem wall on shallow spread footers, concrete piers atop shallow foundations, concrete grade beams, and monolithic concrete foundations. All foundations appear to be shallow from the information available.

Based on visual inspection of the interior and exterior of the building, the existing foundations appear to be working as intended. There were no major cracks or spalling in the walls or slabs. Interior floor tiles appear to be in good shape, which is an indicator that if any cracks exist, they are minor in nature. There was no visible cracking in the walls, indicating that the foundations are supporting the building without any major or differential settlement. This is also a good indicator that the soils are stable and dense enough to support the intended design loads.

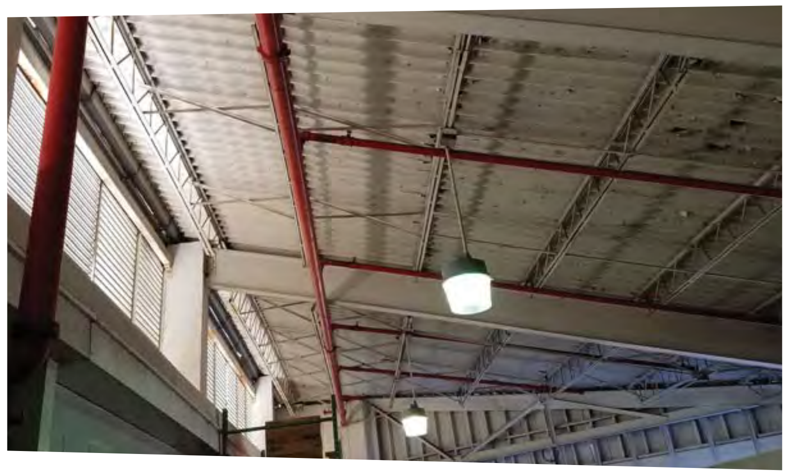
Overall, the foundations appear to be designed and constructed properly. Based on the way the soils and shallow foundations are performing, it is safe to theorize that any expansion or future construction on or near the facility could likely use shallow foundations in a similar fashion.



Original drawings depicting shallow foundations throughout building.

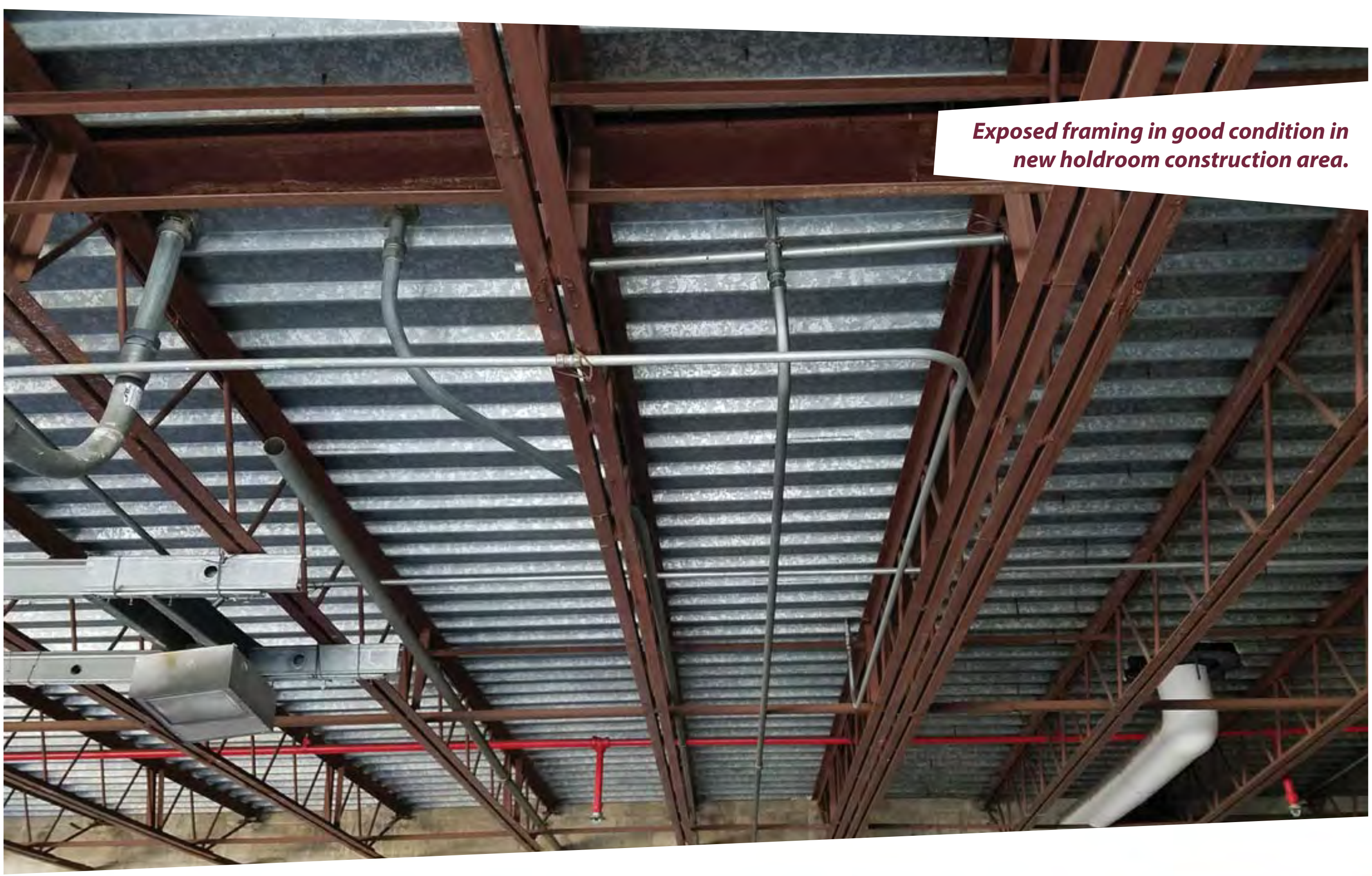
Floor and Roof Framing Overview

In general, the floor and roof framing consists of structural steel beams and open web joists. A number of areas were inaccessible for visual inspection and, therefore, could not be verified. Of the steel that was accessible for observation, no issues were found. Exterior steel was prime painted and appeared to be in good condition. Connections were typical bolted shear plates and all bolts appeared to be in good working condition.

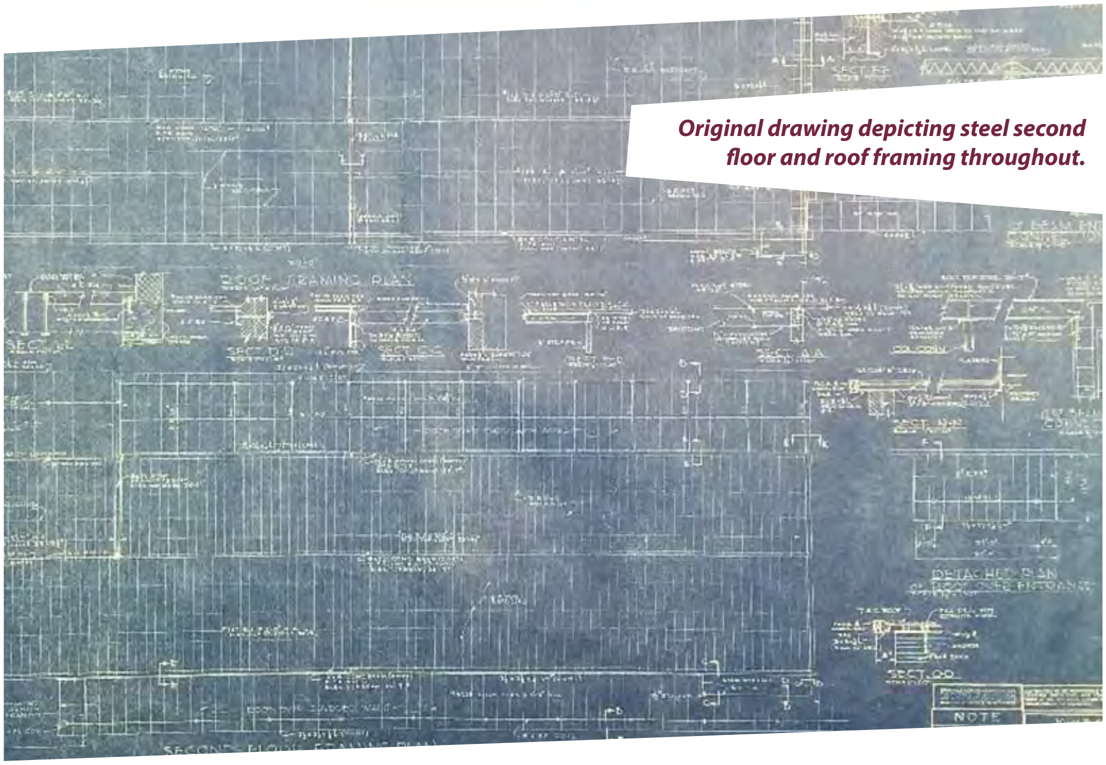


The second floor consists of metal deck with concrete infill. It is unclear whether the decking is acting with composite action. The deck is acting as a diaphragm to transfer lateral loading from the exterior walls to the shear resisting system.

The roof consists of metal decking acting as a diaphragm. The connections from the deck to the structure are not clear on the existing draw-



Exposed framing in good condition in new holdroom construction area.



Original drawing depicting steel second floor and roof framing throughout.

ings. Based on the unknowns, a capacity of the roof deck may be difficult to estimate for any future renovations or expansions. It is recommended that any future additions to the building be designed isolated from the existing lateral resisting system.

No water staining or corroded areas were observed during the site walk, which was surprising considering the poor condition of the roof membrane. (See architectural for more on the roof membrane condition.) The lack of water staining could indicate that the roof deck and water proofing membrane are performing adequately. It could also indicate that the maintenance team is doing a good job of repairing any leaks and replacing the ceiling tiles in a timely manner. When asked directly if there were any issues or leaking in the roof, the maintenance team did not seem to have any areas of concern.

Overall, the floor and roof decking and framing members are in good condition. In reference to future expansion, adding to the building at the ground level is a relatively straightforward option. From a structural perspective, adding a second level to the baggage claim level or reconfiguring the 2nd floor office area into usable public space also appear feasible. The amount of design and construction cost to accomplish this is not in this assessment. Furthermore, it is unclear whether or not doing this work would actually add any benefit from a passenger flow or experience perspective. Further investigation is warranted in the alternatives phase of the Master Plan if these ideas are deemed beneficial by the Airport.

Wall Systems

The structural wall systems consist of traditional steel column and beam framing, CMU, and concrete. In the oldest portions of the building there are still some areas consisting of brick walls that have been covered up by modern block construction. Along the entrance corridor, the walls consist of a glass curtain wall system supported by steel columns and beam framing.

The lateral resisting system consists of traditional braced frames, concrete shear walls, and CMU shear walls. There is a possibility that some of the system contains moment frames but none were found in the existing drawings. The lateral systems appeared to be operating

Cracking of precast panels at roof level.

properly based on the lack of movement/cracking in the building. Walls appeared intact with very little damage with the exception of the rooftop concrete wall panels.
The wall panels on the roof were the only exception to the otherwise great condition of the building wall systems. The panels appear architectural in nature and are likely not resisting any lateral loads. The cracking in the panels is observed throughout all portions of the walls and evenly spaced, which could indicate an issue in the concrete mix design, the lack of reinforcing, issues during installation, or any other number of causes. The cracks have been repaired with some type of sealant. The date of the repairs is unknown.

Despite the numerous cracks, the panels appear to be structurally sound and do not appear to warrant cause for concern. It is recommended that the panels be monitored over the next 5 years on an annual basis for signs of deflection, spalling, or deformation of any kind.

The wall systems, including the lateral resisting systems, appeared to be in good condition overall. The benefit of steel column and beam framing is the ease of modifying the infill to expand the building. There could be challenges with the areas of the building consisting of the concrete shear walls or braced frames, but for the most part, the structural system is one of the simplest to work around. Analysis of the overall lateral resisting system will be required to determine capacity if future expansion is to utilize the existing system.

Opportunities/ Challenges Summary

In addition to the opportunities and challenges listed above, there are some added issues to be considered. To start, due to the shortage of comprehensive building drawings, analyzing this building, as a whole, for a large expansion will be difficult and potentially very expensive. Consideration should be given to either creating isolated structures when adding onto the building or demolishing old structure and developing a comprehensive building structure in place of the existing. The former will prolong the piecemeal approach, but the later could potentially be expensive, albeit beneficial in the long term.

Phasing is going to be another challenging element of any significant renovation or addition. As with most airports, securing areas during construction is of vital importance and, with the many different types of construction, shoring and temporary structures will be more complicated. Special focus should be put on phasing and temporary structures during the design phase, and should not be left up to the contractor alone.

Overall, this building has many opportunities for renovation and expansion. The structure is simple enough in many areas that improvements could be economical and beneficial as long as the above challenges have been taken into consideration.

Exposed framing in good condition in new holdroom construction area.

Mechanical

Introduction/ Overview

The mechanical systems were assessed through visual inspection, review of the Terminal Renovation Plans, and discussions with maintenance staff. The majority of the mechanical systems were replaced within the last 10 years as part of the 3-phase Terminal Renovation project and appear to be in good condition. The final phase of the Terminal Renovation project adds 350-tons of cooling to the loop, while only adding 80-tons of air-handling equipment, which allows for redundancy in the facility.

HVAC systems

The airport is conditioned by a central air-cooled chilled water plant, which distributes chilled water throughout the terminal building to various single-zone Rooftop Units (RTUs) and multi-zoned, (Variable Air Volume (VAV) air handlers. When the current terminal renovations are completed, the chilled waters plant will consist of (3) air-cooled chillers, combined 900 tons, each with a dedicated primary loop pump, and (2) secondary loop pumps. The primary pumps are pad-mounted and adjacent to each chiller. They are sized to circulate water through the associated chiller to the secondary pumps located within the pump room. The secondary pumps operate on Variable-Frequency Drive Systems (VFDs) in a Lead-Lag configuration and circulate water based on maintaining a chilled water loop pressure set point.

The air-side systems consist of (24) RTUs manufactured by AAON and (20) indoor Air Handling Units (AHUs) and blower coil units. These units range from 3-tons for the smallest RTUs to 80-tons for the large indoor unit serving the new expansion for Gates 7-10. Most of the RTUs and indoor AHUs operate as single-zone VAVs.

Electric heaters within the RTUs and duct heaters for the indoor units provide for the facilities heating needs. The electric heaters operate by slowing the unit supply airflow down to 75% and then controlling the heater output by modulating through Silicon-Controlled Rectifier (SCR) control. A central gas-fired, condensing boiler plant would provide a more efficient heating approach, but only should be considered for local heat in any new expansions or for a full terminal rebuild. The high cost to retrofit the existing terminal HVAC systems to all hydronic heating would have a long period for return on investment.

Packaged rooftop HVAC units.

Chilled Water Distribution

The chilled water loop leaves the pump room through the roof as 8″ mains and runs along the roof before splitting to (2) sets of 6″ mains and (1) set of 4″ mains, serving the east and west portions of the terminal building and the central portion, respectively. The chilled water system operates on a 12° dT, supplying at 45°F and returning at 57°F. The RTU and AHU control valves are 2-way valves with the exceptions of the final (3) units on each of the sets of mains. Those units are provided with 3-way valves to minimize stagnation of Chilled Water Unit (CHW) in the mains during low flow conditions.

The chilled water piping routes along the roof on pipe stands. The exposed piping is insulated with rigid insulation with an embossed aluminum jacket. The condition of the jacketing and insulation appeared good across the roof.

Chilled water mains routed along roof.

Fire Suppression System

The fire suppression system consists of several wet-system fire risers, added as the terminal expansions were constructed. The locations of the risers may make some sense from an individual perspective, but they are not ideally laid out when considering the facility as a whole. A large main along the east exterior of the facility routes above grade and then back below grade as it passes over many electrical feeds from the remote electrical building.

Fire water main routed along south wall of terminal building, above grade to avoid feeds from airfield electrical vault.

Opportunities/ Challenges Summary

Nearly all of the air-handling equipment, along with large portions of the associated ductwork, were replaced within the last 10 years. Based on feedback from the HVAC maintenance team, the cooling and heating systems are working very well. The existing cooling system type represents the least efficient chilled water system, but is much more efficient than the Direct Expansion (DX) equipment alternative to chilled water. The system efficiency could be improved by utilizing water-cooled chillers with cooling towers, in lieu of the air-cooled chillers. The drawbacks to this change would include the additional maintenance requirements of open-looped cooling towers, associated water treatment, and additional pumps. The efficiency increase could drop the kW/ton use from 1.2 to 0.7. Another cooling savings option, at the cost of system complexity, would be chilled water or ice storage. This allows the facilities team to shift some or all of the peak hours of cooling to the evening hours, when electricity costs are typically cheaper. Ice storage is recommended when there are definite regular times the cooling systems of the building will be not operating, allowing the chiller plant to shift to ice making mode. Chilled water storage is the next best option when systems must remain operational for most of a single day's 24 hours. The largest draw back to these two options are finding the real estate to house the storage systems. These major system changes would only be recommended if replacement of the entire terminal is considered.

Indoor air handler.

Adding additional AHUs or RTUs at the extremities of the facility may require replacement of the mains to allow for the additional chilled water capacity (gallons per minute, gpm) required. Each branch can handle between 70-150 additional gpm, or 35-75 tons of cooling. Currently, the exposed location of these lines would make replacement relatively straightforward.

Fire suppression systems rarely have additional capacity unless planned into the design. Any expansions to the facility will most likely require another fire riser connected to the site fire water loop.

Plumbing Systems

Introduction/ Overview

The plumbing systems were evaluated through visual inspection (of the systems visible), review of the Terminal Renovation Plans, and discussions with maintenance staff. Many of the restroom facilities were renovated during Phase III of the Terminal Renovation project and appear to be functioning satisfactorily.

Hot Water Systems

Roof drainage.

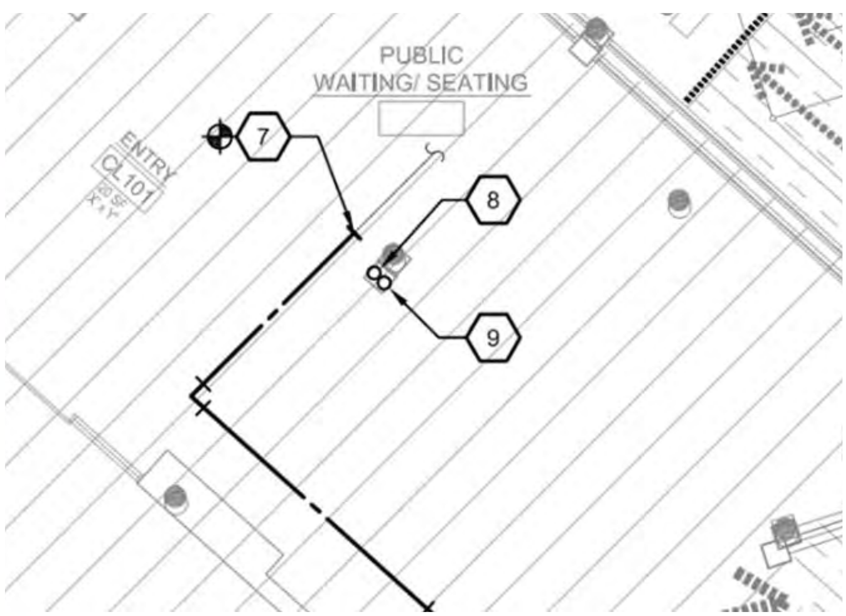
The majority of the terminal restroom groups are not provided with centralized hot water to the restrooms. Instantaneous water heaters are provided at the mop sinks associated with the restroom groups. Other hot water systems appear to be tenant specific, for example a food service location. No functional issues were noted or reported by the maintenance team.

Point-of-use style water heaters are 100% efficient. Central hot water plants utilizing condensing gas-fire boilers will typically only be 90-95% efficient, but may be more economical provided the cost difference between electricity and natural gas. Since most of the hot water demand for the facility only represents mop sinks, the savings in energy costs would not cover the switch-over to a central plant.

Sanitary Waste

Each of the restroom groups has a sanitary line that routes from the restroom group to the site sanitary system outside of the facility, typically toward the landside of the facility. These lines are constructed of cast iron and are original to the portion of the facility with which they were installed. The lines should be regularly scoped to ensure the condition of the lines remain intact. The only reported functional issues with the sanitary system were in regards to the Sam Adams Grille, specifically the floor drains and the sanitary line that conveys down from the second to the first floor. This line is located within a column wrap in the public seating area adjacent to the Transportation Security Administration (TSA) screening. Phase III plans indicate that the piping within the chase and below ground should be lined, since replacement would be very costly.

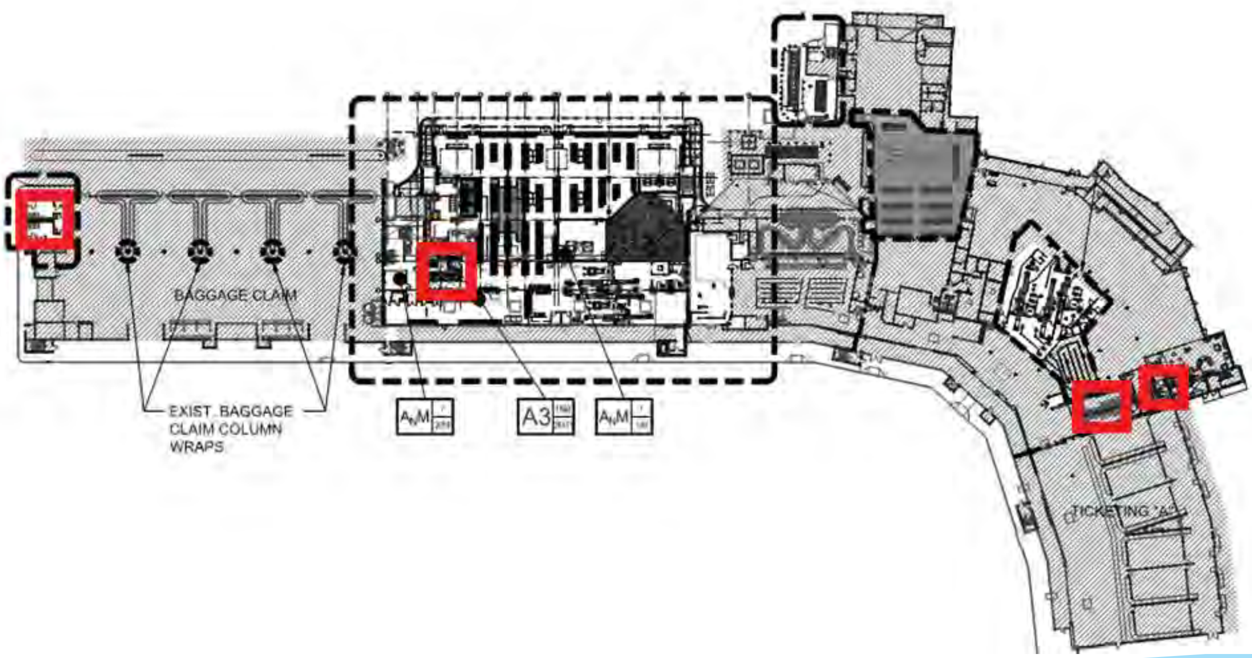
Any additional systems should be constructed of PVC, however there are two conditions where another material would need to be used. PVC cannot be used where routed within return plenums. Also, any piping serving restaurant waste, which most often includes soft drink drainage, should utilize PVDF or fuseseal piping. While substantially more expensive, this piping is rated for acid waste and resists the caustic soda waste. PVDF's value is only seen over the long term when PVC or cast iron would have failed.



Sanitary lines down from second floor restaurant.

Restroom Configurations

The terminal has (4) Mens & Womens 1st floor gang restrooms. (2) of the sets of restrooms are accessible to the non-secure area of the airport, adjacent baggage claim and ticketing and (2) are assessable to the secure side of the terminal, Gates 7-10 addition and Gates 2-6. From an overall capacity standpoint, there may be a sufficient number of units, however they are disproportionally placed pre and post-security, as noted in the architectural review. Future expansion and renovation projects should consider adding more capacity to the post-security side.



Restroom group locations.

Grease Traps

Existing grease traps are provided for the Sam Adams Grille and the condition of these traps are unknown. The Shell Key Café, when built-out will have (2) 1000# grease traps located to east of the Gates 7-10 addition. Grease systems located on second floors, like the Sam Adams Grille, that are separated by a distance from the associated grease trap tend to have issues with waterborne grease cooling and hardening while flowing through air-conditioned spaces. That scenario causes increased wear on the grease piping and higher potential for leaks. Heat tracing can be wrapped around the pipe to slow the cooling of the grease within the piping.

Opportunities/ Challenges Summary

Any expansions will most likely require new sanitary lines tied into the site sanitary system. The current restrooms do not have hot water at the restrooms. Our interpretation of the code is that they are required where washing occurs and that would include handwashing. This requirement is enforced differently from Authority Having Jurisdiction (AHJ) to AHJ, but should there be an increased load in hot water, alternative options for producing hot water should be investigated. One option is solar water heating. This option would be better implemented if the terminal building had a central domestic hot water plant. The roof does have a lot of equipment and piping, however there does appear to be areas for placing hot water solar panels. Another option would be a central boiler system, which would allow for less heating equipment throughout the facility, but would require more piping throughout. A third option would be local water heaters at each restroom facility. There are more systems to maintain, but this would allow for redundancy in the sense that not all restrooms would lose hot water should a heater fail. These three options should be weighed-in on by the facilities team as the total energy usage would be similar (with the exception of the solar panels), but vary mostly in the effort of maintenance.

Rainwater capture is another option that should be considered with the entire roof surface provided at the terminal. This option would not be easily adapted to the terminal as currently laid out, but could be implemented should full renovations be made, or a new-build terminal be pursued. The captured water can be used for landscaping purposes with little effort and treatment. The water can also be used for flushing toilets, though the water must be dyed to indicate that it is not potable water. These uses would probably cover a large portion of the terminal water usage. Challenges associated with rainwater capture are finding square footage to locate the storage tank and treatment system and proximity to roof drains.

Electrical Systems

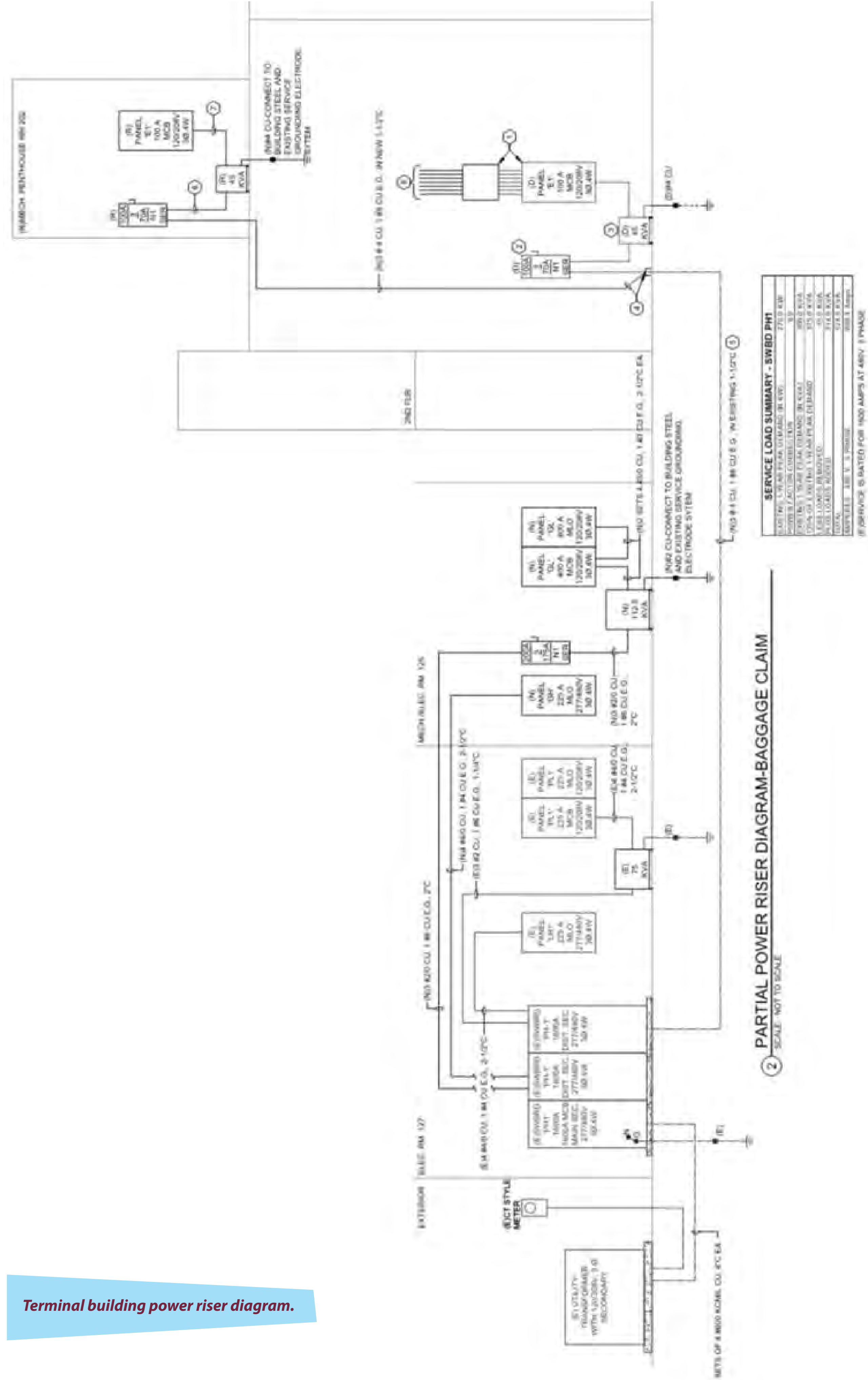
Introduction/ Overview

The airport electrical system has evolved over the years with expanded use of multiple utility tie-in points to support the expanding terminal phases. To prevent the main electrical service from needing to be upgraded with additional capacity, projects were phased so that a new electrical utility could be brought in without needing to shut down the existing areas of the airport being served by the existing utility.

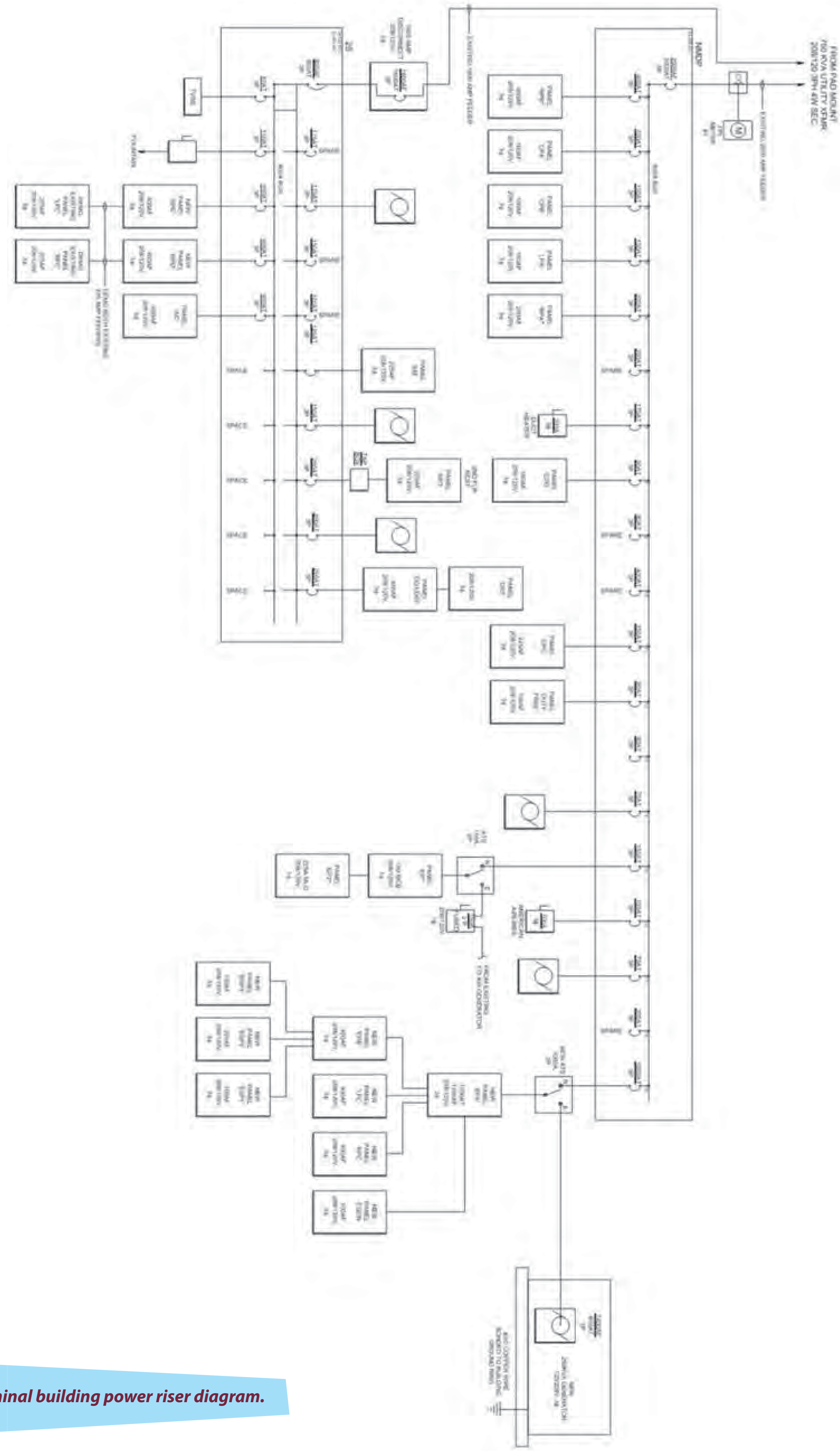
Example electrical room.

The main distribution boards feeding the electrical rooms and panels throughout the airport range in size from 800 amps to 4000 amps depending on the size of the area it is serving. From these distribution points the main feeders to the various areas of the airport are either individually metered via a combined meter center to allow for billing to individual tenants as needed, or are directly metered to the incoming feed to the distribution panel. Each feeder is tied into a combined shunt trip that will trip enclosed circuit breakers outside of the structure feeding the main distribution panels if the main shunt in the fire command control room is triggered upon a response by the fire department.

The following pages show two examples of electrical riser diagrams showing different areas of the airport going back to different electrical utilities as mentioned above.



Terminal building power riser diagram.



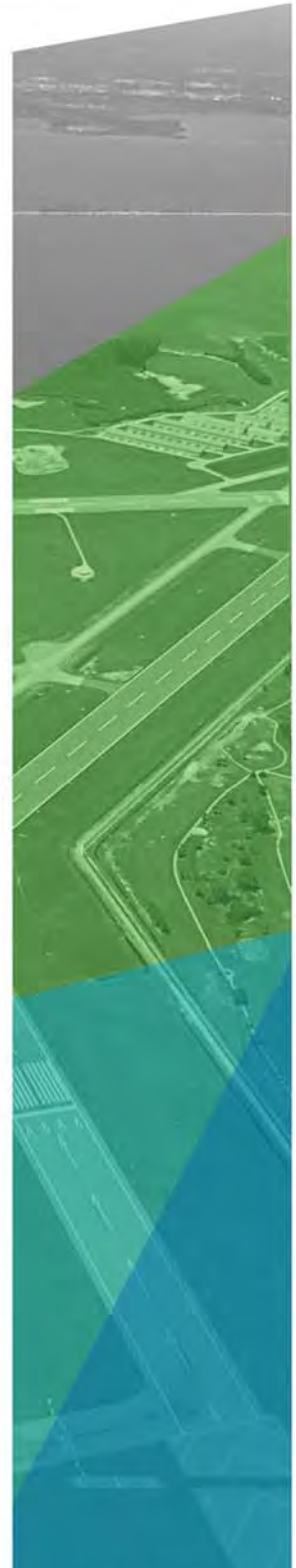
Terminal building power riser diagram.

Electrical Rooms and Distribution Layout

Electrical rooms in the terminal building are centrally located in the areas which they serve. For example, each Gate has a dedicated 800 amp distribution board located in an electrical room underneath the loading bridge feeding power to the bridge motors, lights and HVAC as well as other supporting equipment serving that particular area. Concessions and restaurants also have their own panels sized to serve their individual equipment plus limited capacity for future additions. This allows areas of the airport to be compartmentalized and modified minimizing the need to shutdown other areas outside of a project area to maintain airport operations.

A consolidated electrical system would be preferred for new construction, however for projects in the future it is recommended that the existing multiple utility system be further utilized to prevent disruption to airport operations. A consolidated approach would only be needed for larger projects if a nearby distribution panel does not have enough capacity to support an expansion. The new distribution system would require tie-in to the existing electrical system such that upon an emergency condition the building power supply can be shunted, ensuring that the entire structure is de-energized while emergency personnel respond to an event. Any further additions to the structure would also require the new utilities grounding system be bonded to the existing structure grounding electrode system to prevent a potential difference between the two services.

The only location a consolidated system could not be utilized would be the possible expansion of the south-east side of the structure that would interfere with the existing electrical vault housing the voltage regulators, controls, and generator for the airside lighting system. Careful construction phasing would be required in order to prevent interference of airport operations if this structure were to be relocated. The relocation of the structure would require the bypass of the existing electrical manholes feeding fiber and power to the vault so that the utilities could be switched over to a newly constructed vault to house the same equipment allowing a downtime only for the changeover of the incoming infrastructure to limit the disruption to airport operations. The process of constructing an identical vault and switching over the infrastructure to the new vault would be required unless the existing vault could be incorporated into the new structure, eliminating the need for it to be relocated.



Emergency Power Systems

Emergency power for the facility is generated through two generators. Much like the distribution system, the emergency generators have been added with each large scale expansion of the airport such that the original 175kW generator included with the main terminal build-

Emergency generator in airfield vault adjacent to the terminal building.

ing construction works in conjunction with a newer 250kVA generator that was added with the Federal Inspection Service (FIS) expansion. Both of the generators are tied back to the same building grounding counterpoise loop in order to prevent a potential difference between grounds. It was noted, however, that each generator only feeds one automatic transfer switch that distributes to the various emergency panels feeding lighting, receptacles, and other equipment backed up by emergency power. Per National Electric Code (NEC) 700.5, a transfer switch would be needed for each emergency branch (emergency loads, legally required standby, and optional standby). The current configuration would not be allowable in future projects and it is recommended that any expansion requiring a new generator be done consistent with NEC requirements. The airport should verify that these requirements are included in the final design and construction of the proposed FIS improvements.

Fire Alarm Systems

Fire alarm system.

The terminal building fire alarm system is configured by a main fire alarm control panel located in the fire command control room that then distributes out to localized fire alarm termination cabinets in each area of the airport, much like the power distribution layout. The existing system is a Honeywell Notifier series system with digital voice command to allow for paging areas of the airport from the fire command control room. The notification system is comprised of ceiling and wall mounted speaker strobes dispersed through all occupied areas of the building, with each Notification Appliance Circuit (NAC) tying back to its respective point of termination, all supervised by the main fire alarm control panel as well as a dialer with two dedicated phone lines to activate upon an emergency condition.

The fire alarm control system also provides standard initiating capabilities as well as tie-in for special monitoring of the Fenwal fire suppression system seen in many of the Electronic Equipment Rooms (EERs). Shunts for the airport emergency and normal power can also be found in the in the fire command control room so that power can be completely de-energized as needed by the responding fire department. Automatic release of access controlled egress doors can also be overridden by the existing fire alarm system in case of an emergency

Lightning Protection

A comprehensive lightning protection system was not observed on the roof of the building. Older areas of the building such as the main terminal and existing high-mast lighting were observed to have lighting protection on the terminals tied into ground, however newer expansions to the building did not appear to have air terminals mounted around the perimeter of the structure or and along flat central portions of the roof away from the perimeter. Rooftop equipment was also not bonded to any kind of lightning dissipating grounding electrode presenting a risk of a strike, on an unprotected portion of the building, capable of immense damage to equipment and fire. The airport should address this concern in any future renovation, expansion, and redevelopment of the terminal.

View from roof, overlooking aircraft parking.

Opportunities/ Challenges Summary

The power distribution system, although it uses multiple utilities to serve different expansions of the terminal building, still has a large amount of excess capacity which could be utilized for future projects. The scale of the project and the location in the building would determine if existing infrastructure could be utilized or if a upgrading the nearby infrastructure to support an expansion would merit an additional utility and meter be brought in.

Further expansion of the emergency power system would require additional infrastructure to bring the existing system up to current standards. Any new generator would require separate transfer switches to each emergency leg and could no longer share a single switch. It is recommended that the existing head end emergency distribution equipment eventually be reconfigured to meet the requirements of NEC 700.5.

It is recommended that the existing lightning protection system be extended to all unprotected areas of the building as well as bond all existing roof mounted mechanical equipment. It is important that any new lightning protection still be bonded to the existing system in order to create one single protected grounding system for the building.

The lighting system for the existing building was noted to be older fluorescent and incandescent fixtures original to the building. There is an opportunity for energy savings by providing the fixtures with retrofit LED lamps sized to match the existing light output in the existing fixtures to save on long term energy costs and maintenance efforts to replace lamps with shorter life spans. This would also free up electrical capacity for future expansion.

The existing electrical infrastructure at the terminal building is a robust system with capacity for future small projects, with the ability to add larger expansions by bringing in additional utilities. The existing system allows the airport to remain operational during large expansion projects and is a reliable system for the future of the airport. As areas of the terminal building are scheduled to be renovated, opportunities can also be seized upon in order to address many of the building deficiencies listed above.

Airside Civil and Utilities Infrastructure

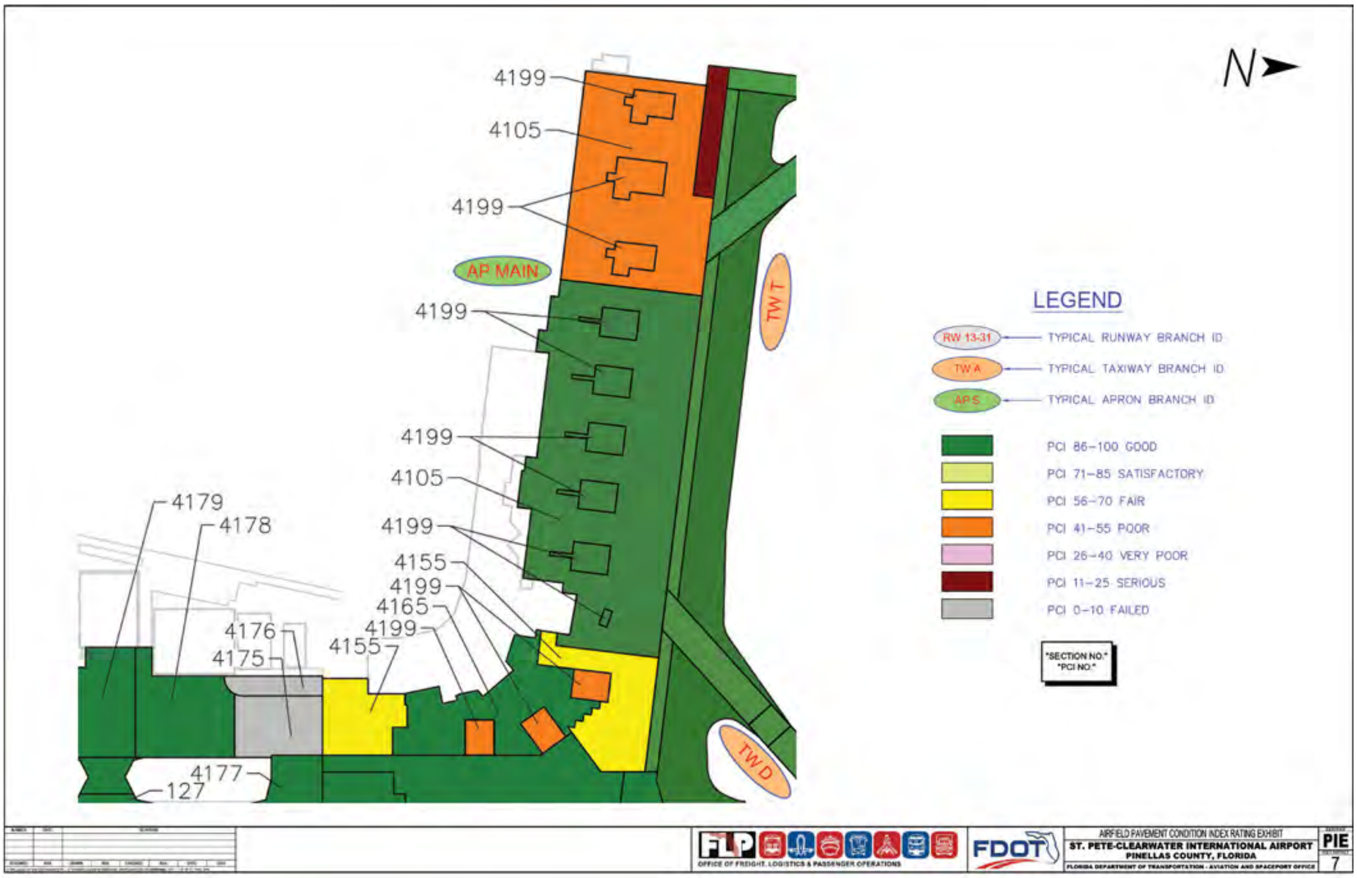
Introduction/ Overview

The study area for this part of the report discusses the airside and utilities infrastructure located on the commercial aircraft parking apron to the north, east and west of the existing passenger terminal building.

Extent of apron area conditions assessment.

Airside Pavement

As part of the FDOT Statewide Airfield Pavement Management Program, St. Petersburg - Clearwater International Airport was inspected in January 2015. The pavement within this area is shown to range from 3 to 100 PCI.



Since the January 2015 fieldwork, there have been two projects completed to reconstruct the apron area from approximately Taxiway G on the southern edge of the terminal apron to approximately 200 feet west of the edge of terminal. The only areas below 100 PCI now are located on the far western edge of the study area.

The projects that updated the surrounding area along with pertinent dates are:

1. **Terminal Apron Hardstand Expansion – Phase 1**
   - Engineer of Record: Avcon, Inc.
   - Date project completed: 2015

2. **Terminal Apron Hardstand Expansion – Phase 2**
    - Engineer of Record: Avcon, Inc.
    - Date project completed: 2017
    - There are a few isolated areas of what appears to loading failure in the concrete pavement. These are isolated to certain areas of the apron. The airport is reviewing the reasons behind this and determining rehabilitation methods.

The area located west of the terminal building, formerly leased for air cargo, was not updated as part of the projects listed above. These areas were listed as a PCI of 51 and 55. Items to note in this area are the following:

1. There was a portable cargo handling building that was removed when United Parcel Service relocated. When the building was removed, anchor bolts were left exposed at the ground level. In discussion with airport personnel, they will be requiring UPS to remove the anchor bolts and patch these locations.
2. On the southern edge of this area are concrete trenches through the asphalt that are approximately one foot wide. In discussion with airport personnel, these were used as pavement repairs for cracks that were in the asphalt. They have held up well and stopped the reflective cracking.
3. This area may be leased to another entity at the airport. This is currently under development.

Below are a photos of the pavement areas discussed above:

Facing west on terminal apron formerly used for air cargo.

Facing east on terminal apron formerly used for air cargo.

Facing west on terminal apron approximately 250 feet east of west edge of terminal building.

Sample photo of the distress of the Terminal Hardstand 2 project on the southern edge.

Utilities Infrastructure

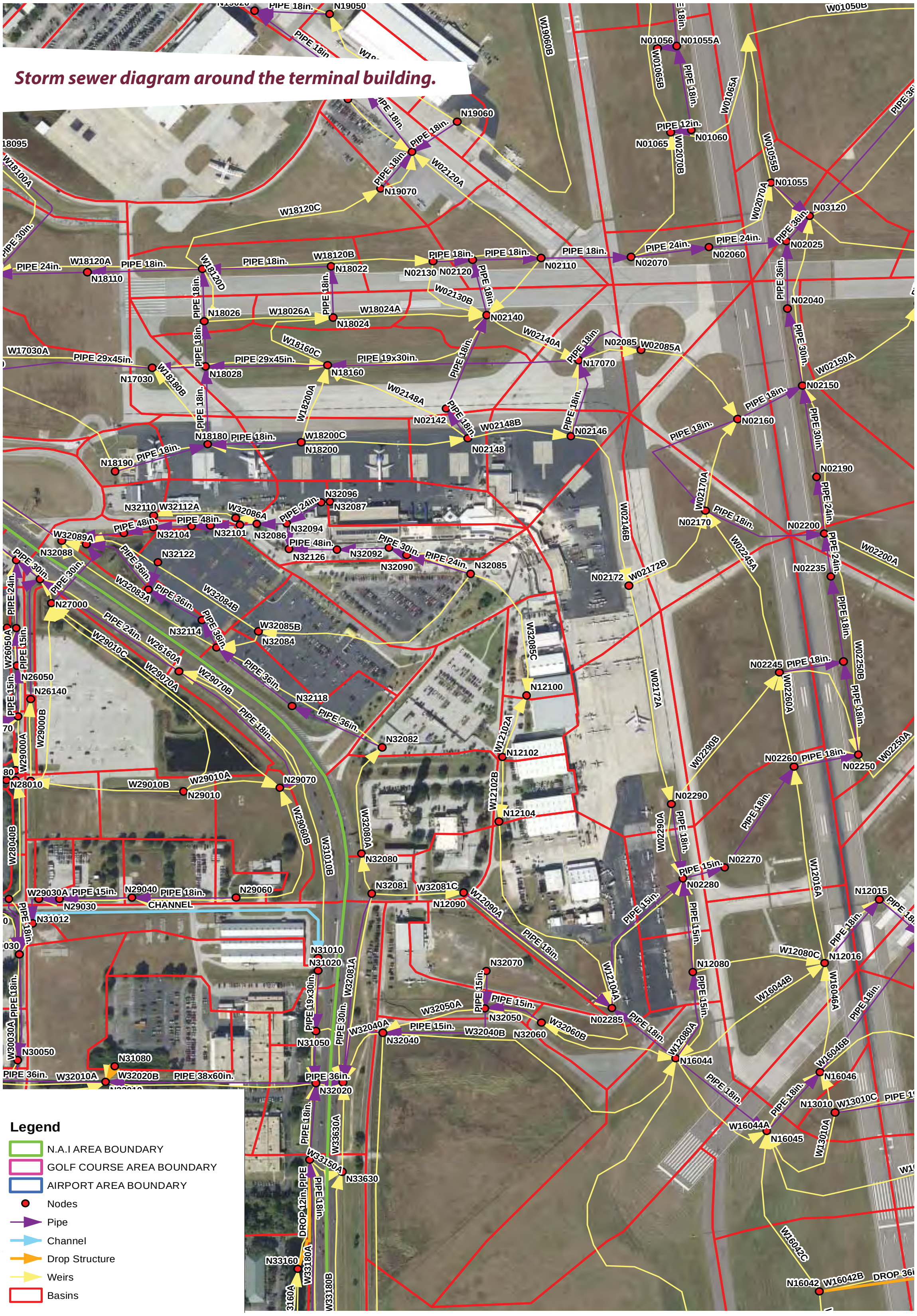
The utilities currently known in the area of the terminal apron are the comprised of: power, sanitary sewer, water, storm sewer and fiber.

The power, sanitary sewer and water travel along the northern face of the building but south of the hard stands for the aircraft. See other sections of the report for the interfaces to the building.

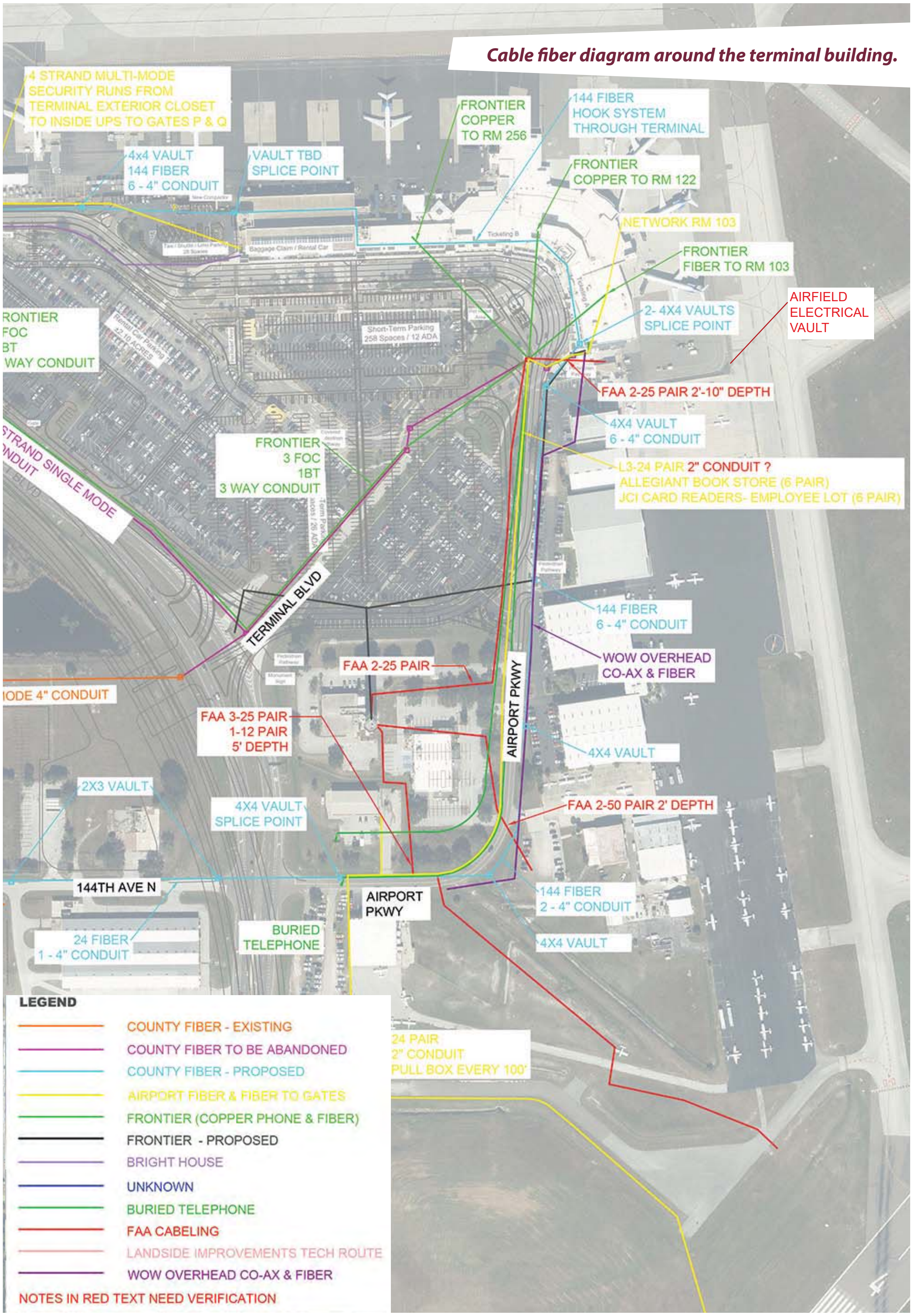
Terminal utilities overview (water, sewer, and power).

The storm sewer system is mainly laid out to allow water to flow from the building toward the airfield. There is a system of catch basins and pipes that bring the water to existing ditches and detention basins. See an excerpt of a node map for the drainage system below.

Storm sewer diagram around the terminal building.



The fiber was recently updated for the airport and provides ample connectivity. The fiber connects into the south side of the terminal near the airfield electrical vault. See an excerpt from an updated fiber drawing.



Cable fiber diagram around the terminal building.

Utilities Capacity and Efficiency

The current systems appear to be working well and have ample capacity for existing demand. The capacity and efficiency for future work is described further below.

Power

There is ample power supply to the airside area and sufficient service is available should demand increase. As is typical for many buildings, this terminal building has been built in phases. It appears that there are at least three services for the building.

Sanitary Sewer and Water

These systems appear to be working and are being slightly updated as part of the landside parking lot improvements.

Storm Sewer

The airside storm sewer should have ample capacity for future needs. The pipes should not need increased capacity due to terminal expansion since most of the area is constructed with impervious material. The system appears to be pretty well organized and laid out.

Fiber

The airport has ample capacity for all expansion with the fiber that was recently installed. A cleaner approach moving forward would be for the airport to provide fiber to their tenants instead of each tenant obtaining their own.

Overall System

The utility system overall is working well for the airport. For future expansion, the existing systems may need to be re-routed to allow for thoughtful approach to modifying the system.

Opportunities/ Challenges Summary

Opportunities exist for expansion of the existing terminal building. This shall be evaluated in more detail when a known alternative is selected, but some of the opportunities and challenges are the following:

1. Shift, expand, or construct building further to the west
   - On the west side of the building, there are power, water and sanitary sewer lines that may need to be relocated due to the expansion.
   - The apron space formerly used for air cargo lease area could be used for the airport to extend their gates if it isn't leased to another entity.

2. Shift, expand, or construct building further to the north and east (toward the airfield)
   - Shifting the building toward the airfield would require the relocation of the existing taxiways and infilling the turf area between Taxiway T and the closed runway.
   - There are power, water and sanitary sewer lines that may need to be relocated due to the expansion.
   - An evaluation of the current drainage areas would need to be performed to reroute and size accordingly.

3. Shift, expand, or construct building further to the south
   - The existing airfield vault would need to be relocated.
   - Ticketing "A" Outbound baggage screening and make up that is being built in 2018 would also need to be relocated.
   - There are utilities such as power and fiber that would either need to be relocated or avoided.

Once the alternative is selected for the terminal, this section shall be revaluated and the opportunities and challenges shall be evaluated further.

Summary

The project scope for this assessment included a full-day site walkthrough with Airport maintenance staff, visual inspection of all key terminal building rooms, and sifting through thousands of digital and paper copies of terminal drawings from various time periods. Though an exhaustive review of every single plan or element was beyond the scope of this project, through this review process, a basic knowledge of the building and surrounding infrastructure was gained. Below is a summary of key takeaways from the assessment, and opportunities and or challenges to be considered in the Airport Master Plan or subsequent renovation or expansion design phases.

The terminal building as a whole, including the majority of systems and passenger processing functions have been constructed over time in a "piece by piece" approach, which is common for many terminals we encounter. Historically, smaller projects, to meet immediate needs, have been constructed "just-in-time" or to just catch up with the demand. This is a result of the history of the Airport and the airlines that have come and gone. A few examples of this fragmented approach are the separated check-in, baggage screening, passenger screening, and baggage make up areas. Another example is the circuitous route that passengers have to follow to get from the holdrooms to the baggage claim area. A two-story, enclosed corridor was added to the exterior of the building because there was no other interior way to get from the holdrooms to the baggage claim. Functionally it now works, but it is not the highest and best use of space, is subpar wayfinding for passengers, and maintenance staff complain about energy usage and water leakage. Most airports of this size do not have multiple check-in, baggage make up, and passenger and baggage screening areas. Passenger processing and flow should be simplistic at a facility of this size.

The building infrastructure including the structural systems and mechanical/electrical/plumbing (MEP) systems generally also reflect a piece by piece approach because they follow the building expansions and renovations over time. Over the last 5 years, continuous improvements have been made to the building and infrastructure, but upgrades have generally been completed only within the construction "box", tying into other existing systems. For example, the structural systems appear to be in good condition, but there are many different systems. So, any future expansion would have to either be a totally new building, a complete redo of the roof structure, or continued piece by piece approach one area at a time. The first two will require a large capital expenditure upfront, but have long-term benefits; the latter is less investment, but merely a short-term solution. Likewise, MEP systems are, in most cases, relatively new. Some systems, like power distribution and electrical infrastructure have capacity, with others such as the sanitary sewer line would likely require more capacity with even a small expansion.

The commercial aircraft parking apron and utilities infrastructure are an area with the most recent and comprehensive upgrade to the terminal facility. The Airport recently completed apron reconstruction, except for the apron space formerly used for air cargo. Also, the airfield utilities infrastructure is less complicated and have been constructed in a comprehensive manner. Access to these systems is also much easier than interior building systems. Any expansion onto the airfield will be more a matter of avoiding critical infrastructure than concern with expansion capacity.

Any large scale expansion could also be difficult to phase due to the need to maintain operations. As noted in the structural and building systems section, because there are a lot of smaller "groups" of systems, the few options are to continue the piece by piece approach, complete reconfiguration in place, or greenfield facility. All of these will have pros and cons, and will be evaluated in the Master Plan alternatives phase.

Other areas of possible improvement include the ramps to Gates 4 and 5 passengers boarding bridges. They are unusual considering all of other gates are ground loaded, including other FIS capable gates, and maintenance staff noted many issues with cleaning and servicing ceiling elements. The restrooms have enough capacity to accommodate overall passengers, however they are not properly split between pre-security and post-security. The pre-security restrooms are always empty, and the post-security are always congested. They should also be modernized to meet current passenger expectations. There were various areas throughout the building with exposed building construction issues, most commonly roof damage due to water leakage or lack of energy efficient lighting or plumbing systems. These are all items that most peer airports are improving during their modernization program, and should be considered at PIE. Finally, noticeably absent from the roof was exterior lightning protection. This is deemed critical because without it a lightning strike could cause a major fire and damage. This is particularly relevant in a climate like PIE given the frequency of thunderstorms throughout the year.

The terminal building is in reasonable condition, as is the commercial aircraft parking apron area, due to recent or ongoing projects. However, at a time of record growth at the Airport, careful thought as to how the terminal building, and systems, will expand to meet the growth is required. The Airport and main airline have an opportunity to develop an excellent terminal program that meets passenger needs, but must be done via a comprehensive building and systems strategy, which may be a different approach than what has occurred throughout its history.

The table on the following page is a high-level summary of key elements within the terminal building.

Conditions Assessment Stoplight Chart

	FAILING	POOR	ACCEPTABLE	GOOD	EXCELLENT
Building Architecture Assessment					
Building Code Compliance			●		
Operation, Maintenance and Building Layout		●			
Interior Elements and Equipment			●		
Building Envelope			●		
Structural Systems					
Foundations				●	
Floor and Roof Framing				●	
Wall Systems			●		
Mechanical Systems					
HVAC Systems			●		
Chilled Water Distribution				●	
Fire Suppression System			●		
Plumbing Systems					
Hot Water Systems		●			
Sanitary Waste			●		
Restroom Configurations		●			
Grease Traps			●		
Electrical Systems					
Electrical Rooms and Distribution Layout			●		
Emergency Power Systems			●		
Fire Alarm Systems				●	
Lightning Protection		●			
Airside Civil and Utilities Infrastructure					
Airside Pavement					●
Utilities Infrastructure					●
Utilities Capacity and Efficiency					●

APPENDIX D

Passenger Terminal Landside Facilities Supplemental Data

APPENDIX D

The following sections provide additional detail to the passenger terminal landside facilities included in the existing conditions chapter. This includes the actual seven-day and two-day traffic count logs, as well as other operational observation documented for the master plan study analyses.

1.1 Terminal Curbfronts and Pedestrian Areas

1.1.1 Terminal Curbfronts

Ticketing

There is one passenger terminal facility at the St. Pete-Clearwater International Airport (PIE). The terminal is divided into two subsections along the curbfront. The eastern half of the terminal is dedicated to departing passengers and is further subdivided into Ticketing A and B. Sun Country and Sunwing Airlines are located in Ticketing A, while Allegiant Air's check-in space is located in Ticketing B.

The primary curbfront adjacent to both Ticketing A and B provides three lanes. Even though the lanes do not have pavement markings indicating their designations, it was observed that two lanes were used for vehicles dropping off or picking up passengers while third lane was used exclusively for through traffic. A designated space for the economy lot shuttle is provided directly in front of the easternmost access to Ticketing A. In total, approximately 380 feet of loading and unloading curbside is provided adjacent to Ticketing A and B.

The secondary curbfront, which is currently accessed through a roundabout adjacent to the ticketing curbfront starting near the western extent of Ticketing B, provides two through lanes and one curbing lane designated for delivery shuttles and airport vehicles. The curbing lane provides six designated spaces for loading and unloading. This area is signed as a no-loading zone for personal vehicles and is enforced by airport traffic control. A raised-pavement pedestrian walkway crosses all primary and secondary curbfront lanes near the west end of Ticketing B, providing access from the short-term parking lot. **Figure D-1** details the features and measurements provided for the departures portion of the curbfront (Ticketing A and B). **Figure D-2** provides a cross-sectional view of curbfront adjacent to Ticketing A and B.

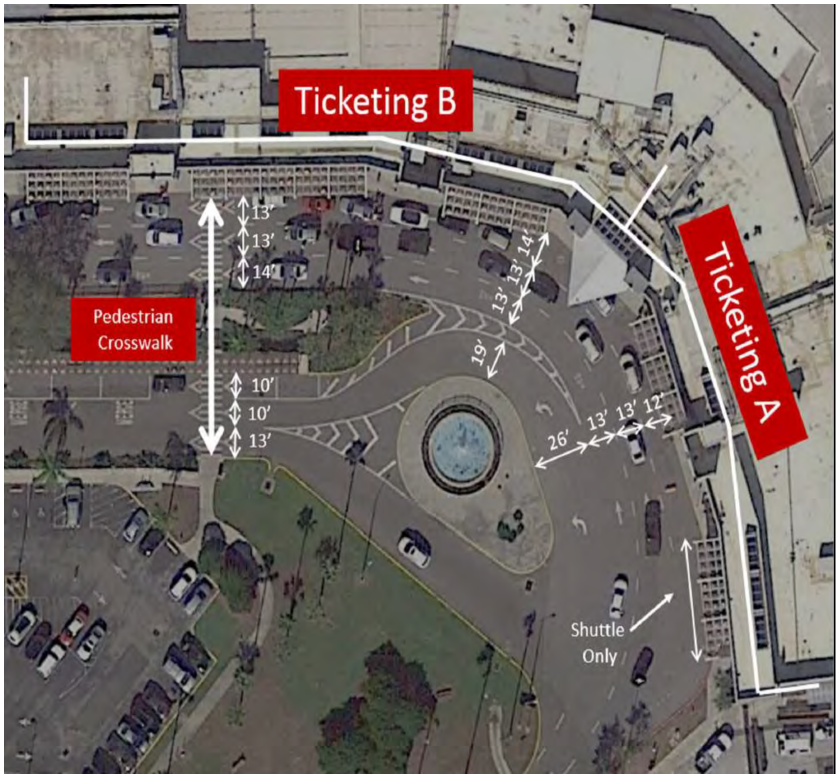


Figure D-1: Departures Curbfront

SOURCE: Google Earth; Kimley-Horn and Associates, Inc. (2017).

Figure D-2: Cross Sectional View - Ticketing A and B

SOURCE: Kimley-Horn and Associates, Inc. (2017).

Curbfront

Approximately 130 feet of undefined curbfront area separates Ticketing B from the Baggage Claim portion of the terminal. This segment of the building has no access to the terminal building for accessing or egressing passengers. During peak periods, this section is utilized as both loading and unloading space for arrivals and departures. Two lanes are used for curbing and a third exclusive travel lane is also provided.

The secondary curbfront in the undefined terminal area does not provide space for parking, loading, or unloading behavior. The space is used to both transition to one through lane from two, as well as provide a gap in the landscaped median. **Figure D-3** shows the unassigned curbfront area.

Figure D-3: Unassigned Curbfront Area

SOURCE: Google Earth; Kimley-Horn and Associates, Inc. (2017).

Baggage Claim

The western half of the terminal is occupied by baggage claim for arriving passengers. Four lanes are provided in the primary curbfront. Similar to departures, the first two lanes are intended for loading and unloading behavior, while the third lane is for through traffic. The fourth lane is a left turn only lane for recirculation back to the terminal’s entrance.

The secondary curbfront provides one through lane and one curbing lane. In total, approximately 280 feet of curbside is provided in the primary curbfront, while 6 loading spaces are designated in the secondary curbfront. This secondary curbfront is also designated for delivery shuttle and airport vehicles only. Two raised-pavement pedestrian crosswalks traverse all lanes of traffic and provide access to the short- and long-term parking lots. A third raised-pavement crosswalk connects baggage claim with the landscape median between curbfronts. All three crosswalks terminate on the terminal side directly adjacent to the terminal access points.

Figure D-4 depicts the existing curbfront infrastructure, and **Figure D-5** shows a typical cross section.

Figure D-4: Curbfront Inventory – Baggage Claim

SOURCE: Google Earth; Kimley-Horn and Associates, Inc. (2017).

Figure D-5: Cross Sectional View – Baggage Claim

SOURCE: Kimley-Horn and Associates, Inc. (2017).

1.1.2 Ground Transportation Area (GTA)

The following section details the utilization of the GTA with respect to different user types.

Taxis

The GTA provides approximately 110 feet of queue-able space for private taxis to wait for potential passengers. During observations, cabs queued and approached the curbfront area when hailed by a passenger exiting the airport. **Figure D-6** shows cabs queueing in the designated space.

Figure D-6: Taxi Queuing

SOURCE: Kimley-Horn and Associates, Inc. (2017).

Courtesy Shuttles

A variety of shuttles utilize the GTA for pick-up and drop-off, including shuttles to remote parking, remote rental car facilities, and private hotel shuttles. PIE provides courtesy shuttles to and from the off-site, remote parking lot. The shuttle has five pickup locations within the remote lot and two pickup locations at the terminal. These airport shuttles first stop in front of Ticketing A to drop-off passengers before arriving in the GTA for passenger pick-up. Loading occurs in the curbfront area directly outside of the terminal. Per information gathered from the interviews with the shuttle operators, at any given time, two to five airport shuttles are in circulation, achieving approximately ten-minute headways during peak periods. **Figure D-7** shows an airport shuttle loading in the GTA.

Rental car and hotel shuttles also frequently utilize the curbfront area in GTA. While most rental car agencies store vehicles in the nearby surface lot, Thrifty and ACE have off-site facilities. Both agencies run continuous shuttle services through the GTA for customers.

Figure D-7: Airport Shuttle in GTA

SOURCE: Kimley-Horn and Associates, Inc. (2017).

Other Uses

Besides taxis and shuttles, the GTA is utilized by other vehicle types including employees, rental cars, limousine services, and commercial vehicles. Per the interview with airport officials, the parking spaces in the northwest corner of the GTA are frequently occupied by airport staff. Instances of unauthorized use of these spaces was reported during Kimley-Horn's meeting with airport officials.

The parking spaces in the northeast corner of the GTA were reported to be utilized by a combination of airport employees and rental cars. Customers that request their rental cars be delivered to the GTA are instructed to find their vehicles in these spaces. These spaces are signed as "Shuttle Only" spaces, but not enforced as such.

Lastly, commercial vehicles often utilize the GTA for loading and unloading activities, which is more convenient than the secondary curbfront adjacent to the terminal.

1.1.3 Sidewalks/Curbfront Area

Sidewalks are provided across the entirety of the curbfront area from Baggage Claim to Ticketing A. Near the terminal access points, the sidewalk width is approximately 14 feet. However, throughout the curbfront, the practical width of sidewalk is less due to the intermittent location of columns and building bump-outs. In areas where the building is not offset from the curb, only five feet of sidewalk width is provided, limiting pedestrian flow to single-file. **Figure D-8** depicts the narrow space provided in such instances.

Between these choke points and the terminal accesses, sidewalk width ranges from 8 to 10 feet. Columns and fixtures like trash cans and benches limit the walkable area, and in some cases, prevents two-way travel. **Figure D-9** shows the pedestrian activity.

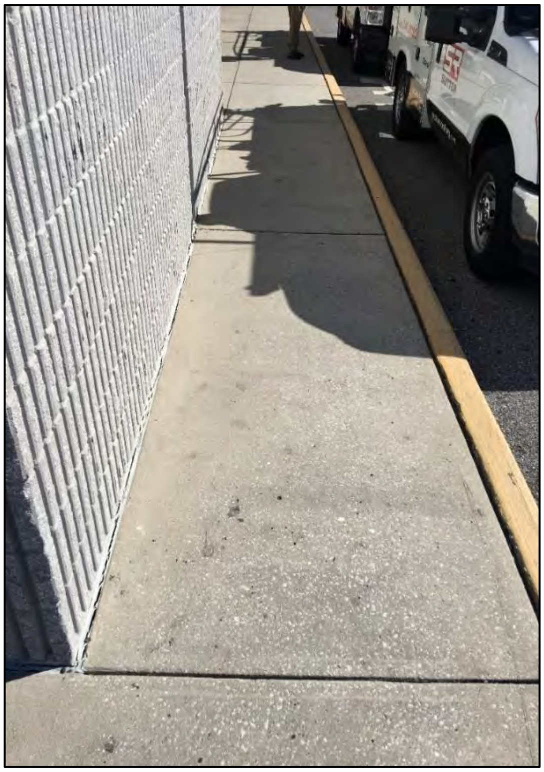


Figure D-8: Sidewalk Constraints

SOURCE: Kimley-Horn and Associates, Inc. (2017).

Figure D-9: Curbfront Pedestrians

SOURCE: Kimley-Horn and Associates, Inc. (2017).

1.2 Vehicle Counts and Curbfront Observations

An extensive traffic data collection effort was completed in support of the Master Plan. The landside data was collected in two major categories: roadway traffic counts and terminal curbfront observations. Traffic counts were collected in strategic locations to determine peak days, peak times, and roadway volumes at the airport's curbfront and access roadways. In addition to the traffic counts, terminal curbfront observations were conducted. This section summarizes the operational observations including vehicle classification counts, dwell times, vehicle occupancy, pedestrian activity, and loading and unloading information.

1.2.1 Traffic Counts

A preliminary, seven-day traffic count was conducted to determine the distribution of traffic (i.e. "peaking") through the week. The preliminary roadway traffic counts were followed with two-day traffic counts at seven locations. Camera footage was collected at the GTA and is summarized in Section 1.4.

Seven-Day Counts

The seven-day traffic counts were conducted from Thursday, December 7, 2017 to Wednesday, December 13, 2017 to determine the inbound and outbound peaking throughout the week. The seven-day traffic counts were collected at the key airport access/egress locations illustrated in **Figure D-10**. **Table D-1** presents the preliminary daily volume comparisons for all locations of the seven-day traffic counts. The complete seven-day traffic count reports collected are provided in **Appendix D-1**.

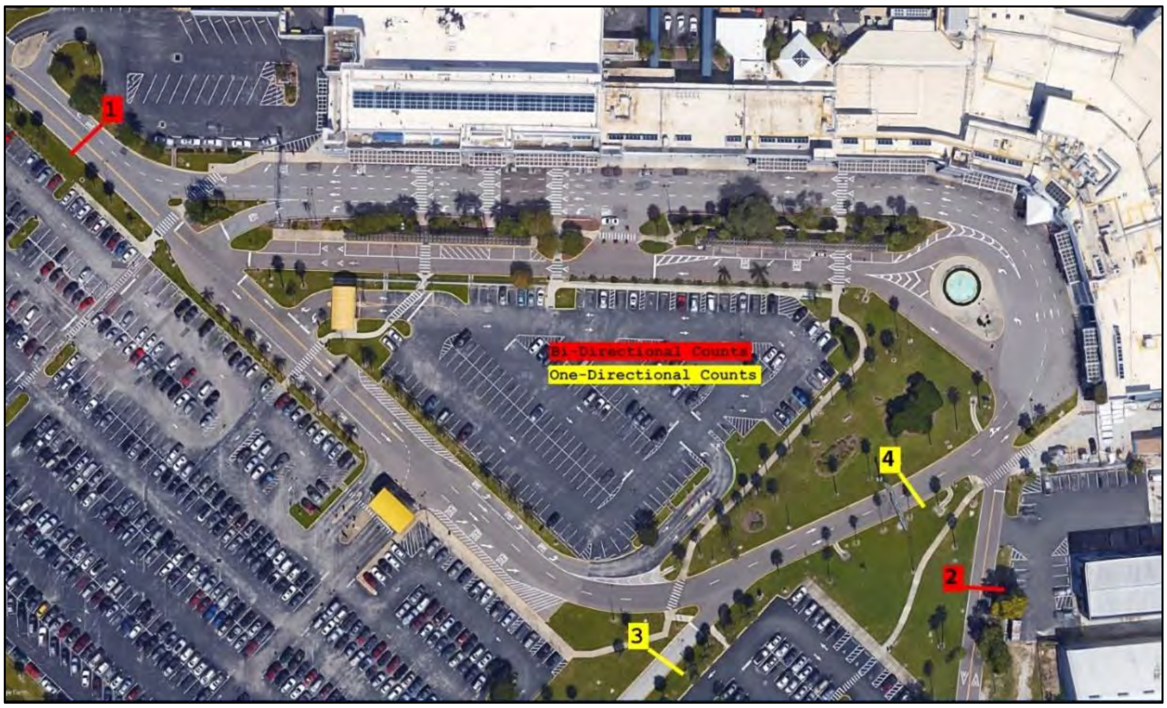


Figure D-10: Seven-Day Traffic Count Locations

SOURCE: Google Earth; Kimley-Horn and Associates, Inc. (2017).

TABLE D-1 SUMMARY OF SEVEN-DAY TRAFFIC COUNTS

Day (Date)	Count Location					
2017	1: Main Entry (EB)	1: Main Exit (WB)	2:Airport Parkway (NB)	2: Airport Parkway (SB)	3: Terminal Boulevard	4: Curbfront Entry
Thursday (12/7)	1,983	3,908	1,011	1,088	1,998	4,188
Friday (12/8)	2,131	3,987	1,028	993	2,013	4,271
Saturday (12/9)	1,279	2,645	589	618	1,424	2,909
Sunday (12/10)	1,648	3,971	768	766	1,940	3,891
Monday (12/11)	1,972	4,233	1,009	1,020	2,012	4,395
Tuesday (12/12)	860	1,231	510	549	526	1,384
Wednesday (12/13)	1,196	2,061	676	716	1,014	2,221

SOURCE: Kimley-Horn and Associates, Inc. (2017).

Two-Day Counts

In an effort to capture an average day of the peak month of December, the third highest weekday for volume entering the curbfront was examined from the seven-day counts. Based on the daily overall airport traffic entering the curbfront summarized previously in **Table D-1** the PMAD day was identified as Thursday, December 7, 2017, shown in **Table D-2**. Therefore, the two-day counts were conducted on Thursday, December 14, 2017 and Friday, December 15, 2017. **Figure D-11** illustrates the seven locations collected during the two-day counts and **Table D-3** summarizes the daily volumes at each location. The complete two-day traffic count reports collected are provided in **Appendix D-2**.

TABLE D-2: IDENTIFICATION OF PMAD AND TWO-DAY COUNTS

Days	Entering Curbfront Volume	Rank (Highest Peak to Lowest)
Monday (12/11)	5,404	1
Tuesday (12/12)	1,894	7
Wednesday (12/13)	2,897	6
Thursday (12/7)	5,199	**3 – PMAD**
Friday (12/8)	5,299	2
Saturday (12/9)	3,498	5
Sunday (12/10)	4,659	4

SOURCE: Kimley-Horn and Associates, Inc. (2017).

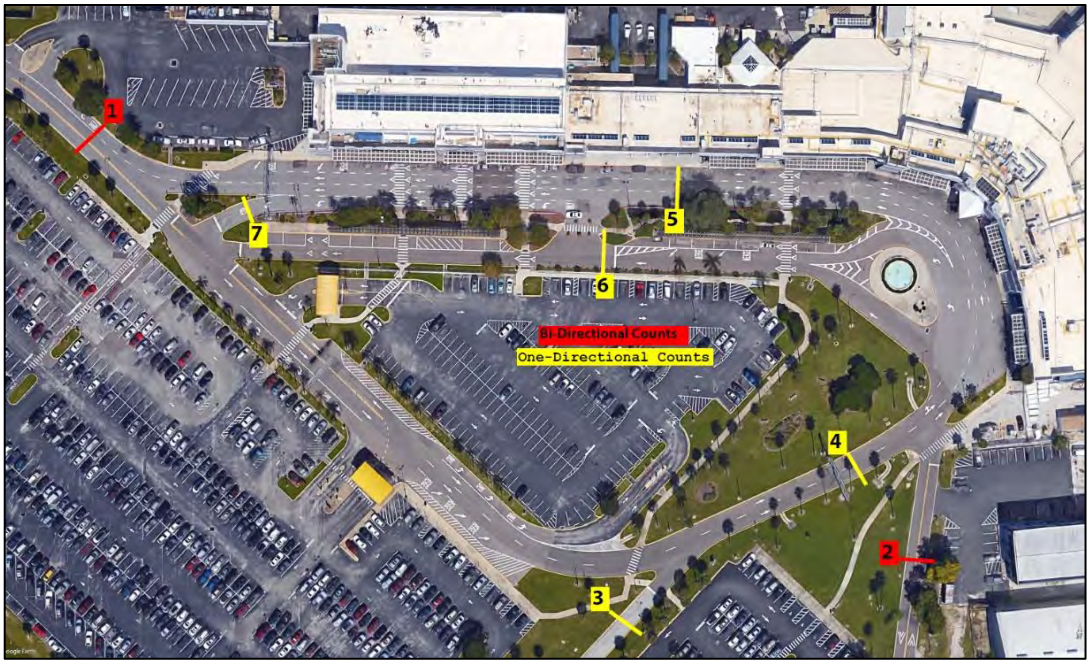


Figure D-11: Two-Day Traffic Count Locations

SOURCE: Google Earth; Kimley-Horn and Associates, Inc. (2017).

TABLE D-3 SUMMARY OF TWO-DAY TRAFFIC COUNTS

Day (Date)	Count Location								
	1: Main Entry (EB)	1: Main Exit (WB)	2: Airport Parkway (NB)	2: Airport Parkway (SB)	3: Terminal Boulevard	4: Curbfront Entry	5: Main Curbfront	6: Second Curbfront	7: Return to Terminal
Thursday (12/14)	1,983	4,118	999	1,099	2,226	4,670	510*	1,259*	2,604*
Friday (12/15)	2,131	4,815	1,077	1,132	2,471	5,169	576*	1,422*	2,940*

*Estimated based on supplementary count: Thursday December 21st, 2017
SOURCE: Kimley-Horn and Associates, Inc. (2017).

1.2.2 Curbfront Observations

Curbfront operational observations were completed during two, two-hour periods on Thursday, December 14, 2017, the PMAD day determined by the seven-day traffic counts. Tables summarizing the resulting data are provided below. Additional detail and the supporting data forms are provided in **Appendix D-3**.

Vehicle Classification Counts

Vehicle classification counts were collected during peak periods on Thursday, December 14, 2017. The three locations assigned for vehicle classification collection are illustrated in **Figure D-12**.

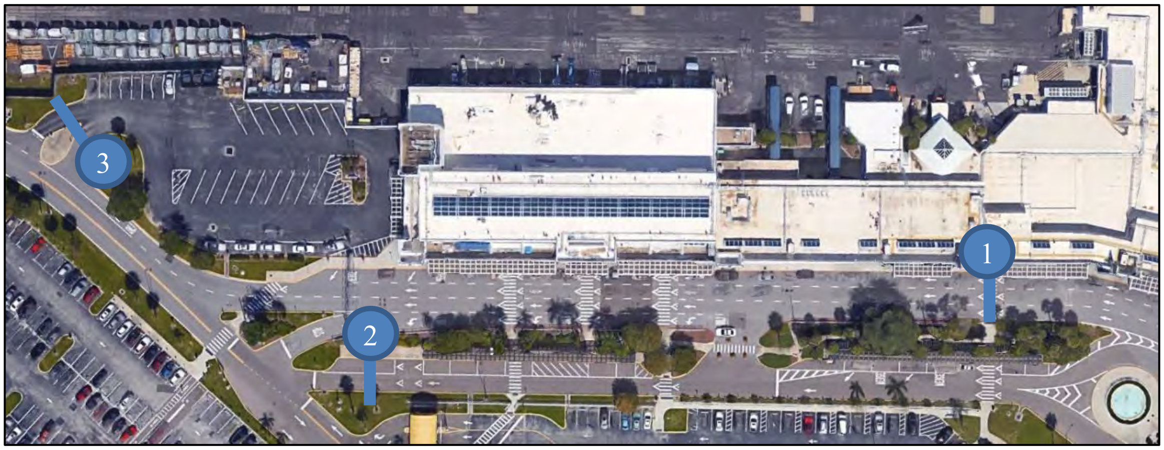


Figure D-12: Vehicle Classification Positions

SOURCE: Google Earth; Kimley-Horn and Associates, Inc. (2017).

The tables below summarize the total vehicle count by vehicle classification entering the airport at the main curbfront, secondary curbfront, and GTA, respectively. The counts are summarized in the field data forms included in **Appendix D-3**.

TABLE D-4: VEHICLE CLASSIFICATIONS SUMMARY – MAIN CURBFRONT

Vehicle Class	AM		PM	
	Count	Percentage of Total	Count	Percentage of Total
Private Auto	472	89%	621	95%
Taxi	19	4%	5	1%
TNC	26	5%	13	2%
Rental Car Shuttle	0	0%	1	<1%
Super Shuttle	2	<1%	0	0%
Hotel Courtesy Shuttle	3	<1%	3	<1%
Delivery Trucks	1	<1%	0	0%
Law Enforcement	1	<1%	0	0%
Airport/County Vehicles	4	<1%	7	1%
Other	2	<1%	1	<1%
Total	**530**	**100%**	**651**	**100%**

SOURCE: Kimley-Horn and Associates, Inc. (2017).

TABLE D-5: VEHICLE CLASSIFICATIONS SUMMARY – SECONDARY CURBFRONT

Vehicle Class	AM		PM	
	Count	Percentage of Total	Count	Percentage of Total
Private Auto	184	87%	210	85%
Economy Lot Shuttle	20	9%	18	7%
Private Transportation Vans	1	<1%	1	<1%
Delivery Trucks	2	<1%	4	2%
Law Enforcement	0	0%	1	<1%
Airport/County Vehicles	4	2%	12	5%
Total	**211**	**100%**	**253**	**100%**

SOURCE: Kimley-Horn and Associates, Inc. (2017).

TABLE D-6: VEHICLE CLASSIFICATIONS SUMMARY – GTA

Vehicle Class	AM		PM	
	Count	Percentage of Total	Count	Percentage of Total
Private Auto	14	78%	14	29%
Taxi	2	11%	14	29%
Rental Car Shuttle	1	6%	12	25%
Private Van	1	6%	5	10%
Hotel Courtesy Shuttle	0	0%	2	4%
Other	0	0%	1	2%
TOTAL	**18**	**100%**	**48**	**100%**

SOURCE: Kimley-Horn and Associates, Inc. (2017).

Dwell Time by Travel Mode

Dwell time is the amount of time a vehicle spends parked at a curbfront lane (or other passenger loading or unloading area). Spot sampling of dwell times were collected at the Ticketing A, Ticketing B, Baggage Claim, and GTA sections of the curbfront. The average dwell times by travel mode in the AM and PM peak periods are presented in the tables below.

TABLE D-7: AM DWELL TIMES

Vehicle Type	Ticketing A (m:ss)	Ticketing B – East (m:ss)	Ticketing B – West (m:ss)	GTA (m:ss)
Private Auto	1:22	1:19	0:56	0:39
Taxi	-	1:16	0:57	0:51
Limousine	-	-	1:38	-
TNC	1:08	-	-	-
Charter Bus	-	0:53	-	-
Economy Lot Shuttle	0:49		-	-
Contracted Shuttle	-	2:30	0:32	-
Transportation Vans	-	0:53	-	-
Hotel/Motel Shuttle	-	1:18	1:39	-

** "- "= No vehicles observed*
SOURCE: Kimley-Horn and Associates, Inc. (2017).

TABLE D-8: PM DWELL TIMES

Vehicle Type	Baggage Claim West (m:ss)	Baggage Claim East (m:ss)	GTA (m:ss)
Private Auto	6:26	2:26	-
Taxi	-	-	1:16
TNC	0:52	0:39	-
Charter Bus	-	-	3:42
Rental Car Shuttle	-	-	3:08
Hotel/Motel Shuttle	-	-	1:07

** "- "= No vehicles observed*
SOURCE: Kimley-Horn and Associates, Inc. (2017).

Vehicle Occupancy

The vehicle occupancy, or number of people occupying each vehicle when departing the curbfront, was also observed as part of the curbfront data collection effort. The vehicle occupancies were collected along with the dwell time observations, by the same staff and collected as random sample points.

The average vehicle occupancy by travel classification (drop-off, pickup, and GTA), was conducted and documented in the same field data forms than for dwell time and are included in **Appendix D-3**. The average vehicle occupancy by travel mode in the AM and PM peak periods are presented in the tables below.

TABLE D-9: AM VEHICLE OCCUPANCY (DROP-OFF)

Vehicle Type	Ticketing A	Ticketing B – East	Ticketing B – West	GTA
Private Auto	1.19	1.60	1.68	2.00
Taxi	-	1.00	1.50	1.00
Limousine	-	-	2.00	-
TNC	1.00	-	-	-
Charter Bus	-	2.00	-	-
Economy Lot Shuttle	2.88	-	-	-
Contracted Shuttle	-	1.00	4.00	-
Transportation Vans	-	2.00	-	-
Hotel/Motel Shuttle	-	2.00	6.00	-

** "- "= No vehicles observed*
SOURCE: Kimley-Horn and Associates, Inc. (2017).

TABLE D-10: PM VEHICLE OCCUPANCY (PICK-UP)

Vehicle Type	Baggage Claim West (m:ss)	Baggage Claim East (m:ss)	GTA (m:ss)
Private Auto	1.50	1.43	-
Taxi	-	-	1.75
TNC	1.75	2.00	-
Charter Bus	-	-	7.00
Rental Car Shuttle	-	-	4.14
Hotel/Motel Shuttle	-	-	2.50

** "- "= No vehicles observed*
SOURCE: Kimley-Horn and Associates, Inc. (2017).

Pedestrian Activity

The crosswalks were observed for pedestrian activity on Thursday December 14, 2017. **Figure D-13** illustrates the five crosswalks and the number classification used to identify each.

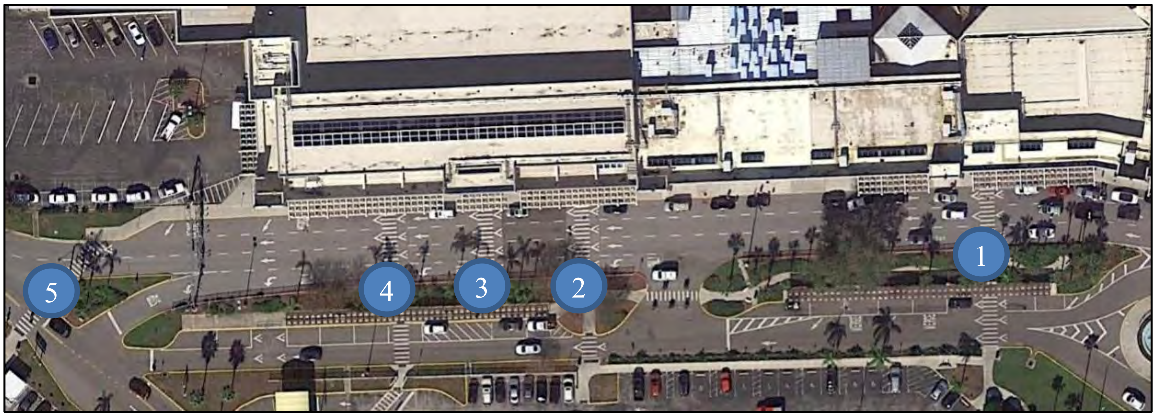


Figure D-13: Pedestrian Crosswalks

SOURCE: Google Earth; Kimley-Horn and Associates, Inc. (2017).

Total count of pedestrians, average group size, average amount of luggage, pedestrian origin (airport or parking lot), method of crossing (on crosswalk or jaywalking), and crosswalk used are summarized in **Table D-11** and **Table D-12** for the AM and PM periods respectively. The forms are included at the end of **Appendix D-3**.

TABLE D-11: AM PEDESTRIAN ACTIVITY

Crosswalk	Average Group Size	Average Luggage	% From Airport	% From Lots	% Using Crosswalk
1	1.48	1.19	30%	70%	96%
2	1.65	0.85	19%	81%	100%
3	1.50	0.67	33%	67%	67%
4	1.96	1.63	2%	98%	94%
5	1.93	1.53	3%	97%	99%

SOURCE: Kimley-Horn and Associates, Inc. (2017).

TABLE D-12: PM PEDESTRIAN ACTIVITY

Crosswalk	Average Group Size	Average Luggage	% From Airport	% From Lots	% Using Crosswalk
1	1.55	0.89	42%	58%	89%
2	1.92	0.62	31%	69%	99%
3	1.90	1.13	81%	19%	100%
4	1.73	1.06	48%	52%	97%
5	1.84	1.27	47%	53%	93%

SOURCE: Kimley-Horn and Associates, Inc. (2017).

Pedestrian interactions with vehicles were also documented during data collection. At all crosswalks, approximately 50 percent of pedestrians did not encounter a vehicle during crossing. In instances where a vehicle interaction occurred, the vehicle stopped appropriately approximately 90 percent of the time. In the other 10 percent of interactions, vehicles were observed to either stop abruptly or not stop at the crosswalks.

1.3 Rental Car Photos

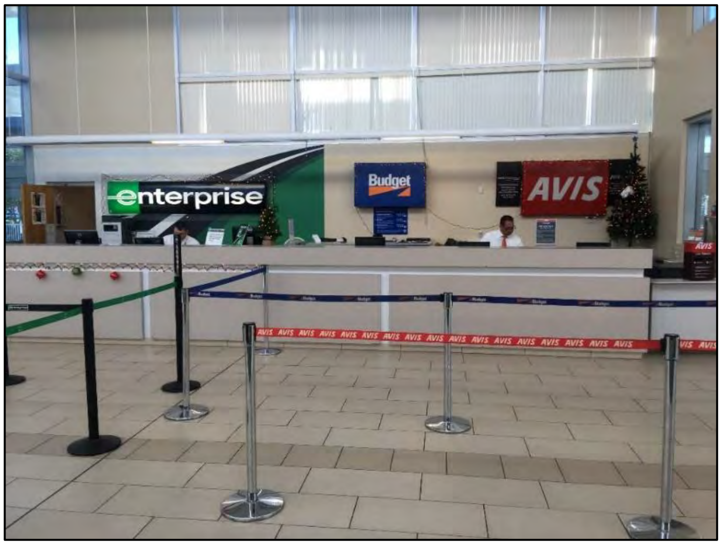


Figure D-14: Rental Car Counter Space

SOURCE: Kimley-Horn and Associates, Inc. (2017).

Figure D-15: Rental Car Lot Key-Drop Booth

SOURCE: Kimley-Horn and Associates, Inc. (2017).

1.4 GTA Camera Footage Summary

1.4.1 Camera Footage

A camera was installed, as illustrated by yellow in **Figure D-16,** to observe vehicles entering/exiting the GTA. Camera footage was preferred over tube counts with the purpose of also collecting vehicle classification. **Table D-13** provides a summary of vehicular volume at the GTA on the PMAD day identified as Thursday December 14, 2017 during the two peak periods collected (5:00AM – 7:00AM and 12:00PM – 2:00PM). The vehicular counts are included in their entirety in **Appendix D-3**.

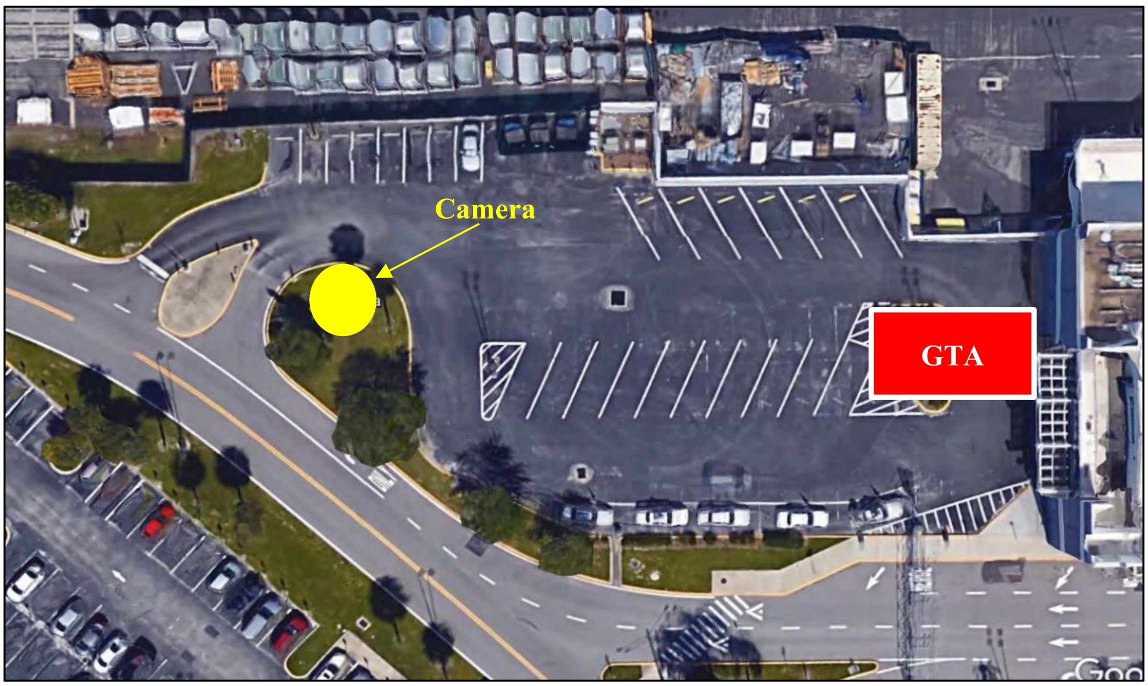


Figure D-16: Camera Installation – GTA

SOURCE: Google Earth; Kimley-Horn and Associates, Inc. (2017).

TABLE D-13: GTA VOLUMES

Crosswalk	Thursday AM Peak	Thursday PM Peak
Entering GTA	18	48
Exiting GTA	11	53

SOURCE: Kimley-Horn and Associates, Inc. (2017).

APPENDIX D

Appendix D-1

Seven-Day Traffic Counts

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #1

Day: Thursday
Date: 11/30/2017

City: Clearwater
Project #: FL17_3500_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,983	3,908	5,891

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00					0		2		2		12:00					58		77		135	
00:15					0		3		3		12:15					48		97		145	
00:30					2		1		3		12:30					59		85		144	
00:45					0	2	2	8	2	10	12:45					61	226	70	329	131	555
01:00					1		1		2		13:00					43		102		145	
01:15					2		0		2		13:15					45		90		135	
01:30					1		0		1		13:30					34		162		196	
01:45					0	4	0	1	0	5	13:45					32	154	148	502	180	656
02:00					0		2		2		14:00					22		50		72	
02:15					1		0		1		14:15					31		83		114	
02:30					1		1		2		14:30					36		52		88	
02:45					2	4	0	3	2	7	14:45					20	109	66	251	86	360
03:00					2		2		4		15:00					24		40		64	
03:15					3		2		5		15:15					29		84		113	
03:30					4		2		6		15:30					14		44		58	
03:45					14	23	3	9	17	32	15:45					21	88	33	201	54	289
04:00					18		14		32		16:00					24		32		56	
04:15					16		18		34		16:15					15		24		39	
04:30					19		26		45		16:30					20		46		66	
04:45					27	80	50	108	77	188	16:45					13	72	69	171	82	243
05:00					39		64		103		17:00					15		34		49	
05:15					45		74		119		17:15					12		25		37	
05:30					57		103		160		17:30					23		34		57	
05:45					39	180	93	334	132	514	17:45					21	71	21	114	42	185
06:00					46		84		130		18:00					11		39		50	
06:15					47		77		124		18:15					29		41		70	
06:30					27		54		81		18:30					19		68		87	
06:45					44	164	59	274	103	438	18:45					11	70	86	234	97	304
07:00					27		49		76		19:00					22		23		45	
07:15					25		20		45		19:15					20		17		37	
07:30					13		19		32		19:30					25		82		107	
07:45					11	76	15	103	26	179	19:45					31	98	75	197	106	295
08:00					11		21		32		20:00					26		28		54	
08:15					18		21		39		20:15					39		24		63	
08:30					16		23		39		20:30					34		98		132	
08:45					16	61	20	85	36	146	20:45					17	116	108	258	125	374
09:00					14		27		41		21:00					17		28		45	
09:15					11		10		21		21:15					21		24		45	
09:30					10		14		24		21:30					12		84		96	
09:45					24	59	14	65	38	124	21:45					4	54	66	202	70	256
10:00					31		67		98		22:00					6		13		19	
10:15					21		28		49		22:15					3		10		13	
10:30					13		20		33		22:30					3		5		8	
10:45					30	95	31	146	61	241	22:45					9	21	7	35	16	56
11:00					23		49		72		23:00					2		14		16	
11:15					33		46		79		23:15					3		28		31	
11:30					43		58		101		23:30					4		13		17	
11:45					43	142	63	216	106	358	23:45					5	14	7	62	12	76
TOTALS						890		1352		**2242**	**TOTALS**						1093		2556		**3649**
SPLIT %						39.7%		60.3%		**38.1%**	**SPLIT %**						30.0%		70.0%		**61.9%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,983	3,908	5,891

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour			11:45	05:30	**05:30**	**PM Peak Hour**			12:00	13:00	**13:00**
AM Pk Volume			208	357	**546**	**PM Pk Volume**			226	502	**656**
Pk Hr Factor			0.881	0.867	**0.853**	**Pk Hr Factor**			0.926	0.775	**0.837**
7 - 9 Volume	0	0	137	188	**325**	**4 - 6 Volume**	0	0	143	285	**428**
7 - 9 Peak Hour			07:00	07:00	**07:00**	**4 - 6 Peak Hour**			16:00	16:30	**16:00**
7 - 9 Pk Volume	0	0	76	103	**179**	**4 - 6 Pk Volume**	0	0	72	174	**243**
Pk Hr Factor	0.000	0.000	0.704	0.526	**0.589**	**Pk Hr Factor**	0.000	0.000	0.750	0.630	**0.741**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #1

Day: Friday
Date: 12/1/2017

City: Clearwater
Project #: FL17_3500_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,131	3,987	6,118

AM Period	NB	SB	EB		WB		TOTAL	
00:00			1		3		4	
00:15			2		0		2	
00:30			0		0		0	
00:45			0	3	2	5	2	8
01:00			2		1		3	
01:15			0		1		1	
01:30			1		0		1	
01:45			0	3	0	2	0	5
02:00			0		2		2	
02:15			0		0		0	
02:30			1		1		2	
02:45			0	1	1	4	1	5
03:00			1		1		2	
03:15			3		1		4	
03:30			11		0		11	
03:45			22	37	2	4	24	41
04:00			14		4		18	
04:15			11		7		18	
04:30			14		11		25	
04:45			23	62	36	58	59	120
05:00			29		69		98	
05:15			52		90		142	
05:30			43		95		138	
05:45			79	203	100	354	179	557
06:00			41		84		125	
06:15			36		74		110	
06:30			23		43		66	
06:45			27	127	34	235	61	362
07:00			21		37		58	
07:15			30		19		49	
07:30			13		16		29	
07:45			9	73	13	85	22	158
08:00			8		12		20	
08:15			10		15		25	
08:30			21		16		37	
08:45			14	53	17	60	31	113
09:00			17		17		34	
09:15			15		27		42	
09:30			12		18		30	
09:45			22	66	23	85	45	151
10:00			34		32		66	
10:15			29		30		59	
10:30			35		35		70	
10:45			37	135	40	137	77	272
11:00			35		85		120	
11:15			29		65		94	
11:30			36		60		96	
11:45			35	135	55	265	90	400
TOTALS				898		1294		2192
SPLIT %				41.0%		59.0%		35.8%

PM Period	NB	SB	EB		WB		TOTAL	
12:00			34		69		103	
12:15			51		94		145	
12:30			52		83		135	
12:45			63	200	113	359	176	559
13:00			40		99		139	
13:15			48		92		140	
13:30			48		108		156	
13:45			41	177	75	374	116	551
14:00			50		70		120	
14:15			32		93		125	
14:30			23		117		140	
14:45			24	129	49	329	73	458
15:00			28		54		82	
15:15			21		41		62	
15:30			21		63		84	
15:45			35	105	64	222	99	327
16:00			28		44		72	
16:15			34		61		95	
16:30			30		65		95	
16:45			30	122	41	211	71	333
17:00			27		74		101	
17:15			22		37		59	
17:30			22		30		52	
17:45			27	98	25	166	52	264
18:00			24		58		82	
18:15			24		76		100	
18:30			32		70		102	
18:45			27	107	63	267	90	374
19:00			22		34		56	
19:15			18		65		83	
19:30			16		86		102	
19:45			15	71	23	208	38	279
20:00			10		13		23	
20:15			16		26		42	
20:30			27		34		61	
20:45			30	83	58	131	88	214
21:00			17		77		94	
21:15			19		47		66	
21:30			14		15		29	
21:45			16	66	16	155	32	221
22:00			21		72		93	
22:15			16		65		81	
22:30			14		36		50	
22:45			10	61	36	209	46	270
23:00			5		41		46	
23:15			4		8		12	
23:30			4		5		9	
23:45			1	14	8	62	9	76
TOTALS				1233		2693		3926
SPLIT %				31.4%		68.6%		64.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,131	3,987	6,118

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour			05:15	05:15	05:15	PM Peak Hour			12:15	12:45	12:45
AM Pk Volume			215	369	584	PM Pk Volume			206	412	611
Pk Hr Factor			0.680	0.923	0.816	Pk Hr Factor			0.817	0.912	0.868
7 - 9 Volume	0	0	126	145	271	4 - 6 Volume	0	0	220	377	597
7 - 9 Peak Hour			07:00	07:00	07:00	4 - 6 Peak Hour			16:00	16:15	16:15
7 - 9 Pk Volume	0	0	73	85	158	4 - 6 Pk Volume	0	0	122	241	362
Pk Hr Factor	0.000	0.000	0.608	0.574	0.681	Pk Hr Factor	0.000	0.000	0.897	0.814	0.896

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #1

Day: Saturday
Date: 12/2/2017

City: Clearwater
Project #: FL17_3500_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,279	2,645	3,924

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			0		1		1		12:00			23		40		63	
00:15			1		1		2		12:15			26		45		71	
00:30			1		0		1		12:30			31		42		73	
00:45			1	3	2	4	3	7	12:45			33	113	55	182	88	295
01:00			1		3		4		13:00			41		69		110	
01:15			3		1		4		13:15			47		96		143	
01:30			1		2		3		13:30			48		122		170	
01:45			2	7	0	6	2	13	13:45			42	178	107	394	149	572
02:00			0		1		1		14:00			37		123		160	
02:15			1		2		3		14:15			24		62		86	
02:30			1		4		5		14:30			28		53		81	
02:45			1	3	1	8	2	11	14:45			17	106	58	296	75	402
03:00			1		2		3		15:00			9		26		35	
03:15			4		1		5		15:15			11		25		36	
03:30			6		1		7		15:30			13		22		35	
03:45			13	24	5	9	18	33	15:45			18	51	21	94	39	145
04:00			9		3		12		16:00			11		21		32	
04:15			11		6		17		16:15			15		30		45	
04:30			17		18		35		16:30			18		44		62	
04:45			30	67	51	78	81	145	16:45			17	61	56	151	73	212
05:00			41		63		104		17:00			8		28		36	
05:15			21		80		101		17:15			7		23		30	
05:30			37		85		122		17:30			7		34		41	
05:45			28	127	64	292	92	419	17:45			10	32	36	121	46	153
06:00			19		31		50		18:00			5		9		14	
06:15			11		17		28		18:15			6		4		10	
06:30			12		13		25		18:30			7		8		15	
06:45			8	50	10	71	18	121	18:45			2	20	7	28	9	48
07:00			10		13		23		19:00			5		5		10	
07:15			12		13		25		19:15			7		4		11	
07:30			16		20		36		19:30			6		10		16	
07:45			16	54	23	69	39	123	19:45			8	26	8	27	16	53
08:00			19		27		46		20:00			8		11		19	
08:15			14		24		38		20:15			19		55		74	
08:30			17		53		70		20:30			20		43		63	
08:45			12	62	31	135	43	197	20:45			13	60	20	129	33	189
09:00			11		18		29		21:00			19		43		62	
09:15			15		30		45		21:15			19		42		61	
09:30			12		18		30		21:30			14		60		74	
09:45			17	55	18	84	35	139	21:45			8	60	56	201	64	261
10:00			15		19		34		22:00			3		40		43	
10:15			10		19		29		22:15			6		12		18	
10:30			13		15		28		22:30			3		6		9	
10:45			15	53	15	68	30	121	22:45			1	13	3	61	4	74
11:00			8		36		44		23:00			0		2		2	
11:15			14		50		64		23:15			0		0		0	
11:30			14		21		35		23:30			1		0		1	
11:45			16	52	27	134	43	186	23:45			1	2	1	3	2	5
TOTALS				557		958		**1515**	**TOTALS**				722		1687		**2409**
SPLIT %				36.8%		63.2%		**38.6%**	**SPLIT %**				30.0%		70.0%		**61.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,279	2,645	3,924

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour			04:45	05:00	**05:00**	**PM Peak Hour**			13:00	13:15	**13:15**
AM Pk Volume			129	292	**419**	**PM Pk Volume**			178	448	**622**
Pk Hr Factor			0.787	0.859	**0.859**	**Pk Hr Factor**			0.927	0.911	**0.915**
7 - 9 Volume	0	0	116	204	**320**	**4 - 6 Volume**	0	0	93	272	**365**
7 - 9 Peak Hour			07:45	08:00	**08:00**	**4 - 6 Peak Hour**			16:00	16:15	**16:15**
7 - 9 Pk Volume	0	0	66	135	**197**	**4 - 6 Pk Volume**	0	0	61	158	**216**
Pk Hr Factor	0.000	0.000	0.868	0.637	**0.704**	**Pk Hr Factor**	0.000	0.000	0.847	0.705	**0.740**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #1

Day: Sunday
Date: 12/3/2017

City: Clearwater
Project #: FL17_3500_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,648	3,971	5,619

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			0		0		0		12:00			49		76		125	
00:15			0		1		1		12:15			50		118		168	
00:30			1		5		6		12:30			42		130		172	
00:45			2	3	2	8	4	11	12:45			51	192	120	444	171	636
01:00			2		3		5		13:00			44		146		190	
01:15			1		1		2		13:15			38		147		185	
01:30			1		0		1		13:30			27		91		118	
01:45			1	5	1	5	2	10	13:45			18	127	78	462	96	589
02:00			1		1		2		14:00			23		77		100	
02:15			0		0		0		14:15			23		77		100	
02:30			1		1		2		14:30			17		45		62	
02:45			0	2	0	2	0	4	14:45			11	74	40	239	51	313
03:00			0		2		2		15:00			15		32		47	
03:15			3		1		4		15:15			17		24		41	
03:30			1		1		2		15:30			22		42		64	
03:45			16	20	3	7	19	27	15:45			14	68	19	117	33	185
04:00			9		7		16		16:00			8		34		42	
04:15			13		12		25		16:15			12		19		31	
04:30			19		24		43		16:30			16		22		38	
04:45			21	62	43	86	64	148	16:45			17	53	29	104	46	157
05:00			30		56		86		17:00			24		82		106	
05:15			42		87		129		17:15			19		22		41	
05:30			50		114		164		17:30			20		55		75	
05:45			53	175	126	383	179	558	17:45			16	79	32	191	48	270
06:00			42		93		135		18:00			21		27		48	
06:15			33		91		124		18:15			33		102		135	
06:30			32		77		109		18:30			26		107		133	
06:45			31	138	58	319	89	457	18:45			16	96	69	305	85	401
07:00			17		53		70		19:00			22		30		52	
07:15			18		31		49		19:15			26		16		42	
07:30			7		19		26		19:30			29		41		70	
07:45			10	52	27	130	37	182	19:45			40	117	76	163	116	280
08:00			11		18		29		20:00			35		120		155	
08:15			15		24		39		20:15			26		101		127	
08:30			16		37		53		20:30			22		82		104	
08:45			6	48	13	92	19	140	20:45			12	95	63	366	75	461
09:00			4		9		13		21:00			11		67		78	
09:15			4		8		12		21:15			6		48		54	
09:30			6		12		18		21:30			3		12		15	
09:45			9	23	9	38	18	61	21:45			2	22	9	136	11	158
10:00			11		11		22		22:00			2		12		14	
10:15			6		17		23		22:15			6		8		14	
10:30			9		22		31		22:30			7		7		14	
10:45			18	44	28	78	46	122	22:45			12	27	40	67	52	94
11:00			18		25		43		23:00			4		22		26	
11:15			22		34		56		23:15			6		11		17	
11:30			28		51		79		23:30			1		8		9	
11:45			46	114	75	185	121	299	23:45			1	12	3	44	4	56
TOTALS				686		1333		2019	TOTALS				962		2638		3600
SPLIT %				34.0%		66.0%		35.9%	SPLIT %				26.7%		73.3%		64.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,648	3,971	5,619

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour			05:15	05:30	05:15	PM Peak Hour			12:00	12:30	12:30
AM Pk Volume			187	424	607	PM Pk Volume			192	543	718
Pk Hr Factor			0.882	0.841	0.848	Pk Hr Factor			0.941	0.923	0.945
7 - 9 Volume	0	0	100	222	322	4 - 6 Volume	0	0	132	295	427
7 - 9 Peak Hour			07:00	07:00	07:00	4 - 6 Peak Hour			16:45	17:00	17:00
7 - 9 Pk Volume	0	0	52	130	182	4 - 6 Pk Volume	0	0	80	191	270
Pk Hr Factor	0.000	0.000	0.722	0.613	0.650	Pk Hr Factor	0.000	0.000	0.833	0.582	0.637

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #1

Day: Monday
Date: 12/4/2017

City: Clearwater
Project #: FL17_3500_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,972	4,233	6,205

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		3		4		12:00			39		77		116	
00:15			3		1		4		12:15			36		91		127	
00:30			0		2		2		12:30			52		74		126	
00:45			0	4	2	8	2	12	12:45			49	176	77	319	126	495
01:00			2		5		7		13:00			36		161		197	
01:15			2		2		4		13:15			35		172		207	
01:30			1		1		2		13:30			37		94		131	
01:45			0	5	1	9	1	14	13:45			22	130	52	479	74	609
02:00			0		0		0		14:00			27		44		71	
02:15			0		1		1		14:15			17		33		50	
02:30			0		0		0		14:30			17		24		41	
02:45			0		0	1	0	1	14:45			20	81	25	126	45	207
03:00			2		1		3		15:00			17		40		57	
03:15			3		2		5		15:15			35		47		82	
03:30			5		1		6		15:30			29		57		86	
03:45			13	23	2	6	15	29	15:45			35	116	104	248	139	364
04:00			7		5		12		16:00			39		128		167	
04:15			9		9		18		16:15			30		90		120	
04:30			7		11		18		16:30			36		91		127	
04:45			13	36	20	45	33	81	16:45			34	139	57	366	91	505
05:00			18		33		51		17:00			27		91		118	
05:15			31		71		102		17:15			29		51		80	
05:30			48		88		136		17:30			37		37		74	
05:45			46	143	100	292	146	435	17:45			37	130	29	208	66	338
06:00			37		104		141		18:00			33		79		112	
06:15			31		77		108		18:15			26		160		186	
06:30			35		55		90		18:30			18		76		94	
06:45			39	142	38	274	77	416	18:45			11	88	22	337	33	425
07:00			32		48		80		19:00			15		19		34	
07:15			29		38		67		19:15			26		13		39	
07:30			27		30		57		19:30			21		64		85	
07:45			27	115	30	146	57	261	19:45			12	74	91	187	103	261
08:00			23		25		48		20:00			11		10		21	
08:15			21		21		42		20:15			7		18		25	
08:30			19		11		30		20:30			13		22		35	
08:45			18	81	22	79	40	160	20:45			7	38	18	68	25	106
09:00			15		13		28		21:00			4		22		26	
09:15			11		28		39		21:15			8		16		24	
09:30			16		33		49		21:30			11		26		37	
09:45			35	77	36	110	71	187	21:45			17	40	36	100	53	140
10:00			34		40		74		22:00			20		38		58	
10:15			29		38		67		22:15			22		78		100	
10:30			19		33		52		22:30			19		13		32	
10:45			41	123	57	168	98	291	22:45			20	81	86	215	106	296
11:00			21		85		106		23:00			10		106		116	
11:15			27		46		73		23:15			7		17		24	
11:30			28		66		94		23:30			4		10		14	
11:45			31	107	104	301	135	408	23:45			2	23	8	141	10	164
TOTALS				856		1439		**2295**	**TOTALS**				1116		2794		**3910**
SPLIT %				37.3%		62.7%		**37.0%**	**SPLIT %**				28.5%		71.5%		**63.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,972	4,233	6,205

AM Peak Hour			05:15	05:30	**05:30**	**PM Peak Hour**			12:00	12:45	**12:45**
AM Pk Volume			162	369	**531**	**PM Pk Volume**			176	504	**661**
Pk Hr Factor			0.844	0.887	**0.909**	**Pk Hr Factor**			0.846	0.733	**0.798**
7 - 9 Volume	0	0	196	225	**421**	**4 - 6 Volume**	0	0	269	574	**843**
7 - 9 Peak Hour			07:00	07:00	**07:00**	**4 - 6 Peak Hour**			16:00	16:00	**16:00**
7 - 9 Pk Volume	0	0	115	146	**261**	**4 - 6 Pk Volume**	0	0	139	366	**505**
Pk Hr Factor	0.000	0.000	0.898	0.760	**0.816**	**Pk Hr Factor**	0.000	0.000	0.891	0.715	**0.756**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #1

Day: Tuesday
Date: 12/5/2017

City: Clearwater
Project #: FL17_3500_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	860	1,231	2,091

AM Period	NB	SB	EB		WB		TOTAL	
00:00			0		3		3	
00:15			0		0		0	
00:30			4		0		4	
00:45			0	4	1	4	1	8
01:00			0		5		5	
01:15			3		1		4	
01:30			0		2		2	
01:45			1	4	2	10	3	14
02:00			1		1		2	
02:15			0		1		1	
02:30			0		0		0	
02:45			1	2	1	3	2	5
03:00			0		0		0	
03:15			2		0		2	
03:30			6		1		7	
03:45			8	16	2	3	10	19
04:00			2		4		6	
04:15			12		4		16	
04:30			7		7		14	
04:45			9	30	14	29	23	59
05:00			5		8		13	
05:15			3		11		14	
05:30			5		9		14	
05:45			3	16	8	36	11	52
06:00			6		8		14	
06:15			7		10		17	
06:30			17		11		28	
06:45			16	46	21	50	37	96
07:00			25		24		49	
07:15			24		19		43	
07:30			12		13		25	
07:45			12	73	11	67	23	140
08:00			14		11		25	
08:15			8		14		22	
08:30			12		18		30	
08:45			12	46	14	57	26	103
09:00			16		8		24	
09:15			11		6		17	
09:30			9		15		24	
09:45			10	46	10	39	20	85
10:00			12		7		19	
10:15			13		12		25	
10:30			9		8		17	
10:45			14	48	8	35	22	83
11:00			12		13		25	
11:15			9		12		21	
11:30			16		28		44	
11:45			27	64	46	99	73	163
TOTALS				395		432		827
SPLIT %				47.8%		52.2%		39.6%

PM Period	NB	SB	EB		WB		TOTAL	
12:00			10		15		25	
12:15			8		13		21	
12:30			16		9		25	
12:45			13	47	10	47	23	94
13:00			12		17		29	
13:15			6		6		12	
13:30			14		7		21	
13:45			13	45	11	41	24	86
14:00			16		13		29	
14:15			12		17		29	
14:30			17		18		35	
14:45			15	60	48	96	63	156
15:00			14		34		48	
15:15			15		35		50	
15:30			11		21		32	
15:45			15	55	28	118	43	173
16:00			12		25		37	
16:15			30		20		50	
16:30			17		61		78	
16:45			9	68	36	142	45	210
17:00			9		25		34	
17:15			5		24		29	
17:30			6		16		22	
17:45			4	24	13	78	17	102
18:00			6		12		18	
18:15			8		6		14	
18:30			13		11		24	
18:45			17	44	13	42	30	86
19:00			11		11		22	
19:15			15		14		29	
19:30			9		11		20	
19:45			10	45	17	53	27	98
20:00			9		14		23	
20:15			10		15		25	
20:30			14		47		61	
20:45			12	45	27	103	39	148
21:00			4		9		13	
21:15			3		12		15	
21:30			3		5		8	
21:45			1	11	6	32	7	43
22:00			1		8		9	
22:15			3		5		8	
22:30			3		7		10	
22:45			5	12	4	24	9	36
23:00			2		4		6	
23:15			3		4		7	
23:30			1		6		7	
23:45			3	9	9	23	12	32
TOTALS				465		799		1264
SPLIT %				36.8%		63.2%		60.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	860	1,231	2,091

	NB	SB	EB	WB	Total
AM Peak Hour			06:30	11:30	11:00
AM Pk Volume			82	102	163
Pk Hr Factor			0.820	0.554	0.558
7 - 9 Volume	0	0	119	124	243
7 - 9 Peak Hour			07:00	07:00	07:00
7 - 9 Pk Volume	0	0	73	67	140
Pk Hr Factor	0.000	0.000	0.730	0.698	0.714

	NB	SB	EB	WB	Total
PM Peak Hour			15:45	16:30	16:00
PM Pk Volume			74	146	210
Pk Hr Factor			0.617	0.598	0.673
4 - 6 Volume	0	0	92	220	312
4 - 6 Peak Hour			16:00	16:30	16:00
4 - 6 Pk Volume	0	0	68	146	210
Pk Hr Factor	0.000	0.000	0.567	0.598	0.673

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #1

Day: Wednesday
Date: 12/6/2017

City: Clearwater
Project #: FL17_3500_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,196	2,061	3,257

AM Period	NB		SB		EB		WB		TOTAL	
00:00					3		22		25	
00:15					0		10		10	
00:30					0		8		8	
00:45					1	4	6	46	7	50
01:00					0		7		7	
01:15					3		3		6	
01:30					3		7		10	
01:45					1	7	2	19	3	26
02:00					0		2		2	
02:15					0		0		0	
02:30					0		0		0	
02:45					1	1	2	4	3	5
03:00					4		2		6	
03:15					4		2		6	
03:30					3		2		5	
03:45					14	25	2	8	16	33
04:00					11		7		18	
04:15					14		16		30	
04:30					19		20		39	
04:45					20	64	44	87	64	151
05:00					24		50		74	
05:15					30		65		95	
05:30					22		40		62	
05:45					12	88	21	176	33	264
06:00					9		18		27	
06:15					8		8		16	
06:30					14		10		24	
06:45					13	44	7	43	20	87
07:00					12		9		21	
07:15					15		8		23	
07:30					17		5		22	
07:45					12	56	9	31	21	87
08:00					10		7		17	
08:15					15		7		22	
08:30					8		9		17	
08:45					14	47	11	34	25	81
09:00					11		13		24	
09:15					5		13		18	
09:30					8		9		17	
09:45					14	38	8	43	22	81
10:00					9		6		15	
10:15					11		13		24	
10:30					12		13		25	
10:45					20	52	20	52	40	104
11:00					17		25		42	
11:15					13		23		36	
11:30					23		32		55	
11:45					31	84	38	118	69	202
TOTALS						510		661		**1171**
SPLIT %						43.6%		56.4%		**36.0%**

PM Period	NB		SB		EB		WB		TOTAL	
12:00					35		33		68	
12:15					22		45		67	
12:30					33		82		115	
12:45					33	123	51	211	84	334
13:00					35		72		107	
13:15					34		97		131	
13:30					24		76		100	
13:45					36	129	34	279	70	408
14:00					22		32		54	
14:15					28		32		60	
14:30					22		62		84	
14:45					16	88	80	206	96	294
15:00					16		62		78	
15:15					15		23		38	
15:30					12		19		31	
15:45					14	57	21	125	35	182
16:00					13		34		47	
16:15					22		39		61	
16:30					22		30		52	
16:45					4	61	30	133	34	194
17:00					9		11		20	
17:15					9		23		32	
17:30					4		21		25	
17:45					8	30	11	66	19	96
18:00					4		12		16	
18:15					8		9		17	
18:30					6		3		9	
18:45					17	35	8	32	25	67
19:00					7		4		11	
19:15					11		7		18	
19:30					23		9		32	
19:45					32	73	17	37	49	110
20:00					16		54		70	
20:15					18		66		84	
20:30					13		47		60	
20:45					7	54	25	192	32	246
21:00					9		15		24	
21:15					7		47		54	
21:30					7		20		27	
21:45					1	24	12	94	13	118
22:00					1		10		11	
22:15					2		2		4	
22:30					3		4		7	
22:45					1	7	2	18	3	25
23:00					1		1		2	
23:15					3		3		6	
23:30					0		0		0	
23:45					1	5	3	7	4	12
TOTALS						686		1400		**2086**
SPLIT %						32.9%		67.1%		**64.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,196	2,061	3,257

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour			11:45	04:45	**11:45**	PM Peak Hour			12:30	12:30	**12:30**
AM Pk Volume			121	199	**319**	PM Pk Volume			135	302	**437**
Pk Hr Factor			0.864	0.765	**0.693**	Pk Hr Factor			0.964	0.778	**0.834**
7 - 9 Volume	0	0	103	65	**168**	4 - 6 Volume	0	0	91	199	**290**
7 - 9 Peak Hour			07:00	08:00	**07:00**	4 - 6 Peak Hour			16:00	16:00	**16:00**
7 - 9 Pk Volume	0	0	56	34	**87**	4 - 6 Pk Volume	0	0	61	133	**194**
Pk Hr Factor	0.000	0.000	0.824	0.773	**0.946**	Pk Hr Factor	0.000	0.000	0.693	0.853	**0.795**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr 2 & Location #2

Day: Thursday
Date: 11/30/2017

City: Clearwater
Project #: FL17_3500_002

DAILY TOTALS	NB	SB	EB	WB	Total
	1,011	1,088	0	0	2,099

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		0				0		12:00	8		32				40	
00:15	2		0				2		12:15	26		29				55	
00:30	1		2				3		12:30	13		36				49	
00:45	2	5	0	2			2	7	12:45	19	66	35	132			54	198
01:00	0		1				1		13:00	33		42				75	
01:15	2		2				4		13:15	39		25				64	
01:30	0		1				1		13:30	62		22				84	
01:45	0	2	0	4			0	6	13:45	22	156	17	106			39	262
02:00	0		0				0		14:00	16		8				24	
02:15	0		0				0		14:15	18		9				27	
02:30	1		1				2		14:30	11		17				28	
02:45	1	2	2	3			3	5	14:45	21	66	13	47			34	113
03:00	4		2				6		15:00	17		14				31	
03:15	3		3				6		15:15	23		15				38	
03:30	3		4				7		15:30	10		10				20	
03:45	7	17	14	23			21	40	15:45	10	60	11	50			21	110
04:00	7		9				16		16:00	7		17				24	
04:15	6		10				16		16:15	7		8				15	
04:30	3		12				15		16:30	23		12				35	
04:45	5	21	10	41			15	62	16:45	23	60	8	45			31	105
05:00	4		8				12		17:00	10		12				22	
05:15	6		9				15		17:15	7		9				16	
05:30	3		16				19		17:30	12		12				24	
05:45	7	20	12	45			19	65	17:45	8	37	16	49			24	86
06:00	5		6				11		18:00	12		8				20	
06:15	2		7				9		18:15	10		12				22	
06:30	3		5				8		18:30	22		12				34	
06:45	4	14	19	37			23	51	18:45	26	70	8	40			34	110
07:00	9		14				23		19:00	8		12				20	
07:15	3		18				21		19:15	10		15				25	
07:30	2		9				11		19:30	28		12				40	
07:45	6	20	7	48			13	68	19:45	17	63	15	54			32	117
08:00	4		3				7		20:00	14		16				30	
08:15	6		12				18		20:15	15		21				36	
08:30	6		12				18		20:30	43		20				63	
08:45	11	27	7	34			18	61	20:45	17	89	16	73			33	162
09:00	3		6				9		21:00	10		14				24	
09:15	5		9				14		21:15	21		13				34	
09:30	7		11				18		21:30	40		11				51	
09:45	11	26	11	37			22	63	21:45	5	76	4	42			9	118
10:00	23		22				45		22:00	4		3				7	
10:15	6		18				24		22:15	3		3				6	
10:30	9		11				20		22:30	3		4				7	
10:45	7	45	16	67			23	112	22:45	6	16	6	16			12	32
11:00	9		17				26		23:00	5		5				10	
11:15	6		22				28		23:15	9		1				10	
11:30	12		26				38		23:30	1		1				2	
11:45	11	38	20	85			31	123	23:45	0	15	1	8			1	23
TOTALS		237		426				**663**	**TOTALS**		774		662				**1436**
SPLIT %		35.7%		64.3%				**31.6%**	**SPLIT %**		53.9%		46.1%				**68.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,011	1,088	0	0	2,099

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	11:45	11:45			**11:45**	**PM Peak Hour**	13:00	12:15			**12:45**
AM Pk Volume	58	117			**175**	**PM Pk Volume**	156	142			**277**
Pk Hr Factor	0.558	0.813			**0.795**	**Pk Hr Factor**	0.629	0.845			**0.824**
7 - 9 Volume	47	82	0	0	**129**	**4 - 6 Volume**	97	94	0	0	**191**
7 - 9 Peak Hour	08:00	07:00			**07:00**	**4 - 6 Peak Hour**	16:15	17:00			**16:00**
7 - 9 Pk Volume	27	48	0	0	**68**	**4 - 6 Pk Volume**	63	49	0	0	**105**
Pk Hr Factor	0.614	0.667	0.000	0.000	**0.739**	**Pk Hr Factor**	0.685	0.766	0.000	0.000	**0.750**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr 2 & Location #2

Day: Friday
Date: 12/1/2017

City: Clearwater
Project #: FL17_3500_002

DAILY TOTALS	NB	SB	EB	WB	Total
	1,028	993	0	0	2,021

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		0				0		12:00	14		18				32	
00:15	2		3				5		12:15	15		21				36	
00:30	1		1				2		12:30	14		25				39	
00:45	3	6	0	4			3	10	12:45	20	63	32	96			52	159
01:00	1		2				3		13:00	24		19				43	
01:15	0		0				0		13:15	18		17				35	
01:30	0		0				0		13:30	25		23				48	
01:45	0	1	0	2			0	3	13:45	11	78	22	81			33	159
02:00	2		0				2		14:00	23		23				46	
02:15	0		0				0		14:15	28		16				44	
02:30	0		0				0		14:30	29		6				35	
02:45	2	4	1	1			3	5	14:45	16	96	9	54			25	150
03:00	1		2				3		15:00	18		8				26	
03:15	3		2				5		15:15	22		9				31	
03:30	0		2				2		15:30	25		7				32	
03:45	8	12	20	26			28	38	15:45	13	78	6	30			19	108
04:00	5		10				15		16:00	14		15				29	
04:15	3		6				9		16:15	19		8				27	
04:30	4		4				8		16:30	7		9				16	
04:45	4	16	8	28			12	44	16:45	12	52	11	43			23	95
05:00	1		5				6		17:00	16		9				25	
05:15	3		3				6		17:15	9		12				21	
05:30	3		6				9		17:30	8		22				30	
05:45	10	17	19	33			29	50	17:45	10	43	20	63			30	106
06:00	2		5				7		18:00	28		19				47	
06:15	4		8				12		18:15	31		18				49	
06:30	5		9				14		18:30	24		16				40	
06:45	3	14	21	43			24	57	18:45	22	105	12	65			34	170
07:00	11		12				23		19:00	18		10				28	
07:15	6		10				16		19:15	16		4				20	
07:30	4		12				16		19:30	12		5				17	
07:45	3	24	6	40			9	64	19:45	9	55	10	29			19	84
08:00	8		8				16		20:00	4		11				15	
08:15	5		4				9		20:15	3		15				18	
08:30	2		15				17		20:30	8		23				31	
08:45	3	18	4	31			7	49	20:45	33	48	19	68			52	116
09:00	3		9				12		21:00	22		10				32	
09:15	14		6				20		21:15	13		14				27	
09:30	3		6				9		21:30	19		17				36	
09:45	2	22	12	33			14	55	21:45	24	78	12	53			36	131
10:00	3		13				16		22:00	22		20				42	
10:15	6		13				19		22:15	27		11				38	
10:30	7		18				25		22:30	12		12				24	
10:45	19	35	15	59			34	94	22:45	19	80	4	47			23	127
11:00	21		13				34		23:00	14		3				17	
11:15	11		10				21		23:15	9		3				12	
11:30	8		12				20		23:30	7		1				8	
11:45	10	50	21	56			31	106	23:45	3	33	1	8			4	41
TOTALS		219		356				**575**	**TOTALS**		809		637				**1446**
SPLIT %		38.1%		61.9%				**28.5%**	**SPLIT %**		55.9%		44.1%				**71.5%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,028	993	0	0	2,021

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	10:45	11:45			**11:45**	**PM Peak Hour**	18:00	12:15			**12:45**
AM Pk Volume	59	85			**138**	**PM Pk Volume**	105	97			**178**
Pk Hr Factor	0.702	0.850			**0.885**	**Pk Hr Factor**	0.847	0.758			**0.856**
7 - 9 Volume	42	71	0	0	**113**	**4 - 6 Volume**	95	106	0	0	**201**
7 - 9 Peak Hour	07:00	07:00			**07:00**	**4 - 6 Peak Hour**	16:15	17:00			**17:00**
7 - 9 Pk Volume	24	40	0	0	**64**	**4 - 6 Pk Volume**	54	63	0	0	**106**
Pk Hr Factor	0.545	0.833	0.000	0.000	**0.696**	**Pk Hr Factor**	0.711	0.716	0.000	0.000	**0.883**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr 2 & Location #2

Day: Saturday
Date: 12/2/2017

City: Clearwater
Project #: FL17_3500_002

DAILY TOTALS	NB	SB	EB	WB	Total
	589	618	0	0	1,207

AM Period	NB		SB		EB	WB	TOTAL	
00:00	1		0				1	
00:15	0		0				0	
00:30	1		1				2	
00:45	2	4	1	2			3	6
01:00	2		0				2	
01:15	4		3				7	
01:30	1		1				2	
01:45	0	7	1	5			1	12
02:00	0		0				0	
02:15	2		0				2	
02:30	1		1				2	
02:45	0	3	0	1			0	4
03:00	0		0				0	
03:15	4		5				9	
03:30	1		4				5	
03:45	4	9	9	18			13	27
04:00	3		9				12	
04:15	4		6				10	
04:30	3		6				9	
04:45	3	13	7	28			10	41
05:00	2		3				5	
05:15	3		4				7	
05:30	3		4				7	
05:45	2	10	6	17			8	27
06:00	1		5				6	
06:15	2		3				5	
06:30	1		3				4	
06:45	4	8	1	12			5	20
07:00	9		3				12	
07:15	3		3				6	
07:30	2		5				7	
07:45	6	20	8	19			14	39
08:00	4		9				13	
08:15	5		6				11	
08:30	10		5				15	
08:45	2	21	7	27			9	48
09:00	3		2				5	
09:15	4		7				11	
09:30	5		4				9	
09:45	6	18	7	20			13	38
10:00	8		8				16	
10:15	4		9				13	
10:30	3		9				12	
10:45	6	21	11	37			17	58
11:00	22		8				30	
11:15	6		11				17	
11:30	2		7				9	
11:45	4	34	8	34			12	68
TOTALS	168		220					388
SPLIT %	43.3%		56.7%					32.1%

PM Period	NB		SB		EB	WB	TOTAL	
12:00	4		10				14	
12:15	5		12				17	
12:30	6		17				23	
12:45	10	25	22	61			32	86
13:00	13		22				35	
13:15	21		29				50	
13:30	29		18				47	
13:45	16	79	14	83			30	162
14:00	19		11				30	
14:15	12		15				27	
14:30	20		17				37	
14:45	15	66	8	51			23	117
15:00	4		6				10	
15:15	7		7				14	
15:30	3		7				10	
15:45	8	22	10	30			18	52
16:00	6		12				18	
16:15	9		12				21	
16:30	14		12				26	
16:45	15	44	11	47			26	91
17:00	10		3				13	
17:15	9		2				11	
17:30	12		4				16	
17:45	6	37	1	10			7	47
18:00	2		2				4	
18:15	1		0				1	
18:30	2		2				4	
18:45	4	9	3	7			7	16
19:00	4		4				8	
19:15	6		9				15	
19:30	3		3				6	
19:45	5	18	8	24			13	42
20:00	12		12				24	
20:15	18		9				27	
20:30	7		9				16	
20:45	6	43	10	40			16	83
21:00	16		8				24	
21:15	12		12				24	
21:30	16		8				24	
21:45	18	62	2	30			20	92
22:00	5		6				11	
22:15	4		3				7	
22:30	2		1				3	
22:45	0	11	0	10			0	21
23:00	1		1				2	
23:15	2		0				2	
23:30	0		1				1	
23:45	2	5	3	5			5	10
TOTALS	421		398					819
SPLIT %	51.4%		48.6%					67.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	589	618	0	0	1,207

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	10:30	11:45			10:30	PM Peak Hour	13:15	12:45			12:45
AM Pk Volume	37	47			76	PM Pk Volume	85	91			164
Pk Hr Factor	0.420	0.691			0.633	Pk Hr Factor	0.733	0.784			0.820
7 - 9 Volume	41	46	0	0	87	4 - 6 Volume	81	57	0	0	138
7 - 9 Peak Hour	07:45	07:30			07:45	4 - 6 Peak Hour	16:15	16:00			16:00
7 - 9 Pk Volume	25	28	0	0	53	4 - 6 Pk Volume	48	47	0	0	91
Pk Hr Factor	0.625	0.778	0.000	0.000	0.883	Pk Hr Factor	0.800	0.979	0.000	0.000	0.875

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr 2 & Location #2

Day: Sunday
Date: 12/3/2017

City: Clearwater
Project #: FL17_3500_002

DAILY TOTALS	NB	SB	EB	WB	Total
	768	766	0	0	1,534

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		0				0		12:00	9		21				30	
00:15	2		0				2		12:15	22		28				50	
00:30	1		0				1		12:30	24		28				52	
00:45	1	4	0				1	4	12:45	36	91	31	108			67	199
01:00	3		4				7		13:00	30		20				50	
01:15	1		1				2		13:15	37		16				53	
01:30	1		1				2		13:30	14		14				28	
01:45	1	6	2	8			3	14	13:45	14	95	5	55			19	150
02:00	0		0				0		14:00	14		8				22	
02:15	0		0				0		14:15	11		14				25	
02:30	0		0				0		14:30	8		8				16	
02:45	0		0				0		14:45	10	43	6	36			16	79
03:00	0		0				0		15:00	8		5				13	
03:15	1		1				2		15:15	7		7				14	
03:30	7		12				19		15:30	8		13				21	
03:45	6	14	14	27			20	41	15:45	3	26	1	26			4	52
04:00	4		9				13		16:00	4		3				7	
04:15	7		9				16		16:15	5		10				15	
04:30	4		7				11		16:30	6		7				13	
04:45	6	21	9	34			15	55	16:45	11	26	10	30			21	56
05:00	1		3				4		17:00	25		15				40	
05:15	2		9				11		17:15	16		7				23	
05:30	2		6				8		17:30	11		6				17	
05:45	2	7	16	34			18	41	17:45	6	58	11	39			17	97
06:00	1		8				9		18:00	9		14				23	
06:15	2		7				9		18:15	27		9				36	
06:30	3		9				12		18:30	8		9				17	
06:45	4	10	11	35			15	45	18:45	10	54	9	41			19	95
07:00	7		11				18		19:00	6		9				15	
07:15	4		7				11		19:15	8		10				18	
07:30	3		5				8		19:30	14		25				39	
07:45	2	16	2	25			4	41	19:45	27	55	18	62			45	117
08:00	6		7				13		20:00	28		15				43	
08:15	9		5				14		20:15	27		13				40	
08:30	8		8				16		20:30	16		17				33	
08:45	2	25	1	21			3	46	20:45	18	89	7	52			25	141
09:00	3		1				4		21:00	25		10				35	
09:15	4		1				5		21:15	7		2				9	
09:30	5		4				9		21:30	4		4				8	
09:45	3	15	6	12			9	27	21:45	1	37	2	18			3	55
10:00	3		5				8		22:00	3		3				6	
10:15	5		8				13		22:15	5		0				5	
10:30	4		3				7		22:30	8		7				15	
10:45	3	15	7	23			10	38	22:45	8	24	2	12			10	36
11:00	2		9				11		23:00	5		3				8	
11:15	5		14				19		23:15	5		2				7	
11:30	7		16				23		23:30	3		3				6	
11:45	8	22	20	59			28	81	23:45	2	15	1	9			3	24
TOTALS	155		278				**433**		**TOTALS**	613		488				**1101**	
SPLIT %	35.8%		64.2%				**28.2%**		**SPLIT %**	55.7%		44.3%				**71.8%**	

DAILY TOTALS	NB	SB	EB	WB	Total
	768	766	0	0	1,534

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	11:45	11:45			**11:45**	**PM Peak Hour**	12:30	12:00			**12:30**
AM Pk Volume	63	97			**160**	**PM Pk Volume**	127	108			**222**
Pk Hr Factor	0.656	0.866			**0.769**	**Pk Hr Factor**	0.858	0.871			**0.828**
7 - 9 Volume	41	46	0	0	**87**	**4 - 6 Volume**	84	69	0	0	**153**
7 - 9 Peak Hour	07:45	07:00			**07:45**	**4 - 6 Peak Hour**	16:45	16:15			**16:45**
7 - 9 Pk Volume	25	25	0	0	**47**	**4 - 6 Pk Volume**	63	42	0	0	**101**
Pk Hr Factor	0.694	0.568	0.000	0.000	**0.734**	**Pk Hr Factor**	0.630	0.700	0.000	0.000	**0.631**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr 2 & Location #2

Day: Monday
Date: 12/4/2017

City: Clearwater
Project #: FL17_3500_002

DAILY TOTALS	NB	SB	EB	WB	Total
	1,009	1,020	0	0	2,029

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		0				2		12:00	18		37				55	
00:15	0		1				1		12:15	13		22				35	
00:30	1		0				1		12:30	14		34				48	
00:45	3	6	1	2			4	8	12:45	19	64	32	125			51	189
01:00	3		2				5		13:00	63		23				86	
01:15	0		1				1		13:15	23		15				38	
01:30	0		1				1		13:30	18		18				36	
01:45	1	4	0	4			1	8	13:45	9	113	16	72			25	185
02:00	0		0				0		14:00	9		9				18	
02:15	0		0				0		14:15	4		8				12	
02:30	0		0				0		14:30	9		13				22	
02:45	0		0				0		14:45	10	32	15	45			25	77
03:00	0		3				3		15:00	18		10				28	
03:15	2		3				5		15:15	17		15				32	
03:30	2		3				5		15:30	20		13				33	
03:45	6	10	13	22			19	32	15:45	27	82	9	47			36	129
04:00	4		8				12		16:00	27		19				46	
04:15	6		6				12		16:15	17		9				26	
04:30	3		4				7		16:30	17		15				32	
04:45	4	17	5	23			9	40	16:45	16	77	11	54			27	131
05:00	1		4				5		17:00	11		11				22	
05:15	1		7				8		17:15	13		22				35	
05:30	4		6				10		17:30	16		25				41	
05:45	4	10	3	20			7	30	17:45	10	50	18	76			28	126
06:00	1		7				8		18:00	37		12				49	
06:15	7		9				16		18:15	34		11				45	
06:30	3		8				11		18:30	13		4				17	
06:45	2	13	15	39			17	52	18:45	9	93	8	35			17	128
07:00	7		18				25		19:00	8		4				12	
07:15	6		17				23		19:15	10		18				28	
07:30	2		12				14		19:30	27		10				37	
07:45	3	18	12	59			15	77	19:45	16	61	5	37			21	98
08:00	5		10				15		20:00	6		12				18	
08:15	5		10				15		20:15	9		6				15	
08:30	6		18				24		20:30	5		11				16	
08:45	8	24	18	56			26	80	20:45	4	24	6	35			10	59
09:00	8		8				16		21:00	4		5				9	
09:15	11		6				17		21:15	5		7				12	
09:30	7		7				14		21:30	4		18				22	
09:45	9	35	11	32			20	67	21:45	21	34	20	50			41	84
10:00	9		15				24		22:00	18		11				29	
10:15	8		16				24		22:15	29		15				44	
10:30	10		13				23		22:30	18		18				36	
10:45	17	44	18	62			35	106	22:45	39	104	9	53			48	157
11:00	19		14				33		23:00	16		6				22	
11:15	16		15				31		23:15	11		1				12	
11:30	12		13				25		23:30	5		3				8	
11:45	14	61	20	62			34	123	23:45	1	33	0	10			1	43
TOTALS		242		381				623	TOTALS		767		639				1406
SPLIT %		38.8%		61.2%				30.7%	SPLIT %		54.6%		45.4%				69.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,009	1,020	0	0	2,029

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	10:45	11:45			11:45	PM Peak Hour	12:45	12:00			12:30
AM Pk Volume	64	113			172	PM Pk Volume	123	125			223
Pk Hr Factor	0.842	0.764			0.782	Pk Hr Factor	0.488	0.845			0.648
7 - 9 Volume	42	115	0	0	157	4 - 6 Volume	127	130	0	0	257
7 - 9 Peak Hour	08:00	07:00			08:00	4 - 6 Peak Hour	16:00	17:00			16:00
7 - 9 Pk Volume	24	59	0	0	80	4 - 6 Pk Volume	77	76	0	0	131
Pk Hr Factor	0.750	0.819	0.000	0.000	0.769	Pk Hr Factor	0.713	0.760	0.000	0.000	0.712

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr 2 & Location #2

Day: Tuesday
Date: 12/5/2017

City: Clearwater
Project #: FL17_3500_002

DAILY TOTALS	NB	SB	EB	WB	Total
	510	549	0	0	1,059

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		0				2		12:00	8		7				15	
00:15	0		0				0		12:15	9		0				9	
00:30	0		2				2		12:30	8		16				24	
00:45	3	5	2	4			5	9	12:45	7	32	8	31			15	63
01:00	1		0				1		13:00	10		7				17	
01:15	0		1				1		13:15	4		2				6	
01:30	2		0				2		13:30	5		8				13	
01:45	1	4	1	2			2	6	13:45	5	24	7	24			12	48
02:00	1		1				2		14:00	2		10				12	
02:15	1		1				2		14:15	9		16				25	
02:30	0		0				0		14:30	13		19				32	
02:45	0	2	0	2			0	4	14:45	19	43	10	55			29	98
03:00	1		2				3		15:00	6		8				14	
03:15	1		1				2		15:15	6		11				17	
03:30	0		1				1		15:30	11		8				19	
03:45	7	9	8	12			15	21	15:45	13	36	11	38			24	74
04:00	3		6				9		16:00	13		17				30	
04:15	6		7				13		16:15	12		21				33	
04:30	3		2				5		16:30	20		13				33	
04:45	3	15	5	20			8	35	16:45	12	57	4	55			16	112
05:00	1		1				2		17:00	5		5				10	
05:15	1		1				2		17:15	3		3				6	
05:30	3		2				5		17:30	6		3				9	
05:45	1	6	2	6			3	12	17:45	9	23	3	14			12	37
06:00	1		1				2		18:00	6		4				10	
06:15	2		3				5		18:15	3		6				9	
06:30	2		9				11		18:30	5		4				9	
06:45	6	11	14	27			20	38	18:45	3	17	4	18			7	35
07:00	6		15				21		19:00	1		0				1	
07:15	6		17				23		19:15	3		5				8	
07:30	3		8				11		19:30	2		0				2	
07:45	5	20	6	46			11	66	19:45	5	11	4	9			9	20
08:00	7		11				18		20:00	2		2				4	
08:15	6		5				11		20:15	8		11				19	
08:30	9		6				15		20:30	19		7				26	
08:45	9	31	6	28			15	59	20:45	6	35	6	26			12	61
09:00	7		7				14		21:00	5		2				7	
09:15	5		8				13		21:15	3		1				4	
09:30	7		9				16		21:30	5		2				7	
09:45	12	31	5	29			17	60	21:45	3	16	2	7			5	23
10:00	8		9				17		22:00	2		0				2	
10:15	5		10				15		22:15	1		1				2	
10:30	4		2				6		22:30	0		0				0	
10:45	5	22	9	30			14	52	22:45	5	8	1	2			6	10
11:00	4		15				19		23:00	0		0				0	
11:15	9		12				21		23:15	1		2				3	
11:30	19		12				31		23:30	0		0				0	
11:45	17	49	23	62			40	111	23:45	2	3	0	2			2	5
TOTALS		205		268				473	TOTALS		305		281				586
SPLIT %		43.3%		56.7%				44.7%	SPLIT %		52.0%		48.0%				55.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	510	549	0	0	1,059

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	11:15	11:00			11:00	PM Peak Hour	15:45	15:45			15:45
AM Pk Volume	53	62			111	PM Pk Volume	58	62			120
Pk Hr Factor	0.697	0.674			0.694	Pk Hr Factor	0.725	0.738			0.909
7 - 9 Volume	51	74	0	0	125	4 - 6 Volume	80	69	0	0	149
7 - 9 Peak Hour	08:00	07:00			07:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	31	46	0	0	66	4 - 6 Pk Volume	57	55	0	0	112
Pk Hr Factor	0.861	0.676	0.000	0.000	0.717	Pk Hr Factor	0.713	0.655	0.000	0.000	0.848

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr 2 & Location #2

Day: Wednesday
Date: 12/6/2017

City: Clearwater
Project #: FL17_3500_002

DAILY TOTALS	NB	SB	EB	WB	Total
	676	716	0	0	1,392

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		0				2		12:00	7		17				24	
00:15	1		2				3		12:15	15		17				32	
00:30	0		0				0		12:30	16		21				37	
00:45	0	3	1	3			1	6	12:45	21	59	19	74			40	133
01:00	5		1				6		13:00	23		23				46	
01:15	6		7				13		13:15	31		16				47	
01:30	7		3				10		13:30	18		15				33	
01:45	2	20	2	13			4	33	13:45	9	81	15	69			24	150
02:00	4		4				8		14:00	9		10				19	
02:15	0		0				0		14:15	11		9				20	
02:30	0		0				0		14:30	24		13				37	
02:45	1	5	0	4			1	9	14:45	22	66	9	41			31	107
03:00	1		2				3		15:00	11		9				20	
03:15	5		5				10		15:15	6		7				13	
03:30	4		2				6		15:30	4		5				9	
03:45	10	20	15	24			25	44	15:45	7	28	9	30			16	58
04:00	2		5				7		16:00	24		13				37	
04:15	3		3				6		16:15	15		11				26	
04:30	3		1				4		16:30	8		10				18	
04:45	2	10	6	15			8	25	16:45	7	54	2	36			9	90
05:00	4		6				10		17:00	6		4				10	
05:15	5		6				11		17:15	7		4				11	
05:30	2		10				12		17:30	5		2				7	
05:45	4	15	3	25			7	40	17:45	6	24	5	15			11	39
06:00	2		2				4		18:00	5		4				9	
06:15	1		6				7		18:15	4		6				10	
06:30	2		6				8		18:30	0		5				5	
06:45	4	9	11	25			15	34	18:45	4	13	5	20			9	33
07:00	7		14				21		19:00	6		8				14	
07:15	8		12				20		19:15	4		7				11	
07:30	5		8				13		19:30	4		25				29	
07:45	4	24	6	40			10	64	19:45	9	23	18	58			27	81
08:00	3		8				11		20:00	20		12				32	
08:15	7		10				17		20:15	24		15				39	
08:30	9		7				16		20:30	20		9				29	
08:45	7	26	10	35			17	61	20:45	16	80	5	41			21	121
09:00	8		14				22		21:00	14		8				22	
09:15	7		2				9		21:15	7		2				9	
09:30	4		5				9		21:30	4		3				7	
09:45	4	23	12	33			16	56	21:45	1	26	0	13			1	39
10:00	4		6				10		22:00	3		1				4	
10:15	4		12				16		22:15	5		2				7	
10:30	5		5				10		22:30	2		1				3	
10:45	3	16	15	38			18	54	22:45	1	11	1	5			2	16
11:00	8		12				20		23:00	0		1				1	
11:15	7		10				17		23:15	1		1				2	
11:30	14		18				32		23:30	0		0				0	
11:45	9	38	16	56			25	94	23:45	1	2	1	3			2	5
TOTALS		209		311				**520**	**TOTALS**		467		405				**872**
SPLIT %		40.2%		59.8%				**37.4%**	**SPLIT %**		53.6%		46.4%				**62.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	676	716	0	0	1,392

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	11:45	11:45			**11:45**	**PM Peak Hour**	12:45	12:15			**12:30**
AM Pk Volume	47	71			**118**	**PM Pk Volume**	93	80			**170**
Pk Hr Factor	0.734	0.845			**0.797**	**Pk Hr Factor**	0.750	0.870			**0.904**
7 - 9 Volume	50	75	0	0	**125**	**4 - 6 Volume**	78	51	0	0	**129**
7 - 9 Peak Hour	08:00	07:00			**07:00**	**4 - 6 Peak Hour**	16:00	16:00			**16:00**
7 - 9 Pk Volume	26	40	0	0	**64**	**4 - 6 Pk Volume**	54	36	0	0	**90**
Pk Hr Factor	0.722	0.714	0.000	0.000	**0.762**	**Pk Hr Factor**	0.563	0.692	0.000	0.000	**0.608**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #3

Day: Thursday
Date: 11/30/2017

City: Clearwater
Project #: FL17_3500_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,998	0	0	0	1,998

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	2		0			2		12:00	51		0			51	
00:15	0		0			0		12:15	53		0			53	
00:30	0		0			0		12:30	53		0			53	
00:45	0	2	0			0	2	12:45	58	215	0			58	215
01:00	0		0			0		13:00	55		0			55	
01:15	0		0			0		13:15	51		0			51	
01:30	1		0			1		13:30	42		0			42	
01:45	1	2	0			1	2	13:45	37	185	0			37	185
02:00	0		0			0		14:00	37		0			37	
02:15	0		0			0		14:15	46		0			46	
02:30	0		0			0		14:30	23		0			23	
02:45	0		0			0		14:45	32	138	0			32	138
03:00	1		0			1		15:00	24		0			24	
03:15	1		0			1		15:15	32		0			32	
03:30	0		0			0		15:30	15		0			15	
03:45	2	4	0			2	4	15:45	15	86	0			15	86
04:00	4		0			4		16:00	24		0			24	
04:15	18		0			18		16:15	19		0			19	
04:30	20		0			20		16:30	9		0			9	
04:45	45	87	0			45	87	16:45	11	63	0			11	63
05:00	42		0			42		17:00	13		0			13	
05:15	65		0			65		17:15	11		0			11	
05:30	61		0			61		17:30	21		0			21	
05:45	52	220	0			52	220	17:45	20	65	0			20	65
06:00	55		0			55		18:00	27		0			27	
06:15	37		0			37		18:15	20		0			20	
06:30	43		0			43		18:30	29		0			29	
06:45	31	166	0			31	166	18:45	33	109	0			33	109
07:00	22		0			22		19:00	22		0			22	
07:15	9		0			9		19:15	19		0			19	
07:30	12		0			12		19:30	30		0			30	
07:45	5	48	0			5	48	19:45	31	102	0			31	102
08:00	10		0			10		20:00	33		0			33	
08:15	16		0			16		20:15	28		0			28	
08:30	16		0			16		20:30	28		0			28	
08:45	18	60	0			18	60	20:45	24	113	0			24	113
09:00	13		0			13		21:00	25		0			25	
09:15	9		0			9		21:15	24		0			24	
09:30	11		0			11		21:30	5		0			5	
09:45	9	42	0			9	42	21:45	4	58	0			4	58
10:00	14		0			14		22:00	4		0			4	
10:15	10		0			10		22:15	1		0			1	
10:30	12		0			12		22:30	4		0			4	
10:45	20	56	0			20	56	22:45	2	11	0			2	11
11:00	30		0			30		23:00	2		0			2	
11:15	30		0			30		23:15	4		0			4	
11:30	46		0			46		23:30	3		0			3	
11:45	49	155	0			49	155	23:45	2	11	0			2	11
TOTALS		842					842	TOTALS		1156					1156
SPLIT %		100.0%					42.1%	SPLIT %		100.0%					57.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,998	0	0	0	1,998

	NB	SB	EB	WB			NB	SB	EB	WB	
AM Peak Hour	05:15				05:15	PM Peak Hour	12:15				12:15
AM Pk Volume	233				233	PM Pk Volume	219				219
Pk Hr Factor	0.896				0.896	Pk Hr Factor	0.944				0.944
7 - 9 Volume	108	0	0	0	108	4 - 6 Volume	128	0	0	0	128
7 - 9 Peak Hour	08:00				08:00	4 - 6 Peak Hour	17:00				17:00
7 - 9 Pk Volume	60	0	0	0	60	4 - 6 Pk Volume	65	0	0	0	65
Pk Hr Factor	0.833	0.000	0.000	0.000	0.833	Pk Hr Factor	0.774	0.000	0.000	0.000	0.774

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #3

Day: Friday
Date: 12/1/2017

City: Clearwater
Project #: FL17_3500_003

DAILY TOTALS	NB	SB	EB	WB	Total
	2,013	0	0	0	2,013

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	0		0			0		12:00	57		0			57	
00:15	0		0			0		12:15	38		0			38	
00:30	0		0			0		12:30	62		0			62	
00:45	0		0			0		12:45	66	223	0			66	223
01:00	0		0			0		13:00	43		0			43	
01:15	0		0			0		13:15	49		0			49	
01:30	0		0			0		13:30	40		0			40	
01:45	0		0			0		13:45	57	189	0			57	189
02:00	0		0			0		14:00	42		0			42	
02:15	0		0			0		14:15	24		0			24	
02:30	2		0			2		14:30	16		0			16	
02:45	0	2	0			0	2	14:45	29	111	0			29	111
03:00	0		0			0		15:00	15		0			15	
03:15	2		0			2		15:15	29		0			29	
03:30	1		0			1		15:30	18		0			18	
03:45	2	5	0			2	5	15:45	30	92	0			30	92
04:00	5		0			5		16:00	27		0			27	
04:15	3		0			3		16:15	27		0			27	
04:30	13		0			13		16:30	30		0			30	
04:45	34	55	0			34	55	16:45	18	102	0			18	102
05:00	59		0			59		17:00	21		0			21	
05:15	64		0			64		17:15	21		0			21	
05:30	62		0			62		17:30	25		0			25	
05:45	56	241	0			56	241	17:45	26	93	0			26	93
06:00	52		0			52		18:00	27		0			27	
06:15	35		0			35		18:15	34		0			34	
06:30	39		0			39		18:30	32		0			32	
06:45	34	160	0			34	160	18:45	21	114	0			21	114
07:00	14		0			14		19:00	23		0			23	
07:15	9		0			9		19:15	22		0			22	
07:30	2		0			2		19:30	14		0			14	
07:45	8	33	0			8	33	19:45	11	70	0			11	70
08:00	5		0			5		20:00	12		0			12	
08:15	4		0			4		20:15	13		0			13	
08:30	9		0			9		20:30	17		0			17	
08:45	6	24	0			6	24	20:45	24	66	0			24	66
09:00	5		0			5		21:00	20		0			20	
09:15	9		0			9		21:15	14		0			14	
09:30	18		0			18		21:30	23		0			23	
09:45	15	47	0			15	47	21:45	17	74	0			17	74
10:00	17		0			17		22:00	26		0			26	
10:15	19		0			19		22:15	12		0			12	
10:30	18		0			18		22:30	17		0			17	
10:45	26	80	0			26	80	22:45	10	65	0			10	65
11:00	35		0			35		23:00	3		0			3	
11:15	28		0			28		23:15	1		0			1	
11:30	40		0			40		23:30	3		0			3	
11:45	55	158	0			55	158	23:45	2	9	0			2	9
TOTALS	805					805		TOTALS	1208					1208	
SPLIT %	100.0%					40.0%		SPLIT %	100.0%					60.0%	

DAILY TOTALS	NB	SB	EB	WB	Total
	2,013	0	0	0	2,013

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	05:00				05:00	PM Peak Hour	12:00				12:00
AM Pk Volume	241				241	PM Pk Volume	223				223
Pk Hr Factor	0.941				0.941	Pk Hr Factor	0.845				0.845
7 - 9 Volume	57	0	0	0	57	4 - 6 Volume	195	0	0	0	195
7 - 9 Peak Hour	07:00				07:00	4 - 6 Peak Hour	16:00				16:00
7 - 9 Pk Volume	33	0	0	0	33	4 - 6 Pk Volume	102	0	0	0	102
Pk Hr Factor	0.589	0.000	0.000	0.000	0.589	Pk Hr Factor	0.850	0.000	0.000	0.000	0.850

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #3

Day: Saturday
Date: 12/2/2017

City: Clearwater
Project #: FL17_3500_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,424	0	0	0	1,424

AM Period	NB		SB	EB	WB	TOTAL	
00:00	0		0			0	
00:15	0		0			0	
00:30	0		0			0	
00:45	0		0			0	
01:00	0		0			0	
01:15	0		0			0	
01:30	0		0			0	
01:45	0		0			0	
02:00	0		0			0	
02:15	0		0			0	
02:30	0		0			0	
02:45	0		0			0	
03:00	0		0			0	
03:15	0		0			0	
03:30	1		0			1	
03:45	3	4	0			3	4
04:00	2		0			2	
04:15	6		0			6	
04:30	22		0			22	
04:45	48	78	0			48	78
05:00	38		0			38	
05:15	49		0			49	
05:30	50		0			50	
05:45	34	171	0			34	171
06:00	13		0			13	
06:15	10		0			10	
06:30	8		0			8	
06:45	3	34	0			3	34
07:00	5		0			5	
07:15	8		0			8	
07:30	7		0			7	
07:45	18	38	0			18	38
08:00	11		0			11	
08:15	17		0			17	
08:30	24		0			24	
08:45	14	66	0			14	66
09:00	7		0			7	
09:15	15		0			15	
09:30	9		0			9	
09:45	10	41	0			10	41
10:00	7		0			7	
10:15	14		0			14	
10:30	17		0			17	
10:45	11	49	0			11	49
11:00	14		0			14	
11:15	11		0			11	
11:30	18		0			18	
11:45	16	59	0			16	59
TOTALS		540					**540**
SPLIT %		100.0%					**37.9%**

PM Period	NB		SB	EB	WB	TOTAL	
12:00	32		0			32	
12:15	32		0			32	
12:30	40		0			40	
12:45	46	150	0			46	150
13:00	65		0			65	
13:15	68		0			68	
13:30	60		0			60	
13:45	48	241	0			48	241
14:00	28		0			28	
14:15	22		0			22	
14:30	15		0			15	
14:45	9	74	0			9	74
15:00	8		0			8	
15:15	14		0			14	
15:30	12		0			12	
15:45	14	48	0			14	48
16:00	13		0			13	
16:15	29		0			29	
16:30	17		0			17	
16:45	24	83	0			24	83
17:00	11		0			11	
17:15	13		0			13	
17:30	10		0			10	
17:45	7	41	0			7	41
18:00	13		0			13	
18:15	11		0			11	
18:30	9		0			9	
18:45	15	48	0			15	48
19:00	3		0			3	
19:15	4		0			4	
19:30	13		0			13	
19:45	18	38	0			18	38
20:00	11		0			11	
20:15	16		0			16	
20:30	19		0			19	
20:45	23	69	0			23	69
21:00	22		0			22	
21:15	20		0			20	
21:30	22		0			22	
21:45	12	76	0			12	76
22:00	5		0			5	
22:15	5		0			5	
22:30	3		0			3	
22:45	1	14	0			1	14
23:00	1		0			1	
23:15	0		0			0	
23:30	0		0			0	
23:45	1	2	0			1	2
TOTALS		884					**884**
SPLIT %		100.0%					**62.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,424	0	0	0	1,424

	NB				Total		NB				Total
AM Peak Hour	04:45				**04:45**	**PM Peak Hour**	13:00				**13:00**
AM Pk Volume	185				**185**	**PM Pk Volume**	241				**241**
Pk Hr Factor	0.925				**0.925**	**Pk Hr Factor**	0.886				**0.886**
7 - 9 Volume	104	0	0	0	**104**	**4 - 6 Volume**	124	0	0	0	**124**
7 - 9 Peak Hour	07:45				**07:45**	**4 - 6 Peak Hour**	16:00				**16:00**
7 - 9 Pk Volume	70	0	0	0	**70**	**4 - 6 Pk Volume**	83	0	0	0	**83**
Pk Hr Factor	0.729	0.000	0.000	0.000	**0.729**	**Pk Hr Factor**	0.716	0.000	0.000	0.000	**0.716**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #3

Day: Sunday
Date: 12/3/2017

City: Clearwater
Project #: FL17_3500_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,940	0	0	0	1,940

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	0		0			0		12:00	62		0			62	
00:15	1		0			1		12:15	70		0			70	
00:30	1		0			1		12:30	61		0			61	
00:45	0	2	0			0	2	12:45	62	255	0			62	255
01:00	1		0			1		13:00	66		0			66	
01:15	0		0			0		13:15	55		0			55	
01:30	0		0			0		13:30	32		0			32	
01:45	1	2	0			1	2	13:45	23	176	0			23	176
02:00	0		0			0		14:00	35		0			35	
02:15	0		0			0		14:15	29		0			29	
02:30	0		0			0		14:30	19		0			19	
02:45	0		0			0		14:45	13	96	0			13	96
03:00	0		0			0		15:00	17		0			17	
03:15	1		0			1		15:15	19		0			19	
03:30	1		0			1		15:30	23		0			23	
03:45	2	4	0			2	4	15:45	10	69	0			10	69
04:00	4		0			4		16:00	22		0			22	
04:15	11		0			11		16:15	26		0			26	
04:30	20		0			20		16:30	16		0			16	
04:45	34	69	0			34	69	16:45	14	78	0			14	78
05:00	47		0			47		17:00	13		0			13	
05:15	48		0			48		17:15	16		0			16	
05:30	66		0			66		17:30	28		0			28	
05:45	54	215	0			54	215	17:45	24	81	0			24	81
06:00	55		0			55		18:00	23		0			23	
06:15	51		0			51		18:15	36		0			36	
06:30	47		0			47		18:30	33		0			33	
06:45	28	181	0			28	181	18:45	20	112	0			20	112
07:00	34		0			34		19:00	22		0			22	
07:15	8		0			8		19:15	23		0			23	
07:30	15		0			15		19:30	40		0			40	
07:45	12	69	0			12	69	19:45	31	116	0			31	116
08:00	8		0			8		20:00	27		0			27	
08:15	7		0			7		20:15	28		0			28	
08:30	11		0			11		20:30	24		0			24	
08:45	6	32	0			6	32	20:45	14	93	0			14	93
09:00	4		0			4		21:00	23		0			23	
09:15	3		0			3		21:15	8		0			8	
09:30	8		0			8		21:30	4		0			4	
09:45	6	21	0			6	21	21:45	8	43	0			8	43
10:00	3		0			3		22:00	5		0			5	
10:15	12		0			12		22:15	0		0			0	
10:30	11		0			11		22:30	9		0			9	
10:45	14	40	0			14	40	22:45	8	22	0			8	22
11:00	19		0			19		23:00	4		0			4	
11:15	35		0			35		23:15	1		0			1	
11:30	40		0			40		23:30	2		0			2	
11:45	63	157	0			63	157	23:45	0	7	0			0	7
TOTALS		792					**792**	**TOTALS**		1148					**1148**
SPLIT %		100.0%					**40.8%**	**SPLIT %**		100.0%					**59.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,940	0	0	0	1,940

AM Peak Hour	11:45				**11:45**	**PM Peak Hour**	12:15				**12:15**
AM Pk Volume	256				**256**	**PM Pk Volume**	259				**259**
Pk Hr Factor	0.914				**0.914**	**Pk Hr Factor**	0.925				**0.925**
7 - 9 Volume	101	0	0	0	**101**	**4 - 6 Volume**	159	0	0	0	**159**
7 - 9 Peak Hour	07:00				**07:00**	**4 - 6 Peak Hour**	17:00				**17:00**
7 - 9 Pk Volume	69	0	0	0	**69**	**4 - 6 Pk Volume**	81	0	0	0	**81**
Pk Hr Factor	0.507	0.000	0.000	0.000	**0.507**	**Pk Hr Factor**	0.723	0.000	0.000	0.000	**0.723**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #3

Day: Monday **City:** Clearwater
Date: 12/4/2017 **Project #:** FL17_3500_003

DAILY TOTALS	NB	SB	EB	WB	Total
	2,012	0	0	0	2,012

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	0		0			0		12:00	59		0			59	
00:15	0		0			0		12:15	54		0			54	
00:30	2		0			2		12:30	68		0			68	
00:45	0	2	0			0	2	12:45	78	259	0			78	259
01:00	1		0			1		13:00	55		0			55	
01:15	0		0			0		13:15	41		0			41	
01:30	0		0			0		13:30	30		0			30	
01:45	0	1	0			0	1	13:45	27	153	0			27	153
02:00	0		0			0		14:00	18		0			18	
02:15	1		0			1		14:15	15		0			15	
02:30	0		0			0		14:30	16		0			16	
02:45	0	1	0			0	1	14:45	16	65	0			16	65
03:00	0		0			0		15:00	18		0			18	
03:15	0		0			0		15:15	33		0			33	
03:30	2		0			2		15:30	40		0			40	
03:45	2	4	0			2	4	15:45	41	132	0			41	132
04:00	3		0			3		16:00	42		0			42	
04:15	7		0			7		16:15	41		0			41	
04:30	6		0			6		16:30	31		0			31	
04:45	21	37	0			21	37	16:45	39	153	0			39	153
05:00	32		0			32		17:00	31		0			31	
05:15	59		0			59		17:15	23		0			23	
05:30	56		0			56		17:30	33		0			33	
05:45	45	192	0			45	192	17:45	30	117	0			30	117
06:00	62		0			62		18:00	23		0			23	
06:15	43		0			43		18:15	27		0			27	
06:30	30		0			30		18:30	18		0			18	
06:45	23	158	0			23	158	18:45	15	83	0			15	83
07:00	17		0			17		19:00	10		0			10	
07:15	17		0			17		19:15	19		0			19	
07:30	18		0			18		19:30	18		0			18	
07:45	13	65	0			13	65	19:45	9	56	0			9	56
08:00	6		0			6		20:00	7		0			7	
08:15	7		0			7		20:15	7		0			7	
08:30	10		0			10		20:30	5		0			5	
08:45	10	33	0			10	33	20:45	3	22	0			3	22
09:00	16		0			16		21:00	8		0			8	
09:15	25		0			25		21:15	8		0			8	
09:30	15		0			15		21:30	20		0			20	
09:45	16	72	0			16	72	21:45	24	60	0			24	60
10:00	23		0			23		22:00	24		0			24	
10:15	21		0			21		22:15	16		0			16	
10:30	31		0			31		22:30	30		0			30	
10:45	26	101	0			26	101	22:45	21	91	0			21	91
11:00	25		0			25		23:00	5		0			5	
11:15	35		0			35		23:15	3		0			3	
11:30	40		0			40		23:30	1		0			1	
11:45	46	146	0			46	146	23:45	0	9	0			0	9
TOTALS		812					**812**	**TOTALS**		1200					**1200**
SPLIT %		100.0%					**40.4%**	**SPLIT %**		100.0%					**59.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,012	0	0	0	2,012

AM Peak Hour	11:45				**11:45**	**PM Peak Hour**	12:00				**12:00**
AM Pk Volume	227				**227**	**PM Pk Volume**	259				**259**
Pk Hr Factor	0.835				**0.835**	**Pk Hr Factor**	0.830				**0.830**
7 - 9 Volume	98	0	0	0	**98**	**4 - 6 Volume**	270	0	0	0	**270**
7 - 9 Peak Hour	07:00				**07:00**	**4 - 6 Peak Hour**	16:00				**16:00**
7 - 9 Pk Volume	65	0	0	0	**65**	**4 - 6 Pk Volume**	153	0	0	0	**153**
Pk Hr Factor	0.903	0.000	0.000	0.000	**0.903**	**Pk Hr Factor**	0.911	0.000	0.000	0.000	**0.911**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #3

Day: Tuesday
Date: 12/5/2017

City: Clearwater
Project #: FL17_3500_003

DAILY TOTALS	NB	SB	EB	WB	Total
	526	0	0	0	526

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	0		0			0		12:00	13		0			13	
00:15	0		0			0		12:15	8		0			8	
00:30	0		0			0		12:30	3		0			3	
00:45	2	2	0			2	2	12:45	2	26	0			2	26
01:00	0		0			0		13:00	3		0			3	
01:15	1		0			1		13:15	1		0			1	
01:30	1		0			1		13:30	6		0			6	
01:45	0	2	0			0	2	13:45	10	20	0			10	20
02:00	0		0			0		14:00	10		0			10	
02:15	0		0			0		14:15	9		0			9	
02:30	0		0			0		14:30	16		0			16	
02:45	0		0			0		14:45	11	46	0			11	46
03:00	0		0			0		15:00	8		0			8	
03:15	0		0			0		15:15	11		0			11	
03:30	0		0			0		15:30	8		0			8	
03:45	2	2	0			2	2	15:45	18	45	0			18	45
04:00	1		0			1		16:00	12		0			12	
04:15	2		0			2		16:15	16		0			16	
04:30	4		0			4		16:30	16		0			16	
04:45	8	15	0			8	15	16:45	11	55	0			11	55
05:00	6		0			6		17:00	4		0			4	
05:15	8		0			8		17:15	6		0			6	
05:30	2		0			2		17:30	5		0			5	
05:45	7	23	0			7	23	17:45	3	18	0			3	18
06:00	7		0			7		18:00	5		0			5	
06:15	8		0			8		18:15	6		0			6	
06:30	7		0			7		18:30	4		0			4	
06:45	14	36	0			14	36	18:45	7	22	0			7	22
07:00	16		0			16		19:00	6		0			6	
07:15	5		0			5		19:15	11		0			11	
07:30	10		0			10		19:30	6		0			6	
07:45	3	34	0			3	34	19:45	8	31	0			8	31
08:00	4		0			4		20:00	13		0			13	
08:15	7		0			7		20:15	16		0			16	
08:30	5		0			5		20:30	6		0			6	
08:45	11	27	0			11	27	20:45	5	40	0			5	40
09:00	5		0			5		21:00	4		0			4	
09:15	4		0			4		21:15	3		0			3	
09:30	6		0			6		21:30	6		0			6	
09:45	2	17	0			2	17	21:45	2	15	0			2	15
10:00	4		0			4		22:00	1		0			1	
10:15	2		0			2		22:15	0		0			0	
10:30	3		0			3		22:30	1		0			1	
10:45	5	14	0			5	14	22:45	0	2	0			0	2
11:00	9		0			9		23:00	1		0			1	
11:15	3		0			3		23:15	1		0			1	
11:30	8		0			8		23:30	0		0			0	
11:45	12	32	0			12	32	23:45	0	2	0			0	2
TOTALS		204					**204**	**TOTALS**		322					**322**
SPLIT %		100.0%					**38.8%**	**SPLIT %**		100.0%					**61.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	526	0	0	0	526

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	06:15				**06:15**	**PM Peak Hour**	15:45				**15:45**
AM Pk Volume	45				**45**	**PM Pk Volume**	62				**62**
Pk Hr Factor	0.703				**0.703**	**Pk Hr Factor**	0.861				**0.861**
7 - 9 Volume	61	0	0	0	**61**	**4 - 6 Volume**	73	0	0	0	**73**
7 - 9 Peak Hour	07:00				**07:00**	**4 - 6 Peak Hour**	16:00				**16:00**
7 - 9 Pk Volume	34	0	0	0	**34**	**4 - 6 Pk Volume**	55	0	0	0	**55**
Pk Hr Factor	0.531	0.000	0.000	0.000	**0.531**	**Pk Hr Factor**	0.859	0.000	0.000	0.000	**0.859**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #3

Day: Wednesday
Date: 12/6/2017

City: Clearwater
Project #: FL17_3500_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,014	0	0	0	1,014

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	0		0			0		12:00	22		0			22	
00:15	2		0			2		12:15	38		0			38	
00:30	0		0			0		12:30	50		0			50	
00:45	0	2	0			0	2	12:45	52	162	0			52	162
01:00	0		0			0		13:00	46		0			46	
01:15	3		0			3		13:15	40		0			40	
01:30	1		0			1		13:30	32		0			32	
01:45	2	6	0			2	6	13:45	24	142	0			24	142
02:00	1		0			1		14:00	22		0			22	
02:15	0		0			0		14:15	17		0			17	
02:30	3		0			3		14:30	20		0			20	
02:45	0	4	0			0	4	14:45	12	71	0			12	71
03:00	1		0			1		15:00	9		0			9	
03:15	0		0			0		15:15	7		0			7	
03:30	1		0			1		15:30	12		0			12	
03:45	2	4	0			2	4	15:45	9	37	0			9	37
04:00	7		0			7		16:00	8		0			8	
04:15	9		0			9		16:15	10		0			10	
04:30	20		0			20		16:30	7		0			7	
04:45	27	63	0			27	63	16:45	7	32	0			7	32
05:00	42		0			42		17:00	2		0			2	
05:15	42		0			42		17:15	3		0			3	
05:30	24		0			24		17:30	3		0			3	
05:45	9	117	0			9	117	17:45	4	12	0			4	12
06:00	8		0			8		18:00	3		0			3	
06:15	2		0			2		18:15	3		0			3	
06:30	1		0			1		18:30	7		0			7	
06:45	0	11	0			0	11	18:45	4	17	0			4	17
07:00	4		0			4		19:00	7		0			7	
07:15	3		0			3		19:15	13		0			13	
07:30	3		0			3		19:30	23		0			23	
07:45	6	16	0			6	16	19:45	24	67	0			24	67
08:00	3		0			3		20:00	16		0			16	
08:15	2		0			2		20:15	14		0			14	
08:30	2		0			2		20:30	8		0			8	
08:45	5	12	0			5	12	20:45	11	49	0			11	49
09:00	3		0			3		21:00	9		0			9	
09:15	6		0			6		21:15	13		0			13	
09:30	2		0			2		21:30	8		0			8	
09:45	3	14	0			3	14	21:45	2	32	0			2	32
10:00	3		0			3		22:00	16		0			16	
10:15	7		0			7		22:15	9		0			9	
10:30	8		0			8		22:30	8		0			8	
10:45	19	37	0			19	37	22:45	5	38	0			5	38
11:00	8		0			8		23:00	5		0			5	
11:15	17		0			17		23:15	3		0			3	
11:30	15		0			15		23:30	0		0			0	
11:45	20	60	0			20	60	23:45	1	9	0			1	9
TOTALS		346					**346**	**TOTALS**		668					**668**
SPLIT %		100.0%					**34.1%**	**SPLIT %**		100.0%					**65.9%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,014	0	0	0	1,014

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	04:45				**04:45**	**PM Peak Hour**	12:30				**12:30**
AM Pk Volume	135				**135**	**PM Pk Volume**	188				**188**
Pk Hr Factor	0.804				**0.804**	**Pk Hr Factor**	0.904				**0.904**
7 - 9 Volume	28	0	0	0	**28**	**4 - 6 Volume**	44	0	0	0	**44**
7 - 9 Peak Hour	07:00				**07:00**	**4 - 6 Peak Hour**	16:00				**16:00**
7 - 9 Pk Volume	16	0	0	0	**16**	**4 - 6 Pk Volume**	32	0	0	0	**32**
Pk Hr Factor	0.667	0.000	0.000	0.000	**0.667**	**Pk Hr Factor**	0.800	0.000	0.000	0.000	**0.800**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #4

Day: Thursday
Date: 11/30/2017

City: Clearwater
Project #: FL17_3500_004

DAILY TOTALS	NB	SB	EB	WB	Total
	4,188	0	0	0	4,188

AM Period	NB		SB	EB	WB	TOTAL	
00:00	2		0			2	
00:15	0		0			0	
00:30	2		0			2	
00:45	0	4	0			0	4
01:00	1		0			1	
01:15	2		0			2	
01:30	2		0			2	
01:45	1	6	0			1	6
02:00	0		0			0	
02:15	1		0			1	
02:30	1		0			1	
02:45	3	5	0			3	5
03:00	3		0			3	
03:15	4		0			4	
03:30	4		0			4	
03:45	15	26	0			15	26
04:00	11		0			11	
04:15	33		0			33	
04:30	33		0			33	
04:45	75	152	0			75	152
05:00	81		0			81	
05:15	107		0			107	
05:30	126		0			126	
05:45	106	420	0			106	420
06:00	100		0			100	
06:15	76		0			76	
06:30	62		0			62	
06:45	79	317	0			79	317
07:00	46		0			46	
07:15	30		0			30	
07:30	27		0			27	
07:45	16	119	0			16	119
08:00	20		0			20	
08:15	33		0			33	
08:30	32		0			32	
08:45	32	117	0			32	117
09:00	25		0			25	
09:15	19		0			19	
09:30	22		0			22	
09:45	24	90	0			24	90
10:00	45		0			45	
10:15	37		0			37	
10:30	25		0			25	
10:45	50	157	0			50	157
11:00	47		0			47	
11:15	63		0			63	
11:30	88		0			88	
11:45	85	283	0			85	283
TOTALS		1696					1696
SPLIT %		100.0%					40.5%

PM Period	NB		SB	EB	WB	TOTAL	
12:00	123		0			123	
12:15	113		0			113	
12:30	120		0			120	
12:45	111	467	0			111	467
13:00	135		0			135	
13:15	133		0			133	
13:30	115		0			115	
13:45	86	469	0			86	469
14:00	60		0			60	
14:15	78		0			78	
14:30	56		0			56	
14:45	62	256	0			62	256
15:00	45		0			45	
15:15	64		0			64	
15:30	33		0			33	
15:45	41	183	0			41	183
16:00	48		0			48	
16:15	33		0			33	
16:30	32		0			32	
16:45	28	141	0			28	141
17:00	29		0			29	
17:15	22		0			22	
17:30	43		0			43	
17:45	43	137	0			43	137
18:00	38		0			38	
18:15	49		0			49	
18:30	48		0			48	
18:45	51	186	0			51	186
19:00	38		0			38	
19:15	35		0			35	
19:30	60		0			60	
19:45	66	199	0			66	199
20:00	59		0			59	
20:15	68		0			68	
20:30	87		0			87	
20:45	51	265	0			51	265
21:00	36		0			36	
21:15	51		0			51	
21:30	26		0			26	
21:45	13	126	0			13	126
22:00	9		0			9	
22:15	7		0			7	
22:30	7		0			7	
22:45	11	34	0			11	34
23:00	8		0			8	
23:15	12		0			12	
23:30	4		0			4	
23:45	5	29	0			5	29
TOTALS		2492					2492
SPLIT %		100.0%					59.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	4,188	0	0	0	4,188

AM Peak Hour	11:45				11:45
AM Pk Volume	441				441
Pk Hr Factor	0.896				0.896
7 - 9 Volume	236	0	0	0	236
7 - 9 Peak Hour	07:00				07:00
7 - 9 Pk Volume	119	0	0	0	119
Pk Hr Factor	0.647	0.000	0.000	0.000	0.647

PM Peak Hour	12:30				12:30
PM Pk Volume	499				499
Pk Hr Factor	0.924				0.924
4 - 6 Volume	278	0	0	0	278
4 - 6 Peak Hour	16:00				16:00
4 - 6 Pk Volume	141	0	0	0	141
Pk Hr Factor	0.734	0.000	0.000	0.000	0.734

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #4

Day: Friday
Date: 12/1/2017

City: Clearwater
Project #: FL17_3500_004

DAILY TOTALS	NB	SB	EB	WB	Total
	4,271	0	0	0	4,271

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	1		0			1		12:00	93		0			93	
00:15	2		0			2		12:15	98		0			98	
00:30	1		0			1		12:30	112		0			112	
00:45	0	4	0			0	4	12:45	131	434	0			131	434
01:00	2		0			2		13:00	93		0			93	
01:15	0		0			0		13:15	104		0			104	
01:30	2		0			2		13:30	86		0			86	
01:45	0	4	0			0	4	13:45	98	381	0			98	381
02:00	0		0			0		14:00	103		0			103	
02:15	0		0			0		14:15	87		0			87	
02:30	2		0			2		14:30	53		0			53	
02:45	1	3	0			1	3	14:45	57	300	0			57	300
03:00	2		0			2		15:00	37		0			37	
03:15	4		0			4		15:15	55		0			55	
03:30	4		0			4		15:30	45		0			45	
03:45	22	32	0			22	32	15:45	64	201	0			64	201
04:00	15		0			15		16:00	53		0			53	
04:15	10		0			10		16:15	63		0			63	
04:30	21		0			21		16:30	52		0			52	
04:45	60	106	0			60	106	16:45	46	214	0			46	214
05:00	89		0			89		17:00	51		0			51	
05:15	114		0			114		17:15	48		0			48	
05:30	110		0			110		17:30	48		0			48	
05:45	116	429	0			116	429	17:45	51	198	0			51	198
06:00	95		0			95		18:00	56		0			56	
06:15	71		0			71		18:15	68		0			68	
06:30	64		0			64		18:30	66		0			66	
06:45	68	298	0			68	298	18:45	57	247	0			57	247
07:00	35		0			35		19:00	50		0			50	
07:15	36		0			36		19:15	42		0			42	
07:30	21		0			21		19:30	38		0			38	
07:45	15	107	0			15	107	19:45	27	157	0			27	157
08:00	16		0			16		20:00	16		0			16	
08:15	11		0			11		20:15	28		0			28	
08:30	29		0			29		20:30	41		0			41	
08:45	15	71	0			15	71	20:45	67	152	0			67	152
09:00	21		0			21		21:00	50		0			50	
09:15	24		0			24		21:15	37		0			37	
09:30	32		0			32		21:30	40		0			40	
09:45	35	112	0			35	112	21:45	40	167	0			40	167
10:00	43		0			43		22:00	59		0			59	
10:15	47		0			47		22:15	37		0			37	
10:30	53		0			53		22:30	33		0			33	
10:45	48	191	0			48	191	22:45	24	153	0			24	153
11:00	75		0			75		23:00	9		0			9	
11:15	59		0			59		23:15	5		0			5	
11:30	71		0			71		23:30	9		0			9	
11:45	79	284	0			79	284	23:45	3	26	0			3	26
TOTALS		1641					**1641**	**TOTALS**		2630					**2630**
SPLIT %		100.0%					**38.4%**	**SPLIT %**		100.0%					**61.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	4,271	0	0	0	4,271

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	05:15				**05:15**	**PM Peak Hour**	12:30				**12:30**
AM Pk Volume	435				**435**	**PM Pk Volume**	440				**440**
Pk Hr Factor	0.938				**0.938**	**Pk Hr Factor**	0.840				**0.840**
7 - 9 Volume	178	0	0	0	**178**	**4 - 6 Volume**	412	0	0	0	**412**
7 - 9 Peak Hour	07:00				**07:00**	**4 - 6 Peak Hour**	16:00				**16:00**
7 - 9 Pk Volume	107	0	0	0	**107**	**4 - 6 Pk Volume**	214	0	0	0	**214**
Pk Hr Factor	0.743	0.000	0.000	0.000	**0.743**	**Pk Hr Factor**	0.849	0.000	0.000	0.000	**0.849**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #4

Day: Saturday **City:** Clearwater
Date: 12/2/2017 **Project #:** FL17_3500_004

DAILY TOTALS	NB	SB	EB	WB	Total
	2,909	0	0	0	2,909

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	0		0			0		12:00	53		0			53	
00:15	2		0			2		12:15	60		0			60	
00:30	1		0			1		12:30	75		0			75	
00:45	1	4	0			1	4	12:45	77	265	0			77	265
01:00	1		0			1		13:00	104		0			104	
01:15	3		0			3		13:15	118		0			118	
01:30	1		0			1		13:30	113		0			113	
01:45	2	7	0			2	7	13:45	119	454	0			119	454
02:00	0		0			0		14:00	79		0			79	
02:15	1		0			1		14:15	53		0			53	
02:30	1		0			1		14:30	47		0			47	
02:45	1	3	0			1	3	14:45	25	204	0			25	204
03:00	0		0			0		15:00	19		0			19	
03:15	6		0			6		15:15	26		0			26	
03:30	6		0			6		15:30	26		0			26	
03:45	15	27	0			15	27	15:45	27	98	0			27	98
04:00	11		0			11		16:00	26		0			26	
04:15	14		0			14		16:15	45		0			45	
04:30	33		0			33		16:30	32		0			32	
04:45	76	134	0			76	134	16:45	47	150	0			47	150
05:00	72		0			72		17:00	20		0			20	
05:15	84		0			84		17:15	22		0			22	
05:30	88		0			88		17:30	20		0			20	
05:45	63	307	0			63	307	17:45	18	80	0			18	80
06:00	65		0			65		18:00	9		0			9	
06:15	55		0			55		18:15	3		0			3	
06:30	45		0			45		18:30	9		0			9	
06:45	22	187	0			22	187	18:45	4	25	0			4	25
07:00	17		0			17		19:00	6		0			6	
07:15	16		0			16		19:15	17		0			17	
07:30	21		0			21		19:30	13		0			13	
07:45	34	88	0			34	88	19:45	29	65	0			29	65
08:00	30		0			30		20:00	20		0			20	
08:15	31		0			31		20:15	46		0			46	
08:30	44		0			44		20:30	37		0			37	
08:45	33	138	0			33	138	20:45	41	144	0			41	144
09:00	18		0			18		21:00	42		0			42	
09:15	34		0			34		21:15	43		0			43	
09:30	19		0			19		21:30	41		0			41	
09:45	25	96	0			25	96	21:45	33	159	0			33	159
10:00	22		0			22		22:00	18		0			18	
10:15	21		0			21		22:15	8		0			8	
10:30	33		0			33		22:30	4		0			4	
10:45	30	106	0			30	106	22:45	2	32	0			2	32
11:00	36		0			36		23:00	1		0			1	
11:15	32		0			32		23:15	0		0			0	
11:30	32		0			32		23:30	1		0			1	
11:45	31	131	0			31	131	23:45	3	5	0			3	5
TOTALS	1228					**1228**		**TOTALS**	1681					**1681**	
SPLIT %	100.0%					**42.2%**		**SPLIT %**	100.0%					**57.8%**	

DAILY TOTALS	NB	SB	EB	WB	Total
	2,909	0	0	0	2,909

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	04:45				**04:45**	**PM Peak Hour**	13:00				**13:00**
AM Pk Volume	320				**320**	**PM Pk Volume**	454				**454**
Pk Hr Factor	0.909				**0.909**	**Pk Hr Factor**	0.954				**0.954**
7 - 9 Volume	226	0	0	0	**226**	**4 - 6 Volume**	230	0	0	0	**230**
7 - 9 Peak Hour	07:45				**07:45**	**4 - 6 Peak Hour**	16:00				**16:00**
7 - 9 Pk Volume	139	0	0	0	**139**	**4 - 6 Pk Volume**	150	0	0	0	**150**
Pk Hr Factor	0.790	0.000	0.000	0.000	**0.790**	**Pk Hr Factor**	0.798	0.000	0.000	0.000	**0.798**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #4

Day: Sunday **City:** Clearwater
Date: 12/3/2017 **Project #:** FL17_3500_004

DAILY TOTALS	NB	SB	EB	WB	Total
	3,891	0	0	0	3,891

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	0		0			0		12:00	117		0			117	
00:15	1		0			1		12:15	132		0			132	
00:30	2		0			2		12:30	115		0			115	
00:45	2	5	0			2	5	12:45	128	492	0			128	492
01:00	3		0			3		13:00	126		0			126	
01:15	1		0			1		13:15	105		0			105	
01:30	1		0			1		13:30	66		0			66	
01:45	3	8	0			3	8	13:45	45	342	0			45	342
02:00	1		0			1		14:00	69		0			69	
02:15	0		0			0		14:15	57		0			57	
02:30	1		0			1		14:30	36		0			36	
02:45	0	2	0			0	2	14:45	26	188	0			26	188
03:00	0		0			0		15:00	25		0			25	
03:15	3		0			3		15:15	28		0			28	
03:30	2		0			2		15:30	45		0			45	
03:45	18	23	0			18	23	15:45	18	116	0			18	116
04:00	10		0			10		16:00	33		0			33	
04:15	24		0			24		16:15	41		0			41	
04:30	38		0			38		16:30	26		0			26	
04:45	57	129	0			57	129	16:45	40	140	0			40	140
05:00	77		0			77		17:00	44		0			44	
05:15	96		0			96		17:15	21		0			21	
05:30	131		0			131		17:30	49		0			49	
05:45	132	436	0			132	436	17:45	49	163	0			49	163
06:00	116		0			116		18:00	45		0			45	
06:15	81		0			81		18:15	75		0			75	
06:30	84		0			84		18:30	64		0			64	
06:45	63	344	0			63	344	18:45	43	227	0			43	227
07:00	58		0			58		19:00	40		0			40	
07:15	25		0			25		19:15	41		0			41	
07:30	20		0			20		19:30	83		0			83	
07:45	21	124	0			21	124	19:45	89	253	0			89	253
08:00	19		0			19		20:00	66		0			66	
08:15	24		0			24		20:15	66		0			66	
08:30	32		0			32		20:30	53		0			53	
08:45	17	92	0			17	92	20:45	31	216	0			31	216
09:00	22		0			22		21:00	37		0			37	
09:15	28		0			28		21:15	22		0			22	
09:30	19		0			19		21:30	8		0			8	
09:45	13	82	0			13	82	21:45	10	77	0			10	77
10:00	14		0			14		22:00	7		0			7	
10:15	21		0			21		22:15	9		0			9	
10:30	19		0			19		22:30	14		0			14	
10:45	30	84	0			30	84	22:45	26	56	0			26	56
11:00	33		0			33		23:00	11		0			11	
11:15	59		0			59		23:15	5		0			5	
11:30	73		0			73		23:30	5		0			5	
11:45	105	270	0			105	270	23:45	1	22	0			1	22
TOTALS		1599					**1599**	**TOTALS**		2292					**2292**
SPLIT %		100.0%					**41.1%**	**SPLIT %**		100.0%					**58.9%**

DAILY TOTALS	NB	SB	EB	WB	Total
	3,891	0	0	0	3,891

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	05:15				**05:15**	**PM Peak Hour**	12:15				**12:15**
AM Pk Volume	475				**475**	**PM Pk Volume**	501				**501**
Pk Hr Factor	0.900				**0.900**	**Pk Hr Factor**	0.949				**0.949**
7 - 9 Volume	216	0	0	0	**216**	**4 - 6 Volume**	303	0	0	0	**303**
7 - 9 Peak Hour	07:00				**07:00**	**4 - 6 Peak Hour**	17:00				**17:00**
7 - 9 Pk Volume	124	0	0	0	**124**	**4 - 6 Pk Volume**	163	0	0	0	**163**
Pk Hr Factor	0.534	0.000	0.000	0.000	**0.534**	**Pk Hr Factor**	0.832	0.000	0.000	0.000	**0.832**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #4

Day: Monday
Date: 12/4/2017

City: Clearwater
Project #: FL17_3500_004

DAILY TOTALS	NB	SB	EB	WB	Total
	4,395	0	0	0	4,395

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	1		0			1		12:00	105		0			105	
00:15	3		0			3		12:15	98		0			98	
00:30	1		0			1		12:30	129		0			129	
00:45	0	5	0			0	5	12:45	130	462	0			130	462
01:00	4		0			4		13:00	134		0			134	
01:15	2		0			2		13:15	97		0			97	
01:30	2		0			2		13:30	80		0			80	
01:45	0	8	0			0	8	13:45	53	364	0			53	364
02:00	0		0			0		14:00	43		0			43	
02:15	1		0			1		14:15	29		0			29	
02:30	0		0			0		14:30	34		0			34	
02:45	0	1	0			0	1	14:45	35	141	0			35	141
03:00	2		0			2		15:00	37		0			37	
03:15	3		0			3		15:15	62		0			62	
03:30	7		0			7		15:30	71		0			71	
03:45	14	26	0			14	26	15:45	92	262	0			92	262
04:00	10		0			10		16:00	96		0			96	
04:15	13		0			13		16:15	77		0			77	
04:30	14		0			14		16:30	75		0			75	
04:45	29	66	0			29	66	16:45	77	325	0			77	325
05:00	53		0			53		17:00	63		0			63	
05:15	89		0			89		17:15	53		0			53	
05:30	100		0			100		17:30	63		0			63	
05:45	107	349	0			107	349	17:45	71	250	0			71	250
06:00	102		0			102		18:00	86		0			86	
06:15	80		0			80		18:15	77		0			77	
06:30	63		0			63		18:30	40		0			40	
06:45	64	309	0			64	309	18:45	19	222	0			19	222
07:00	49		0			49		19:00	21		0			21	
07:15	43		0			43		19:15	48		0			48	
07:30	45		0			45		19:30	45		0			45	
07:45	37	174	0			37	174	19:45	34	148	0			34	148
08:00	27		0			27		20:00	19		0			19	
08:15	22		0			22		20:15	42		0			42	
08:30	28		0			28		20:30	49		0			49	
08:45	28	105	0			28	105	20:45	24	134	0			24	134
09:00	20		0			20		21:00	12		0			12	
09:15	35		0			35		21:15	15		0			15	
09:30	33		0			33		21:30	29		0			29	
09:45	45	133	0			45	133	21:45	55	111	0			55	111
10:00	57		0			57		22:00	43		0			43	
10:15	51		0			51		22:15	51		0			51	
10:30	46		0			46		22:30	62		0			62	
10:45	76	230	0			76	230	22:45	75	231	0			75	231
11:00	55		0			55		23:00	28		0			28	
11:15	69		0			69		23:15	11		0			11	
11:30	76		0			76		23:30	5		0			5	
11:45	93	293	0			93	293	23:45	2	46	0			2	46
TOTALS	1699					**1699**		**TOTALS**	2696					**2696**	
SPLIT %	100.0%					**38.7%**		**SPLIT %**	100.0%					**61.3%**	

DAILY TOTALS	NB	SB	EB	WB	Total
	4,395	0	0	0	4,395

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	11:45				**11:45**	**PM Peak Hour**	12:15				**12:15**
AM Pk Volume	425				**425**	**PM Pk Volume**	491				**491**
Pk Hr Factor	0.824				**0.824**	**Pk Hr Factor**	0.916				**0.916**
7 - 9 Volume	279	0	0	0	**279**	**4 - 6 Volume**	575	0	0	0	**575**
7 - 9 Peak Hour	07:00				**07:00**	**4 - 6 Peak Hour**	16:00				**16:00**
7 - 9 Pk Volume	174	0	0	0	**174**	**4 - 6 Pk Volume**	325	0	0	0	**325**
Pk Hr Factor	0.888	0.000	0.000	0.000	**0.888**	**Pk Hr Factor**	0.846	0.000	0.000	0.000	**0.846**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #4

Day: Tuesday
Date: 12/5/2017

City: Clearwater
Project #: FL17_3500_004

DAILY TOTALS	NB	SB	EB	WB	Total
	1,384	0	0	0	1,384

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	1		0			1		12:00	14		0			14	
00:15	0		0			0		12:15	15		0			15	
00:30	3		0			3		12:30	18		0			18	
00:45	3	7	0			3	7	12:45	16	63	0			16	63
01:00	0		0			0		13:00	11		0			11	
01:15	4		0			4		13:15	14		0			14	
01:30	1		0			1		13:30	18		0			18	
01:45	1	6	0			1	6	13:45	22	65	0			22	65
02:00	0		0			0		14:00	23		0			23	
02:15	1		0			1		14:15	25		0			25	
02:30	2		0			2		14:30	36		0			36	
02:45	0	3	0			0	3	14:45	28	112	0			28	112
03:00	1		0			1		15:00	21		0			21	
03:15	1		0			1		15:15	28		0			28	
03:30	1		0			1		15:30	20		0			20	
03:45	10	13	0			10	13	15:45	32	101	0			32	101
04:00	9		0			9		16:00	28		0			28	
04:15	12		0			12		16:15	40		0			40	
04:30	12		0			12		16:30	41		0			41	
04:45	16	49	0			16	49	16:45	25	134	0			25	134
05:00	8		0			8		17:00	18		0			18	
05:15	12		0			12		17:15	7		0			7	
05:30	9		0			9		17:30	10		0			10	
05:45	10	39	0			10	39	17:45	5	40	0			5	40
06:00	12		0			12		18:00	7		0			7	
06:15	13		0			13		18:15	15		0			15	
06:30	25		0			25		18:30	19		0			19	
06:45	31	81	0			31	81	18:45	30	71	0			30	71
07:00	39		0			39		19:00	26		0			26	
07:15	29		0			29		19:15	25		0			25	
07:30	27		0			27		19:30	16		0			16	
07:45	15	110	0			15	110	19:45	21	88	0			21	88
08:00	18		0			18		20:00	22		0			22	
08:15	11		0			11		20:15	27		0			27	
08:30	13		0			13		20:30	28		0			28	
08:45	8	50	0			8	50	20:45	21	98	0			21	98
09:00	14		0			14		21:00	9		0			9	
09:15	14		0			14		21:15	6		0			6	
09:30	15		0			15		21:30	5		0			5	
09:45	9	52	0			9	52	21:45	4	24	0			4	24
10:00	12		0			12		22:00	3		0			3	
10:15	13		0			13		22:15	3		0			3	
10:30	8		0			8		22:30	1		0			1	
10:45	14	47	0			14	47	22:45	5	12	0			5	12
11:00	25		0			25		23:00	1		0			1	
11:15	12		0			12		23:15	3		0			3	
11:30	26		0			26		23:30	2		0			2	
11:45	46	109	0			46	109	23:45	4	10	0			4	10
TOTALS		566					**566**	**TOTALS**		818					**818**
SPLIT %		100.0%					**40.9%**	**SPLIT %**		100.0%					**59.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,384	0	0	0	1,384

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	06:45				06:45	PM Peak Hour	15:45				15:45
AM Pk Volume	126				126	PM Pk Volume	141				141
Pk Hr Factor	0.808				0.808	Pk Hr Factor	0.860				0.860
7 - 9 Volume	160	0	0	0	160	4 - 6 Volume	174	0	0	0	174
7 - 9 Peak Hour	07:00				07:00	4 - 6 Peak Hour	16:00				16:00
7 - 9 Pk Volume	110	0	0	0	110	4 - 6 Pk Volume	134	0	0	0	134
Pk Hr Factor	0.705	0.000	0.000	0.000	0.705	Pk Hr Factor	0.817	0.000	0.000	0.000	0.817

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #4

Day: Wednesday
Date: 12/6/2017

City: Clearwater
Project #: FL17_3500_004

DAILY TOTALS	NB	SB	EB	WB	Total
	2,221	0	0	0	2,221

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	3		0			3		12:00	46		0			46	
00:15	2		0			2		12:15	67		0			67	
00:30	1		0			1		12:30	84		0			84	
00:45	1	7	0			1	7	12:45	85	282	0			85	282
01:00	1		0			1		13:00	79		0			79	
01:15	7		0			7		13:15	84		0			84	
01:30	4		0			4		13:30	57		0			57	
01:45	3	15	0			3	15	13:45	57	277	0			57	277
02:00	1		0			1		14:00	45		0			45	
02:15	0		0			0		14:15	48		0			48	
02:30	0		0			0		14:30	45		0			45	
02:45	1	2	0			1	2	14:45	41	179	0			41	179
03:00	5		0			5		15:00	28		0			28	
03:15	4		0			4		15:15	24		0			24	
03:30	4		0			4		15:30	21		0			21	
03:45	17	30	0			17	30	15:45	22	95	0			22	95
04:00	15		0			15		16:00	22		0			22	
04:15	16		0			16		16:15	30		0			30	
04:30	35		0			35		16:30	34		0			34	
04:45	43	109	0			43	109	16:45	21	107	0			21	107
05:00	66		0			66		17:00	13		0			13	
05:15	74		0			74		17:15	14		0			14	
05:30	51		0			51		17:30	7		0			7	
05:45	19	210	0			19	210	17:45	12	46	0			12	46
06:00	11		0			11		18:00	9		0			9	
06:15	8		0			8		18:15	12		0			12	
06:30	13		0			13		18:30	13		0			13	
06:45	14	46	0			14	46	18:45	20	54	0			20	54
07:00	12		0			12		19:00	14		0			14	
07:15	15		0			15		19:15	23		0			23	
07:30	17		0			17		19:30	49		0			49	
07:45	14	58	0			14	58	19:45	52	138	0			52	138
08:00	14		0			14		20:00	43		0			43	
08:15	16		0			16		20:15	45		0			45	
08:30	11		0			11		20:30	27		0			27	
08:45	17	58	0			17	58	20:45	21	136	0			21	136
09:00	15		0			15		21:00	25		0			25	
09:15	11		0			11		21:15	21		0			21	
09:30	11		0			11		21:30	19		0			19	
09:45	15	52	0			15	52	21:45	2	67	0			2	67
10:00	10		0			10		22:00	5		0			5	
10:15	20		0			20		22:15	3		0			3	
10:30	14		0			14		22:30	2		0			2	
10:45	37	81	0			37	81	22:45	3	13	0			3	13
11:00	25		0			25		23:00	1		0			1	
11:15	32		0			32		23:15	3		0			3	
11:30	40		0			40		23:30	0		0			0	
11:45	56	153	0			56	153	23:45	2	6	0			2	6
TOTALS		821					821	TOTALS		1400					1400
SPLIT %		100.0%					37.0%	SPLIT %		100.0%					63.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,221	0	0	0	2,221

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	11:45				11:45	PM Peak Hour	12:30				12:30
AM Pk Volume	253				253	PM Pk Volume	332				332
Pk Hr Factor	0.753				0.753	Pk Hr Factor	0.976				0.976
7 - 9 Volume	116	0	0	0	116	4 - 6 Volume	153	0	0	0	153
7 - 9 Peak Hour	07:30				07:30	4 - 6 Peak Hour	16:00				16:00
7 - 9 Pk Volume	61	0	0	0	61	4 - 6 Pk Volume	107	0	0	0	107
Pk Hr Factor	0.897	0.000	0.000	0.000	0.897	Pk Hr Factor	0.787	0.000	0.000	0.000	0.787

APPENDIX D

Appendix D-2

Two-Day Traffic Counts

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #1

Day: Thursday
Date: 12/14/2017

City: Clearwater
Project #: FL17_3500_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,224	4,118	6,342

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			2		5		7		12:00			52		73		125	
00:15			1		3		4		12:15			50		76		126	
00:30			1		3		4		12:30			66		105		171	
00:45			2	6	1	12	3	18	12:45			55	223	103	357	158	580
01:00			3		2		5		13:00			49		101		150	
01:15			2		3		5		13:15			53		75		128	
01:30			2		0		2		13:30			52		134		186	
01:45			0	7	1	6	1	13	13:45			51	205	103	413	154	618
02:00			0		0		0		14:00			58		104		162	
02:15			1		0		1		14:15			39		102		141	
02:30			1		0		1		14:30			42		88		130	
02:45			0	2	2	2	2	4	14:45			39	178	125	419	164	597
03:00			1		1		2		15:00			35		112		147	
03:15			3		1		4		15:15			18		50		68	
03:30			8		2		10		15:30			16		54		70	
03:45			18	30	4	8	22	38	15:45			24	93	27	243	51	336
04:00			10		9		19		16:00			15		20		35	
04:15			12		11		23		16:15			10		17		27	
04:30			12		24		36		16:30			19		24		43	
04:45			36	70	35	79	71	149	16:45			23	67	33	94	56	161
05:00			47		73		120		17:00			12		68		80	
05:15			60		119		179		17:15			16		42		58	
05:30			54		100		154		17:30			20		22		42	
05:45			60	221	103	395	163	616	17:45			29	77	58	190	87	267
06:00			39		90		129		18:00			27		90		117	
06:15			35		74		109		18:15			18		43		61	
06:30			35		72		107		18:30			25		29		54	
06:45			41	150	39	275	80	425	18:45			10	80	97	259	107	339
07:00			32		42		74		19:00			15		61		76	
07:15			37		31		68		19:15			26		10		36	
07:30			12		16		28		19:30			26		22		48	
07:45			14	95	14	103	28	198	19:45			25	92	50	143	75	235
08:00			13		25		38		20:00			51		69		120	
08:15			24		14		38		20:15			30		126		156	
08:30			31		26		57		20:30			26		25		51	
08:45			18	86	23	88	41	174	20:45			24	131	84	304	108	435
09:00			19		41		60		21:00			14		80		94	
09:15			12		48		60		21:15			8		19		27	
09:30			13		22		35		21:30			6		12		18	
09:45			17	61	22	133	39	194	21:45			14	42	9	120	23	162
10:00			14		18		32		22:00			19		10		29	
10:15			20		13		33		22:15			10		12		22	
10:30			19		24		43		22:30			10		96		106	
10:45			22	75	29	84	51	159	22:45			11	50	28	146	39	196
11:00			27		25		52		23:00			9		10		19	
11:15			36		59		95		23:15			7		4		11	
11:30			45		59		104		23:30			3		3		6	
11:45			55	163	79	222	134	385	23:45			1	20	6	23	7	43
TOTALS				966		1407		**2373**	**TOTALS**				1258		2711		**3969**
SPLIT %				40.7%		59.3%		**37.4%**	**SPLIT %**				31.7%		68.3%		**62.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,224	4,118	6,342

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour			11:45	05:15	**05:15**	**PM Peak Hour**			12:00	13:30	**13:30**
AM Pk Volume			223	412	**625**	**PM Pk Volume**			223	443	**643**
Pk Hr Factor			0.845	0.866	**0.873**	**Pk Hr Factor**			0.845	0.826	**0.864**
7 - 9 Volume	0	0	181	191	**372**	**4 - 6 Volume**	0	0	144	284	**428**
7 - 9 Peak Hour			07:00	07:00	**07:00**	**4 - 6 Peak Hour**			17:00	17:00	**17:00**
7 - 9 Pk Volume	0	0	95	103	**198**	**4 - 6 Pk Volume**	0	0	77	190	**267**
Pk Hr Factor	0.000	0.000	0.642	0.613	**0.669**	**Pk Hr Factor**	0.000	0.000	0.664	0.699	**0.767**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #1

Day: Friday
Date: 12/15/2017

City: Clearwater
Project #: FL17_3500_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,347	4,815	7,162

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			2		3		5		12:00			66		150		216	
00:15			0		0		0		12:15			46		129		175	
00:30			0		1		1		12:30			75		100		175	
00:45			1	3	6	10	7	13	12:45			79	266	126	505	205	771
01:00			0		2		2		13:00			51		125		176	
01:15			3		3		6		13:15			62		126		188	
01:30			2		1		3		13:30			57		90		147	
01:45			2	7	0	6	2	13	13:45			51	221	132	473	183	694
02:00			0		0		0		14:00			38		118		156	
02:15			0		0		0		14:15			18		99		117	
02:30			1		1		2		14:30			28		92		120	
02:45			0	1	0	1	0	2	14:45			19	103	85	394	104	497
03:00			0		2		2		15:00			25		56		81	
03:15			4		1		5		15:15			25		48		73	
03:30			4		0		4		15:30			22		41		63	
03:45			11	19	3	6	14	25	15:45			32	104	63	208	95	312
04:00			16		6		22		16:00			35		110		145	
04:15			10		12		22		16:15			47		55		102	
04:30			15		26		41		16:30			30		88		118	
04:45			30	71	47	91	77	162	16:45			22	134	72	325	94	459
05:00			37		67		104		17:00			29		46		75	
05:15			42		95		137		17:15			25		34		59	
05:30			64		88		152		17:30			29		52		81	
05:45			43	186	100	350	143	536	17:45			25	108	65	197	90	305
06:00			39		75		114		18:00			20		14		34	
06:15			32		71		103		18:15			20		21		41	
06:30			17		46		63		18:30			18		36		54	
06:45			30	118	30	222	60	340	18:45			23	81	79	150	102	231
07:00			36		56		92		19:00			14		28		42	
07:15			34		30		64		19:15			19		52		71	
07:30			26		33		59		19:30			39		19		58	
07:45			23	119	29	148	52	267	19:45			35	107	86	185	121	292
08:00			20		32		52		20:00			26		121		147	
08:15			19		24		43		20:15			17		76		93	
08:30			17		20		37		20:30			28		17		45	
08:45			20	76	22	98	42	174	20:45			14	85	15	229	29	314
09:00			14		19		33		21:00			26		116		142	
09:15			24		24		48		21:15			23		31		54	
09:30			16		25		41		21:30			18		15		33	
09:45			24	78	35	103	59	181	21:45			24	91	104	266	128	357
10:00			28		51		79		22:00			15		60		75	
10:15			25		30		55		22:15			8		24		32	
10:30			26		46		72		22:30			17		71		88	
10:45			37	116	61	188	98	304	22:45			16	56	19	174	35	230
11:00			41		110		151		23:00			6		26		32	
11:15			38		87		125		23:15			2		56		58	
11:30			48		71		119		23:30			5		32		37	
11:45			53	180	93	361	146	541	23:45			4	17	11	125	15	142
TOTALS				974		1584		**2558**	**TOTALS**				1373		3231		**4604**
SPLIT %				38.1%		61.9%		**35.7%**	**SPLIT %**				29.8%		70.2%		**64.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,347	4,815	7,162

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour			11:45	11:45	**11:45**	**PM Peak Hour**			12:30	12:00	**12:00**
AM Pk Volume			240	472	**712**	**PM Pk Volume**			267	505	**771**
Pk Hr Factor			0.800	0.787	**0.824**	**Pk Hr Factor**			0.845	0.842	**0.892**
7 - 9 Volume	0	0	195	246	**441**	**4 - 6 Volume**	0	0	242	522	**764**
7 - 9 Peak Hour			07:00	07:00	**07:00**	**4 - 6 Peak Hour**			16:00	16:00	**16:00**
7 - 9 Pk Volume	0	0	119	148	**267**	**4 - 6 Pk Volume**	0	0	134	325	**459**
Pk Hr Factor	0.000	0.000	0.826	0.661	**0.726**	**Pk Hr Factor**	0.000	0.000	0.713	0.739	**0.791**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr 1 & Location #1

Day: Thursday
Date: 12/21/2017

City: Clearwater
Project #: FL17_3500_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,442	4,624	7,066

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			7		2		9		12:00			63		79		142	
00:15			4		0		4		12:15			70		118		188	
00:30			7		2		9		12:30			63		121		184	
00:45			10	28	39	43	49	71	12:45			81	277	98	416	179	693
01:00			9		45		54		13:00			62		104		166	
01:15			5		11		16		13:15			55		114		169	
01:30			1		0		1		13:30			65		144		209	
01:45			0	15	3	59	3	74	13:45			49	231	164	526	213	757
02:00			2		3		5		14:00			43		117		160	
02:15			1		3		4		14:15			48		86		134	
02:30			0		0		0		14:30			36		70		106	
02:45			0	3	0	6	0	9	14:45			28	155	59	332	87	487
03:00			1		1		2		15:00			25		82		107	
03:15			4		1		5		15:15			34		45		79	
03:30			11		1		12		15:30			18		57		75	
03:45			18	34	2	5	20	39	15:45			31	108	88	272	119	380
04:00			13		7		20		16:00			22		50		72	
04:15			12		20		32		16:15			23		49		72	
04:30			20		31		51		16:30			14		76		90	
04:45			27	72	40	98	67	170	16:45			21	80	37	212	58	292
05:00			33		75		108		17:00			19		41		60	
05:15			54		81		135		17:15			19		32		51	
05:30			45		127		172		17:30			17		18		35	
05:45			84	216	116	399	200	615	17:45			31	86	19	110	50	196
06:00			57		112		169		18:00			47		30		77	
06:15			44		80		124		18:15			37		132		169	
06:30			31		65		96		18:30			31		123		154	
06:45			38	170	51	308	89	478	18:45			21	136	93	378	114	514
07:00			33		55		88		19:00			17		27		44	
07:15			28		32		60		19:15			20		12		32	
07:30			20		15		35		19:30			29		14		43	
07:45			20	101	23	125	43	226	19:45			41	107	40	93	81	200
08:00			20		29		49		20:00			44		75		119	
08:15			16		16		32		20:15			29		121		150	
08:30			22		32		54		20:30			27		95		122	
08:45			14	72	13	90	27	162	20:45			24	124	101	392	125	516
09:00			21		23		44		21:00			26		46		72	
09:15			13		21		34		21:15			13		96		109	
09:30			11		16		27		21:30			9		23		32	
09:45			18	63	15	75	33	138	21:45			4	52	11	176	15	228
10:00			32		19		51		22:00			6		9		15	
10:15			30		32		62		22:15			11		5		16	
10:30			22		66		88		22:30			9		8		17	
10:45			17	101	36	153	53	254	22:45			17	43	21	43	38	86
11:00			21		34		55		23:00			6		67		73	
11:15			29		47		76		23:15			6		14		20	
11:30			51		61		112		23:30			3		8		11	
11:45			50	151	79	221	129	372	23:45			2	17	3	92	5	109
TOTALS				1026		1582		**2608**	**TOTALS**				1416		3042		**4458**
SPLIT %				39.3%		60.7%		**36.9%**	**SPLIT %**				31.8%		68.2%		**63.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,442	4,624	7,066

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour			11:45	05:15	**05:15**	**PM Peak Hour**			12:00	13:15	**13:00**
AM Pk Volume			246	436	**676**	**PM Pk Volume**			277	539	**757**
Pk Hr Factor			0.879	0.858	**0.845**	**Pk Hr Factor**			0.855	0.822	**0.888**
7 - 9 Volume	0	0	173	215	**388**	**4 - 6 Volume**	0	0	166	322	**488**
7 - 9 Peak Hour			07:00	07:00	**07:00**	**4 - 6 Peak Hour**			17:00	16:00	**16:00**
7 - 9 Pk Volume	0	0	101	125	**226**	**4 - 6 Pk Volume**	0	0	86	212	**292**
Pk Hr Factor	0.000	0.000	0.765	0.568	**0.642**	**Pk Hr Factor**	0.000	0.000	0.694	0.697	**0.811**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #2

Day: Thursday
Date: 12/14/2017

City: Clearwater
Project #: FL17_3500_002

DAILY TOTALS	NB	SB	EB	WB	Total
	999	1,099	0	0	2,098

AM Period	NB		SB		EB	WB	TOTAL	
00:00	2		0				2	
00:15	0		0				0	
00:30	0		0				0	
00:45	0	2	1	1			1	3
01:00	7		1				8	
01:15	1		2				3	
01:30	1		0				1	
01:45	0	9	0	3			0	12
02:00	0		0				0	
02:15	0		1				1	
02:30	0		0				0	
02:45	0		0	1			0	1
03:00	0		0				0	
03:15	1		2				3	
03:30	0		5				5	
03:45	7	8	16	23			23	31
04:00	5		6				11	
04:15	4		8				12	
04:30	0		1				1	
04:45	3	12	6	21			9	33
05:00	1		1				2	
05:15	4		4				8	
05:30	3		11				14	
05:45	6	14	12	28			18	42
06:00	3		9				12	
06:15	6		6				12	
06:30	5		8				13	
06:45	7	21	22	45			29	66
07:00	8		16				24	
07:15	3		23				26	
07:30	4		15				19	
07:45	5	20	9	63			14	83
08:00	5		6				11	
08:15	3		10				13	
08:30	9		21				30	
08:45	7	24	10	47			17	71
09:00	16		12				28	
09:15	7		6				13	
09:30	5		10				15	
09:45	10	38	8	36			18	74
10:00	4		6				10	
10:15	2		7				9	
10:30	5		6				11	
10:45	3	14	11	30			14	44
11:00	5		10				15	
11:15	14		17				31	
11:30	4		29				33	
11:45	7	30	29	85			36	115
TOTALS		192		383				575
SPLIT %		33.4%		66.6%				27.4%

PM Period	NB		SB		EB	WB	TOTAL	
12:00	13		20				33	
12:15	14		24				38	
12:30	29		29				58	
12:45	22	78	23	96			45	174
13:00	18		27				45	
13:15	24		24				48	
13:30	33		32				65	
13:45	28	103	26	109			54	212
14:00	24		29				53	
14:15	36		23				59	
14:30	26		25				51	
14:45	43	129	16	93			59	222
15:00	26		12				38	
15:15	13		14				27	
15:30	10		14				24	
15:45	6	55	13	53			19	108
16:00	9		11				20	
16:15	4		9				13	
16:30	10		17				27	
16:45	19	42	11	48			30	90
17:00	20		5				25	
17:15	9		11				20	
17:30	8		8				16	
17:45	15	52	18	42			33	94
18:00	24		17				41	
18:15	18		12				30	
18:30	22		26				48	
18:45	34	98	9	64			43	162
19:00	19		12				31	
19:15	5		17				22	
19:30	5		23				28	
19:45	28	57	20	72			48	129
20:00	24		12				36	
20:15	17		22				39	
20:30	17		19				36	
20:45	22	80	13	66			35	146
21:00	21		6				27	
21:15	14		4				18	
21:30	4		4				8	
21:45	3	42	11	25			14	67
22:00	4		23				27	
22:15	22		8				30	
22:30	26		4				30	
22:45	13	65	3	38			16	103
23:00	3		5				8	
23:15	1		3				4	
23:30	1		1				2	
23:45	1	6	1	10			2	16
TOTALS		807		716				1523
SPLIT %		53.0%		47.0%				72.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	999	1,099	0	0	2,098

	NB	SB	EB	WB	TOTAL
AM Peak Hour	11:45	11:30			11:45
AM Pk Volume	63	102			165
Pk Hr Factor	0.543	0.879			0.711
7 - 9 Volume	44	110	0	0	154
7 - 9 Peak Hour	08:00	07:00			07:00
7 - 9 Pk Volume	24	63	0	0	83
Pk Hr Factor	0.667	0.685	0.000	0.000	0.798

	NB	SB	EB	WB	TOTAL
PM Peak Hour	14:15	13:15			13:30
PM Pk Volume	131	111			231
Pk Hr Factor	0.762	0.867			0.888
4 - 6 Volume	94	90	0	0	184
4 - 6 Peak Hour	16:30	16:00			16:30
4 - 6 Pk Volume	58	48	0	0	102
Pk Hr Factor	0.725	0.706	0.000	0.000	0.850

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #2

Day: Friday
Date: 12/15/2017

City: Clearwater
Project #: FL17_3500_002

DAILY TOTALS	NB	SB	EB	WB	Total
	1,077	1,132	0	0	2,209

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		0				0		12:00	28		21				49	
00:15	0		2				2		12:15	14		20				34	
00:30	0		0				0		12:30	9		33				42	
00:45	5	5	0	2			5	7	12:45	21	72	32	106			53	178
01:00	0		0				0		13:00	24		26				50	
01:15	2		3				5		13:15	31		31				62	
01:30	0		0				0		13:30	26		38				64	
01:45	3	5	3	6			6	11	13:45	58	139	28	123			86	262
02:00	0		0				0		14:00	25		26				51	
02:15	0		0				0		14:15	37		12				49	
02:30	1		1				2		14:30	32		16				48	
02:45	0	1	0	1			0	2	14:45	11	105	12	66			23	171
03:00	1		0				1		15:00	7		10				17	
03:15	1		3				4		15:15	7		10				17	
03:30	2		6				8		15:30	13		15				28	
03:45	4	8	10	19			14	27	15:45	9	36	15	50			24	86
04:00	3		7				10		16:00	24		18				42	
04:15	3		6				9		16:15	16		25				41	
04:30	3		4				7		16:30	24		12				36	
04:45	5	14	9	26			14	40	16:45	19	83	10	65			29	148
05:00	1		4				5		17:00	7		13				20	
05:15	5		10				15		17:15	7		15				22	
05:30	5		12				17		17:30	21		13				34	
05:45	6	17	10	36			16	53	17:45	14	49	13	54			27	103
06:00	3		9				12		18:00	1		9				10	
06:15	3		6				9		18:15	11		18				29	
06:30	1		4				5		18:30	23		11				34	
06:45	4	11	12	31			16	42	18:45	24	59	10	48			34	107
07:00	6		15				21		19:00	10		14				24	
07:15	3		15				18		19:15	17		21				38	
07:30	2		11				13		19:30	19		27				46	
07:45	5	16	14	55			19	71	19:45	46	92	23	85			69	177
08:00	7		5				12		20:00	35		13				48	
08:15	3		6				9		20:15	10		17				27	
08:30	3		8				11		20:30	6		23				29	
08:45	2	15	12	31			14	46	20:45	16	67	21	74			37	141
09:00	8		7				15		21:00	45		11				56	
09:15	3		9				12		21:15	6		16				22	
09:30	10		9				19		21:30	9		17				26	
09:45	6	27	8	33			14	60	21:45	42	102	10	54			52	156
10:00	5		11				16		22:00	9		16				25	
10:15	6		14				20		22:15	13		4				17	
10:30	8		9				17		22:30	15		10				25	
10:45	11	30	12	46			23	76	22:45	5	42	11	41			16	83
11:00	19		7				26		23:00	11		7				18	
11:15	12		21				33		23:15	13		1				14	
11:30	7		20				27		23:30	3		1				4	
11:45	13	51	22	70			35	121	23:45	4	31	1	10			5	41
TOTALS		200		356				556	TOTALS		877		776				1653
SPLIT %		36.0%		64.0%				25.2%	SPLIT %		53.1%		46.9%				74.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,077	1,132	0	0	2,209

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	13:45	12:45			13:15
AM Pk Volume	64	96			160	PM Pk Volume	152	127			263
Pk Hr Factor	0.571	0.727			0.816	Pk Hr Factor	0.655	0.836			0.765
7 - 9 Volume	31	86	0	0	117	4 - 6 Volume	132	119	0	0	251
7 - 9 Peak Hour	07:45	07:00			07:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	18	55	0	0	71	4 - 6 Pk Volume	83	65	0	0	148
Pk Hr Factor	0.643	0.917	0.000	0.000	0.845	Pk Hr Factor	0.865	0.650	0.000	0.000	0.881

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #3

Day: Thursday
Date: 12/14/2017

City: Clearwater
Project #: FL17_3500_003

DAILY TOTALS	NB	SB	EB	WB	Total
	2,226	0	0	0	2,226

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	1		0			1		12:00	58		0			58	
00:15	0		0			0		12:15	52		0			52	
00:30	0		0			0		12:30	47		0			47	
00:45	2	3	0			2	3	12:45	65	222	0			65	222
01:00	0		0			0		13:00	58		0			58	
01:15	1		0			1		13:15	53		0			53	
01:30	0		0			0		13:30	56		0			56	
01:45	1	2	0			1	2	13:45	74	241	0			74	241
02:00	0		0			0		14:00	40		0			40	
02:15	0		0			0		14:15	34		0			34	
02:30	1		0			1		14:30	48		0			48	
02:45	0	1	0			0	1	14:45	37	159	0			37	159
03:00	1		0			1		15:00	21		0			21	
03:15	1		0			1		15:15	26		0			26	
03:30	2		0			2		15:30	21		0			21	
03:45	6	10	0			6	10	15:45	13	81	0			13	81
04:00	10		0			10		16:00	14		0			14	
04:15	10		0			10		16:15	17		0			17	
04:30	24		0			24		16:30	21		0			21	
04:45	39	83	0			39	83	16:45	19	71	0			19	71
05:00	45		0			45		17:00	17		0			17	
05:15	70		0			70		17:15	18		0			18	
05:30	57		0			57		17:30	29		0			29	
05:45	76	248	0			76	248	17:45	35	99	0			35	99
06:00	51		0			51		18:00	38		0			38	
06:15	49		0			49		18:15	32		0			32	
06:30	45		0			45		18:30	38		0			38	
06:45	21	166	0			21	166	18:45	17	125	0			17	125
07:00	25		0			25		19:00	10		0			10	
07:15	11		0			11		19:15	17		0			17	
07:30	8		0			8		19:30	28		0			28	
07:45	10	54	0			10	54	19:45	34	89	0			34	89
08:00	12		0			12		20:00	32		0			32	
08:15	13		0			13		20:15	36		0			36	
08:30	16		0			16		20:30	29		0			29	
08:45	17	58	0			17	58	20:45	25	122	0			25	122
09:00	15		0			15		21:00	12		0			12	
09:15	22		0			22		21:15	11		0			11	
09:30	11		0			11		21:30	9		0			9	
09:45	6	54	0			6	54	21:45	15	47	0			15	47
10:00	7		0			7		22:00	21		0			21	
10:15	7		0			7		22:15	9		0			9	
10:30	20		0			20		22:30	11		0			11	
10:45	26	60	0			26	60	22:45	7	48	0			7	48
11:00	28		0			28		23:00	10		0			10	
11:15	32		0			32		23:15	7		0			7	
11:30	38		0			38		23:30	3		0			3	
11:45	61	159	0			61	159	23:45	4	24	0			4	24
TOTALS	898						**898**	**TOTALS**	1328						**1328**
SPLIT %	100.0%						**40.3%**	**SPLIT %**	100.0%						**59.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,226	0	0	0	2,226

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	05:15				**05:15**	**PM Peak Hour**	13:00				**13:00**
AM Pk Volume	254				**254**	**PM Pk Volume**	241				**241**
Pk Hr Factor	0.836				**0.836**	**Pk Hr Factor**	0.814				**0.814**
7 - 9 Volume	112	0	0	0	**112**	**4 - 6 Volume**	170	0	0	0	**170**
7 - 9 Peak Hour	08:00				**08:00**	**4 - 6 Peak Hour**	17:00				**17:00**
7 - 9 Pk Volume	58	0	0	0	**58**	**4 - 6 Pk Volume**	99	0	0	0	**99**
Pk Hr Factor	0.853	0.000	0.000	0.000	**0.853**	**Pk Hr Factor**	0.707	0.000	0.000	0.000	**0.707**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #3

Day: Friday
Date: 12/15/2017

City: Clearwater
Project #: FL17_3500_003

DAILY TOTALS	NB	SB	EB	WB	Total
	2,471	0	0	0	2,471

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	0		0			0		12:00	66		0			66	
00:15	0		0			0		12:15	63		0			63	
00:30	0		0			0		12:30	68		0			68	
00:45	1	1	0			1	1	12:45	72	269	0			72	269
01:00	0		0			0		13:00	63		0			63	
01:15	0		0			0		13:15	65		0			65	
01:30	1		0			1		13:30	54		0			54	
01:45	0	1	0			0	1	13:45	36	218	0			36	218
02:00	0		0			0		14:00	30		0			30	
02:15	0		0			0		14:15	34		0			34	
02:30	0		0			0		14:30	31		0			31	
02:45	0		0			0		14:45	31	126	0			31	126
03:00	0		0			0		15:00	39		0			39	
03:15	0		0			0		15:15	35		0			35	
03:30	1		0			1		15:30	33		0			33	
03:45	3	4	0			3	4	15:45	35	142	0			35	142
04:00	5		0			5		16:00	41		0			41	
04:15	12		0			12		16:15	34		0			34	
04:30	21		0			21		16:30	30		0			30	
04:45	43	81	0			43	81	16:45	28	133	0			28	133
05:00	52		0			52		17:00	33		0			33	
05:15	61		0			61		17:15	27		0			27	
05:30	66		0			66		17:30	24		0			24	
05:45	60	239	0			60	239	17:45	29	113	0			29	113
06:00	48		0			48		18:00	24		0			24	
06:15	44		0			44		18:15	22		0			22	
06:30	32		0			32		18:30	15		0			15	
06:45	17	141	0			17	141	18:45	15	76	0			15	76
07:00	29		0			29		19:00	21		0			21	
07:15	15		0			15		19:15	31		0			31	
07:30	13		0			13		19:30	29		0			29	
07:45	18	75	0			18	75	19:45	24	105	0			24	105
08:00	11		0			11		20:00	19		0			19	
08:15	11		0			11		20:15	23		0			23	
08:30	11		0			11		20:30	34		0			34	
08:45	8	41	0			8	41	20:45	28	104	0			28	104
09:00	13		0			13		21:00	25		0			25	
09:15	14		0			14		21:15	13		0			13	
09:30	18		0			18		21:30	26		0			26	
09:45	22	67	0			22	67	21:45	21	85	0			21	85
10:00	17		0			17		22:00	22		0			22	
10:15	18		0			18		22:15	20		0			20	
10:30	37		0			37		22:30	18		0			18	
10:45	56	128	0			56	128	22:45	22	82	0			22	82
11:00	41		0			41		23:00	13		0			13	
11:15	49		0			49		23:15	5		0			5	
11:30	60		0			60		23:30	4		0			4	
11:45	66	216	0			66	216	23:45	2	24	0			2	24
TOTALS		994					994	TOTALS		1477					1477
SPLIT %		100.0%					40.2%	SPLIT %		100.0%					59.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,471	0	0	0	2,471

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	11:45				11:45	PM Peak Hour	12:00				12:00
AM Pk Volume	263				263	PM Pk Volume	269				269
Pk Hr Factor	0.967				0.967	Pk Hr Factor	0.934				0.934
7 - 9 Volume	116	0	0	0	116	4 - 6 Volume	246	0	0	0	246
7 - 9 Peak Hour	07:00				07:00	4 - 6 Peak Hour	16:00				16:00
7 - 9 Pk Volume	75	0	0	0	75	4 - 6 Pk Volume	133	0	0	0	133
Pk Hr Factor	0.647	0.000	0.000	0.000	0.647	Pk Hr Factor	0.811	0.000	0.000	0.000	0.811

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #4

Day: Thursday
Date: 12/14/2017

City: Clearwater
Project #: FL17_3500_004

DAILY TOTALS	NB	SB	EB	WB	Total
	4,670	0	0	0	4,670

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	5		0			5		12:00	106		0			106	
00:15	0		0			0		12:15	117		0			117	
00:30	0		0			0		12:30	120		0			120	
00:45	1	6	0			1	6	12:45	112	455	0			112	455
01:00	1		0			1		13:00	105		0			105	
01:15	1		0			1		13:15	114		0			114	
01:30	2		0			2		13:30	131		0			131	
01:45	1	5	0			1	5	13:45	128	478	0			128	478
02:00	0		0			0		14:00	124		0			124	
02:15	1		0			1		14:15	102		0			102	
02:30	2		0			2		14:30	121		0			121	
02:45	0	3	0			0	3	14:45	90	437	0			90	437
03:00	2		0			2		15:00	56		0			56	
03:15	3		0			3		15:15	52		0			52	
03:30	9		0			9		15:30	34		0			34	
03:45	23	37	0			23	37	15:45	35	177	0			35	177
04:00	17		0			17		16:00	23		0			23	
04:15	20		0			20		16:15	29		0			29	
04:30	34		0			34		16:30	36		0			36	
04:45	67	138	0			67	138	16:45	51	139	0			51	139
05:00	92		0			92		17:00	35		0			35	
05:15	136		0			136		17:15	29		0			29	
05:30	129		0			129		17:30	41		0			41	
05:45	144	501	0			144	501	17:45	72	177	0			72	177
06:00	95		0			95		18:00	67		0			67	
06:15	74		0			74		18:15	59		0			59	
06:30	84		0			84		18:30	84		0			84	
06:45	63	316	0			63	316	18:45	53	263	0			53	263
07:00	54		0			54		19:00	20		0			20	
07:15	43		0			43		19:15	37		0			37	
07:30	27		0			27		19:30	54		0			54	
07:45	24	148	0			24	148	19:45	74	185	0			74	185
08:00	25		0			25		20:00	94		0			94	
08:15	28		0			28		20:15	82		0			82	
08:30	44		0			44		20:30	61		0			61	
08:45	34	131	0			34	131	20:45	64	301	0			64	301
09:00	36		0			36		21:00	29		0			29	
09:15	38		0			38		21:15	10		0			10	
09:30	25		0			25		21:30	13		0			13	
09:45	20	119	0			20	119	21:45	26	78	0			26	78
10:00	17		0			17		22:00	46		0			46	
10:15	21		0			21		22:15	26		0			26	
10:30	28		0			28		22:30	30		0			30	
10:45	44	110	0			44	110	22:45	22	124	0			22	124
11:00	47		0			47		23:00	20		0			20	
11:15	63		0			63		23:15	10		0			10	
11:30	88		0			88		23:30	3		0			3	
11:45	110	308	0			110	308	23:45	1	34	0			1	34
TOTALS		1822					1822	TOTALS		2848					2848
SPLIT %		100.0%					39.0%	SPLIT %		100.0%					61.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	4,670	0	0	0	4,670

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	05:15				05:15	PM Peak Hour	13:15				13:15
AM Pk Volume	504				504	PM Pk Volume	497				497
Pk Hr Factor	0.875				0.875	Pk Hr Factor	0.948				0.948
7 - 9 Volume	279	0	0	0	279	4 - 6 Volume	316	0	0	0	316
7 - 9 Peak Hour	07:00				07:00	4 - 6 Peak Hour	17:00				17:00
7 - 9 Pk Volume	148	0	0	0	148	4 - 6 Pk Volume	177	0	0	0	177
Pk Hr Factor	0.685	0.000	0.000	0.000	0.685	Pk Hr Factor	0.615	0.000	0.000	0.000	0.615

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #4

Day: Friday
Date: 12/15/2017

City: Clearwater
Project #: FL17_3500_004

DAILY TOTALS	NB	SB	EB	WB	Total
	5,169	0	0	0	5,169

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	1		0			1		12:00	133		0			133	
00:15	1		0			1		12:15	128		0			128	
00:30	0		0			0		12:30	151		0			151	
00:45	2	4	0			2	4	12:45	154	566	0			154	566
01:00	0		0			0		13:00	142		0			142	
01:15	3		0			3		13:15	136		0			136	
01:30	2		0			2		13:30	125		0			125	
01:45	2	7	0			2	7	13:45	110	513	0			110	513
02:00	0		0			0		14:00	86		0			86	
02:15	0		0			0		14:15	65		0			65	
02:30	2		0			2		14:30	73		0			73	
02:45	0	2	0			0	2	14:45	63	287	0			63	287
03:00	0		0			0		15:00	63		0			63	
03:15	4		0			4		15:15	62		0			62	
03:30	5		0			5		15:30	58		0			58	
03:45	14	23	0			14	23	15:45	65	248	0			65	248
04:00	16		0			16		16:00	80		0			80	
04:15	23		0			23		16:15	80		0			80	
04:30	31		0			31		16:30	66		0			66	
04:45	70	140	0			70	140	16:45	53	279	0			53	279
05:00	81		0			81		17:00	57		0			57	
05:15	122		0			122		17:15	56		0			56	
05:30	119		0			119		17:30	60		0			60	
05:45	115	437	0			115	437	17:45	55	228	0			55	228
06:00	89		0			89		18:00	36		0			36	
06:15	75		0			75		18:15	54		0			54	
06:30	50		0			50		18:30	51		0			51	
06:45	52	266	0			52	266	18:45	47	188	0			47	188
07:00	68		0			68		19:00	37		0			37	
07:15	47		0			47		19:15	50		0			50	
07:30	38		0			38		19:30	66		0			66	
07:45	41	194	0			41	194	19:45	88	241	0			88	241
08:00	30		0			30		20:00	59		0			59	
08:15	27		0			27		20:15	49		0			49	
08:30	31		0			31		20:30	62		0			62	
08:45	29	117	0			29	117	20:45	60	230	0			60	230
09:00	23		0			23		21:00	60		0			60	
09:15	36		0			36		21:15	37		0			37	
09:30	29		0			29		21:30	52		0			52	
09:45	46	134	0			46	134	21:45	46	195	0			46	195
10:00	45		0			45		22:00	45		0			45	
10:15	44		0			44		22:15	32		0			32	
10:30	64		0			64		22:30	37		0			37	
10:45	94	247	0			94	247	22:45	36	150	0			36	150
11:00	89		0			89		23:00	28		0			28	
11:15	89		0			89		23:15	9		0			9	
11:30	115		0			115		23:30	5		0			5	
11:45	127	420	0			127	420	23:45	11	53	0			11	53
TOTALS	1991					**1991**		**TOTALS**	3178					**3178**	
SPLIT %	100.0%					**38.5%**		**SPLIT %**	100.0%					**61.5%**	

DAILY TOTALS	NB	SB	EB	WB	Total
	5,169	0	0	0	5,169

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	11:45				**11:45**	**PM Peak Hour**	12:30				**12:30**
AM Pk Volume	539				**539**	**PM Pk Volume**	583				**583**
Pk Hr Factor	0.892				**0.892**	**Pk Hr Factor**	0.946				**0.946**
7 - 9 Volume	311	0	0	0	**311**	**4 - 6 Volume**	507	0	0	0	**507**
7 - 9 Peak Hour	07:00				**07:00**	**4 - 6 Peak Hour**	16:00				**16:00**
7 - 9 Pk Volume	194	0	0	0	**194**	**4 - 6 Pk Volume**	279	0	0	0	**279**
Pk Hr Factor	0.713	0.000	0.000	0.000	**0.713**	**Pk Hr Factor**	0.872	0.000	0.000	0.000	**0.872**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr 5 & Location #5

Day: Thursday
Date: 12/21/2017

City: Clearwater
Project #: FL17_3500_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	0	568	568

AM Period	NB	SB	EB	WB		TOTAL		PM Period	NB	SB	EB	WB		TOTAL	
00:00			0	3		3		12:00			0	18		18	
00:15			0	4		4		12:15			0	35		35	
00:30			0	2		2		12:30			0	10		10	
00:45			0	7	16	7	16	12:45			0	17	80	17	80
01:00			0	1		1		13:00			0	11		11	
01:15			0	0		0		13:15			0	19		19	
01:30			0	0		0		13:30			0	32		32	
01:45			0	2	3	2	3	13:45			0	19	81	19	81
02:00			0	0		0		14:00			0	11		11	
02:15			0	0		0		14:15			0	8		8	
02:30			0	0		0		14:30			0	8		8	
02:45			0	0		0		14:45			0	11	38	11	38
03:00			0	0		0		15:00			0	5		5	
03:15			0	0		0		15:15			0	6		6	
03:30			0	0		0		15:30			0	10		10	
03:45			0	0		0		15:45			0	10	31	10	31
04:00			0	0		0		16:00			0	2		2	
04:15			0	0		0		16:15			0	3		3	
04:30			0	4		4		16:30			0	5		5	
04:45			0	2	6	2	6	16:45			0	3	13	3	13
05:00			0	5		5		17:00			0	5		5	
05:15			0	6		6		17:15			0	3		3	
05:30			0	7		7		17:30			0	15		15	
05:45			0	16	34	16	34	17:45			0	8	31	8	31
06:00			0	6		6		18:00			0	25		25	
06:15			0	6		6		18:15			0	11		11	
06:30			0	8		8		18:30			0	12		12	
06:45			0	7	27	7	27	18:45			0	5	53	5	53
07:00			0	1		1		19:00			0	2		2	
07:15			0	0		0		19:15			0	4		4	
07:30			0	1		1		19:30			0	5		5	
07:45			0	2	4	2	4	19:45			0	17	28	17	28
08:00			0	4		4		20:00			0	22		22	
08:15			0	0		0		20:15			0	17		17	
08:30			0	1		1		20:30			0	17		17	
08:45			0	0	5	0	5	20:45			0	7	63	7	63
09:00			0	0		0		21:00			0	3		3	
09:15			0	1		1		21:15			0	5		5	
09:30			0	0		0		21:30			0	2		2	
09:45			0	0	1	0	1	21:45			0	2	12	2	12
10:00			0	1		1		22:00			0	0		0	
10:15			0	3		3		22:15			0	0		0	
10:30			0	5		5		22:30			0	3		3	
10:45			0	1	10	1	10	22:45			0	9	12	9	12
11:00			0	5		5		23:00			0	4		4	
11:15			0	5		5		23:15			0	1		1	
11:30			0	3		3		23:30			0	0		0	
11:45			0	2	15	2	15	23:45			0	0	5	0	5
TOTALS					121		**121**	**TOTALS**					447		**447**
SPLIT %					100.0%		**21.3%**	**SPLIT %**					100.0%		**78.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	0	568	568

AM Peak Hour				11:45	**11:45**	**PM Peak Hour**				13:00	**13:00**
AM Pk Volume				65	**65**	**PM Pk Volume**				81	**81**
Pk Hr Factor				0.464	**0.464**	**Pk Hr Factor**				0.633	**0.633**
7 - 9 Volume	0	0	0	9	**9**	**4 - 6 Volume**	0	0	0	44	**44**
7 - 9 Peak Hour				07:15	**07:15**	**4 - 6 Peak Hour**				17:00	**17:00**
7 - 9 Pk Volume	0	0	0	7	**7**	**4 - 6 Pk Volume**	0	0	0	31	**31**
Pk Hr Factor	0.000	0.000	0.000	0.438	**0.438**	**Pk Hr Factor**	0.000	0.000	0.000	0.517	**0.517**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr Location #6

Day: Thursday
Date: 12/21/2017

City: Clearwater
Project #: FL17_3500_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	0	1,403	1,403

AM Period	NB	SB	EB	WB		TOTAL		PM Period	NB	SB	EB	WB		TOTAL	
00:00			0	4		4		12:00			0	32		32	
00:15			0	5		5		12:15			0	40		40	
00:30			0	3		3		12:30			0	32		32	
00:45			0	9	21	9	21	12:45			0	43	147	43	147
01:00			0	4		4		13:00			0	27		27	
01:15			0	3		3		13:15			0	36		36	
01:30			0	0		0		13:30			0	48		48	
01:45			0	0	7	0	7	13:45			0	29	140	29	140
02:00			0	1		1		14:00			0	20		20	
02:15			0	0		0		14:15			0	22		22	
02:30			0	0		0		14:30			0	24		24	
02:45			0	0	1	0	1	14:45			0	17	83	17	83
03:00			0	1		1		15:00			0	29		29	
03:15			0	1		1		15:15			0	18		18	
03:30			0	1		1		15:30			0	23		23	
03:45			0	0	3	0	3	15:45			0	15	85	15	85
04:00			0	3		3		16:00			0	24		24	
04:15			0	6		6		16:15			0	14		14	
04:30			0	13		13		16:30			0	18		18	
04:45			0	18	40	18	40	16:45			0	12	68	12	68
05:00			0	27		27		17:00			0	14		14	
05:15			0	36		36		17:15			0	26		26	
05:30			0	40		40		17:30			0	22		22	
05:45			0	36	139	36	139	17:45			0	26	88	26	88
06:00			0	20		20		18:00			0	27		27	
06:15			0	18		18		18:15			0	17		17	
06:30			0	12		12		18:30			0	15		15	
06:45			0	14	64	14	64	18:45			0	13	72	13	72
07:00			0	9		9		19:00			0	14		14	
07:15			0	3		3		19:15			0	13		13	
07:30			0	7		7		19:30			0	14		14	
07:45			0	8	27	8	27	19:45			0	30	71	30	71
08:00			0	13		13		20:00			0	21		21	
08:15			0	9		9		20:15			0	17		17	
08:30			0	12		12		20:30			0	14		14	
08:45			0	10	44	10	44	20:45			0	10	62	10	62
09:00			0	13		13		21:00			0	10		10	
09:15			0	13		13		21:15			0	10		10	
09:30			0	18		18		21:30			0	8		8	
09:45			0	13	57	13	57	21:45			0	6	34	6	34
10:00			0	12		12		22:00			0	7		7	
10:15			0	9		9		22:15			0	5		5	
10:30			0	11		11		22:30			0	5		5	
10:45			0	11	43	11	43	22:45			0	3	20	3	20
11:00			0	10		10		23:00			0	3		3	
11:15			0	18		18		23:15			0	2		2	
11:30			0	20		20		23:30			0	3		3	
11:45			0	30	78	30	78	23:45			0	1	9	1	9
TOTALS					524		**524**	**TOTALS**					879		**879**
SPLIT %					100.0%		**37.3%**	**SPLIT %**					100.0%		**62.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	0	1,403	1,403

AM Peak Hour				05:00	**05:00**	**PM Peak Hour**				12:45	**12:45**
AM Pk Volume				139	**139**	**PM Pk Volume**				154	**154**
Pk Hr Factor				0.869	**0.869**	**Pk Hr Factor**				0.802	**0.802**
7 - 9 Volume	0	0	0	71	**71**	**4 - 6 Volume**	0	0	0	156	**156**
7 - 9 Peak Hour				08:00	**08:00**	**4 - 6 Peak Hour**				17:00	**17:00**
7 - 9 Pk Volume	0	0	0	44	**44**	**4 - 6 Pk Volume**	0	0	0	88	**88**
Pk Hr Factor	0.000	0.000	0.000	0.846	**0.846**	**Pk Hr Factor**	0.000	0.000	0.000	0.846	**0.846**

Prepared by NDS/ATD

VOLUME

Airport Pkwy Dr 7 & Location #7

Day: Thursday
Date: 12/21/2017

City: Clearwater
Project #: FL17_3500_007

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	0	2,901	2,901

AM Period	NB	SB	EB	WB		TOTAL		PM Period	NB	SB	EB	WB		TOTAL	
00:00			0	2		2		12:00			0	56		56	
00:15			0	0		0		12:15			0	88		88	
00:30			0	1		1		12:30			0	78		78	
00:45			0	24	27	24	27	12:45			0	65	287	65	287
01:00			0	27		27		13:00			0	68		68	
01:15			0	3		3		13:15			0	67		67	
01:30			0	0		0		13:30			0	72		72	
01:45			0	1	31	1	31	13:45			0	104	311	104	311
02:00			0	2		2		14:00			0	65		65	
02:15			0	2		2		14:15			0	60		60	
02:30			0	0		0		14:30			0	46		46	
02:45			0	0	4	0	4	14:45			0	38	209	38	209
03:00			0	1		1		15:00			0	37		37	
03:15			0	1		1		15:15			0	28		28	
03:30			0	1		1		15:30			0	39		39	
03:45			0	2	5	2	5	15:45			0	50	154	50	154
04:00			0	5		5		16:00			0	26		26	
04:15			0	12		12		16:15			0	36		36	
04:30			0	22		22		16:30			0	32		32	
04:45			0	33	72	33	72	16:45			0	22	116	22	116
05:00			0	54		54		17:00			0	28		28	
05:15			0	60		60		17:15			0	19		19	
05:30			0	84		84		17:30			0	8		8	
05:45			0	83	281	83	281	17:45			0	8	63	8	63
06:00			0	82		82		18:00			0	21		21	
06:15			0	64		64		18:15			0	73		73	
06:30			0	47		47		18:30			0	60		60	
06:45			0	37	230	37	230	18:45			0	50	204	50	204
07:00			0	38		38		19:00			0	18		18	
07:15			0	21		21		19:15			0	10		10	
07:30			0	14		14		19:30			0	11		11	
07:45			0	11	84	11	84	19:45			0	25	64	25	64
08:00			0	20		20		20:00			0	39		39	
08:15			0	10		10		20:15			0	62		62	
08:30			0	21		21		20:30			0	55		55	
08:45			0	9	60	9	60	20:45			0	43	199	43	199
09:00			0	12		12		21:00			0	30		30	
09:15			0	6		6		21:15			0	66		66	
09:30			0	9		9		21:30			0	16		16	
09:45			0	7	34	7	34	21:45			0	8	120	8	120
10:00			0	9		9		22:00			0	5		5	
10:15			0	23		23		22:15			0	4		4	
10:30			0	41		41		22:30			0	4		4	
10:45			0	17	90	17	90	22:45			0	18	31	18	31
11:00			0	24		24		23:00			0	49		49	
11:15			0	34		34		23:15			0	12		12	
11:30			0	49		49		23:30			0	2		2	
11:45			0	54	161	54	161	23:45			0	1	64	1	64
TOTALS					1079	**1079**		**TOTALS**					1822	**1822**	
SPLIT %					100.0%	**37.2%**		**SPLIT %**					100.0%	**62.8%**	

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	0	2,901	2,901

AM Peak Hour				05:30	**05:30**	**PM Peak Hour**				13:00	**13:00**
AM Pk Volume				313	**313**	**PM Pk Volume**				311	**311**
Pk Hr Factor				0.932	**0.932**	**Pk Hr Factor**				0.748	**0.748**
7 - 9 Volume	0	0	0	144	**144**	**4 - 6 Volume**	0	0	0	179	**179**
7 - 9 Peak Hour				07:00	**07:00**	**4 - 6 Peak Hour**				16:15	**16:15**
7 - 9 Pk Volume	0	0	0	84	**84**	**4 - 6 Pk Volume**	0	0	0	118	**118**
Pk Hr Factor	0.000	0.000	0.000	0.553	**0.553**	**Pk Hr Factor**	0.000	0.000	0.000	0.819	**0.819**

APPENDIX D

Appendix D-3

Curbfront Operational Observation Forms

St. Pete Clearwater International Airport
Thursday, December 14th, 2017
AM Peak Period (5:00 AM - 7:00 AM)
Crosswalk: 1

Time	Size of Group	Origin	Crossing	Total Luggage	Vehicle Reaction
5:00	1	Lot	Ped X-Walk	1	No Car
5:00	1	Lot	Ped X-Walk	1	No Car
5:00	1	Lot	Ped X-Walk	2	No Car
5:00	1	Lot	Ped X-Walk	0	No Car
5:00	2	Lot	Ped X-Walk	3	No Car
5:00	1	Airport	Ped X-Walk	0	No Car
5:00	1	Lot	Ped X-Walk	2	No Car
5:00	1	Lot	Ped X-Walk	2	No Car
5:00	1	Airport	Ped X-Walk	0	No Car
5:10	2	Airport	Ped X-Walk	0	No Car
5:10	1	Airport	Ped X-Walk	0	No Car
5:10	1	Airport	Ped X-Walk	1	No Car
5:10	4	Lot	Ped X-Walk	4	Stopped
5:10	1	Lot	Ped X-Walk	2	Stopped
5:20	4	Lot	Ped X-Walk	4	No Car
5:20	2	Lot	Ped X-Walk	2	Stopped
5:20	1	Lot	Ped X-Walk	1	Stopped
5:20	1	Lot	Ped X-Walk	1	No Car
5:20	2	Lot	Ped X-Walk	3	No Car
5:20	1	Lot	Ped X-Walk	1	No Car
5:20	2	Lot	Ped X-Walk	2	No Car
5:20	1	Lot	Ped X-Walk	2	No Car
5:30	1	Airport	Ped X-Walk	0	No Car
5:30	1	Lot	Ped X-Walk	0	No Car
5:30	2	Lot	Ped X-Walk	2	No Car
5:30	1	Lot	Ped X-Walk	1	No Car
5:30	1	Airport	Ped X-Walk	0	No Car
5:30	1	Lot	Ped X-Walk	0	No Car
5:30	1	Airport	Ped X-Walk	0	No Car
5:30	1	Airport	Jaywalk	0	No Car
5:30	2	Airport	Ped X-Walk	1	No Car
5:30	1	Lot	Ped X-Walk	0	Stopped
5:30	1	Lot	Ped X-Walk	2	Stopped
5:30	1	Lot	Ped X-Walk	1	Stopped
5:30	1	Lot	Ped X-Walk	1	Stopped
5:30	1	Airport	Ped X-Walk	1	Stopped
5:40	1	Lot	Ped X-Walk	1	No Car
5:40	3	Lot	Ped X-Walk	3	Stopped
5:40	1	Lot	Ped X-Walk	2	Stopped
5:40	2	Lot	Ped X-Walk	3	Stopped
5:40	2	Lot	Ped X-Walk	3	No Car
5:40	2	Lot	Ped X-Walk	1	Stopped
5:40	4	Lot	Ped X-Walk	3	No Car
5:40	1	Lot	Ped X-Walk	0	Stopped
5:40	1	Lot	Ped X-Walk	2	Stopped
5:40	1	Lot	Ped X-Walk	2	Stopped
5:40	1	Lot	Ped X-Walk	1	Stopped
5:50	3	Lot	Ped X-Walk	3	Did Not Stop
5:50	1	Lot	Ped X-Walk	0	Stopped

5:50	2	Lot	Ped X-Walk	2	Stopped
5:50	2	Lot	Ped X-Walk	2	No Car
5:50	1	Lot	Jaywalk	0	No Car
5:50	2	Airport	Ped X-Walk	0	No Car
5:50	1	Airport	Ped X-Walk	0	No Car
5:50	1	Airport	Ped X-Walk	0	No Car
6:00	2	Lot	Ped X-Walk	2	No Car
6:00	3	Lot	Ped X-Walk	3	No Car
6:00	1	Lot	Ped X-Walk	0	No Car
6:00	1	Airport	Jaywalk	0	No Car
6:00	1	Lot	Ped X-Walk	1	No Car
6:00	4	Lot	Ped X-Walk	4	No Car
6:00	1	Airport	Ped X-Walk	0	No Car
6:10	1	Airport	Ped X-Walk	0	No Car
6:10	2	Lot	Ped X-Walk	1	No Car
6:10	1	Airport	Ped X-Walk	0	No Car
6:10	1	Airport	Ped X-Walk	0	No Car
6:10	1	Lot	Ped X-Walk	1	No Car
6:10	2	Lot	Ped X-Walk	1	No Car
6:10	1	Airport	Ped X-Walk	0	No Car
6:10	1	Lot	Ped X-Walk	2	No Car
6:10	1	Lot	Ped X-Walk	2	No Car
6:20	2	Lot	Ped X-Walk	2	Did Not Stop
6:20	1	Lot	Ped X-Walk	0	No Car
6:20	3	Lot	Ped X-Walk	2	No Car
6:20	2	Lot	Ped X-Walk	2	No Car
6:30	1	Airport	Ped X-Walk	1	No Car
6:30	1	Airport	Ped X-Walk	0	No Car
6:30	2	Airport	Ped X-Walk	0	No Car
6:30	1	Lot	Ped X-Walk	0	No Car
6:30	1	Lot	Ped X-Walk	2	Stopped
6:30	1	Airport	Ped X-Walk	0	No Car
6:40	2	Lot	Ped X-Walk	2	No Car
6:50	1	Airport	Ped X-Walk	0	No Car

St. Pete Clearwater International Airport
Thursday, December 14th, 2017
AM Peak Period (5:00 AM - 7:00 AM)
Crosswalk: 2

Time	Size of Group	Origin	Crossing	Total Luggage	Vehicle Reaction
5:00	1	Lot	Ped X-Walk	0	No Car
5:00	2	Lot	Ped X-Walk	0	Stopped
5:00	1	Lot	Ped X-Walk	1	No Car
5:10	1	Airport	Ped X-Walk	0	Stopped
5:20	4	Lot	Ped X-Walk	4	No Car
5:20	3	Lot	Ped X-Walk	2	No Car
5:30	2	Airport	Ped X-Walk	0	No Car
5:30	2	Lot	Ped X-Walk	2	Stopped
5:30	2	Lot	Ped X-Walk	1	No Car
5:40	2	Lot	Ped X-Walk	1	Stopped
5:40	1	Lot	Ped X-Walk	0	No Car
5:40	1	Airport	Ped X-Walk	0	Stopped
5:50	1	Lot	Ped X-Walk	2	No Car
5:50	2	Lot	Ped X-Walk	2	No Car
5:50	2	Lot	Ped X-Walk	0	Stopped
5:50	1	Airport	Ped X-Walk	0	No Car
6:00	3	Lot	Ped X-Walk	0	Stopped
6:00	1	Lot	Ped X-Walk	0	No Car
6:00	1	Lot	Ped X-Walk	1	Stopped
6:10	1	Lot	Ped X-Walk	1	Stopped
6:20	3	Lot	Ped X-Walk	2	No Car
6:20	1	Airport	Ped X-Walk	0	No Car
6:30	1	Lot	Ped X-Walk	0	No Car
6:30	1	Lot	Ped X-Walk	0	Stopped
6:40	2	Lot	Ped X-Walk	2	No Car
6:50	1	Lot	Ped X-Walk	1	Stopped

St. Pete Clearwater International Airport
Thursday, December 14th, 2017
AM Peak Period (5:00 AM - 7:00 AM)
Crosswalk: 3

Time	Size of Group	Origin	Crossing	Total Luggage	Vehicle Reaction
5:10	3	Lot	Ped X-Walk	0	Stopped
5:10	2	Lot	Ped X-Walk	3	Stopped
5:30	1	Lot	Ped X-Walk	1	No Car
5:30	1	Lot	Jaywalking	0	No Car
5:30	1	Airport	Ped X-Walk	0	No Car
6:00	1	Airport	Jaywalking	0	No Car

St. Pete Clearwater International Airport
Thursday, December 14th, 2017
AM Peak Period (5:00 AM - 7:00 AM)
Crosswalk: 4

Time	Size of Group	Origin	Crossing	Total Luggage	Vehicle Reaction
5:00	2	Lot	Ped X-Walk	3	No Car
5:00	1	Lot	Ped X-Walk	2	Stopped
5:00	2	Lot	Ped X-Walk	1	Stopped
5:10	5	Lot	Ped X-Walk	4	Stopped
5:20	4	Lot	Ped X-Walk	2	Stopped
5:20	2	Lot	Ped X-Walk	2	No Car
5:20	2	Lot	Ped X-Walk	2	Did Not Stop
5:20	2	Lot	Ped X-Walk	1	No Car
5:20	1	Lot	Ped X-Walk	1	No Car
5:20	2	Lot	Ped X-Walk	4	No Car
5:20	3	Lot	Ped X-Walk	2	Stopped
5:20	3	Lot	Ped X-Walk	2	Stopped
5:30	2	Lot	Ped X-Walk	2	No Car
5:30	2	Lot	Ped X-Walk	2	No Car
5:30	2	Lot	Ped X-Walk	3	No Car
5:30	1	Lot	Jaywalking	1	No Car
5:30	2	Lot	Ped X-Walk	2	No Car
5:30	1	Lot	Ped X-Walk	1	No Car
5:30	3	Lot	Ped X-Walk	2	No Car
5:30	1	Lot	Ped X-Walk	1	Stopped
5:40	1	Lot	Ped X-Walk	1	No Car
5:40	1	Lot	Ped X-Walk	1	Stopped
5:40	2	Lot	Ped X-Walk	1	No Car
5:40	1	Lot	Ped X-Walk	1	No Car
5:40	2	Lot	Ped X-Walk	0	No Car
5:40	3	Lot	Ped X-Walk	4	No Car
5:40	1	Lot	Jaywalking	0	Stopped
5:50	1	Lot	Ped X-Walk	0	No Car
5:50	1	Lot	Ped X-Walk	1	Stopped
5:50	8	Lot	Ped X-Walk	4	No Car
5:50	2	Lot	Ped X-Walk	1	No Car
6:00	2	Lot	Ped X-Walk	1	No Car
6:00	1	Lot	Ped X-Walk	0	Stopped
6:00	1	Lot	Ped X-Walk	1	No Car
6:00	1	Lot	Ped X-Walk	1	Stopped
6:10	2	Lot	Ped X-Walk	2	No Car
6:10	1	Lot	Ped X-Walk	1	No Car
6:20	3	Lot	Ped X-Walk	1	No Car
6:20	3	Lot	Ped X-Walk	2	No Car
6:20	2	Lot	Ped X-Walk	1	No Car
6:30	1	Lot	Ped X-Walk	1	No Car
6:40	2	Lot	Ped X-Walk	2	No Car
6:40	1	Airport	Ped X-Walk	0	No Car
6:50	1	Lot	Jaywalking	1	No Car
6:50	2	Lot	Ped X-Walk	4	Stopped
6:50	1	Lot	Ped X-Walk	2	Stopped
6:50	2	Lot	Ped X-Walk	4	Stopped
6:50	2	Lot	Ped X-Walk	0	No Car

St. Pete Clearwater International Airport
Thursday, December 14th, 2017
AM Peak Period (5:00 AM - 7:00 AM)
Crosswalk: 5

Time	Size of Group	Origin	Crossing	Total Luggage	Vehicle Reaction
5:00	4	Lot	Ped X-Walk	3	No Car
5:00	2	Lot	Ped X-Walk	2	No Car
5:00	1	Lot	Ped X-Walk	0	No Car
5:00	1	Lot	Ped X-Walk	2	No Car
5:00	1	Lot	Ped X-Walk	1	No Car
5:00	2	Lot	Ped X-Walk	2	No Car
5:00	2	Lot	Ped X-Walk	2	No Car
5:00	2	Lot	Ped X-Walk	2	Stopped
5:00	1	Lot	Ped X-Walk	0	Stopped
5:00	1	Lot	Ped X-Walk	0	Stopped
5:00	1	Lot	Ped X-Walk	2	No Car
5:00	4	Lot	Ped X-Walk	3	Stopped
5:10	2	Lot	Ped X-Walk	2	Did Not Stop
5:10	2	Lot	Ped X-Walk	1	Stopped
5:10	1	Lot	Ped X-Walk	0	Stopped
5:10	1	Airport	Ped X-Walk	0	Stopped
5:10	2	Lot	Ped X-Walk	2	Did Not Stop
5:10	2	Lot	Ped X-Walk	3	Stopped
5:10	2	Lot	Ped X-Walk	0	Stopped
5:10	1	Lot	Ped X-Walk	3	Stopped
5:10	1	Lot	Ped X-Walk	0	Stopped
5:20	2	Lot	Ped X-Walk	2	Stopped
5:20	1	Lot	Jaywalk	0	No Car
5:20	2	Lot	Ped X-Walk	2	Stopped
5:20	1	Lot	Ped X-Walk	0	Stopped
5:20	3	Lot	Ped X-Walk	3	Stopped
5:20	2	Lot	Ped X-Walk	2	Stopped
5:20	2	Lot	Ped X-Walk	2	No Car
5:20	2	Lot	Ped X-Walk	2	Stopped
5:20	2	Lot	Ped X-Walk	2	Stopped
5:20	2	Lot	Ped X-Walk	2	Stopped
5:20	1	Lot	Ped X-Walk	1	Stopped
5:20	1	Lot	Ped X-Walk	1	No Car
5:20	3	Lot	Ped X-Walk	3	No Car
5:20	1	Lot	Ped X-Walk	1	Stopped
5:20	2	Lot	Ped X-Walk	1	Stopped
5:20	1	Lot	Ped X-Walk	1	Stopped
5:30	1	Lot	Ped X-Walk	1	Stopped
5:30	1	Lot	Ped X-Walk	1	Stopped
5:30	1	Lot	Ped X-Walk	0	No Car
5:30	2	Lot	Ped X-Walk	0	Stopped
5:30	1	Lot	Ped X-Walk	2	No Car
5:30	2	Lot	Ped X-Walk	2	Stopped
5:30	3	Lot	Ped X-Walk	4	Stopped
5:30	1	Lot	Ped X-Walk	0	Stopped
5:30	1	Lot	Ped X-Walk	0	No Car
5:30	2	Lot	Ped X-Walk	2	No Car
5:30	2	Lot	Ped X-Walk	2	No Car
5:30	2	Lot	Ped X-Walk	3	No Car

5:30	4	Lot	Ped X-Walk	4	No Car
5:30	1	Lot	Ped X-Walk	0	Stopped
5:30	3	Lot	Ped X-Walk	2	No Car
5:30	2	Lot	Ped X-Walk	2	Stopped
5:30	4	Lot	Ped X-Walk	4	Stopped
5:40	1	Airport	Ped X-Walk	0	Stopped
5:40	7	Lot	Ped X-Walk	4	Stopped
5:40	1	Airport	Ped X-Walk	0	Stopped
5:40	1	Lot	Ped X-Walk	1	Stopped
5:40	2	Lot	Ped X-Walk	1	Stopped
5:40	4	Lot	Ped X-Walk	4	Stopped
5:40	1	Lot	Ped X-Walk	0	Stopped
5:40	2	Lot	Ped X-Walk	2	Stopped
5:40	2	Lot	Ped X-Walk	1	Stopped
5:40	2	Lot	Ped X-Walk	0	Stopped
5:40	3	Lot	Ped X-Walk	3	No Car
5:40	2	Lot	Ped X-Walk	1	Stopped
5:50	2	Lot	Ped X-Walk	2	No Car
5:50	1	Lot	Ped X-Walk	0	Stopped
5:50	2	Lot	Ped X-Walk	2	Stopped
5:50	1	Lot	Ped X-Walk	1	Stopped
5:50	1	Lot	Ped X-Walk	0	Stopped
5:50	3	Lot	Ped X-Walk	3	Did Not Stop
5:50	2	Lot	Ped X-Walk	1	Stopped
5:50	3	Lot	Ped X-Walk	2	Stopped
5:50	2	Lot	Ped X-Walk	2	Stopped
5:50	2	Lot	Ped X-Walk	2	Stopped
5:50	4	Lot	Ped X-Walk	4	Stopped
5:50	2	Lot	Ped X-Walk	1	Stopped
5:50	2	Lot	Ped X-Walk	2	No Car
5:50	2	Lot	Ped X-Walk	1	No Car
5:50	2	Lot	Ped X-Walk	2	Stopped
5:50	2	Lot	Ped X-Walk	2	Stopped
5:50	2	Lot	Ped X-Walk	2	Stopped
5:50	2	Lot	Ped X-Walk	1	No Car
5:50	1	Lot	Ped X-Walk	1	Stopped
5:50	2	Lot	Ped X-Walk	1	Stopped
6:00	8	Lot	Ped X-Walk	4	Stopped
6:00	1	Lot	Ped X-Walk	1	Stopped
6:00	5	Lot	Ped X-Walk	4	Stopped
6:00	2	Lot	Ped X-Walk	2	Stopped
6:00	2	Lot	Ped X-Walk	2	Stopped Abruptly
6:00	1	Lot	Ped X-Walk	1	Stopped
6:00	1	Lot	Ped X-Walk	0	No Car
6:00	1	Lot	Ped X-Walk	1	Stopped
6:00	2	Lot	Ped X-Walk	2	Stopped
6:00	2	Lot	Ped X-Walk	1	Stopped
6:00	1	Lot	Ped X-Walk	0	Stopped
6:00	1	Lot	Ped X-Walk	1	Stopped
6:10	2	Lot	Ped X-Walk	2	Stopped
6:10	2	Lot	Ped X-Walk	2	Stopped
6:10	2	Lot	Ped X-Walk	2	Stopped
6:10	2	Lot	Ped X-Walk	2	Stopped
6:10	1	Lot	Ped X-Walk	1	Stopped

6:10	1	Lot	Ped X-Walk	1	Stopped Abruptly
6:10	2	Lot	Ped X-Walk	1	Did Not Stop
6:10	3	Lot	Ped X-Walk	2	No Car
6:20	2	Lot	Ped X-Walk	2	No Car
6:20	1	Lot	Ped X-Walk	1	Did Not Stop
6:20	2	Lot	Ped X-Walk	2	Stopped
6:20	1	Lot	Ped X-Walk	1	Stopped
6:20	1	Lot	Jaywalk	1	No Car
6:20	8	Lot	Ped X-Walk	4	Stopped
6:20	1	Lot	Ped X-Walk	1	Stopped Abruptly
6:20	1	Lot	Ped X-Walk	1	Did Not Stop
6:20	4	Lot	Ped X-Walk	4	No Car
6:30	2	Lot	Ped X-Walk	2	No Car
6:30	3	Lot	Ped X-Walk	3	Did Not Stop
6:30	1	Lot	Ped X-Walk	1	No Car
6:30	2	Lot	Ped X-Walk	2	Stopped Abruptly
6:30	1	Lot	Ped X-Walk	1	Stopped
6:30	1	Lot	Ped X-Walk	1	No Car
6:30	1	Lot	Ped X-Walk	0	Did Not Stop
6:30	1	Lot	Ped X-Walk	1	Stopped
6:40	2	Lot	Ped X-Walk	2	Stopped
6:40	1	Airport	Ped X-Walk	0	Stopped
6:40	1	Lot	Ped X-Walk	0	Did Not Stop
6:40	2	Lot	Ped X-Walk	1	Stopped
6:40	2	Lot	Ped X-Walk	2	Stopped
6:40	2	Lot	Ped X-Walk	1	Stopped
6:40	2	Lot	Ped X-Walk	2	No Car
6:40	1	Lot	Ped X-Walk	0	No Car
6:40	2	Lot	Ped X-Walk	1	No Car
6:50	3	Lot	Ped X-Walk	3	No Car
6:50	1	Lot	Ped X-Walk	0	Stopped
6:50	2	Lot	Ped X-Walk	2	Stopped
6:50	1	Lot	Ped X-Walk	1	No Car
7:00	2	Lot	Ped X-Walk	2	No Car

St. Pete Clearwater International Airport
Thursday, December 14th, 2017
PM Peak Period (12:00 PM - 2:00 PM)
Crosswalk: 1

Time	Size of Group	Origin	Crossing	Total Luggage	Vehicle Reaction
12:00	2	Lot	Ped X-Walk	0	No Car
12:00	1	Lot	Ped X-Walk	0	No Car
12:00	2	Lot	Ped X-Walk	2	No Car
12:00	1	Lot	Ped X-Walk	0	No Car
12:00	2	Airport	Ped X-Walk	0	No Car
12:00	1	Airport	Jaywalk	0	No Car
12:00	2	Lot	Ped X-Walk	4	No Car
12:10	1	Airport	Ped X-Walk	9	No Car
12:10	1	Airport	Ped X-Walk	1	No Car
12:10	2	Lot	Ped X-Walk	3	No Car
12:10	2	Lot	Ped X-Walk	3	No Car
12:10	2	Lot	Ped X-Walk	2	No Car
12:10	3	Lot	Ped X-Walk	2	No Car
12:10	1	Lot	Ped X-Walk	0	No Car
12:10	2	Airport	Ped X-Walk	0	No Car
12:10	1	Lot	Ped X-Walk	0	No Car
12:10	1	Airport	Jaywalk	0	No Car
12:20	1	Lot	Jaywalk	0	No Car
12:20	2	Airport	Ped X-Walk	0	No Car
12:20	2	Airport	Ped X-Walk	0	No Car
12:20	2	Airport	Ped X-Walk	0	No Car
12:20	2	Airport	Ped X-Walk	0	No Car
12:20	2	Lot	Jaywalk	2	No Car
12:20	2	Airport	Ped X-Walk	1	No Car
12:30	2	Lot	Ped X-Walk	0	No Car
12:30	1	Airport	Ped X-Walk	1	No Car
12:30	2	Lot	Ped X-Walk	1	No Car
12:30	1	Airport	Ped X-Walk	0	No Car
12:30	1	Airport	Ped X-Walk	0	No Car
12:30	1	Lot	Ped X-Walk	1	No Car
12:30	1	Airport	Ped X-Walk	0	No Car
12:30	2	Lot	Ped X-Walk	0	No Car
12:30	1	Lot	Ped X-Walk	0	No Car
12:30	2	Lot	Ped X-Walk	1	No Car
12:30	1	Airport	Ped X-Walk	0	No Car
12:30	1	Lot	Ped X-Walk	0	No Car
12:30	2	Lot	Ped X-Walk	0	No Car
12:40	2	Lot	Ped X-Walk	2	No Car
12:40	1	Lot	Ped X-Walk	9	No Car
12:40	3	Airport	Jaywalk	1	No Car
12:40	1	Lot	Ped X-Walk	0	No Car
12:40	1	Lot	Ped X-Walk	0	No Car
12:40	2	Lot	Ped X-Walk	0	No Car
12:40	1	Airport	Ped X-Walk	0	No Car
12:40	4	Lot	Ped X-Walk	4	No Car
12:40	2	Lot	Ped X-Walk	3	No Car
12:40	2	Lot	Ped X-Walk	0	No Car
12:50	2	Lot	Ped X-Walk	1	No Car
12:50	1	Lot	Ped X-Walk	0	No Car

12:50	1	Airport	Ped X-Walk	0	No Car
12:50	3	Lot	Jaywalk	3	No Car
12:50	1	Airport	Ped X-Walk	1	No Car
12:50	2	Airport	Ped X-Walk	0	No Car
12:50	1	Lot	Ped X-Walk	1	No Car
12:50	4	Lot	Ped X-Walk	2	No Car
12:50	2	Lot	Ped X-Walk	4	No Car
13:00	2	Airport	Ped X-Walk	2	No Car
13:00	1	Lot	Jaywalk	1	No Car
13:00	4	Lot	Ped X-Walk	4	No Car
13:00	2	Lot	Ped X-Walk	0	No Car
13:00	1	Lot	Ped X-Walk	0	No Car
13:00	2	Lot	Ped X-Walk	2	No Car
13:00	1	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	1	Airport	Jaywalk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	2	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	1	No Car
13:10	1	Airport	Jaywalk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	1	Airport	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	1	Airport	Ped X-Walk	1	No Car
13:10	1	Airport	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:20	1	Lot	Ped X-Walk	0	No Car
13:20	1	Lot	Ped X-Walk	0	No Car
13:20	1	Lot	Ped X-Walk	2	No Car
13:20	2	Airport	Ped X-Walk	1	No Car
13:20	3	Airport	Ped X-Walk	0	No Car
13:20	1	Lot	Ped X-Walk	2	No Car
13:20	1	Lot	Ped X-Walk	1	No Car
13:20	1	Airport	Ped X-Walk	0	No Car
13:20	1	Lot	Ped X-Walk	0	No Car
13:20	1	Airport	Ped X-Walk	1	No Car
13:20	2	Airport	Jaywalk	1	No Car
13:20	1	Airport	Ped X-Walk	0	No Car
13:20	1	Airport	Ped X-Walk	2	No Car
13:30	2	Airport	Jaywalk	0	No Car
13:30	1	Airport	Ped X-Walk	0	No Car
13:30	3	Airport	Ped X-Walk	3	No Car
13:30	1	Lot	Ped X-Walk	0	No Car
13:30	2	Airport	Ped X-Walk	3	No Car
13:30	1	Airport	Ped X-Walk	0	No Car
13:30	2	Lot	Ped X-Walk	0	No Car
13:40	1	Lot	Ped X-Walk	1	No Car
13:40	1	Airport	Ped X-Walk	0	No Car
13:40	2	Lot	Ped X-Walk	0	No Car
13:40	1	Lot	Ped X-Walk	0	No Car
13:40	1	Airport	Ped X-Walk	1	No Car

13:40	1	Airport	Jaywalk	1	No Car
13:50	1	Airport	Ped X-Walk	0	No Car
13:50	2	Airport	Ped X-Walk	0	No Car
13:50	1	Lot	Ped X-Walk	0	No Car
13:50	3	Airport	Ped X-Walk	1	No Car
13:50	3	Airport	Ped X-Walk	2	No Car

St. Pete Clearwater International Airport
Thursday, December 14th, 2017
PM Peak Period (12:00 PM - 2:00 PM)
Crosswalk: 2

Time	Size of Group	Origin	Crossing	Total Luggage	Vehicle Reaction
12:00	1	Lot	Ped X-Walk	1	No Car
12:00	2	Lot	Ped X-Walk	2	Stopped
12:00	1	Lot	Ped X-Walk	0	No Car
12:00	3	Lot	Ped X-Walk	1	No Car
12:10	3	Airport	Ped X-Walk	0	Stopped
12:10	1	Lot	Ped X-Walk	0	Stopped
12:10	3	Lot	Ped X-Walk	0	Stopped
12:10	1	Lot	Ped X-Walk	0	No Car
12:10	1	Lot	Ped X-Walk	0	Stopped
12:10	2	Lot	Ped X-Walk	0	No Car
12:10	1	Lot	Ped X-Walk	0	Stopped
12:20	1	Lot	Ped X-Walk	0	Stopped
12:20	1	Lot	Jaywalking	0	No Car
12:20	1	Lot	Ped X-Walk	0	No Car
12:20	2	Lot	Ped X-Walk	0	Stopped
12:20	3	Lot	Ped X-Walk	2	Stopped
12:20	2	Lot	Ped X-Walk	0	Stopped
12:20	1	Lot	Ped X-Walk	1	Stopped
12:20	3	Airport	Ped X-Walk	2	No Car
12:20	2	Lot	Ped X-Walk	1	No Car
12:30	1	Lot	Ped X-Walk	0	No Car
12:30	1	Lot	Ped X-Walk	0	Stopped
12:30	1	Lot	Ped X-Walk	0	Stopped
12:30	4	Airport	Ped X-Walk	2	Stopped
12:30	1	Airport	Ped X-Walk	0	Stopped
12:30	1	Lot	Ped X-Walk	0	Stopped
12:40	3	Lot	Ped X-Walk	2	Stopped
12:40	3	Lot	Ped X-Walk	0	Stopped
12:40	2	Airport	Ped X-Walk	1	Stopped
12:40	1	Lot	Ped X-Walk	0	No Car
12:50	2	Airport	Ped X-Walk	1	Stopped
12:50	3	Airport	Ped X-Walk	1	No Car
12:50	3	Lot	Ped X-Walk	2	Stopped
12:50	4	Airport	Ped X-Walk	2	Stopped
12:50	1	Lot	Ped X-Walk	0	Stopped
12:50	1	Lot	Ped X-Walk	1	Stopped
12:50	3	Airport	Ped X-Walk	2	No Car
12:50	2	Airport	Ped X-Walk	3	Stopped
12:50	1	Lot	Ped X-Walk	0	Stopped
12:50	1	Lot	Ped X-Walk	0	Stopped
12:50	1	Airport	Ped X-Walk	1	Stopped
12:50	1	Lot	Ped X-Walk	0	Stopped
13:00	3	Lot	Ped X-Walk	0	Stopped
13:00	2	Lot	Ped X-Walk	1	Stopped
13:00	2	Lot	Ped X-Walk	0	Stopped
13:00	1	Lot	Ped X-Walk	0	Stopped
13:00	2	Airport	Ped X-Walk	1	Stopped
13:00	1	Lot	Ped X-Walk	0	Stopped
13:00	4	Airport	Ped X-Walk	1	Stopped

13:00	1	Lot	Ped X-Walk	0	Stopped
13:00	1	Lot	Ped X-Walk	1	Stopped
13:00	1	Lot	Ped X-Walk	0	Stopped
13:00	5	Airport	Ped X-Walk	4	Stopped
13:00	2	Airport	Ped X-Walk	2	Stopped
13:00	2	Lot	Ped X-Walk	0	No Car
13:00	1	Airport	Ped X-Walk	0	No Car
13:00	2	Lot	Ped X-Walk	0	No Car
13:00	5	Airport	Ped X-Walk	2	Stopped
13:00	1	Lot	Ped X-Walk	4	Stopped
13:00	2	Airport	Ped X-Walk	0	No Car
13:00	1	Lot	Ped X-Walk	0	No Car
13:00	1	Lot	Ped X-Walk	1	No Car
13:00	2	Lot	Ped X-Walk	0	Stopped
13:10	2	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	Stopped
13:10	1	Lot	Ped X-Walk	0	Stopped
13:10	3	Lot	Ped X-Walk	0	Stopped
13:10	3	Lot	Ped X-Walk	1	Stopped
13:10	1	Lot	Ped X-Walk	0	Stopped
13:10	2	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	1	Airport	Ped X-Walk	1	Stopped
13:10	2	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	1	No Car
13:10	2	Lot	Ped X-Walk	0	No Car
13:10	3	Airport	Ped X-Walk	1	No Car
13:10	1	Lot	Ped X-Walk	0	Stopped
13:10	1	Airport	Ped X-Walk	0	No Car
13:10	1	Lot	Ped X-Walk	0	Stopped
13:20	6	Airport	Ped X-Walk	4	Stopped
13:20	2	Lot	Ped X-Walk	0	No Car
13:20	3	Lot	Ped X-Walk	0	No Car
13:20	1	Airport	Ped X-Walk	0	No Car
13:20	1	Lot	Ped X-Walk	0	Stopped
13:20	1	Airport	Ped X-Walk	0	No Car
13:20	1	Lot	Ped X-Walk	0	Stopped
13:20	2	Airport	Ped X-Walk	1	Stopped
13:20	1	Lot	Ped X-Walk	0	Stopped
13:20	3	Airport	Ped X-Walk	2	Stopped
13:20	7	Airport	Ped X-Walk	4	Stopped
13:20	2	Airport	Ped X-Walk	2	Stopped
13:20	2	Lot	Ped X-Walk	0	Stopped
13:20	2	Lot	Ped X-Walk	0	Stopped
13:20	1	Airport	Ped X-Walk	2	Stopped
13:20	2	Lot	Ped X-Walk	1	Stopped
13:20	7	Airport	Ped X-Walk	4	Stopped
13:30	1	Lot	Ped X-Walk	0	Stopped
13:30	2	Airport	Ped X-Walk	2	Stopped
13:30	4	Lot	Ped X-Walk	0	Stopped
13:30	2	Airport	Ped X-Walk	2	Stopped

13:30	4	Airport	Ped X-Walk	2	Stopped
13:30	1	Lot	Ped X-Walk	0	Stopped
13:30	2	Airport	Ped X-Walk	1	Stopped
13:30	4	Airport	Ped X-Walk	3	Stopped
13:30	1	Lot	Ped X-Walk	0	Stopped
13:30	1	Airport	Ped X-Walk	1	Stopped
13:30	1	Lot	Ped X-Walk	0	Stopped
13:30	1	Lot	Ped X-Walk	0	Stopped
13:30	1	Lot	Ped X-Walk	0	Stopped
13:30	2	Lot	Ped X-Walk	0	Stopped
13:40	3	Lot	Ped X-Walk	0	Stopped
13:40	4	Lot	Ped X-Walk	0	Stopped
13:40	2	Airport	Ped X-Walk	2	Stopped
13:40	3	Airport	Ped X-Walk	0	Stopped
13:40	1	Lot	Ped X-Walk	0	Stopped
13:40	1	Lot	Ped X-Walk	0	Stopped
13:40	1	Airport	Ped X-Walk	0	Stopped
13:50	1	Lot	Ped X-Walk	0	Stopped
13:50	3	Lot	Ped X-Walk	0	Stopped
13:50	2	Lot	Ped X-Walk	0	Stopped
13:50	1	Lot	Ped X-Walk	0	Stopped
13:50	2	Lot	Ped X-Walk	0	Stopped
13:50	1	Lot	Ped X-Walk	0	Stopped
13:50	2	Lot	Ped X-Walk	0	Did Not Stop
13:50	1	Lot	Ped X-Walk	0	Stopped
13:50	2	Lot	Ped X-Walk	0	Stopped
13:50	1	Lot	Ped X-Walk	0	Stopped
13:50	3	Airport	Ped X-Walk	0	Stopped
13:50	1	Lot	Ped X-Walk	0	No Car
13:50	2	Airport	Ped X-Walk	0	Stopped
13:50	2	Airport	Ped X-Walk	1	No Car

St. Pete Clearwater International Airport
Thursday, December 14th, 2017
PM Peak Period (12:00 PM - 2:00 PM)
Crosswalk: 3

Time	Size of Group	Origin	Crossing	Total Luggage	Vehicle Reaction
12:00	1	Airport	Ped X-Walk	1	No Car
12:00	1	Airport	Ped X-Walk	0	No Car
12:00	1	Airport	Ped X-Walk	0	No Car
12:20	1	Lot	Ped X-Walk	0	No Car
12:20	2	Airport	Ped X-Walk	1	Stopped
12:20	3	Airport	Ped X-Walk	1	Stopped
12:30	2	Airport	Ped X-Walk	1	Stopped
12:30	6	Airport	Ped X-Walk	3	Stopped
12:30	5	Airport	Ped X-Walk	4	Stopped
12:40	2	Airport	Ped X-Walk	2	Stopped
12:40	1	Airport	Ped X-Walk	1	No Car
12:50	3	Lot	Ped X-Walk	0	No Car
12:50	1	Lot	Ped X-Walk	0	Stopped
13:00	2	Lot	Ped X-Walk	1	Abruptly Stopped
13:00	2	Airport	Ped X-Walk	2	Stopped
13:00	2	Airport	Ped X-Walk	0	Stopped
13:10	1	Airport	Ped X-Walk	0	No Car
13:20	1	Airport	Ped X-Walk	0	Stopped
13:20	2	Airport	Ped X-Walk	2	Stopped
13:20	2	Airport	Ped X-Walk	1	Stopped
13:20	1	Airport	Ped X-Walk	0	Stopped
13:20	2	Lot	Ped X-Walk	3	Stopped
13:30	1	Airport	Ped X-Walk	1	Stopped
13:30	1	Airport	Ped X-Walk	1	Stopped
13:30	3	Airport	Ped X-Walk	2	Stopped
13:30	1	Airport	Ped X-Walk	1	Stopped
13:40	1	Airport	Ped X-Walk	1	Stopped
13:40	3	Airport	Ped X-Walk	3	Stopped
13:40	2	Airport	Ped X-Walk	1	Stopped
13:50	2	Lot	Ped X-Walk	2	Stopped
13:50	1	Airport	Ped X-Walk	0	Stopped

St. Pete Clearwater International Airport
Thursday, December 14th, 2017
PM Peak Period (12:00 PM - 2:00 PM)
Crosswalk: 4

Time	Size of Group	Origin	Crossing	Total Luggage	Vehicle Reaction
12:00	2	Lot	Ped X-Walk	2	No Car
12:00	1	Lot	Ped X-Walk	0	No Car
12:00	1	Lot	Ped X-Walk	0	No Car
12:00	1	Lot	Ped X-Walk	0	Stopped
12:20	1	Lot	Ped X-Walk	0	Stopped
12:20	1	Lot	Ped X-Walk	0	No Car
12:20	1	Lot	Ped X-Walk	0	Stopped
12:30	2	Airport	Ped X-Walk	2	Stopped
12:40	2	Airport	Ped X-Walk	0	No Car
12:40	2	Lot	Ped X-Walk	0	No Car
12:50	2	Lot	Ped X-Walk	4	Stopped
12:50	1	Lot	Ped X-Walk	1	Stopped
13:00	2	Airport	Ped X-Walk	1	No Car
13:00	3	Airport	Ped X-Walk	2	Stopped
13:00	2	Airport	Ped X-Walk	2	Stopped
13:00	2	Airport	Ped X-Walk	1	Stopped
13:00	1	Lot	Ped X-Walk	2	Stopped
13:00	3	Airport	Ped X-Walk	3	Stopped
13:00	1	Lot	Jaywalking	0	Stopped
13:00	2	Lot	Ped X-Walk	0	Stopped
13:30	3	Airport	Ped X-Walk	0	Stopped
13:30	1	Airport	Ped X-Walk	0	Stopped
13:30	2	Lot	Ped X-Walk	0	Stopped
13:40	2	Airport	Ped X-Walk	2	Stopped
13:40	1	Airport	Ped X-Walk	2	Stopped
13:40	3	Airport	Ped X-Walk	2	Stopped
13:40	3	Airport	Ped X-Walk	3	Stopped
13:40	3	Airport	Ped X-Walk	2	Stopped
13:40	2	Lot	Ped X-Walk	3	Stopped
13:40	1	Lot	Ped X-Walk	0	Stopped
13:40	1	Lot	Ped X-Walk	0	Stopped
13:40	1	Airport	Ped X-Walk	0	Stopped
13:50	1	Airport	Ped X-Walk	1	No Car

St. Pete Clearwater International Airport
Thursday, December 14th, 2017
PM Peak Period (12:00 PM - 2:00 PM)
Crosswalk: 5

Time	Size of Group	Origin	Crossing	Total Luggage	Vehicle Reaction
12:00	1	Lot	Ped X-Walk	2	No Car
12:00	1	Lot	Ped X-Walk	1	Stopped
12:00	1	Airport	Ped X-Walk	0	Stopped
12:00	1	Lot	Ped X-Walk	1	Stopped
12:00	1	Lot	Jaywalking	0	Did Not Stop
12:00	1	Lot	Ped X-Walk	1	Stopped
12:00	2	Lot	Ped X-Walk	2	No Car
12:00	1	Lot	Ped X-Walk	0	Stopped
12:00	2	Lot	Ped X-Walk	2	Stopped
12:10	1	Lot	Ped X-Walk	0	No Car
12:10	1	Lot	Ped X-Walk	0	Stopped
12:10	1	Lot	Ped X-Walk	1	Stopped
12:10	2	Lot	Ped X-Walk	2	No Car
12:10	2	Lot	Ped X-Walk	2	Stopped
12:10	4	Lot	Ped X-Walk	4	Stopped
12:10	1	Airport	Ped X-Walk	0	Abruptly Stopped
12:10	1	Lot	Ped X-Walk	0	No Car
12:10	1	Lot	Jaywalking	2	Stopped
12:10	1	Lot	Ped X-Walk	0	Stopped
12:10	1	Lot	Ped X-Walk	1	No Car
12:10	2	Lot	Ped X-Walk	2	No Car
12:10	2	Lot	Ped X-Walk	2	No Car
12:10	2	Lot	Ped X-Walk	2	Did Not Stop
12:10	1	Airport	Ped X-Walk	0	Stopped
12:20	1	Lot	Ped X-Walk	1	Stopped
12:20	2	Lot	Ped X-Walk	1	Did Not Stop
12:20	1	Lot	Ped X-Walk	0	Stopped
12:20	1	Lot	Ped X-Walk	1	Stopped
12:20	9	Lot	Ped X-Walk	4	Stopped
12:20	4	Lot	Ped X-Walk	4	Stopped
12:20	2	Lot	Ped X-Walk	2	Stopped
12:30	3	Lot	Ped X-Walk	1	Stopped
12:30	4	Lot	Ped X-Walk	2	No Car
12:30	3	Lot	Ped X-Walk	2	Stopped
12:30	3	Lot	Ped X-Walk	2	Stopped
12:30	1	Lot	Ped X-Walk	1	Stopped
12:30	2	Airport	Ped X-Walk	2	Abruptly Stopped
12:30	1	Lot	Ped X-Walk	2	Stopped
12:30	2	Lot	Ped X-Walk	2	No Car
12:30	1	Lot	Ped X-Walk	1	Stopped
12:30	2	Lot	Ped X-Walk	2	Stopped
12:30	1	Airport	Ped X-Walk	0	No Car
12:30	1	Lot	Ped X-Walk	1	Did Not Stop
12:30	2	Airport	Ped X-Walk	2	No Car
12:30	2	Airport	Ped X-Walk	1	No Car
12:30	2	Lot	Ped X-Walk	0	No Car
12:30	1	Airport	Ped X-Walk	0	Did Not Stop
12:30	1	Lot	Ped X-Walk	0	Stopped
12:30	1	Airport	Ped X-Walk	1	Stopped

12:40	1	Airport	Jaywalking	0	Stopped
12:40	2	Lot	Ped X-Walk	2	No Car
12:40	6	Airport	Ped X-Walk	4	No Car
12:40	1	Lot	Ped X-Walk	1	No Car
12:40	4	Airport	Ped X-Walk	4	Stopped
12:40	2	Lot	Ped X-Walk	2	Stopped
12:40	2	Airport	Ped X-Walk	2	Stopped
12:40	1	Airport	Ped X-Walk	0	No Car
12:40	1	Lot	Ped X-Walk	0	Stopped
12:40	1	Lot	Ped X-Walk	1	No Car
12:40	1	Airport	Ped X-Walk	0	No Car
12:40	1	Airport	Ped X-Walk	1	Abruptly Stopped
12:40	1	Airport	Jaywalking	1	Stopped
12:40	2	Airport	Ped X-Walk	1	Stopped
12:40	2	Lot	Ped X-Walk	2	No Car
12:40	2	Lot	Ped X-Walk	2	Stopped
12:40	1	Lot	Ped X-Walk	1	Stopped
12:40	1	Airport	Ped X-Walk	1	Stopped
12:40	1	Lot	Ped X-Walk	1	Stopped
12:50	1	Airport	Ped X-Walk	0	Stopped
12:50	3	Airport	Ped X-Walk	3	Did Not Stop
12:50	2	Airport	Ped X-Walk	2	Stopped
12:50	2	Lot	Ped X-Walk	2	No Car
12:50	3	Lot	Ped X-Walk	2	No Car
12:50	1	Airport	Ped X-Walk	1	Stopped
12:50	1	Lot	Jaywalking	1	Stopped
12:50	2	Lot	Ped X-Walk	1	No Car
12:50	2	Airport	Ped X-Walk	2	No Car
12:50	1	Lot	Ped X-Walk	0	Did Not Stop
12:50	1	Lot	Ped X-Walk	0	Stopped
12:50	4	Lot	Ped X-Walk	0	Abruptly Stopped
12:50	1	Airport	Ped X-Walk	1	No Car
12:50	1	Lot	Ped X-Walk	0	Stopped
12:50	4	Airport	Ped X-Walk	4	Stopped
12:50	2	Airport	Ped X-Walk	1	Stopped
12:50	2	Airport	Ped X-Walk	1	Stopped
13:00	2	Airport	Ped X-Walk	1	Stopped
13:00	2	Airport	Ped X-Walk	1	Stopped
13:00	3	Lot	Ped X-Walk	1	Stopped
13:00	2	Airport	Ped X-Walk	1	Stopped
13:00	3	Lot	Jaywalking	2	Stopped
13:00	2	Airport	Ped X-Walk	1	Stopped
13:00	3	Lot	Ped X-Walk	3	Stopped
13:00	1	Airport	Ped X-Walk	1	Stopped
13:00	3	Airport	Jaywalking	2	Abruptly Stopped
13:00	2	Lot	Ped X-Walk	0	Stopped
13:00	2	Airport	Ped X-Walk	1	No Car
13:00	1	Lot	Ped X-Walk	0	Stopped
13:00	5	Airport	Ped X-Walk	4	Stopped
13:00	2	Lot	Ped X-Walk	2	Stopped
13:00	1	Airport	Ped X-Walk	1	Stopped
13:00	1	Airport	Ped X-Walk	1	Stopped
13:00	1	Lot	Ped X-Walk	0	No Car
13:00	1	Airport	Ped X-Walk	0	No Car

13:00	2	Airport	Ped X-Walk	1	No Car
13:00	2	Airport	Ped X-Walk	2	Stopped
13:00	1	Airport	Jaywalking	0	Stopped
13:00	2	Lot	Ped X-Walk	2	No Car
13:10	1	Airport	Ped X-Walk	1	No Car
13:10	2	Airport	Jaywalking	2	No Car
13:10	2	Airport	Ped X-Walk	2	No Car
13:10	1	Airport	Ped X-Walk	0	Stopped
13:10	2	Airport	Ped X-Walk	2	Stopped
13:10	2	Lot	Ped X-Walk	0	Stopped
13:10	2	Lot	Ped X-Walk	2	Did Not Stop
13:10	1	Airport	Ped X-Walk	0	No Car
13:10	4	Airport	Ped X-Walk	4	No Car
13:10	2	Airport	Ped X-Walk	3	Stopped
13:10	2	Airport	Ped X-Walk	2	Stopped
13:10	2	Lot	Ped X-Walk	1	Stopped
13:10	1	Lot	Ped X-Walk	0	Stopped
13:10	4	Airport	Ped X-Walk	0	No Car
13:10	2	Lot	Ped X-Walk	2	No Car
13:10	2	Airport	Ped X-Walk	0	Stopped
13:10	1	Airport	Ped X-Walk	2	Did Not Stop
13:10	1	Airport	Ped X-Walk	1	Stopped
13:10	1	Airport	Ped X-Walk	4	Stopped
13:10	2	Airport	Ped X-Walk	0	Stopped
13:10	2	Lot	Ped X-Walk	2	Stopped
13:10	2	Lot	Ped X-Walk	3	No Car
13:10	1	Lot	Ped X-Walk	3	Stopped
13:20	5	Lot	Ped X-Walk	0	No Car
13:20	2	Airport	Ped X-Walk	0	No Car
13:20	1	Lot	Ped X-Walk	1	No Car
13:20	2	Lot	Ped X-Walk	0	Stopped
13:20	2	Lot	Ped X-Walk	0	Stopped
13:20	1	Lot	Jaywalking	0	Stopped
13:20	2	Lot	Ped X-Walk	4	Stopped
13:20	1	Airport	Ped X-Walk	0	No Car
13:20	2	Airport	Ped X-Walk	2	Stopped
13:20	1	Airport	Ped X-Walk	3	No Car
13:20	1	Airport	Ped X-Walk	2	Abruptly Stopped
13:20	1	Airport	Jaywalking	0	Stopped
13:20	4	Airport	Ped X-Walk	1	Stopped
13:30	1	Lot	Jaywalking	3	No Car
13:30	3	Lot	Ped X-Walk	2	Abruptly Stopped
13:30	4	Airport	Ped X-Walk	0	Stopped
13:30	2	Lot	Ped X-Walk	1	No Car
13:30	1	Airport	Ped X-Walk	1	No Car
13:30	2	Lot	Ped X-Walk	3	Abruptly Stopped
13:30	3	Airport	Ped X-Walk	1	Abruptly Stopped
13:30	1	Lot	Jaywalking	2	Stopped
13:30	1	Airport	Ped X-Walk	4	Stopped
13:30	1	Airport	Ped X-Walk	2	Stopped
13:30	2	Airport	Ped X-Walk	2	Stopped
13:30	4	Airport	Ped X-Walk	0	Stopped
13:30	1	Lot	Ped X-Walk	0	Stopped
13:30	2	Lot	Ped X-Walk	1	Stopped

13:30	4	Lot	Ped X-Walk	1	Stopped
13:30	2	Airport	Ped X-Walk	1	Stopped
13:30	2	Airport	Ped X-Walk	1	No Car
13:30	1	Lot	Ped X-Walk	4	Stopped
13:40	1	Lot	Ped X-Walk	1	Stopped
13:40	1	Lot	Ped X-Walk	1	Stopped
13:40	1	Airport	Ped X-Walk	4	Stopped
13:40	2	Airport	Ped X-Walk	2	Stopped
13:40	1	Lot	Ped X-Walk	1	Stopped
13:40	4	Lot	Ped X-Walk	0	No Car
13:40	2	Lot	Ped X-Walk	0	Stopped
13:40	2	Airport	Ped X-Walk	2	Stopped
13:40	6	Airport	Ped X-Walk	0	Stopped
13:40	2	Airport	Ped X-Walk	1	No Car
13:40	2	Airport	Ped X-Walk	0	Stopped
13:40	1	Airport	Ped X-Walk	1	Stopped
13:40	1	Lot	Ped X-Walk	0	No Car
13:40	2	Airport	Ped X-Walk	1	Stopped
13:50	1	Lot	Ped X-Walk	0	Stopped
13:50	2	Airport	Ped X-Walk	2	No Car
13:50	1	Airport	Ped X-Walk	1	No Car
13:50	1	Airport	Ped X-Walk	1	Stopped
13:50	1	Airport	Ped X-Walk	1	Stopped
13:50	2	Lot	Ped X-Walk	0	No Car
13:50	1	Lot	Ped X-Walk	0	Stopped
13:50	3	Airport	Ped X-Walk	2	No Car
13:50	1	Airport	Ped X-Walk	1	No Car
13:50	1	Lot	Ped X-Walk	1	Stopped
13:50	1	Airport	Ped X-Walk	1	Stopped
14:50	1	Lot	Ped X-Walk	0	No Car

PIE Curbfront Vehicle Dwell Time and Vehicle Occupancy Survey

Date :	12/14/2017
Terminal:	T1
Surveyor:	William
Location:	GTA
Time	5:00-7:00 am
Data Links:	AM
Data Links:	

Time vehicle arrives at curb (for example - 5:15 A.M.)
Start stopwatch **once passenger loading begins**. Stop stopwatch once vehicle is clearly ready to depart (1 minutes and 40 seconds)

Time Depart: Time vehicle departs curb and enters into the flow of traffic (crosses line) (for example - 5:18 A.M.)
Time Difference: To be calculated after data collection. This is the difference between the time the vehicle stops and the time the vehicle departs. (for example - 3minutes)
Vehicle: Check the box of the vehicle type being observed. Describe in Other if not found in provided check boxes.
Picking up: Number of Passengers entering the vehicle
Dropping off: Number of Passengers exiting the vehicle
Total Passengers: Total number of Passengers in the vehicle after vehicle departs curb (i.e. occupancy)
Lane Usage: Indicate the number of the lane used by the vehicle. Lane number 1 being the curbside lane (count out from the lane closest to the curbfront).

Dropoff Veh Volume	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dropoff Total Occ	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total People Dropped Off	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dropoff Avg Occ	4	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pickup Veh Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Total Occ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total People Picked Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Avg Occ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
# Vehicles No Dropoff/Pickup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Dropoff Dwell
Pickup Dwell

Time Vehicle Stops at Curb (hr:min)	Duration of Loading/ Unloading (min:sec)	**Time** Vehicle Departs Curb (hr:min)	**Time** Difference (to be calculated after)	**MAX Times**	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other (please describe)	Passengers picked up	Passengers dropped off	Occupancy (Total Passengers)	Lane Usage Number	Notes
5:40	**00:50**	**5:40**	**0:00**	**0:00:50**		1																	1	1	1	
6:07	**00:52**	**6:07**	**0:00**	**0:00:52**		1																	1	1	2	
6:09	**00:39**	**6:09**	**0:00**	**0:00:39**	1																		2	2	1	

PIE Curbfront Vehicle Dwell Time and Vehicle Occupancy Survey

Date :	12/14/2017
Terminal:	T1
Surveyor:	Sean
Location:	Ticketing A
Time	5:00-7:00 am
Data Links:	AM
Data Links:	

Time vehicle arrives at curb (for example - 5:15 A.M.)
Start stopwatch **once passenger loading begins**. Stop stopwatch once vehicle is clearly ready to depart (1 minutes and 40 seconds)

Time Depart: Time vehicle departs curb and enters into the flow of traffic (crosses line) (for example - 5:18 A.M.)
Time Difference: To be calculated after data collection. This is the difference between the time the vehicle stops and the time the vehicle departs. (for example - 3minutes)
Vehicle: Check the box of the vehicle type being observed. Describe in Other if not found in provided check boxes.
Picking up: Number of Passengers entering the vehicle
Dropping off: Number of Passengers exiting the vehicle
Total Passengers: Total number of Passengers in the vehicle after vehicle departs curb (i.e. occupancy)
Lane Usage: Indicate the number of the lane used by the vehicle. Lane number 1 being the curbside lane (count out from the lane closest to the curbfront).

Dropoff Veh Volume	31	0	0	4	0	0	17	0	0	0	0	0	0	0	0	0	0
Dropoff Total Occ	70	0	0	8	0	0	66	0	0	0	0	0	0	0	0	0	0
Total People Dropped Off	37	0	0	4	0	0	49	0	0	0	0	0	0	0	0	0	0
Dropoff Avg Occ	2.26	--	--	2	--	--	3.88	--	--	--	--	--	--	--	--	--	--
Pickup Veh Volume	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Total Occ	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total People Picked Up	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Avg Occ	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
# Vehicles No Dropoff/Pickup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Dropoff Dwell
Pickup Dwell

Time Vehicle Stops at Curb (hr:min)	Duration of Loading/ Unloading (min:sec)	**Time** Vehicle Departs Curb (hr:min)	**Time** Difference (to be calculated after)	**MAX Times**	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other (please describe)	Passengers picked up	Passengers dropped off	Occupancy (Total Passengers)	Lane Usage Number	Notes
4:57	**01:22**	**4:58**	**0:01**	**0:01:22**	1																		2	1	1	
4:59	**00:58**	**4:59**	**0:00**	**0:00:58**	1																		1	1	1	
5:01	**00:14**	**5:01**	**0:00**	**0:00:14**							1												1	1	1	
5:05	**00:16**	**5:05**	**0:00**	**0:00:16**	1																		1	1	2	
5:05	**00:40**	**5:05**	**0:00**	**0:00:40**							1												4	1	1	
5:06	**01:08**	**5:07**	**0:01**	**0:01:08**	1																		1	1	1	
5:08	**01:46**	**5:09**	**0:01**	**0:01:46**	1																		1	1	1	
5:10	**00:21**	**5:10**	**0:00**	**0:00:21**				1															1	1	2	
5:10	**00:29**	**5:10**	**0:00**	**0:00:29**							1												2	1	1	
5:11	**01:32**	**5:12**	**0:01**	**0:01:32**	1																		1	1	1	
5:13	**00:22**	**5:13**	**0:00**	**0:00:22**	1																		1	1	2	
5:14	**00:19**	**5:14**	**0:00**	**0:00:19**							1												2	1	1	
5:15	**00:38**	**5:15**	**0:00**	**0:00:38**	1																		1	1	2	
5:16	**01:06**	**5:17**	**0:01**	**0:01:06**	1																		2	1	1	
5:17	**02:29**	**5:19**	**0:02**	**0:02:29**	1																		1	1	1	
5:20	**00:54**	**5:20**	**0:00**	**0:00:54**	1																		1	1	1	
5:21	**03:44**	**5:24**	**0:03**	**0:03:44**	1																		1	1	1	
5:28	**00:48**	**5:28**	**0:00**	**0:00:48**	1																		2	1	2	
5:30	**00:22**	**5:30**	**0:00**	**0:00:22**							1												1	1	1	
5:31	**00:52**	**5:31**	**0:00**	**0:00:52**	1																		1	1	2	
5:32	**01:12**	**5:33**	**0:01**	**0:01:12**	1																		1	1	1	
5:36	**00:26**	**5:36**	**0:00**	**0:00:26**							1												4	1	1	
5:37	**00:33**	**5:37**	**0:00**	**0:00:33**	1																		1	1	1	
5:39	**01:36**	**5:40**	**0:01**	**0:01:36**	1																		2	2	2	
5:41	**01:32**	**5:42**	**0:01**	**0:01:32**	1																		1	1	1	
5:44	**00:27**	**5:44**	**0:00**	**0:00:27**							1												1	1	1	
5:46	**00:08**	**5:46**	**0:00**	**0:00:08**	1																		1	1	2	
5:47	**01:38**	**5:48**	**0:01**	**0:01:38**	1																		1	1	1	
5:48	**00:27**	**5:48**	**0:00**	**0:00:27**							1												5	1	1	
5:49	**01:22**	**5:50**	**0:01**	**0:01:22**	1																		1	1	1	
5:52	**01:20**	**5:53**	**0:01**	**0:01:20**	1																		1	1	1	
5:53	**01:06**	**5:54**	**0:01**	**0:01:06**				1															1	1	1	
5:56	**03:05**	**5:59**	**0:03**	**0:03:05**	1																		1	1	1	
6:00	**00:59**	**6:00**	**0:00**	**0:00:59**	1																		1	1	1	
6:01	**00:10**	**6:01**	**0:00**	**0:00:10**							1												2	1	1	
6:04	**03:57**	**6:07**	**0:03**	**0:03:57**	1																	1	1	2	1	
6:09	**00:56**	**6:09**	**0:00**	**0:00:56**	1																		2	2	2	
6:10	**01:55**	**6:11**	**0:01**	**0:01:55**							1												5	1	1	
6:13	**04:35**	**6:17**	**0:04**	**0:04:35**							1												1	1	1	Driver went inside
6:23	**00:24**	**6:23**	**0:00**	**0:00:24**				1															1	1	1	
6:23	**00:50**	**6:23**	**0:00**	**0:00:50**	1																		1	1	1	
6:26	**00:33**	**6:26**	**0:00**	**0:00:33**							1												8	1	1	
6:28	**02:40**	**6:30**	**0:02**	**0:02:40**				1															1	1	1	
6:31	**01:06**	**6:32**	**0:01**	**0:01:06**							1												2	1	1	
6:35	**00:29**	**6:35**	**0:00**	**0:00:29**							1												3	1	1	

6:37	**03:09**	**6:40**	**0:03**	**0:03:09**	1																		2	1	1	Parked in shuttle space
6:42	**00:11**	**6:42**	**0:00**	**0:00:11**							1												2	1	1	
6:43	**00:37**	**6:43**	**0:00**	**0:00:37**	1																		1	1	1	
6:46	**01:07**	**6:47**	**0:01**	**0:01:07**	1																		1	1	1	
6:48	**00:43**	**6:48**	**0:00**	**0:00:43**							1												3	1	1	
6:54	**00:48**	**6:54**	**0:00**	**0:00:48**							1												3	1	1	
6:59	**00:38**	**6:59**	**0:00**	**0:00:38**	1																		1	1	1	

PIE Curbfront Vehicle Dwell Time and Vehicle Occupancy Survey

Date :	12/14/2017
Terminal:	T1
Surveyor:	David
Location:	Ticketing B-East
Time	5:00-7:00 AM
Data Links:	AM
Data Links:	

Time vehicle arrives at curb (for example - 5:15 A.M.)

Start stopwatch **once passenger loading begins**. Stop stopwatch once vehicle is clearly ready to depart (1 minutes and 40 seconds)

Time Depart: Time vehicle departs curb and enters into the flow of traffic (crosses line) (for example - 5:18 A.M.)

Time Difference: To be calculated after data collection. This is the difference between the time the vehicle stops and the time the vehicle departs. (for example - 3minutes)

Vehicle: Check the box of the vehicle type being observed. Describe in Other if not found in provided check boxes.

Picking up: Number of Passengers entering the vehicle

Dropping off: Number of Passengers exiting the vehicle

Total Passengers: Total number of Passengers in the vehicle after vehicle departs curb (i.e. occupancy)

Lane Usage: Indicate the number of the lane used by the vehicle. Lane number 1 being the curbside lane (count out from the lane closest to the curbfront).

	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other
Dropoff Veh Volume	97	4	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0
Dropoff Total Occ	264	8	0	0	0	3	0	0	0	0	2	3	3	0	0	0	0
Total People Dropped Off	157	4	0	0	0	2	0	0	0	0	1	2	2	0	0	0	0
Dropoff Avg Occ	2.72	2	--	--	--	3	--	--	--	--	2	3	3	--	--	--	--
Pickup Veh Volume	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Total Occ	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total People Picked Up	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Avg Occ	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
# Vehicles No Dropoff/Pickup	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Dropoff Dwell

Pickup Dwell

Time Vehicle Stops at Curb (hr:min)	Duration of Loading/ Unloading (min:sec)	**Time** Vehicle Departs Curb (hr:min)	**Time** Difference (to be calculated after)	**MAX Times**	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other (please describe)	Passengers picked up	Passengers dropped off	Occupancy (Total Passengers)	Lane Usage Number	Notes
4:57	**03:38**	**5:00**	**0:03**	**0:03:38**	1																at crosswalk		3	1	1	
4:58	**01:15**	**4:59**	**0:01**	**0:01:15**	1																		2	1	1	
5:01	**01:02**	**5:02**	**0:01**	**0:01:02**	1																		1	1	1	
5:01	**01:48**	**5:02**	**0:01**	**0:01:48**	1																		2	2	2	
5:02	**00:42**	**5:02**	**0:00**	**0:00:42**	1																		1	1	1	cars stop at crosswalk in lanes 1&2 causing congestion
5:03	**00:50**	**5:03**	**0:00**	**0:00:50**	1																		1	1	1	
5:04	**00:42**	**5:04**	**0:00**	**0:00:42**	1																		2	1	1	
5:05	**00:36**	**5:05**	**0:00**	**0:00:36**	1																		1	1	1	
5:05	**00:40**	**5:05**	**0:00**	**0:00:40**	1																		1	1	1	
5:06	**01:34**	**5:07**	**0:01**	**0:01:34**	1																		3	1	1	
5:06	**01:02**	**5:07**	**0:01**	**0:01:02**		1																	1	1	2	
5:08	**00:20**	**5:08**	**0:00**	**0:00:20**	1																		1	1	3	
5:09	**03:15**	**5:12**	**0:03**	**0:03:15**	1																		2	1	2	
5:09	**01:22**	**5:10**	**0:01**	**0:01:22**	1																		3	1	1	
5:11	**01:03**	**5:12**	**0:01**	**0:01:03**	1																		2	1	2	
5:13	**00:47**	**5:13**	**0:00**	**0:00:47**	1																		2	1	2	
5:15	**01:10**	**5:16**	**0:01**	**0:01:10**	1																		2	1	2	
5:15	**00:35**	**5:15**	**0:00**	**0:00:35**		1																	1	1	2	
5:16	**01:15**	**5:17**	**0:01**	**0:01:15**	1																		2	2	1	
5:17	**01:32**	**5:18**	**0:01**	**0:01:32**	1																		2	2	1	
5:18	**00:43**	**5:18**	**0:00**	**0:00:43**	1																		1	1	2	
5:19	**04:03**	**5:23**	**0:04**	**0:04:03**	1																		3	1	1	
5:23	**00:53**	**5:23**	**0:00**	**0:00:53**												1							2	1	2	
5:25	**00:34**	**5:25**	**0:00**	**0:00:34**	1																		1	1	2	
5:26	**00:20**	**5:26**	**0:00**	**0:00:20**	1																		1	1	2	
5:27	**00:30**	**5:27**	**0:00**	**0:00:30**	1																		1	1	2	
5:28	**00:20**	**5:28**	**0:00**	**0:00:20**	1																		1	1	2	
5:28	**00:26**	**5:28**	**0:00**	**0:00:26**	1																		1	1	2	
5:29	**02:39**	**5:31**	**0:02**	**0:02:39**	1																		2	1	1	
5:29	**02:31**	**5:31**	**0:02**	**0:02:31**	1																		3	2	1	
5:33	**00:43**	**5:33**	**0:00**	**0:00:43**	1																		1	1	2	
5:33	**00:42**	**5:33**	**0:00**	**0:00:42**	1																		2	1	2	
5:34	**01:02**	**5:35**	**0:01**	**0:01:02**	1																		1	1	1	
5:34	**01:43**	**5:35**	**0:01**	**0:01:43**	1																		1	1	1	
5:35	**01:07**	**5:36**	**0:01**	**0:01:07**	1																		1	1	1	
5:37	**01:48**	**5:38**	**0:01**	**0:01:48**	1																	1	1	1	1	

5:37	01:01	5:38	0:01	0:01:01		1																	1	1	1	
5:39	01:10	5:40	0:01	0:01:10																			1	1	2	
5:39	01:26	5:40	0:01	0:01:26	1																		2	1	1	
5:40	02:24	5:42	0:02	0:02:24		1																	1	1	2	
5:41	01:30	5:42	0:01	0:01:30																			1	1	2	
5:43	00:29	5:43	0:00	0:00:29	1																		1	1	2	
5:43	01:44	5:44	0:01	0:01:44	1																		2	1	1	
5:44	02:00	5:46	0:02	0:02:00	1																		1	1	1	
5:45	01:40	5:46	0:01	0:01:40	1																		1	1	1	
5:46	00:25	5:46	0:00	0:00:25	1																		1	1	1	
5:47	00:20	5:47	0:00	0:00:20	1																		1	1	3	
5:47	00:46	5:47	0:00	0:00:46	1																		3	1	2	
5:47	01:42	5:48	0:01	0:01:42	1																		2	1	1	
5:48	00:38	5:48	0:00	0:00:38	1																		1	1	2	
5:50	00:55	5:50	0:00	0:00:55	1																		1	1	2	
5:51	00:49	5:51	0:00	0:00:49	1																		2	1	2	
5:52	01:20	5:53	0:01	0:01:20	1																		1	2	1	walked inside
5:52	03:36	5:55	0:03	0:03:36	1																		5	1	1	
5:55	00:35	5:55	0:00	0:00:35	1																		2	1	2	
5:56	00:20	5:56	0:00	0:00:20	1																		1	1	3	
5:56	01:16	5:57	0:01	0:01:16	1																		1	1	1	
5:56	00:31	5:56	0:00	0:00:31	1																		2	1	1	
5:56	02:18	5:58	0:02	0:02:18	1																				1	walked inside
5:58	01:10	5:59	0:01	0:01:10	1																		1	3	2	
6:00	01:46	6:01	0:01	0:01:46	1																		2	1	1	
6:00	00:53	6:00	0:00	0:00:53						1													2	1	2	
6:03	01:08	6:04	0:01	0:01:08	1																		1	1	2	
6:03	00:45	6:03	0:00	0:00:45	1																		1	1	1	
6:04	01:40	6:05	0:01	0:01:40	1																		1	1	1	
6:06	01:18	6:07	0:01	0:01:18	1																		1	1	1	
6:06	00:33	6:06	0:00	0:00:33	1																		1	1	1	
6:07	05:45	6:12	0:05	0:05:45	1																		2	1	2	walked inside
6:07	00:41	6:07	0:00	0:00:41	1																		4	2	2	
6:08	01:34	6:09	0:01	0:01:34	1																		1	1	1	
6:10	02:10	6:12	0:02	0:02:10	1																		2	1	1	
6:12	00:20	6:12	0:00	0:00:20	1																		1	1	1	
6:13	00:55	6:13	0:00	0:00:55	1																		1	1	2	
6:14	00:15	6:14	0:00	0:00:15	1																		1	1	2	
6:14	01:05	6:15	0:01	0:01:05	1																		2	1	1	
6:14	01:50	6:15	0:01	0:01:50	1																		2	1	2	
6:15	01:30	6:16	0:01	0:01:30	1																		1	2	1	
6:17	00:30	6:17	0:00	0:00:30	1																		1	1	1	
6:17	00:15	6:17	0:00	0:00:15	1																		1	1	1	walked inside
6:17	01:47	6:18	0:01	0:01:47	1																		2	1	1	
6:18	00:53	6:18	0:00	0:00:53	1																		1	1	1	
6:19	01:30	6:20	0:01	0:01:30	1																		4	1	1	
6:19	01:32	6:20	0:01	0:01:32	1																		2	1	2	
6:21	02:12	6:23	0:02	0:02:12	1																		1	1	1	
6:22	01:10	6:23	0:01	0:01:10	1																		1	1	1	
6:23	00:35	6:23	0:00	0:00:35	1																		2	1	2	
6:24	00:26	6:24	0:00	0:00:26	1																		1	1	1	
6:26	00:20	6:26	0:00	0:00:20	1																		1	1	1	
6:26	01:30	6:27	0:01	0:01:30	1																		2	1	1	
6:26	01:20	6:27	0:01	0:01:20	1																		1	1	1	
6:28	01:32	6:29	0:01	0:01:32	1																		1	2	1	
6:29	01:50	6:30	0:01	0:01:50	1																		1	1	2	
6:30	01:30	6:31	0:01	0:01:30	1																		3	1	1	
6:31	01:15	6:32	0:01	0:01:15	1																		1	1	2	
6:32	00:20	6:32	0:00	0:00:20	1																		1	1	3	
6:36	01:59	6:37	0:01	0:01:59	1																		1	1	1	
6:36	01:10	6:37	0:01	0:01:10	1																		2	1	1	
6:37	02:05	6:39	0:02	0:02:05	1																		2	1	1	bus blocked car
6:37	01:18	6:38	0:01	0:01:18													1						2	1	2	
6:40	02:25	6:42	0:02	0:02:25	1																		1	1	1	
6:40	02:10	6:42	0:02	0:02:10	1																		3	1	1	
6:42	00:45	6:42	0:00	0:00:45	1																		1	1	1	uber
6:44	00:50	6:44	0:00	0:00:50	1																		1	1	1	
6:44	02:30	6:46	0:02	0:02:30											1								1	1	1	
6:45	02:30	6:47	0:02	0:02:30	1																		2	2	1	
6:46	01:15	6:47	0:01	0:01:15	1																		2	2	1	
6:50	00:50	6:50	0:00	0:00:50	1																		4	1	1	uber
6:55	00:53	6:55	0:00	0:00:53	1																		1	1	1	police SUV parked in front to section B east, lane 1
6:56	03:21	6:59	0:03	0:03:21	1																		1	1	1	
6:58	01:40	6:59	0:01	0:01:40																					1	walked inside - elderly needed assistance

PIE Curbfront Vehicle Dwell Time and Vehicle Occupancy Survey

Date :	12/14/2017
Terminal:	T1
Surveyor:	Joel
Location:	Ticketing B-West
Time	5:00-7:00 AM
Data Links:	AM
Data Links:	

Time vehicle arrives at curb (for example - 5:15 A.M.)
Start stopwatch **once passenger loading begins**. Stop stopwatch once vehicle is clearly ready to depart (1 minutes and 40 seconds)

Time Depart: Time vehicle departs curb and enters into the flow of traffic (crosses line) (for example - 5:18 A.M.)
Time Difference: To be calculated after data collection. This is the difference between the time the vehicle stops and the time the vehicle departs. (for example - 3minutes)
Vehicle: Check the box of the vehicle type being observed. Describe in Other if not found in provided check boxes.
Picking up: Number of Passengers entering the vehicle
Dropping off: Number of Passengers exiting the vehicle
Total Passengers: Total number of Passengers in the vehicle after vehicle departs curb (i.e. occupancy)
Lane Usage: Indicate the number of the lane used by the vehicle. Lane number 1 being the curbside lane (count out from the lane closest to the curbfront).

	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other
Dropoff Veh Volume	84	8	2	0	0	0	0	0	0	0	1	0	2	0	0	0	0
Dropoff Total Occ	240	20	6	0	0	0	0	0	0	0	5	0	15	0	0	0	0
Total People Dropped Off	143	12	4	0	0	0	0	0	0	0	4	0	12	0	0	0	0
Dropoff Avg Occ	2.86	2.5	3	--	--	--	--	--	--	--	5	--	7.5	--	--	--	--
Pickup Veh Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Total Occ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total People Picked Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Avg Occ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
# Vehicles No Dropoff/Pickup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Dropoff Dwell
Pickup Dwell

Time Vehicle Stops at Curb (hr:min)	Duration of Loading/ Unloading (min:sec)	**Time** Vehicle Departs Curb (hr:min)	**Time** Difference (to be calculated after)	**MAX Times**	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other (please describe)	Passengers picked up	Passengers dropped off	Occupancy (Total Passengers)	Lane Usage Number	Notes
5:14	**00:11**	**5:14**	**0:00**	**0:00:11**	1																		1	1	2	
5:15	**00:42**	**5:15**	**0:00**	**0:00:42**	1																		3	1	1	
5:16	**00:08**	**5:16**	**0:00**	**0:00:08**	1																		2	1	2	
5:16	**01:06**	**5:17**	**0:01**	**0:01:06**	1																		2	1	3	
5:18	**00:45**	**5:18**	**0:00**	**0:00:45**	1																		2	1	1	
5:19	**00:45**	**5:19**	**0:00**	**0:00:45**	1																		2	1	1	
5:21	**00:34**	**5:21**	**0:00**	**0:00:34**	1																		2	1	1	
5:22	**01:16**	**5:23**	**0:01**	**0:01:16**		1																	1	1	1	
5:24	**01:02**	**5:25**	**0:01**	**0:01:02**	1																		1	3	2	
5:25	**01:00**	**5:26**	**0:01**	**0:01:00**	1																		1	1	1	
5:28	**01:15**	**5:29**	**0:01**	**0:01:15**	1																		2	1	2	
5:28	**01:11**	**5:29**	**0:01**	**0:01:11**	1																		2	2	1	
5:33	**01:18**	**5:34**	**0:01**	**0:01:18**	1																		1	1	1	
5:31	**01:59**	**5:32**	**0:01**	**0:01:59**	1																		1	1	1	
5:33	**00:44**	**5:33**	**0:00**	**0:00:44**	1																		2	1	2	
5:34	**00:46**	**5:34**	**0:00**	**0:00:46**																	Uber		1	1	1	
5:34	**00:49**	**5:34**	**0:00**	**0:00:49**	1																		2	1	2	
5:35	**01:16**	**5:36**	**0:01**	**0:01:16**		1																	2	1	1	
5:36	**00:45**	**5:36**	**0:00**	**0:00:45**	1																		1	1	2	
5:37	**01:08**	**5:38**	**0:01**	**0:01:08**																			3	1	1	
5:38	**01:29**	**5:39**	**0:01**	**0:01:29**	1																		1	1	2	
5:38	**00:51**	**5:38**	**0:00**	**0:00:51**	1																		2	1	1	
5:40	**00:12**	**5:40**	**0:00**	**0:00:12**	1																		1	1	1	
5:41	**00:32**	**5:41**	**0:00**	**0:00:32**	1																		2	1	2	
5:41	**00:30**	**5:41**	**0:00**	**0:00:30**		1																	2	1	1	
5:42	**00:42**	**5:42**	**0:00**	**0:00:42**	1																		3	1	1	
5:43	**00:49**	**5:43**	**0:00**	**0:00:49**	1																		1	1	1	
5:43	**00:32**	**5:43**	**0:00**	**0:00:32**																	Uber		1	1	1	
5:44	**00:40**	**5:44**	**0:00**	**0:00:40**	1																		1	1	1	
5:44	**01:17**	**5:45**	**0:01**	**0:01:17**	1																		2	1	1	
5:45	**01:50**	**5:46**	**0:01**	**0:01:50**	1																		1	1	1	
5:46	**01:42**	**5:47**	**0:01**	**0:01:42**	1																		2	1	1	
5:46	**00:10**	**5:46**	**0:00**	**0:00:10**	1																		1	1	2	
5:48	**00:39**	**5:48**	**0:00**	**0:00:39**		1																	2	1	2	
5:48	**01:01**	**5:49**	**0:01**	**0:01:01**		1																	2	1	1	
5:49	**00:25**	**5:49**	**0:00**	**0:00:25**																	Lyft	1	1	1	1	
5:51	**01:02**	**5:52**	**0:01**	**0:01:02**	1																		2	1	1	

5:51	01:29	5:52	0:01	0:01:29	1																		1	1	1	
5:52	00:15	5:52	0:00	0:00:15	1																		1	1	2	
5:53	00:22	5:53	0:00	0:00:22	1																		1	1	1	
5:54	01:03	5:55	0:01	0:01:03	1																		2	1	1	
5:55	00:58	5:55	0:00	0:00:58																	Uber		3	1	2	
5:55	01:06	5:56	0:01	0:01:06	1																		3	1	2	
5:57	01:26	5:58	0:01	0:01:26	1																		1	1	1	
5:57	02:35	5:59	0:02	0:02:35			1																1	1	1	
5:58	00:50	5:58	0:00	0:00:50	1																		1	1	2	
6:01	01:30	6:02	0:01	0:01:30	1																		1	1	1	
6:03	00:31	6:03	0:00	0:00:31																	Uber		2	1	2	
6:05	00:05	6:05	0:00	0:00:05	1																		1	1	2	
6:06	04:02	6:10	0:04	0:04:02	1																		1	1	1	
6:06	01:14	6:07	0:01	0:01:14	1																		2	1	1	
6:07	01:28	6:08	0:01	0:01:28	1																		1	1	2	
6:09	00:38	6:09	0:00	0:00:38	1																		2	1	1	
6:09	01:15	6:10	0:01	0:01:15	1																		1	1	1	
6:10	00:13	6:10	0:00	0:00:13	1																		1	1	1	
6:10	00:33	6:10	0:00	0:00:33	1																		2	1	1	
6:10	00:34	6:10	0:00	0:00:34	1																		2	1	2	
6:11	01:54	6:12	0:01	0:01:54	1																		1	1	1	
6:12	01:16	6:13	0:01	0:01:16	1																		2	1	1	
6:12	00:53	6:12	0:00	0:00:53	1																		1	1	1	
6:13	00:15	6:13	0:00	0:00:15		1																	1	1	2	
6:14	00:41	6:14	0:00	0:00:41			1																3	1	1	
6:14	00:32	6:14	0:00	0:00:32	1																		2	1	2	
6:15	00:26	6:15	0:00	0:00:26																			1	1	1	
6:16	00:06	6:16	0:00	0:00:06	1																		1	1	1	
6:16	00:32	6:16	0:00	0:00:32	1																		2	1	2	
6:16	00:44	6:16	0:00	0:00:44	1																		2	2	1	
6:17	00:29	6:17	0:00	0:00:29	1																		3	2	1	
6:18	00:21	6:18	0:00	0:00:21	1																		1	1	1	
6:19	00:46	6:19	0:00	0:00:46	1																		3	2	1	
6:20	00:28	6:20	0:00	0:00:28	1																		1	1	1	
6:20	00:32	6:20	0:00	0:00:32											1								4	1	2	
6:21	00:39	6:21	0:00	0:00:39													1						6	1	2	
6:22	00:25	6:22	0:00	0:00:25	1																		2	1	2	
6:23	02:03	6:25	0:02	0:02:03	1																		1	2	1	
6:26	01:13	6:27	0:01	0:01:13	1																		2	1	1	
6:26	02:39	6:28	0:02	0:02:39	1																		2	1	1	
6:31	01:15	6:32	0:01	0:01:15	1																		3	1	1	
6:31	01:04	6:32	0:01	0:01:04	1																		4	2	2	
6:32	00:48	6:32	0:00	0:00:48	1																		2	1	2	
6:33	00:22	6:33	0:00	0:00:22	1																		1	1	2	
6:33	00:34	6:33	0:00	0:00:34	1																		1	1	1	
6:36	00:34	6:36	0:00	0:00:34	1																		1	1	1	
6:36	00:16	6:36	0:00	0:00:16	1																		2	2	3	
6:37	01:07	6:38	0:01	0:01:07	1																		1	1	1	
6:38	00:54	6:38	0:00	0:00:54	1																		1	1	2	
6:38	01:10	6:39	0:01	0:01:10	1																		3	2	2	
6:38	01:27	6:39	0:01	0:01:27	1																		2	1	2	
6:39	02:40	6:41	0:02	0:02:40													1						6	2	2	
6:39	00:49	6:39	0:00	0:00:49	1																		2	1	1	
6:40	01:29	6:41	0:01	0:01:29																	Uber		2	1	2	
6:42	00:47	6:42	0:00	0:00:47	1																		1	1	1	
6:43	01:54	6:44	0:01	0:01:54	1																		4	2	1	
6:43	01:18	6:44	0:01	0:01:18	1																		3	2	1	
6:44	01:04	6:45	0:01	0:01:04	1																		2	1	2	
6:45	00:56	6:45	0:00	0:00:56		1																	1	1	1	
6:45	01:24	6:46	0:01	0:01:24	1																		2	1	1	
6:46	00:55	6:46	0:00	0:00:55	1																		1	1	1	
6:50	00:46	6:50	0:00	0:00:46	1																		1	2	1	
6:50	01:40	6:51	0:01	0:01:40		1																	1	1	1	
6:52	00:46	6:52	0:00	0:00:46	1																		2	1	2	
6:55	00:33	6:55	0:00	0:00:33	1																		1	2	1	
6:55	00:45	6:55	0:00	0:00:45	1																		2	2	1	
6:57	00:34	6:57	0:00	0:00:34	1																		2	1	1	
6:57	00:25	6:57	0:00	0:00:25	1																		1	1	1	
6:58	00:35	6:58	0:00	0:00:35	1																		2	1	1	

PIE Curbfront Vehicle Dwell Time and Vehicle Occupancy Survey

Date :	12/14/2017
Terminal:	T1
Surveyor:	David
Location:	Baggage Claim East
Time	12:00 - 2:00 PM
Data Links:	AM
Data Links:	

Time vehicle arrives at curb (for example - 5:15 A.M.)

Start stopwatch **once passenger loading begins**. Stop stopwatch once vehicle is clearly ready to depart (1 minutes and 40 seconds)

Time Depart: Time vehicle departs curb and enters into the flow of traffic (crosses line) (for example - 5:18 A.M.)

Time Difference: To be calculated after data collection. This is the difference between the time the vehicle stops and the time the vehicle departs. (for example - 3minutes)

Vehicle: Check the box of the vehicle type being observed. Describe in Other if not found in provided check boxes.

Picking up: Number of Passengers entering the vehicle

Dropping off: Number of Passengers exiting the vehicle

Total Passengers: Total number of Passengers in the vehicle after vehicle departs curb (i.e. occupancy)

Lane Usage: Indicate the number of the lane used by the vehicle. Lane number 1 being the curbside lane (count out from the lane closest to the curbfront).

	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other
Dropoff Veh Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dropoff Total Occ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total People Dropped Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dropoff Avg Occ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pickup Veh Volume	47	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Total Occ	113	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Total People Picked Up	67	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Avg Occ	2.4	--	--	3	--	--	--	--	--	--	--	--	--	--	--	--	--
# Vehicles No Dropoff/Pickup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Dropoff Dwell

Pickup Dwell

Time Vehicle Stops at Curb (hr:min)	Duration of Loading/ Unloading (min:sec)	**Time** Vehicle Departs Curb (hr:min)	**Time** Difference (to be calculated after)	**MAX Times**	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other (please describe)	Passengers picked up	Passengers dropped off	Occupancy (Total Passengers)	Lane Usage Number	Notes
12:21	**01:12**	**12:22**	**0:01**	**0:01:12**	1																at crosswalk	1		2	1	
12:22	**11:15**	**12:33**	**0:11**	**0:11:15**	1																	4		5	1	parked in front of arrivals
12:25	**03:45**	**12:28**	**0:03**	**0:03:45**	1																	1		2	1	picked up between arrivals and departures
12:28	**06:21**	**12:34**	**0:06**	**0:06:21**	1																	1		3	1	
12:33	**03:50**	**12:36**	**0:03**	**0:03:50**	1																	1		2	1	
12:35	**07:10**	**12:42**	**0:07**	**0:07:10**	1																	1		2	1	
12:36	**00:43**	**12:36**	**0:00**	**0:00:43**	1																	2		3	2	a couple of people cross and wait in lane
12:38	**05:10**	**12:43**	**0:05**	**0:05:10**	1																	1		2	1	4 left-turn only lane
12:42	**01:45**	**12:43**	**0:01**	**0:01:45**	1																	1		2	1	
12:45	**00:56**	**12:45**	**0:00**	**0:00:56**	1																	2		3	1	
12:49	**00:18**	**12:49**	**0:00**	**0:00:18**	1																	1		2	1	
12:52	**09:00**	**13:01**	**0:09**	**0:09:00**	1																	1		2	1	
12:52	**00:55**	**12:52**	**0:00**	**0:00:55**	1																	2		3	1	uber
12:53	**01:10**	**12:54**	**0:01**	**0:01:10**	1																	1		2	1	
12:56	**03:00**	**12:59**	**0:03**	**0:03:00**	1																	2		3	1	
12:57	**01:40**	**12:58**	**0:01**	**0:01:40**	1																	2		3	2	
12:59	**00:57**	**12:59**	**0:00**	**0:00:57**	1																	1		2	1	
13:00	**01:40**	**13:01**	**0:01**	**0:01:40**	1																	1		2	1	blocked in by lane 2 & crosswalk traffic
13:01	**00:30**	**13:01**	**0:00**	**0:00:30**	1																	1		2	2	
13:02	**02:10**	**13:04**	**0:02**	**0:02:10**	1																	1		2	1	
13:03	**01:20**	**13:04**	**0:01**	**0:01:20**	1																	2		3	1	
13:04	**00:30**	**13:04**	**0:00**	**0:00:30**	1																	1		2	1	
13:05	**00:33**	**13:05**	**0:00**	**0:00:33**	1																	2		3	1	
13:07	**02:30**	**13:09**	**0:02**	**0:02:30**	1																	1		2	1	picked up between arrivals and departures
13:07	**00:31**	**13:07**	**0:00**	**0:00:31**	1																	1		2	1	
13:08	**01:47**	**13:09**	**0:01**	**0:01:47**	1																	1		2	1	waited across at lane 4
13:11	**02:43**	**13:13**	**0:02**	**0:02:43**	1																	2		3	1	
13:11	**02:52**	**13:13**	**0:02**	**0:02:52**	1																	1		3	2	
13:13	**01:36**	**13:14**	**0:01**	**0:01:36**	1																	1		2	2	
13:17	**05:52**	**13:22**	**0:05**	**0:05:52**	1																	1		2	2	
13:17	**10:30**	**13:27**	**0:10**	**0:10:30**	1																	2		3	2	went inside
13:20	**00:35**	**13:20**	**0:00**	**0:00:35**	1																	2		3	2	people in lane 1 park and wait on the curb or inside
13:20	**00:25**	**13:20**	**0:00**	**0:00:25**	1																	1		2	2	
13:24	**02:20**	**13:26**	**0:02**	**0:02:20**	1																	1		2	1	
13:25	**00:20**	**13:25**	**0:00**	**0:00:20**	1																	1		2	2	
13:28	**00:20**	**13:28**	**0:00**	**0:00:20**	1																	1		2	2	
13:29	**01:00**	**13:30**	**0:01**	**0:01:00**	1																	1		2	1	went inside
13:29	**00:45**	**13:29**	**0:00**	**0:00:45**	1																	1		2	2	

13:31	**01:30**	**13:32**	**0:01**	**0:01:30**	1																	4		2	2	
13:31	**04:00**	**13:35**	**0:04**	**0:04:00**	1																	1		2	1	
13:33	**00:30**	**13:33**	**0:00**	**0:00:30**	1																	1		2	2	
13:33	**01:00**	**13:34**	**0:01**	**0:01:00**	1																	2		3	2	
13:40	**00:30**	**13:40**	**0:00**	**0:00:30**	1																	1		2	2	
13:44	**00:45**	**13:44**	**0:00**	**0:00:45**	1																	3		4	1	
13:47	**01:23**	**13:48**	**0:01**	**0:01:23**	1																	1		2	1	
13:47	**03:30**	**13:50**	**0:03**	**0:03:30**	1																	2		3	1	
13:50	**01:23**	**13:51**	**0:01**	**0:01:23**	1																	1		2	1	
13:52	**00:39**	**13:52**	**0:00**	**0:00:39**				1														2		3	2	

PIE Curbfront Vehicle Dwell Time and Vehicle Occupancy Survey

Date :	12/14/2017
Terminal:	T1
Surveyor:	Sean
Location:	Baggage Claim West
Time	12:00 - 2:00 PM
Data Links:	AM
Data Links:	

Time vehicle arrives at curb (for example - 5:15 A.M.)
Start stopwatch **once passenger loading begins**. Stop stopwatch once vehicle is clearly ready to depart (1 minutes and 40 seconds)

Time Depart: Time vehicle departs curb and enters into the flow of traffic (crosses line) (for example - 5:18 A.M.)
Time Difference: To be calculated after data collection. This is the difference between the time the vehicle stops and the time the vehicle departs. (for example - 3minutes)
Vehicle: Check the box of the vehicle type being observed. Describe in Other if not found in provided check boxes.
Picking up: Number of Passengers entering the vehicle
Dropping off: Number of Passengers exiting the vehicle
Total Passengers: Total number of Passengers in the vehicle after vehicle departs curb (i.e. occupancy)
Lane Usage: Indicate the number of the lane used by the vehicle. Lane number 1 being the curbside lane (count out from the lane closest to the curbfront).

Dropoff Veh Volume	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dropoff Total Occ	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total People Dropped Off	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dropoff Avg Occ	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pickup Veh Volume	14	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Total Occ	39	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0
Total People Picked Up	21	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Avg Occ	2.79	--	--	2.75	--	--	--	--	--	--	--	--	--	--	--	--	--
# Vehicles No Dropoff/Pickup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Dropoff Dwell
Pickup Dwell

Time Vehicle Stops at Curb (hr:min)	Duration of Loading/ Unloading (min:sec)	**Time** Vehicle Departs Curb (hr:min)	**Time** Difference (to be calculated after)	**MAX Times**	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other (please describe)	Passengers picked up	Passengers dropped off	Occupancy (Total Passengers)	Lane Usage Number	Notes
12:16	**19:45**	**12:35**	**0:19**	**0:19:45**	1																	1		2	1	
12:40	**20:56**	**13:00**	**0:20**	**0:20:56**	1																	1		2	1	
12:41	**01:10**	**12:42**	**0:01**	**0:01:10**				1														2		3	1	
12:48	**00:32**	**12:48**	**0:00**	**0:00:32**	1																		1	1	1	
12:55	**00:39**	**12:55**	**0:00**	**0:00:39**				1														2		3	1	
12:58	**04:49**	**13:02**	**0:04**	**0:04:49**	1																	3		4	1	
13:04	**01:17**	**13:05**	**0:01**	**0:01:17**	1																	2		4	1	
13:08	**29:04**	**13:37**	**0:29**	**0:29:04**	1																	1		3	2	
13:09	**01:56**	**13:10**	**0:01**	**0:01:56**	1																	2		4	1	
13:33	**00:19**	**13:33**	**0:00**	**0:00:19**	1																	1		2	2	
13:35	**00:43**	**13:35**	**0:00**	**0:00:43**	1																	2		3	2	
13:38	**10:16**	**13:48**	**0:10**	**0:10:16**	1																	1		3	1	
13:40	**00:37**	**13:40**	**0:00**	**0:00:37**				1														1		2	1	
13:43	**00:36**	**13:43**	**0:00**	**0:00:36**	1																	2		3	2	
13:45	**01:01**	**13:46**	**0:01**	**0:01:01**	1																	1		2	2	
13:47	**01:25**	**13:48**	**0:01**	**0:01:25**	1																	2		3	1	
13:49	**00:47**	**13:49**	**0:00**	**0:00:47**	1																	1		2	1	
13:50	**01:01**	**13:51**	**0:01**	**0:01:01**				1														2		3	2	
13:53	**03:08**	**13:56**	**0:03**	**0:03:08**	1																	1		2	1	

PIE Curbfront Vehicle Dwell Time and Vehicle Occupancy Survey

Date :	12/14/2017
Terminal:	T1
Surveyor:	Joel
Location:	GTA
Time	12:00 - 2:00 PM
Data Links:	AM
Data Links:	

Time vehicle arrives at curb (for example - 5:15 A.M.)
Start stopwatch **once passenger loading begins**. Stop stopwatch once vehicle is clearly ready to depart (1 minutes and 40 seconds)

Time Depart: Time vehicle departs curb and enters into the flow of traffic (crosses line) (for example - 5:18 A.M.)
Time Difference: To be calculated after data collection. This is the difference between the time the vehicle stops and the time the vehicle departs. (for example - 3minutes)
Vehicle: Check the box of the vehicle type being observed. Describe in Other if not found in provided check boxes.
Picking up: Number of Passengers entering the vehicle
Dropping off: Number of Passengers exiting the vehicle
Total Passengers: Total number of Passengers in the vehicle after vehicle departs curb (i.e. occupancy)
Lane Usage: Indicate the number of the lane used by the vehicle. Lane number 1 being the curbside lane (count out from the lane closest to the curbfront).

	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other (please describe)
Dropoff Veh Volume	0	4	0	0	0	2	0	0	0	7	0	0	2	0	0	0	0
Dropoff Total Occ	0	18	0	0	0	33	0	0	0	75	0	0	12	0	0	0	0
Total People Dropped Off	0	7	0	0	0	14	0	0	0	29	0	0	5	0	0	0	0
Dropoff Avg Occ	--	4.5	--	--	--	16.5	--	--	--	10.71	--	--	6	--	--	--	--
Pickup Veh Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Total Occ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total People Picked Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickup Avg Occ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
# Vehicles No Dropoff/Pickup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Dropoff Dwell
Pickup Dwell

Time Vehicle Stops at Curb (hr:min)	Duration of Loading/ Unloading (min:sec)	**Time** Vehicle Departs Curb (hr:min)	**Time** Difference (to be calculated after)	**MAX Times**	Private Auto	Taxicab	Luxury Limousine	TNCs	Public Bus	Charter Bus	Economy Lot	Long-Term Parking (Green)	Employee (white & light blue)	Rental Car Shuttle	Contracted Shuttles	Transportation Vans	Hotel/Motel Shuttle	Delivery Trucks	Law Enforcement	UPSD Trucks	Other (please describe)	Passengers picked up	Passengers dropped off	Occupancy (Total Passengers)	Lane Usage Number	Notes
12:34	**00:24**	**12:34**	**0:00**	**0:00:24**		1																	2	3	1	
12:37	**01:56**	**12:38**	**0:01**	**0:01:56**										1									1	8	1	ACE
12:48	**10:42**	**12:58**	**0:10**	**0:10:42**										1									8	12	1	Jack Municipal
12:48	**06:10**	**12:54**	**0:06**	**0:06:10**						1													10	14	1	Pie Shuttle
13:00	**04:00**	**13:04**	**0:04**	**0:04:00**										1									8	9	1	ACE
13:01	**00:47**	**13:01**	**0:00**	**0:00:47**		1																	1	2	1	
13:04	**00:55**	**13:04**	**0:00**	**0:00:55**										1									1	2	1	Thrifty
13:10	**02:50**	**13:12**	**0:02**	**0:02:50**		1																	2	3	1	
13:18	**01:34**	**13:19**	**0:01**	**0:01:34**										1									3	4	1	ACE
13:21	**01:37**	**13:22**	**0:01**	**0:01:37**										1									2	4	1	ACE
13:28	**00:58**	**13:28**	**0:00**	**0:00:58**													1						1	2	1	Holiday Inn
13:34	**01:02**	**13:35**	**0:01**	**0:01:02**		1																	2	3	1	
13:37	**01:09**	**13:38**	**0:01**	**0:01:09**										1									6	7	1	ACE
13:46	**01:15**	**13:47**	**0:01**	**0:01:15**						1													4	5	1	Pie Shuttle
13:48	**01:16**	**13:49**	**0:01**	**0:01:16**													1						4	5	1	

St. Pete Clearwater International Airport
Vehicle Classification

	Curbside: Primary Curbfront																					
	AM								PM								AM		PM		Total	
	5:00	5:15	5:30	5:45	6:00	6:15	6:30	6:45	12:00	12:15	12:30	12:45	1:00	1:15	1:30	1:45	Total AM	% tot	Total PM	% tot	Total	% tot
Private Auto	58	84	71	75	53	52	49	30	60	76	81	80	57	72	111	84	1093	95%	621	95%	1714	95%
Taxicab	1	4	6	2	3	1	1	1	2	1	1		1				23	2%	5	1%	28	2%
Luxury Limousine																	0	0%	0	0%	0	0%
TNCs	4	2	6	5	5	1	3				1	5		2	2	3	26	2%	13	2%	39	2%
Public/City Bus																	0	0%	0	0%	0	0%
Charter Bus																	0	0%	0	0%	0	0%
Economy Lot Shuttle																	0	0%	0	0%	0	0%
Employee Shuttle																	0	0%	0	0%	0	0%
Rental Car Shuttle														1			0	0%	1	0%	1	0%
SuperShuttle	1					1											2	0%	0	0%	2	0%
Private Transportation Vans																	0	0%	0	0%	0	0%
Hotel/Motel Courtesy Shuttle		1			1	1					1		1	1			3	0%	3	0%	6	0%
Delivery Trucks							1										1	0%	0	0%	1	0%
Law Enforcement								1									1	0%	0	0%	1	0%
Airport/County Vehicles	1		1	1		1			3	1		2				1	4	0%	7	1%	11	1%
Other			1		1						1						2	0%	1	0%	3	0%
																	1155	100%	651	100%	1806	100%

	Curbside: Secondary Curbfront																					
	AM								PM								AM		PM		Total	
	5:00	5:15	5:30	5:45	6:00	6:15	6:30	6:45	12:00	12:15	12:30	12:45	1:00	1:15	1:30	1:45	Total AM	% tot	Total PM	% tot	Total	% tot
Private Auto	17	36	44	32	24	10	16	5	29	23	21	27	28	22	25	35	394	94%	210	85%	604	91%
Taxicab																	0	0%	0	0%	0	0%
Luxury Limousine																	0	0%	0	0%	0	0%
TNCs																	0	0%	0	0%	0	0%
Public/City Bus																	0	0%	0	0%	0	0%
Charter Bus																	0	0%	0	0%	0	0%
Economy Lot Shuttle	4	2	3	2	2	2	3	2		2	2	2	3	3	3	3	20	5%	18	7%	38	6%
Employee Shuttle																	0	0%	0	0%	0	0%
Rental Car Shuttle																	0	0%	0	0%	0	0%
SuperShuttle																	0	0%	0	0%	0	0%
Private Transportation Vans					1				1								1	0%	1	0%	2	0%
Hotel/Motel Courtesy Shuttle																	0	0%	0	0%	0	0%
Delivery Trucks			1		1				1	1	1			1			2	0%	4	2%	6	1%
Law Enforcement														1			0	0%	1	0%	1	0%
Airport/County Vehicles		1	1		1			1	1	1	1		4	3	2		4	1%	12	5%	16	2%
Other																	0	0%	0	0%	0	0%
																	421	100%	246	100%	667	100%

	GTA													
	AM				PM				AM		PM		Total	
	5:00	5:30	6:00	6:30	12:00	12:30	1:00	1:30	Total AM	% tot	Total PM	% tot	Total	% tot
Private Auto	1	4	4	5	4	5	2	3	14	78%	14	29%	28	42%
Taxicab	1		1		1	4	3	6	2	11%	14	29%	16	24%
Luxury Limousine									0	0%	0	0%	0	0%
TNCs									0	0%	0	0%	0	0%
Public/City Bus									0	0%	0	0%	0	0%
Charter Bus									0	0%	0	0%	0	0%
Economy Lot Shuttle									0	0%	0	0%	0	0%
Employee Shuttle									0	0%	0	0%	0	0%
Rental Car Shuttle			1		3	3	2	4	1	6%	12	25%	13	20%
SuperShuttle									0	0%	0	0%	0	0%
Private Transportation Vans	1				1	2	1	1	1	6%	5	10%	6	9%
Hotel/Motel Courtesy Shuttle							1	1	0	0%	2	4%	2	3%
Delivery Trucks									0	0%	0	0%	0	0%
Law Enforcement									0	0%	0	0%	0	0%
Airport/County Vehicles									0	0%	0	0%	0	0%
Other						1			0	0%	1	2%	1	2%
									18	100%	48	100%	66	100%

APPENDIX E

Terminal Access Roads
Supplemental Data

APPENDIX E

1.1 ACRP Volume/Capacity Methodology

1.1.1 Overview

Roadway *capacity* is defined as the maximum number of vehicles that can pass through a roadway section during a specified period of time under prevailing roadway, traffic, and control conditions without causing unreasonable delay. Factors such as the vehicle types, roadway configurations, and pedestrian/vehicle interaction all have an impact in the ability of a given roadway to carry vehicles. Roadway *volume* is the number of vehicles that actually pass through a roadway section during a period of time given no operational constraints or congestion. Level of service (LOS) is calculated by comparing the volume of vehicles using a roadway against the defined capacity of the roadway or roadway segment.

The Federal Highway Administration's (FHWA) *Highway Capacity Manual (HCM)* is the industry accepted guidance used to identify capacities as well as the LOS for traditional roadway systems. LOS is a qualitative measure that describes operational conditions and motorists' perceptions within a traffic stream. Six LOS ratings are defined in the HCM, LOS A through LOS F, with LOS A representing free-flowing traffic that causes virtually no affect to individual vehicle operators and LOS F representing a forced traffic flow exceeding the roadway capacity.

However, the capacity of the airport roadway system is very different than a traditional roadway system for a number of reasons including, but not limited to, slower speeds, double and triple parking, jaywalking, higher percent of large commercial vehicles, and familiarity of the drivers with the roadway system. The Federal Aviation Administration (FAA) Advisory Circulars and Planning Guidelines, and more recently the Transportation Research Board's (TRB) Airport Cooperative Research Program (ACRP) publications, have developed methodologies to account for these factors and estimate airport roadway capacity. To properly assess current and forecasted volume, guidance from ACRP's *Report 40, Airport Curbside and Terminal Area Roadway Operations*, was applied to determine projected LOS. Per ACRP guidance, LOS D is generally considered the minimum acceptable LOS for existing roadway facilities while LOS C is the desired target for new facilities.

LOS of airport roadways is a measure used in defining the operational characteristics of a terminal area roadway system and/or curbside facility. The ACRP has developed and published methodologies to estimate airport roadway capacity that account for the different nature of airport roadways. **Figure E-1** and **Figure E-2** illustrate conditions for each LOS as outlined in ACRP's *Report 25* and *Report 40*, respectively. Terminal area roadway and curbfront LOS assessments are documented later in this section.

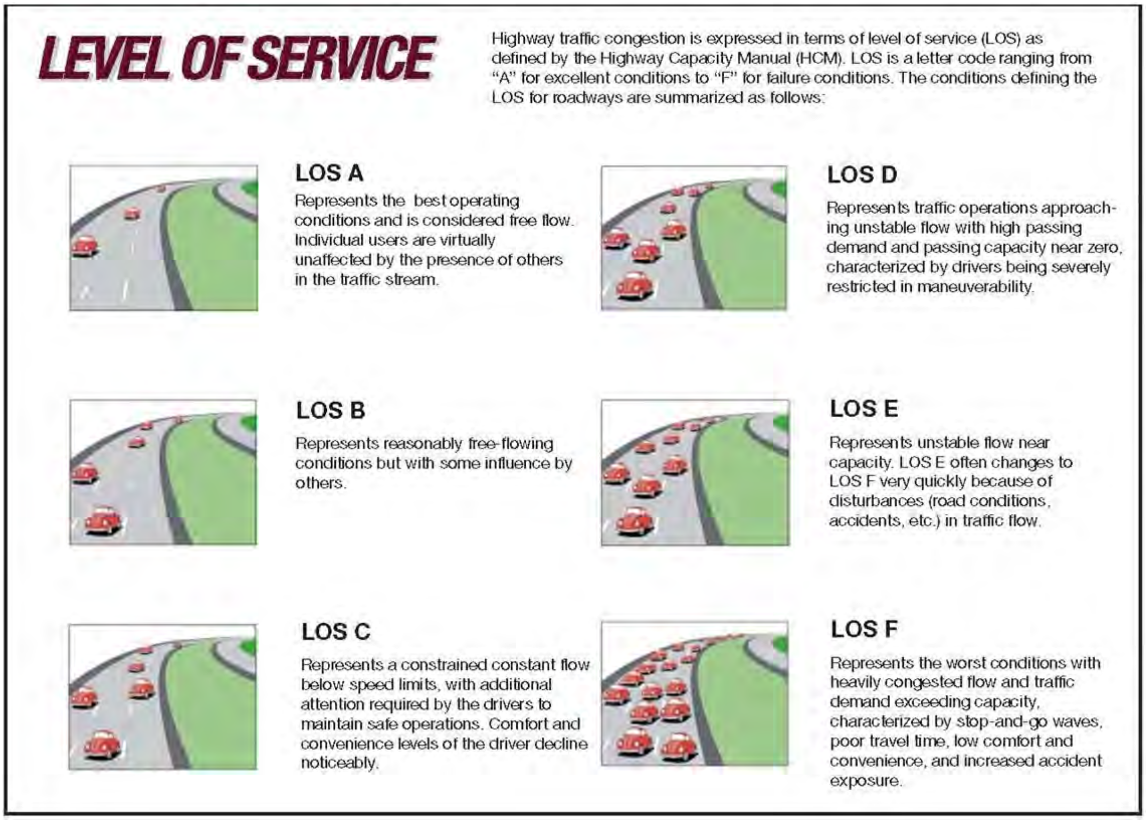


Figure E-1: Level of Service for Airport Terminal Area Roadways

SOURCE: ACRP Report 25, Airport Passenger Terminal Planning and Design, Figure VII.1-LOS for Roadways, Courtesy of McCormick Taylor, 2010.

1.1.2 Terminal Area Roadways

Terminal area roadways include the primary roadways that connect the Airport's terminal curbside facilities with the external roadway network (Roosevelt Boulevard). The vehicular volumes on these roadways are primarily driven by airport activity, including passenger vehicles, commercial vehicles, airport employees, visitors, and recirculating traffic.

To calculate LOS, peak hour vehicular volume on a per-segment basis is compared to the available roadway capacity. Per the methodology and capacity standards outlined in the ACRP's *Report 40, Airport Curbside and Terminal Area Roadway Operations*, capacity of uninterrupted-flow terminal access/egress roadways is primarily determined by the number of through lanes and the average operating free-flow speed. The maximum flow rates (capacities) provided by ACRP assume a typical mix of airport vehicle classifications, and that a large portion of the drivers are infrequent users (thus are unfamiliar with the airport roadways).

Capacity, in vehicles per hour per lane (vphpl), for uninterrupted-flow roadways is based on the free-flow speed in miles per hour (mph), per ACRP guidelines and as summarized in **Table E-1**.

Drivers experience no interference from other vehicles or pedestrians. Motorists arriving at the airport terminal can stop adjacent to the curb at preferred locations. Demand is equal to or less than 0.50 of the double-parking capacity of the curbside. Capacity of adjacent through lanes is unaffected.

Relatively free-flow conditions, although double-parking can be observed at some curbside locations (i.e., baggage check-in, major entrance/exit points). Demand is between 0.5 and 0.55 of the double-parking capacity of the curbside. Capacity of adjacent through lanes is virtually unaffected.

Double-parking near doors is common and some intermittent triple-parking may occur. This level of service is appropriate for peak period design conditions at major airports. Demand is between 0.55 and 0.65 of the double-parking capacity of the curbside. Capacity of adjacent through lanes is reduced by approximately 5% due to the increased frequency of double-parking.

Triple-parking occurs more frequently and vehicle maneuverability is somewhat restricted. Intermittent vehicle queues may form both in the through lanes and at the entrance to the curbside area. Demand is between 0.65 and 0.85 of the double-parking capacity of the curbside. Capacity of adjacent through lanes is reduced by over 20% due to the increased frequency of double- and triple-parking.

LOS E—Motorists experience delays and queues along the length of the curbside. Both congestion and double- or triple-parking are evident throughout the curbside area. Momentary breakdowns in operation occur as traffic in the through lanes is increasingly delayed by vehicle maneuvering in and out of the parking lanes. Demand is between 0.85 and 1.0 of the double-parking capacity of the curbside. Capacity of adjacent through lanes is reduced by over 35% due to the increased frequency of double- and triple-parking.

LOS F—Motorists experience significant delays at the curbside entrance and along the length of the curbside. Parked vehicles are unable to leave the curbside due to stopped vehicles in adjacent lanes. Demand exceeds 1.0 of the double-parking capacity of the curbside. The flow of vehicles in all lanes frequently comes to a halt.

Figure E-2: Level of Service for Terminal Curbfronts

SOURCE: ACRP Report 25, Airport Passenger Terminal Planning and Design, 2010.

TABLE E-1 TERMINAL ACCESS/EGRESS ROAD CAPACITY BY FREE-FLOW SPEED

Free-Flow Speed	Capacity (vphpl)
25 mph	1,010
30 mph	1,170
35 mph	1,290
40 mph	1,410
45 mph	1,530
50 mph	1,620

SOURCE: ACRP Report 40.

LOS for uninterrupted-flow roadways is based on the volume-to-capacity (V/C) ratio, which is obtained by dividing the volume on a roadway by that roadway's capacity. These calculated V/C ratios determine the roadway segment's LOS for a given analysis hour, as defined by ACRP. The LOS thresholds, which are summarized in **Table E-2**, vary based on free-flow speed along a roadway or roadway segment.

TABLE E-2 TERMINAL AREA ROADWAY LOS BY FREE-FLOW SPEED AND V/C RATIO

LOS	Free-Flow Speed					
	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph
A	< 0.25	< 0.26	< 0.26	< 0.26	< 0.26	< 0.28
B	0.25 – 0.40	0.26 – 0.41	0.26 – 0.42	0.26 – 0.42	0.26 – 0.43	0.28 – 0.45
C	0.40 – 0.59	0.41 – 0.60	0.42 – 0.61	0.42 – 0.61	0.43 – 0.62	0.45 – 0.65
D	0.59 – 0.79	0.60 – 0.79	0.61 – 0.80	0.61 – 0.82	0.62 – 0.82	0.65 – 0.86
E	0.79 – 1.0	0.79 – 1.0	0.80 – 1.0	0.82 – 1.0	0.82 – 1.0	0.86 – 1.0
F	> 1.00	> 1.00	> 1.00	> 1.00	> 1.00	> 1.00

SOURCE: ACRP Report 40.

The assumed speed limits for the terminal area roadways at St. Pete-Clearwater International Airport (PIE) is 25 mph. Based on this speed, the capacity for the terminal area roadways was set at 1,250 passenger cars per hour per lane (pcphpl), or 1,010 vphpl. The volume-to-capacity (V/C) ratios and maximum flows in vphpl associated with each LOS for terminal area roadways with a speed limit of 25 mph are presented in **Table E-3**.

TABLE E-3 TERMINAL AREA ROADWAYS LEVEL OF SERVICE RANGES (25 MPH SPEED LIMIT)

LOS	Maximum V/C Ratio	Maximum Flow (vphpl)
A	0.25	250
B	0.40	400
C	0.59	600
D	0.79	800
E	1.00	1,010

SOURCE: ACRP Report 40.

1.1.3 Terminal Curbfronts

Terminal curbfronts consist of the roadways in front of the terminal buildings that provide marked facilities for passenger drop-off/pick-up. The curbing areas and roadways for private and commercial vehicles makes up the curbside facility for a terminal. The terminal curbfront LOS consists of two components:

> **Curb LOS**: LOS of the designated curbing lanes where vehicles may stop to drop-off and pick-up; determined by curbing capacity and curbing (drop-off/pick-up) volume.
>
> **Road LOS**: LOS of the through lanes used by vehicles traveling past a section of curbfront lanes; determined by geometry, lane assignments, curb utilization, and volume of vehicles using the roadway to curb and/or bypass.

The ACRP methodology involves reporting the worst between the Curb LOS and the Road LOS as the resulting LOS of the terminal curbfront.

Curb LOS

The Curb LOS is based on several factors, including available curbfront length, vehicle size (how much curbing space the vehicle occupies), and average vehicle dwell time (how long each vehicle remains at the curb front). The curbfront length is measured based on how the curbfront zones are designated. Dwell times are typically different for vehicles curbing in the second lane compared to the first lane, which was accounted for in the capacity calculations. Transit vehicles were provided transit-specific curbing parameters, independent of private auto curbing parameters. Transit specific dwell times, vehicle size, and lane choice are generally different for buses and shuttles compared to private autos and were captured separately.

To calculate the LOS, volume is compared to the available capacity. Consistent with ACRP methodology, the curbing analysis calculates a curb utilization ratio (CUR) for a given curb front, which is a measure of average saturation of one curbing lane for the analysis period (peak hour). For example, when double and triple parking are allowed, a CUR of 1.0 means one curbing lane is fully utilized, or two curbing lanes are each half utilized, and corresponds to LOS B. When double and triple parking are allowed, a CUR of 2.0 means two curbing lanes are fully utilized and corresponds to LOS F. **Table E-4** provides the LOS for each CUR range.

TABLE E-4 CURBFRONT CURB LOS BY CURB UTILIZATION RATIO

	CUR	
LOS	**Double Parking Prohibited**	**Double/Triple Parking Allowed**
A	<0.70	<0.90
B	0.70-0.85	0.90 – 1.10
C	0.85-1.00	1.10 – 1.30
D	1.00-1.20	1.30 – 1.70
E	1.20-1.35	1.70 – 2.00
F	>1.35	>2.00

SOURCE: ACRP Report 40.

Road LOS

Road LOS is calculated for terminal area roadways serving vehicles traveling past a section of curbfront lanes. The road capacity is based on several factors, including total number of lanes, number of lanes reserved for curbing, and level of curbing activity. The curbing activity (curb utilization) impacts road capacity due to "friction" generated by vehicles slowing to enter the adjacent curbing lanes and by vehicles merging with the traffic stream after curbing. In addition to the curbing activity, pedestrian crossings also impact the travel speeds of the curbfront through lanes, thus adding delay and reducing capacity.

The road capacity for total curbfront through volume depends on lane configuration and the CUR, which results in a dynamic capacity, as illustrated in **Figure E-3**. As portrayed in the figure, when the curbfront experiences more volume (which increases the resulting CUR), there is a corresponding decrease in the available roadway capacity.

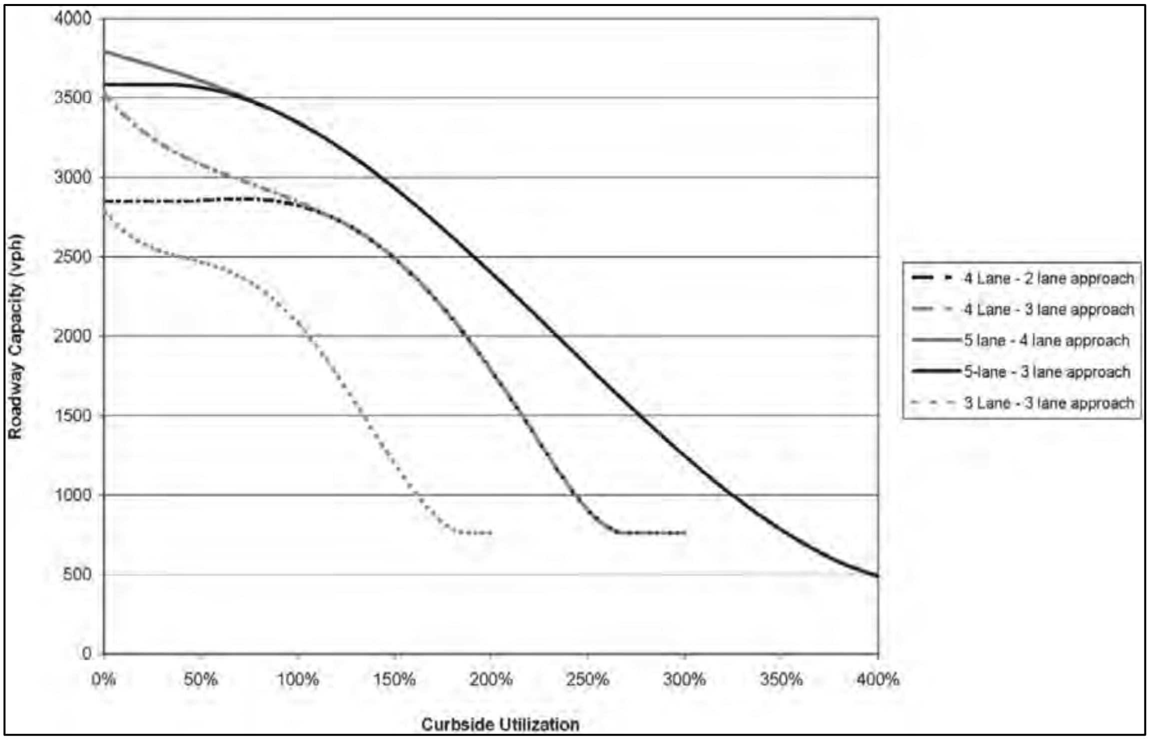


Figure E-3: Curb Roadway Capacity by Lane Configuration and CUR

SOURCE: ACRP Report 25, Airport Passenger Terminal Planning and Design, 2010.

To calculate LOS, vehicular volume is compared to available capacity. **Table E-5** provides the Road LOS for each V/C range.

TABLE E-5 CURBFRONT ROAD LOS BY VOLUME/CAPACITY RATIO

LOS	V/C Ratio
A	<0.25
B	0.25 – 0.40
C	0.40 – 0.60
D	0.60 – 0.80
E	0.80 – 1.00
F	>1.00

SOURCE: ACRP Report 40.

As defined by ACRP 40, LOS C is a desirable planning target for new facilities, whereas LOS D is considered acceptable for existing facilities.

1.2 Terminal Area Roadway Conditions

1.2.1 Existing Conditions

The seven-day automatic traffic counters were used to count the vehicles on the roadways and determine the peak hours for the morning (AM), midday, and afternoon (PM). The count locations are depicted in **Figure E-4**. The morning peak hour was determined to be from 5:00 a.m. to 6:00 a.m. Based on existing flight schedules, it was determined that all passenger activity occurring during the morning peak hour was related to departures (100 percent enplanements, 0 percent deplanements). The midday peak hour was determined to be from 1:00 p.m. to 2:00 p.m. Based on existing flight schedules, it was estimated that approximately 70 percent of the passenger activity was related to departures and 30 percent of the passenger activity was related to arrivals (70 percent enplanements, 30 percent deplanements). The afternoon peak hour was determined to be from 8:00 p.m. to 9:00 p.m. Based on existing flight schedules, it was estimated that all passenger activity was related to arrivals (0 percent enplanements, 100 percent deplanements). Existing flight schedules were provided by airport staff. A sample flight schedule is shown in **Figure E-5**.

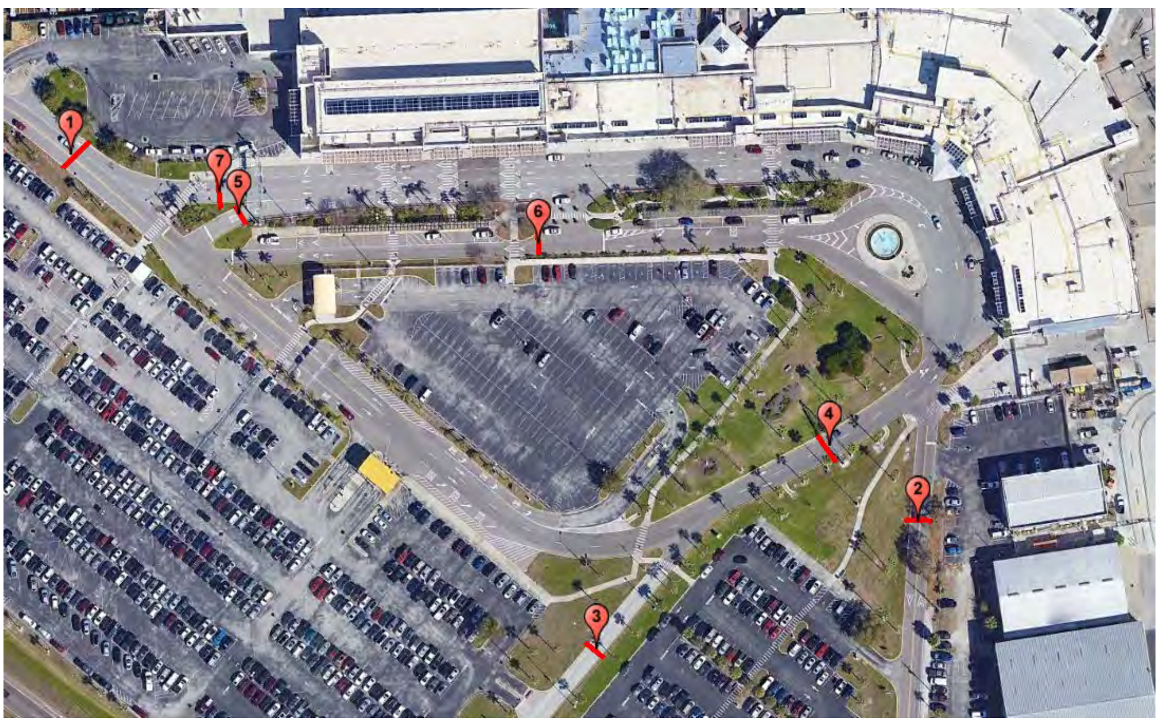


Figure E-4: Traffic Count Locations

SOURCE: Google Earth; Kimley-Horn and Associates, Inc., 2018

The traffic counts collected on Thursday, December 14, 2017 and Thursday, December 21, 2017 were utilized in the volume/capacity analysis. The traffic counts for the peak hours on these days are presented in **Table E-6**. These traffic counts were chosen because they best represent the volume on an average day in December.

	Arrivals			Departure				
PIE Weekly Flight Schedule								
EFFECTIVE 10/24/2017								
AIRLINE	**FLT**	**CITY**	**ETA**	**FLT**	**CITY**	**ETD**	**PARK**	**REMARKS**
Thursday, November 02, 2017								
ALLEGIANT			RON	832	TYS	0635	A-SIDE	
ALLEGIANT			RON	818	JQF	0705	A-SIDE	
ALLEGIANT			RON	888	ABE	0725	B-SIDE	
ALLEGIANT			RON	908	FNT	0735	A-SIDE	
ALLEGIANT			RON	860	LEX	0745	B-SIDE	
ALLEGIANT			RON	846	PIA	0755	A-SIDE	
ALLEGIANT			RON	854	SBN	0805	B-SIDE	
ALLEGIANT			RON	844	SWF	0815	A-SIDE	
ALLEGIANT			RON	842	SYR	0825	B-SIDE	
ALLEGIANT			RON	836	IND	0845	A-SIDE	
ALLEGIANT			RON	814	RDU	0855	A-SIDE	
ALLEGIANT	1202	AVL	0940	1246	ROA	1020	A-SIDE	
ALLEGIANT	861	LEX	1225	904	MCI	1315	A-SIDE	
ALLEGIANT	889	ABE	1320	862	CID	1410	B-SIDE	
ALLEGIANT	909	FNT	1345	894	IAG	1435	A-SIDE	
ALLEGIANT	855	SBN	1345	876	RFD	1445	A-SIDE	
ALLEGIANT	847	PIA	1330	806	SGF	1455	B-SIDE	
ALLEGIANT	1247	ROA	1455	1203	AVL	1540	A-SIDE	
ALLEGIANT	843	SYR	1455	892	YNG	1550	A-SIDE	
ALLEGIANT	845	SWF	1445	800	TOL	1600	B-SIDE	
ALLEGIANT	1302	CVG	1600	1303	CVG	1640	A-SIDE	
ALLEGIANT	819	JQF	1630	826	LCK	1755	A-SIDE	
ALLEGIANT	833	TYS	1620	810	MEM	1820	A-SIDE	
ALLEGIANT	815	RDU	1905	RON				
ALLEGIANT	905	MCI	1920	RON				
ALLEGIANT	837	IND	1930	RON				
ALLEGIANT	863	CID	2020	RON				
ALLEGIANT	807	SGF	2020	RON				
ALLEGIANT	895	IAG	2050	RON				
ALLEGIANT	877	RFD	2050	RON				
ALLEGIANT	893	YNG	2120	RON				
ALLEGIANT	801	TOL	2140	RON				
ALLEGIANT	811	MEM	2250	RON				
ALLEGIANT	827	LCK	2300	RON				

Figure E-5: Sample Flight Schedule

SOURCE: Flight schedule from airport records, 2017

TABLE E-6 TRAFFIC VOLUMES USED IN TERMINAL AREA ROADWAY ANALYSIS FOR BASELINE YEAR

Location	Peak Hour		
	AM	Midday	PM
1: Main Entry (EB)	221	205	131
1: Main Exit (WB)	395	413	304
2: Airport Parkway (NB)	14	103	80
2: Airport Parkway (SB)	28	109	66
3: Terminal Boulevard	248	241	122
4: Curbfront Entry	501	478	301
5: Return to Terminal	34	81	63
6: Second Curbfront	139	140	62
7: Main Curbfront	281	311	199

Note: Baseline year refers to 2017 as defined in the facility requirements chapter.

SOURCE: Kimley-Horn and Associates, Inc., 2017.

1.2.2 Future Conditions

Since traffic counts cannot be conducted on the future conditions, as they do not yet exist, the traffic counts from the existing conditions were distributed to the future conditions so demands and capacities on corresponding future roadways could be estimated. To develop the demands on the future roadway network, relevant traffic volumes at various points of the existing roadway network were added and subtracted accordingly for corresponding locations. The locations of future volume development are depicted in **Figure E-6** and include Exiting the Terminal (A), Before Rental Car Entrance (B), and Before Parking Lot Entrances (C).

The future, developed peak hour volumes for Locations A, B, and C are presented in **Table E-7**. The baseline vehicle count was calculated as the sum of the vehicles utilizing the primary curbfront, the secondary curbfront, and recirculating in the existing conditions.

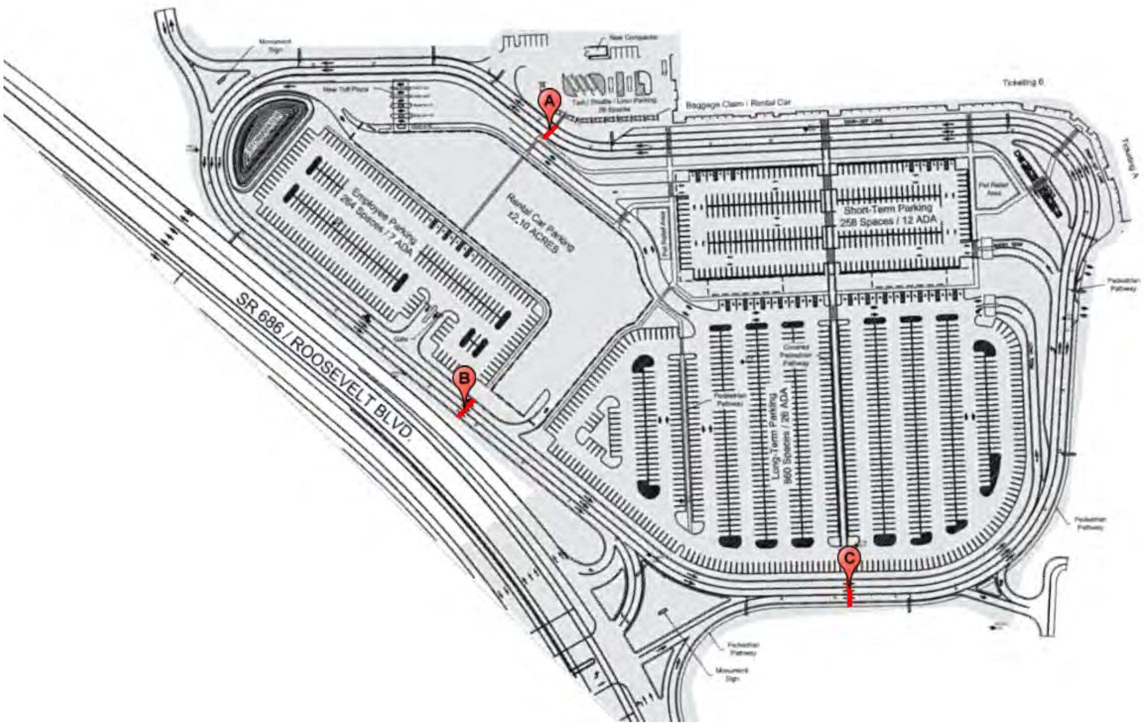


Figure E-6: Future Landside Configuration and Traffic Count Mapping Locations

SOURCE: FDOT Gateway Expressway Reverse Access Road Drawing and Kimley-Horn and Associates, Inc., 2018.

TABLE E-7 BASELINE TRAFFIC VOLUMES USED IN TERMINAL AREA ROADWAY ANALYSIS FOR THE FUTURE ROADWAY NETWORK

Location	Peak Hour		
	AM	Midday	PM
A: Exiting Terminal Curbfront Area	471	502	320
B: Before Rental Car Entrance	648	650	483
C: Before Parking Lot Entrances	501	478	301

SOURCE: Kimley-Horn and Associates, Inc., 2018.

1.3 Terminal Curbfront Conditions

1.3.1 Existing Conditions

The existing terminal curbfront consists of a primary curbfront, a secondary curbfront, and a ground transportation area (GTA). The primary curbfront serves both departing and arriving passengers within their respective zones. The primary curbfront is divided into four zones: Ticketing A, Ticketing B, Unassigned, and Baggage Claim. These zones are defined and visually depicted in the existing conditions chapter.

Ticketing A and B

The Ticketing A curbfront area and Ticketing B curbfront area are located on the primary curbfront and primarily serve as drop-off points for private vehicles, taxis, Transportation Network Companies (TNC's) such as Uber and Lyft, and shuttles (rental car, hotel, courtesy, etc.). The drop-off area is a three-lane road with two lanes used for curbing and one lane exclusively used for through traffic. There is one pedestrian crosswalk in the drop-off area near the end of the Ticketing B curbfront area.

Island 1 is part of the secondary curbfront, located across from Ticketing B. Island 1 is a three-lane road with one lane dedicated to curbing activities for delivery vehicles and airport vehicles. Island 1 has six dedicated vehicle spaces and one pedestrian crosswalk located near the beginning of the curbfront area.

Unassigned Curbfront

There is 130 feet of curbfront in between the ticketing areas and the baggage claim area that does not have any access points to the terminal building. This area is primarily utilized as a staging area for passenger vehicles picking-up. During field observations, it was observed that passenger vehicles parked on the Unassigned curbfront for as long as 29 minutes. This area is a three-lane road with two lanes used for curbing and one lane exclusively used for through traffic. For the remainder of this section, this area will be referred to as the Unassigned curbfront area.

Baggage Claim

The Baggage Claim curbfront areas serve as pick-up points for private vehicles and TNC's. The Baggage Claim curbfront area is a four-lane road with two lanes used for curbing, one lane exclusively used for through traffic, and one lane used for recirculation back to the terminal's entrance. There are three pedestrian crosswalks in the pick-up area that break up the Baggage Claim curbfront area.

Island 2 is part of the secondary curbfront and is located across from Baggage Claim. Island 2 is a two-lane road with one lane dedicated for curbing activities for delivery vehicles and airport vehicles. Island 2 has six dedicated vehicle spaces and two pedestrian crosswalks.

Ground Transportation Area (GTA)

The GTA is located past Baggage Claim and is primarily used for passenger pick-up by taxis and shuttles (rental car, hotel, courtesy, etc.). However, the GTA is also utilized by employees, rental cars, limousine services, and commercial vehicles. The GTA has 110 feet of queue-able space for taxis and additional curbfront for shuttles.

1.3.2 Future Conditions

The future curbfront area will consist of a primary curbfront and a GTA. The curb lengths of the primary curbfront areas in the future are expected to be similar to those in the existing conditions. The vehicles assigned to the secondary curbfront in existing conditions are primarily vendors for the airport; vendors were assumed to be relocated to the new vendor lane located between the pet relief area and departures curbfront in the future conditions. Aside from the removal of the secondary curbfront, the main change from the existing conditions to future conditions are the number of lanes. In the future conditions, it was assumed up to three lanes will be used for curbing and one lane exclusively used for through traffic. The proposed conditions are depicted in **Figure E-7**.

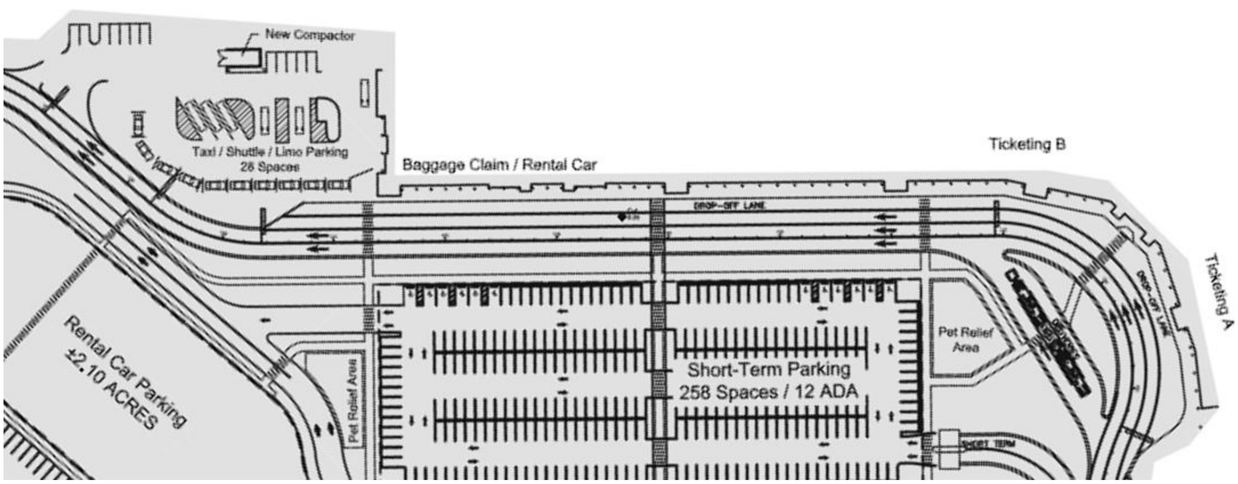


Figure E-7: Future Conditions of Curbfront Area

The baseline vehicle count was taken as the sum of the vehicles utilizing the primary curbfront, the secondary curbfront, and recirculating in the existing conditions. The forecasted volumes were then calculated using the applied growth factors defined in the next section.

1.4 Applied Growth Factors

The applied growth factors shown in **Table E-8** were calculated based on the peak hour calculations presented in the forecast chapter. The growth factors are with respect to the baseline year counts. For example, the estimated number of enplanements during the AM peak hour in Planning Activity Level (PAL) 2 is 1.350 times larger than the number of enplanements during the AM peak hour in the baseline year.

TABLE E-8 APPLIED GROWTH FACTORS FOR TRAFFIC FORECASTS

Peak Hour	Planning Activity Levels			
	PAL-1	PAL-2	PAL-3	PAL-4
AM	1.173	1.350	1.549	1.936
Midday	1.224	1.460	1.836	2.117
PM	1.173	1.350	1.549	1.936

SOURCE: Kimley-Horn and Associates, Inc., 2018.

1.5 Curbfront Forecasting Methodology

To determine the future vehicular volumes on the curbfront, a two-step methodology was used. These steps take into account the passenger forecasts and passenger characteristics collected during the passenger data collection as detailed in the existing conditions chapter.

Step 1: Apply passenger mode split information based on vehicle classification counts.

Step 2: Generate vehicle volumes by mode in their respective curbfront zones.

The details of the two-step forecast methodology are discussed in the sections below.

Step 1: Passenger Mode Split

The vehicle mode splits (proportion of private vehicles, taxis, TNC's, shuttle, etc.) that were used to determine the vehicle classifications for the baseline year (2017) were derived from the results of a field survey where vehicle classifications were counted. For the baseline year, the vehicle mode splits for the primary and secondary curb were analyzed separately using the separate primary and secondary curbfront classification counts. However, in the future years there will only be one curbfront (as a result of the Gateway Project), so the combined vehicle classification counts for the primary and secondary curbfront were used to determine the future vehicle mode splits. The vehicle mode split was assumed to stay constant from PAL-1 through PAL-4. The vehicle mode splits (average for one day) for the baseline and forecast years are presented in **Table E-9.**

The average vehicle mode splits were broken down further to better represent each peak hour and indicate whether a drop-off, pick-up, or staging was occurring. Staging is when a passenger vehicle parks at the curbfront while they wait to pick-up one or more passengers. The differentiation between vehicles that were dropping off, picking up, and staging was necessary for the analysis because there were significant differences in the dwell times.

TABLE E-9 AVERAGE VEHICLE MODE SPLITS

Vehicle Classification	Baseline (Primary Curbfront)	Baseline (Secondary Curbfront)	PAL-1 through PAL-4
Private Vehicle	92.5%	82.6%	92.8%
TNC	3.3%	-	2.4%
Taxi	2.0%	-	1.5%
Airport Parking Shuttle	-	8.3%	2.4%
Rental Car Shuttle	0.3%	0.4%	0.3%
Hotel/Courtesy Shuttle	0.5%	-	0.4%
Other	1.4%	5.0%	0.2%

SOURCE: Kimley-Horn and Associates, Inc., 2018.

The dwell times that were used in the analysis were derived from dwell times recorded during field observations. The average dwell times for each vehicle classification that were recorded are used in the analysis and are presented in **Table E-10**. The vehicle mode splits for the AM, midday, and PM peaks for each vehicle classification are presented in **Table E-11**. It was assumed that during the AM peak hour all vehicles were dropping off, during the midday peak hour 70 percent of the vehicles were dropping off and 30 percent of the vehicles were picking up, and during the PM peak hour all vehicles were picking up. This is consistent with the baseline analysis which considered existing flight schedule activity data.

TABLE E-10 AVERAGE VEHICLE DWELL TIMES

Vehicle Classification	Length	Dwell Time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pick-up)	25	1.17
TNC (pick-up)	25	0.75
Private Vehicle (drop-off)	25	1.17
Taxi (drop-off)	25	1.02
TNC (drop-off)	25	0.92
Airport Parking Shuttle (drop-off)	30	0.82
Rental Car Shuttle (drop-off)	30	1.30
Hotel/Courtesy Shuttle (drop-off)	30	1.53
All GTA (pick-up)	30	2.17
Other	30	3.50

SOURCE: Kimley-Horn and Associates, Inc., 2018.

TABLE E-11 VEHICLE MODE SPLITS SEPARATED BY PEAK HOUR

Vehicle Classification	Baseline (Primary Curbfront)			Baseline (Secondary Curbfront)			PAL-1 through PAL-4		
	AM	Mid	PM	AM	Mid	PM	AM	Mid	PM
Private Vehicle (staging)	-	4.3%	15.8%	-	-	-	-	3.8%	13.1%
Private Vehicle (pick-up)	-	23.5%	80.7%	-	25.5%	94.6%	-	24.3%	84.5%
TNC (pick-up)	-	1.1%	3.5%	-	-	-	-	0.7%	2.4%
Private Vehicle (drop-off)	92.4%	65.0%	-	86.1%	60.4%	-	93.3%	65.4%	-
Taxi (drop-off)	2.1%	1.9%	-	-	-	-	1.5%	1.5%	-
TNC (drop-off)	3.4%	2.4%	-	-	-	-	2.4%	1.6%	-
Airport Parking Shuttle (drop-off)	-	-	-	8.3%	8.2%	-	2.2%	2.1%	-
Rental Car Shuttle (drop-off)	0.6%	0.5%	-	0.7%	0.7%	-	0.3%	0.3%	-
Hotel/Courtesy Shuttle (drop-off)	0.6%	0.5%	-	-	-	-	0.3%	0.3%	-
Other	0.9%	0.8%	-	4.9%	5.2%	5.4%	-	-	-

Note: Mode splits change due to removal of the secondary curbfront and re-distribution of traffic along a single curbfront with a larger total percentage to conform to the future layout.

SOURCE: Kimley-Horn and Associates, Inc., 2018.

For the forecast years, it was also assumed that the airport vehicles and law enforcement vehicles that utilized the secondary curbfront would relocate to the small portion of curbfront at the end of the Baggage Claim area that is separated by a pedestrian crosswalk. This portion of the curbfront was considered to be parking for law enforcement and was therefore not considered as part of the curbfront length for the purposes of the analysis.

Step 2: Generate Vehicle Volumes

The percent of vehicles that curb in each zone during the peak hours is summarized in **Table E-12**. As previously mentioned, vehicles were assumed to only drop-off during the AM peak hour, both pick-up and drop-off during the midday peak hour, and only pick-up during the PM peak hour. It was assumed that the Unassigned curbfront was utilized by vehicles dropping off during the AM peak hour, by both vehicles picking up and dropping off during the midday peak hour, and by vehicles picking up during the PM peak hour.

TABLE E-12 PERCENT OF TOTAL VEHICLES CURBING IN EACH CURBFRONT AREA

Vehicle Classification	Baseline (Primary Curbfront)			Baseline (Secondary Curbfront)			PAL-1 through PAL-4		
	AM	Mid	PM	AM	Mid	PM	AM	Mid	PM
Ticketing A	50.0%	35.6%	-	-	-	-	50.0%	35.6%	-
Ticketing B	50.0%	35.5%	-	100%	70%	-	50.0%	35.6%	-
Unassigned	-	4.3%	15.8%	-	-	-	-	3.8%	13.1%
Baggage Claim	-	24.6%	84.2%	-	30%	100%	-	25.0%	86.9%

SOURCE: Kimley-Horn and Associates, Inc., 2018.

1.5.1 Terminal Curbfront Capacity

Terminal curbfront capacity consists of two components: designated curbing lanes and curbfront through lanes. This distinction is illustrated in the QATAR analysis outputs in **Appendix E-1**. The capacity of the curbfront lanes is determined based on the available curbfront length, average vehicle length, and average vehicle dwell time. In the case of PIE's terminal curbfront, vehicles are encouraged to double-park along the primary curbfront, providing additional effective curb length. The physical curb lengths of each curbfront section are presented in **Table E-13**.

TABLE E-13 PHYSICAL CURBFRONT LENGTHS

Vehicle Classification	Baseline (Primary Curbfront)	Baseline (Secondary Curbfront)	PAL-1 through PAL-4
Ticketing A	130'	-	140'
Ticketing B	250'	160'	140'
Unassigned	130'	-	250'
Baggage Claim	280'	160'	260'

SOURCE: Kimley-Horn and Associates, Inc., 2018.

1.6 QATAR Input Assumptions

The following key input assumptions were captured within ACRP's macroscopic model, Quick Analysis Tool for Airport Roadways (QATAR). An overview of QATAR is provided in the facility requirements chapter.

- No vehicles were allowed to stop in the crosswalks.
- In the morning peak hour, all vehicles entering the terminal curbfront area curbed in one of the curbfront zones (no reduction for recirculation).
- In the midday peak hour, 7.5 percent of all passenger vehicles that entered the terminal curbfront area with the intent of picking-up recirculated and did not curb.

- ✈ In the night peak hour, 10 percent of all passenger vehicles that entered the terminal curbfront area with the intent of picking-up recirculated and did not curb.
- ✈ In the forecast years, law enforcement vehicles and airport vehicles will park on the small length of curbfront following the pedestrian crosswalk in the Baggage Claim area. These vehicles were not considered as part of the analysis and the curbfront utilized by them was excluded from the total curbfront length. This enabled a more conservative analysis.
- ✈ In the forecast years, all shuttle and taxi pick-up activity will occur in the GTA. All shuttle and taxi drop-off activity will continue to occur on the main curbfront.
- ✈ Vehicles began double parking when the first lane in the primary curbfront became 50 percent full.
- ✈ Double parking was prohibited on the secondary curbfront (baseline scenario).
- ✈ In the baseline scenarios, triple parking was prohibited.
- ✈ In the forecast scenarios, vehicles began triple parking when the second lane became 75 percent full.
- ✈ A pedestrian factor of 0.90 was applied, therefore reducing the effective curbfront through capacity to 90 percent.
- ✈ A regional factor of 0.95 was applied, therefore reducing the effective curbfront through and curbing capacity to 95 percent.

The full QATAR analyses results are provided **Appendix E-1**.

APPENDIX E

Appendix E-1

QATAR Analyses

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Baseline – Primary Curbfront – AM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	9
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parkin	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Name									
Type	active	xwalk	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	280	20	250	20	50	20	50	20	160
Number of lanes	3	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2	2

Volume of vehicles using roadway (vph)									
Private Vehicle (staging)	0	0	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0	0	0
Private Vehicle (drop)	302	302	302	302	302	302	302	302	302
Taxi (drop)	7	7	7	7	7	7	7	7	7
TNC (drop)	11	11	11	11	11	11	11	11	11
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	2	2	2	2	2	2	2	2	2
Hotel Shuttle (drop)	2	2	2	2	2	2	2	2	2
Other	3	3	3	3	3	3	3	3	3

Volume of vehicles using curbside (vph)									
Private Vehicle (staging)	0	0	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0	0	0
Private Vehicle (drop)	302	0	0	0	0	0	0	0	0
Taxi (drop)	7	0	0	0	0	0	0	0	0
TNC (drop)	11	0	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	2	0	0	0	0	0	0	0	0
Hotel Shuttle (drop)	2	0	0	0	0	0	0	0	0
Other	3	0	0	0	0	0	0	0	0

Results

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Name									
Type of zone	active	xwalk	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	280	20	250	20	50	20	50	20	160
Number of lanes	3	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2	2
Roadway volume (vph)	327	327	327	327	327	327	327	327	327
Curbside demand (vph)	327	-	-	-	-	-	-	-	-
Average dwell time (minutes)	1.182752294	0	-	-	-	-	-	-	-
Average vehicle length (feet)	25.10703364	0	0	-	-	-	-	-	-
Average vehicle arrival rate (vph)	327	0	0	-	-	-	-	-	-
Estimated service rate	50.72913435	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Derived number of servers	33	0	0	-	-	-	-	-	-
Utilization factor	0.195333333	0	0	-	-	-	-	-	-
Utilization ratio	6.446	0	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Idle probability	0.001586857	0	1	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
95th percentile vehicles in system	11		0		0.0%		0.0%		0.0%
95th percentile queue length	0		0		0.0%		0.0%		0.0%
% utilization	0.333333333								
%of 1st lane full when next vehicle double parks	0.5	0.5	0.5	0.500	0.500	0.500	0.500	0.500	0.500
%of 2nd lane full when next vehicle triple parks	0.75	0.75	0.75	0.750	0.750	0.750	0.750	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.900	0.900	0.900	0.900	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2081.63215	2796.6089	2796.6089	2,796.61	2,796.61	2,796.61	2,796.61	2,796.61	2,796.61
Adjusted through lane roadway capacity	1773.388224	2391.10061	2382.492647	2,391.10	2,382.49	2,391.10	2,382.49	2,391.10	2,382.49
Estimated roadway V/C ratio	0.184392789	0.136757106	0.137251211	0.137	0.137	0.137	0.137	0.137	0.137
Curb capacity per lane (vehicles)	11	0	0	0	0	0	0	0	0
Curb utilization ratio	1	0	0	0	0	0	0	0	0
% occupancy in lane 1	0.745	0	0	0	0	0	0	0	0
% occupancy in lane 2	0.245	0	0	0	0	0	0	0	0
% occupancy in lane 3	0	0	0	0	0	0	0	0	0
# of cars in curbside lane	8.195	0	0	0	0	0	0	0	0
# of double-parked cars	2.695	0	0	0	0	0	0	0	0
# of triple-parked cars	0	0	0	0	0	0	0	0	0
Curbside LOS	A		A		A		A		A
Roadway LOS	A	A	A	A	A	A	A	A	A

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

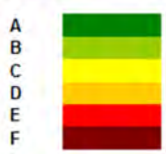
Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	Baseline - Primary (AM)
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	9

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Name/description									
Curb length (feet)	280	20	250	20	50	20	50	20	160
Zone type	active	xwalk	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	327	327	327	327	327	327	327	327	327
Roadway capacity (vph)	1,773	2,391	2,382	2,391	2,382	2,391	2,382	2,391	2,382
Roadway V/C ratio	0.184	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137
Roadway LOS	A	A	A	A	A	A	A	A	A
Curb demand (# in sys 95% of time)	11.0	N/A	0.0	N/A	0.0	N/A	0.0	N/A	0.0
Curb capacity per lane (vehicles)	11.0	N/A	0.0	N/A	0.0	N/A	0.0	N/A	0.0
Curb utilization ratio	1.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000
Curb LOS	A	N/A	A	N/A	A	N/A	A	N/A	A

Level-of-service (LOS) key:



Baseline – Secondary Curbfront – AM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	8
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parkir	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name								
Type	active	xwalk	active	no stop	xwalk	active	xwalk	active
Curbside frontage (feet)	60	20	100	100	20	35	20	125
Number of lanes	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)								
Private Vehicle (staging)	0	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0	0
Private Vehicle (drop)	124	124	124	124	124	124	124	124
Taxi (drop)	0	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	12	12	12	12	12	12	12	12
Rental Car Shuttle (drop)	1	1	1	1	1	1	1	1
Hotel Shuttle (drop)	0	0	0	0	0	0	0	0
Other	7	7	7	7	7	7	7	7
Volume of vehicles using curbside (vph)								
Private Vehicle (staging)	0	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0	0
Private Vehicle (drop)	41	0	83	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	4	0	8	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	1	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	1	0	6

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name								
Type of zone	active	xwalk	active	no stop	xwalk	active	xwalk	active
Curbside length (feet)	60	20	100	100	20	35	20	125
Number of lanes	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2
Roadway volume (vph)	144	144	144	144	144	144	144	144
Curbside demand (vph)	45	-	92	-	-	1	-	6
Average dwell time (minutes)	1.138888889	0	1.140978261	0	-	4	-	4
Average vehicle length (feet)	25.44444444	0	25.48913043	0	0	30.00	-	30.00
Average vehicle arrival rate (vph)	45	0	92	0	0	1.00	-	6.00
Estimated service rate	52.68292683	0	52.58645327	0	0	1.71E+01	0.00E+00	1.71E+01
Derived number of servers	7	0	12	0	0	4.00	-	13.00
Utilization factor	0.12202381	0	0.145791667	0	0	0.01	-	0.03
Utilization ratio	0.854166667	0	1.7495	0	0	5.8%	0.0%	35.0%
Idle probability	0.425637489	0	0.173860851	1	0	94.3%	0.0%	70.5%
95th percentile vehicles in system	3		4	0		100.0%		100.0%
95th percentile queue length	0		0	0		0.0%		0.0%
% utilization	0.428571429		0.333333333			0.250		0.077
%of 1st lane full when next vehicle double parks	0.5	0.5	0.5	0.5	0.5	0.500	0.500	0.500
%of 2nd lane full when next vehicle triple parks	0.75	0.75	0.75	0.75	0.75	0.750	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	1199.662709	2796.6089	2081.63215	2796.6089	2796.6089	2,081.63	2,796.61	2,556.12
Adjusted through lane roadway capacity	1022.019055	2391.10061	1773.388224	2382.492647	2391.10061	1,773.39	2,391.10	2,177.61
Estimated roadway V/C ratio	0.140897569	0.060223313	0.081200494	0.0604409	0.060223313	0.081	0.060	0.066
Curb capacity per lane (vehicles)	2	0	4	0	0	1	0	4
Curb utilization ratio	1.5	0	1	0	0	1	0	0.25
% occupancy in lane 1	0.995	0	0.745	0	0	0.745	0	0.24
% occupancy in lane 2	0.495	0	0.245	0	0	0.245	0	0
% occupancy in lane 3	0	0	0	0	0	0	0	0
# of cars in curbside lane	1.99	0	2.98	0	0	0.745	0	0.96
# of double-parked cars	0.99	0	0.98	0	0	0.245	0	0
# of triple-parked cars	0	0	0	0	0	0	0	0
Curbside LOS	D		A	A		A		A
Roadway LOS	A	A	A	A	A	A	A	A

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	8

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name/description								
Curb length (feet)	60	20	100	100	20	35	20	125
Zone type	active	xwalk	active	no stop	xwalk	active	xwalk	active
Roadway volume (vph)	144	144	144	144	144	144	144	144
Roadway capacity (vph)	1,022	2,391	1,773	2,382	2,391	1,773	2,391	2,178
Roadway V/C ratio	0.141	0.060	0.081	0.060	0.060	0.081	0.060	0.066
Roadway LOS	A	A	A	A	A	A	A	A
Curb demand (# in sys 95% of time)	3.0	N/A	4.0	N/A	N/A	1.0	N/A	1.0
Curb capacity per lane (vehicles)	2.0	N/A	4.0	N/A	N/A	1.0	N/A	4.0
Curb utilization ratio	1.500	N/A	1.000	N/A	N/A	1.000	N/A	0.250
Curb LOS	D	N/A	A	N/A	N/A	A	N/A	A

Level-of-service (LOS) key:

A
B
C
D
E
F

ADJUSTED CONFIGURATION

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name/description								
Curb length (feet)	60	20	100	100	20	35	20	125
Zone type	active	xwalk	active	no stop	xwalk	active	xwalk	active
Roadway volume (vph)	144	144	144	144	144	144	144	144
Roadway capacity (vph)	1,022	2,391	1,773	2,382	2,391	408	2,391	1,324
Roadway V/C ratio	0.141	0.060	0.081	0.060	0.060	0.353	0.060	0.109
Roadway LOS	A	A	A	A	A	B	A	A
Curb demand (# in sys 95% of time)	3.00	N/A	4.00	N/A	N/A	1.00	N/A	1.00
Curb capacity per lane (vehicles)	2.00	N/A	4.00	N/A	N/A	1.00	N/A	4.00
Curb utilization ratio	1.500	N/A	1.000	N/A	N/A	1.000	N/A	0.250
Curb LOS	F	N/A	C	N/A	N/A	C	N/A	A

Baseline – Primary Curbfront – Midday

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	9
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parkir	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Name									
Type	active	xwalk	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	280	20	250	20	50	20	50	20	160
Number of lanes	3	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2	2

Volume of vehicles using roadway (vph)									
Private Vehicle (staging)	16	16	16	16	16	16	16	16	16
Private Vehicle (pickup)	103	103	103	103	103	103	103	103	103
TNC (pickup)	4	4	4	4	4	4	4	4	4
Private Vehicle (drop)	241	241	241	241	241	241	241	241	241
Taxi (drop)	7	7	7	7	7	7	7	7	7
TNC (drop)	9	9	9	9	9	9	9	9	9
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	2	2	2	2	2	2	2	2	2
Hotel Shuttle (drop)	2	2	2	2	2	2	2	2	2
Other	3	3	3	3	3	3	3	3	3

Volume of vehicles using curbside (vph)									
Private Vehicle (staging)	0	0	15	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	19	0	19	0	56
TNC (pickup)	0	0	0	0	1	0	1	0	2
Private Vehicle (drop)	241	0	0	0	0	0	0	0	0
Taxi (drop)	7	0	0	0	0	0	0	0	0
TNC (drop)	9	0	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	2	0	0	0	0	0	0	0	0
Hotel Shuttle (drop)	2	0	0	0	0	0	0	0	0
Other	3	0	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Name									
Type of zone	active	xwalk	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	280	20	250	20	50	20	50	20	160
Number of lanes	3	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2	2
Roadway volume (vph)	387	387	387	387	387	387	387	387	387
Curbside demand (vph)	264	-	15	-	20	-	20	-	58
Average dwell time (minutes)	1.187689394	0	6.12	0	1	-	1	-	1
Average vehicle length (feet)	25.13257576	0	25	0	25	-	25.00	-	25.00
Average vehicle arrival rate (vph)	264	0	15	0	20	-	20.00	-	58.00
Estimated service rate	50.51825865	0	9.803921569	0	52.21932115	0.00E+00	5.22E+01	0.00E+00	5.19E+01
Derived number of servers	33	0	30	0	6	-	6.00	-	19.00
Utilization factor	0.158358586	0	0.051	0	0.063833333	-	0.06	-	0.06
Utilization ratio	5.225833333	0	1.53	0	0.383	0.0%	38.3%	0.0%	111.7%
Idle probability	0.005375878	0	0.216535667	0	0.681812877	0.0%	68.2%	0.0%	32.7%
95th percentile vehicles in system	9		4		2		200.0%		300.0%
95th percentile queue length	0		0		0		0.0%		0.0%
% utilization	0.272727273		0.133333333		0.333333333		0.333		0.158
%of 1st lane full when next vehicle double parks	0.5	0.5	0.5	0.5	0.5	0.500	0.500	0.500	0.500
%of 2nd lane full when next vehicle triple parks	0.75	0.75	0.75	0.75	0.75	0.750	0.750	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2294.445896	2796.6089	2498.982648	2796.6089	2081.63215	2,796.61	2,081.63	2,796.61	2,467.84
Adjusted through lane roadway capacity	1954.688937	2391.10061	2128.938296	2391.10061	1773.388224	2,391.10	1,773.39	2,391.10	2,102.41
Estimated roadway V/C ratio	0.197985466	0.161850153	0.18178075	0.161850153	0.218226328	0.162	0.218	0.162	0.184
Curb capacity per lane (vehicles)	11	0	10	0	2	0	2	0	6
Curb utilization ratio	0.818181818	0	0.4	0	1	0	1	0	0.5
% occupancy in lane 1	0.655	0	0.39	0	0.745	0	0.745	0	0.49
% occupancy in lane 2	0.155	0	0	0	0.245	0	0.245	0	0
% occupancy in lane 3	0	0	0	0	0	0	0	0	0
# of cars in curbside lane	7.205	0	3.9	0	1.49	0	1.49	0	2.94
# of double-parked cars	1.705	0	0	0	0.49	0	0.49	0	0
# of triple-parked cars	0	0	0	0	0	0	0	0	0
Curbside LOS	A		A		A		A		A
Roadway LOS	A	A	A	A	A	A	A	A	A

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

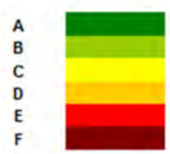
Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	9

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Name/description									
Curb length (feet)	280	20	250	20	50	20	50	20	160
Zone type	active	xwalk	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	387	387	387	387	387	387	387	387	387
Roadway capacity (vph)	1,955	2,391	2,129	2,391	1,773	2,391	1,773	2,391	2,102
Roadway V/C ratio	0.198	0.162	0.182	0.162	0.218	0.162	0.218	0.162	0.184
Roadway LOS	A	A	A	A	A	A	A	A	A
Curb demand (# in sys 95% of time)	9.0	N/A	4.0	N/A	2.0	N/A	2.0	N/A	3.0
Curb capacity per lane (vehicles)	11.0	N/A	10.0	N/A	2.0	N/A	2.0	N/A	6.0
Curb utilization ratio	0.818	N/A	0.400	N/A	1.000	N/A	1.000	N/A	0.500
Curb LOS	A	N/A	A	N/A	A	N/A	A	N/A	A

Level-of-service (LOS) key:



Baseline – Secondary Curbfront – Midday

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	8
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parkin	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name								
Type	active	xwalk	active	no stop	xwalk	active	xwalk	active
Curbside frontage (feet)	60	20	100	100	20	35	20	125
Number of lanes	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)								
Private Vehicle (staging)	0	0	0	0	0	0	0	0
Private Vehicle (pickup)	34	34	34	34	34	34	34	34
TNC (pickup)	0	0	0	0	0	0	0	0
Private Vehicle (drop)	81	81	81	81	81	81	81	81
Taxi (drop)	0	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	11	11	11	11	11	11	11	11
Rental Car Shuttle (drop)	1	1	1	1	1	1	1	1
Hotel Shuttle (drop)	0	0	0	0	0	0	0	0
Other	7	7	7	7	7	7	7	7
Volume of vehicles using curbside (vph)								
Private Vehicle (staging)	0	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	6	0	26
TNC (pickup)	0	0	0	0	0	0	0	0
Private Vehicle (drop)	27	0	54	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	4	0	7	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	1	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	1	0	6

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name								
Type of zone	active	xwalk	active	no stop	xwalk	active	xwalk	active
Curbside length (feet)	60	20	100	100	20	35	20	125
Number of lanes	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2
Roadway volume (vph)	134	134	134	134	134	134	134	134
Curbside demand (vph)	31	-	62	-	-	7	-	32
Average dwell time (minutes)	1.12483871	0	1.132580645	0	-	2	-	2
Average vehicle length (feet)	25.64516129	0	25.64516129	0	0	25.71	-	25.94
Average vehicle arrival rate (vph)	31	0	62	0	0	7.00	-	32.00
Estimated service rate	53.34098079	0	52.97636001	0	0	3.99E+01	0.00E+00	3.73E+01
Derived number of servers	7	0	12	0	0	4.00	-	14.00
Utilization factor	0.08302381	0	0.097527778	0	0	0.04	-	0.06
Utilization ratio	0.581166667	0	1.170333333	0	0	17.5%	0.0%	85.7%
Idle probability	0.559245515	0	0.310263503	1	0	83.9%	0.0%	42.4%
95th percentile vehicles in system	2		3	0		100.0%		300.0%
95th percentile queue length	0		0	0		0.0%		0.0%
% utilization	0.285714286		0.25			0.250		0.214
%of 1st lane full when next vehicle double parks	0.5	0.5	0.5	0.5	0.5	0.500	0.500	0.500
%of 2nd lane full when next vehicle triple parks	0.75	0.75	0.75	0.75	0.75	0.750	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2081.63215	2796.6089	2342.851687	2796.6089	2796.6089	2,081.63	2,796.61	2,429.83
Adjusted through lane roadway capacity	1773.388224	2391.10061	1995.926894	2382.492647	2391.10061	1,773.39	2,391.10	2,070.03
Estimated roadway V/C ratio	0.075561571	0.056041138	0.067136727	0.056243615	0.056041138	0.076	0.056	0.065
Curb capacity per lane (vehicles)	2	0	4	0	0	1	0	5
Curb utilization ratio	1	0	0.75	0	0	1	0	0.6
% occupancy in lane 1	0.745	0	0.62	0	0	0.745	0	0.545
% occupancy in lane 2	0.245	0	0.12	0	0	0.245	0	0.045
% occupancy in lane 3	0	0	0	0	0	0	0	0
# of cars in curbside lane	1.49	0	2.48	0	0	0.745	0	2.725
# of double-parked cars	0.49	0	0.48	0	0	0.245	0	0.225
# of triple-parked cars	0	0	0	0	0	0	0	0
Curbside LOS	A		A	A		A		A
Roadway LOS	A	A	A	A	A	A	A	A

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	8

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name/description								
Curb length (feet)	60	20	100	100	20	35	20	125
Zone type	active	xwalk	active	no stop	xwalk	active	xwalk	active
Roadway volume (vph)	134	134	134	134	134	134	134	134
Roadway capacity (vph)	1,773	2,391	1,996	2,382	2,391	1,773	2,391	2,070
Roadway V/C ratio	0.076	0.056	0.067	0.056	0.056	0.076	0.056	0.065
Roadway LOS	A	A	A	A	A	A	A	A
Curb demand (# in sys 95% of time)	2.0	N/A	3.0	N/A	N/A	1.0	N/A	3.0
Curb capacity per lane (vehicles)	2.0	N/A	4.0	N/A	N/A	1.0	N/A	5.0
Curb utilization ratio	1.000	N/A	0.750	N/A	N/A	1.000	N/A	0.600
Curb LOS	A	N/A	A	N/A	N/A	A	N/A	A

Level-of-service (LOS) key:

A
B
C
D
E
F

ADJUSTED CONFIGURATION

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name/description								
Curb length (feet)	60	20	100	100	20	35	20	125
Zone type	active	xwalk	active	no stop	xwalk	active	xwalk	active
Roadway volume (vph)	134	134	134	134	134	134	134	134
Roadway capacity (vph)	1,773	2,391	1,996	2,382	2,391	408	2,391	947
Roadway V/C ratio	0.076	0.056	0.067	0.056	0.056	0.329	0.056	0.142
Roadway LOS	A	A	A	A	A	B	A	A
Curb demand (# in sys 95% of time)	2.00	N/A	3.00	N/A	N/A	1.00	N/A	3.00
Curb capacity per lane (vehicles)	2.00	N/A	4.00	N/A	N/A	1.00	N/A	5.00
Curb utilization ratio	1.000	N/A	0.750	N/A	N/A	1.000	N/A	0.600
Curb LOS	C	N/A	B	N/A	N/A	C	N/A	A

Baseline – Primary Curbfront – PM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	9
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parkin	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Name									
Type	active	xwalk	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	280	20	250	20	50	20	50	20	160
Number of lanes	3	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)									
Private Vehicle (staging)	41	41	41	41	41	41	41	41	41
Private Vehicle (pickup)	209	209	209	209	209	209	209	209	209
TNC (pickup)	9	9	9	9	9	9	9	9	9
Private Vehicle (drop)	0	0	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
Volume of vehicles using curbside (vph)									
Private Vehicle (staging)	0	0	37	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	38	0	38	0	113
TNC (pickup)	0	0	0	0	2	0	2	0	5
Private Vehicle (drop)	0	0	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Name									
Type of zone	active	xwalk	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	280	20	250	20	50	20	50	20	160
Number of lanes	3	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2	2
Roadway volume (vph)	259	259	259	259	259	259	259	259	259
Curbside demand (vph)	-	-	37	-	40	-	40	-	118
Average dwell time (minutes)	0	0	6.12	0	1	-	1	-	1
Average vehicle length (feet)	0	0	25	0	25	-	25.00	-	25.00
Average vehicle arrival rate (vph)	0	0	37	0	40	-	40.00	-	118.00
Estimated service rate	0	0	9.803921569	0	52.21932115	0.00E+00	5.22E+01	0.00E+00	5.21E+01
Derived number of servers	0	0	30	0	6	-	6.00	-	19.00
Utilization factor	0	0	0.1258	0	0.127666667	-	0.13	-	0.12
Utilization ratio	0	0	3.774	0	0.766	0.0%	76.6%	0.0%	226.6%
Idle probability	1	0	0.022960039	0	0.464867285	0.0%	46.5%	0.0%	10.4%
95th percentile vehicles in system	0		7		2		200.0%		500.0%
95th percentile queue length	0		0		0		0.0%		0.0%
% utilization			0.233333333		0.333333333		0.333		0.263
%of 1st lane full when next vehicle double parks	0.5	0.5	0.5	0.5	0.5	0.500	0.500	0.500	0.500
%of 2nd lane full when next vehicle triple parks	0.75	0.75	0.75	0.75	0.75	0.750	0.750	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2796.6089	2796.6089	2376.85207	2796.6089	2081.63215	2,796.61	2,081.63	2,796.61	2,276.36
Adjusted through lane roadway capacity	2382.492647	2391.10061	2024.892569	2391.10061	1773.388224	2,391.10	1,773.39	2,391.10	1,939.28
Estimated roadway V/C ratio	0.108709674	0.10831832	0.12790802	0.10831832	0.146048111	0.108	0.146	0.108	0.134
Curb capacity per lane (vehicles)	0	0	10	0	2	0	2	0	6
Curb utilization ratio	0	0	0.7	0	1	0	1	0	0.833333333
% occupancy in lane 1	0	0	0.595	0	0.745	0	0.745	0	0.665
% occupancy in lane 2	0	0	0.095	0	0.245	0	0.245	0	0.165
% occupancy in lane 3	0	0	0	0	0	0	0	0	0
# of cars in curbside lane	0	0	5.95	0	1.49	0	1.49	0	3.99
# of double-parked cars	0	0	0.95	0	0.49	0	0.49	0	0.99
# of triple-parked cars	0	0	0	0	0	0	0	0	0
Curbside LOS	A		A		A		A		A
Roadway LOS	A	A	A	A	A	A	A	A	A

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

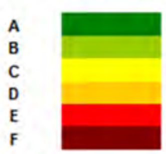
Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	9

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Name/description									
Curb length (feet)	280	20	250	20	50	20	50	20	160
Zone type	active	xwalk	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	259	259	259	259	259	259	259	259	259
Roadway capacity (vph)	2,382	2,391	2,025	2,391	1,773	2,391	1,773	2,391	1,939
Roadway V/C ratio	0.109	0.108	0.128	0.108	0.146	0.108	0.146	0.108	0.134
Roadway LOS	A	A	A	A	A	A	A	A	A
Curb demand (# in sys 95% of time)	0.0	N/A	7.0	N/A	2.0	N/A	2.0	N/A	5.0
Curb capacity per lane (vehicles)	0.0	N/A	10.0	N/A	2.0	N/A	2.0	N/A	6.0
Curb utilization ratio	0.000	N/A	0.700	N/A	1.000	N/A	1.000	N/A	0.833
Curb LOS	A	N/A	A	N/A	A	N/A	A	N/A	A

Level-of-service (LOS) key:



Baseline – Secondary Curbfront – PM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	8
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parkin	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name								
Type	active	xwalk	active	no stop	xwalk	active	xwalk	active
Curbside frontage (feet)	60	20	100	100	20	35	20	125
Number of lanes	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2

Volume of vehicles using roadway (vph)

Private Vehicle (staging)	0	0	0	0	0	0	0	0
Private Vehicle (pickup)	53	53	53	53	53	53	53	53
TNC (pickup)	0	0	0	0	0	0	0	0
Private Vehicle (drop)	0	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0	0
Other	3	3	3	3	3	3	3	3

Volume of vehicles using curbside (vph)

Private Vehicle (staging)	0	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	8	0	40
TNC (pickup)	0	0	0	0	0	0	0	0
Private Vehicle (drop)	0	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	1	0	2

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name								
Type of zone	active	xwalk	active	no stop	xwalk	active	xwalk	active
Curbside length (feet)	60	20	100	100	20	35	20	125
Number of lanes	3	3	3	3	3	3	3	3
Number of approach lanes	2	2	2	2	2	2	2	2
Roadway volume (vph)	56	56	56	56	56	56	56	56
Curbside demand (vph)	-	-	-	-	-	9	-	42
Average dwell time (minutes)	0	0	0	0	-	1	-	1
Average vehicle length (feet)	0	0	0	0	0	25.56	-	25.24
Average vehicle arrival rate (vph)	0	0	0	0	0	9.00	-	42.00
Estimated service rate	0	0	0	0	0	4.20E+01	0.00E+00	4.68E+01
Derived number of servers	0	0	0	0	0	4.00	-	15.00
Utilization factor	0	0	0	0	0	0.05	-	0.06
Utilization ratio	0	0	0	0	0	21.4%	0.0%	89.7%
Idle probability	1	0	1	1	0	80.7%	0.0%	40.8%
95th percentile vehicles in system	0		0	0		100.0%		300.0%
95th percentile queue length	0		0	0		0.0%		0.0%
% utilization						0.250		0.200
%of 1st lane full when next vehicle double parks	0.5	0.5	0.5	0.5	0.5	0.500	0.500	0.500
%of 2nd lane full when next vehicle triple parks	0.75	0.75	0.75	0.75	0.75	0.750	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2796.6089	2796.6089	2796.6089	2796.6089	2796.6089	2,081.63	2,796.61	2,429.83
Adjusted through lane roadway capacity	2382.492647	2391.10061	2382.492647	2382.492647	2391.10061	1,773.39	2,391.10	2,070.03
Estimated roadway V/C ratio	0.023504794	0.023420177	0.023504794	0.023504794	0.023420177	0.032	0.023	0.027
Curb capacity per lane (vehicles)	0	0	0	0	0	1	0	5
Curb utilization ratio	0	0	0	0	0	1	0	0.6
% occupancy in lane 1	0	0	0	0	0	0.745	0	0.545
% occupancy in lane 2	0	0	0	0	0	0.245	0	0.045
% occupancy in lane 3	0	0	0	0	0	0	0	0
# of cars in curbside lane	0	0	0	0	0	0.745	0	2.725
# of double-parked cars	0	0	0	0	0	0.245	0	0.225
# of triple-parked cars	0	0	0	0	0	0	0	0
Curbside LOS	A		A	A		A		A
Roadway LOS	A	A	A	A	A	A	A	A

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

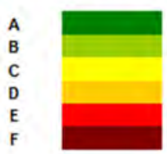
Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	3 / 2
Number of curbside zones	8

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name/description								
Curb length (feet)	60	20	100	100	20	35	20	125
Zone type	active	xwalk	active	no stop	xwalk	active	xwalk	active
Roadway volume (vph)	56	56	56	56	56	56	56	56
Roadway capacity (vph)	2,382	2,391	2,382	2,382	2,391	1,773	2,391	2,070
Roadway V/C ratio	0.024	0.023	0.024	0.024	0.023	0.032	0.023	0.027
Roadway LOS	A	A	A	A	A	A	A	A
Curb demand (# in sys 95% of time)	0.0	N/A	0.0	N/A	N/A	1.0	N/A	3.0
Curb capacity per lane (vehicles)	0.0	N/A	0.0	N/A	N/A	1.0	N/A	5.0
Curb utilization ratio	0.000	N/A	0.000	N/A	N/A	1.000	N/A	0.600
Curb LOS	A	N/A	A	N/A	N/A	A	N/A	A

Level-of-service (LOS) key:



ADJUSTED CONFIGURATION

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Name/description								
Curb length (feet)	60	20	100	100	20	35	20	125
Zone type	active	xwalk	active	no stop	xwalk	active	xwalk	active
Roadway volume (vph)	56	56	56	56	56	56	56	56
Roadway capacity (vph)	2,382	2,391	2,382	2,382	2,391	408	2,391	947
Roadway V/C ratio	0.024	0.023	0.024	0.024	0.023	0.137	0.023	0.059
Roadway LOS	A	A	A	A	A	A	A	A
Curb demand (# in sys 95% of time)	0.00	N/A	0.00	N/A	N/A	1.00	N/A	3.00
Curb capacity per lane (vehicles)	0.00	N/A	0.00	N/A	N/A	1.00	N/A	5.00
Curb utilization ratio	0.000	N/A	0.000	N/A	N/A	1.000	N/A	0.600
Curb LOS	A	N/A	A	N/A	N/A	C	N/A	A

PAL 1 - AM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parkin	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)							
Private Vehicle (staging)	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0
Private Vehicle (drop)	513	513	513	513	513	513	513
Taxi (drop)	8	8	8	8	8	8	8
TNC (drop)	13	13	13	13	13	13	13
Airport Parking Shuttle (drop)	12	12	12	12	12	12	12
Rental Car Shuttle (drop)	2	2	2	2	2	2	2
Hotel Shuttle (drop)	2	2	2	2	2	2	2
Other	0	0	0	0	0	0	0
Volume of vehicles using curbside (vph)							
Private Vehicle (staging)	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0
Private Vehicle (drop)	257	0	256	0	0	0	0
Taxi (drop)	4	0	4	0	0	0	0
TNC (drop)	7	0	6	0	0	0	0
Airport Parking Shuttle (drop)	6	0	6	0	0	0	0
Rental Car Shuttle (drop)	1	0	1	0	0	0	0
Hotel Shuttle (drop)	1	0	1	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	550	550	550	550	550	550	550
Curbside demand (vph)	276	-	274	-	-	-	-
Average dwell time (minutes)	1.155652174	0	1.156459854	0	-	-	-
Average vehicle length (feet)	25.14492754	0	25.1459854	0	0	-	-
Average vehicle arrival rate (vph)	276	0	274	0	0	-	-
Estimated service rate	51.91873589	0	51.88247546	0	0	0.00E+00	0.00E+00
Derived number of servers	22	0	22	0	0	-	-
Utilization factor	0.241636364	0	0.24005303	0	0	-	-
Utilization ratio	5.316	0	5.281166667	0	0	0.0%	0.0%
Idle probability	0.004912364	0	0.005086493	0	1	0.0%	100.0%
95th percentile vehicles in system	9		9		0		0.0%
95th percentile queue length	0		0		0		0.0%
% utilization	0.409090909		0.409090909				
%of 1st lane full when next vehicle double parks	0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple parks	0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2491.117726	2850	2491.117726	2850	2850	2,850.00	2,850.00
Adjusted through lane roadway capacity	2122.237996	2436.75	2122.237996	2436.75	2427.9777	2,436.75	2,427.98
Estimated roadway V/C ratio	0.259160377	0.225710475	0.259160377	0.225710475	0.226525969	0.226	0.227
Curb capacity per lane (vehicles)	6	0	6	0	0	0	0
Curb utilization ratio	1.5	0	1.5	0	0	0	0
% occupancy in lane 1	0.995	0	0.995	0	0	0	0
% occupancy in lane 2	0.495	0	0.495	0	0	0	0
% occupancy in lane 3	0	0	0	0	0	0	0
# of cars in curbside lane	5.97	0	5.97	0	0	0	0
# of double-parked cars	2.97	0	2.97	0	0	0	0
# of triple-parked cars	0	0	0	0	0	0	0
Curbside LOS	D		D		A		A
Roadway LOS	B	A	B	A	A	A	A

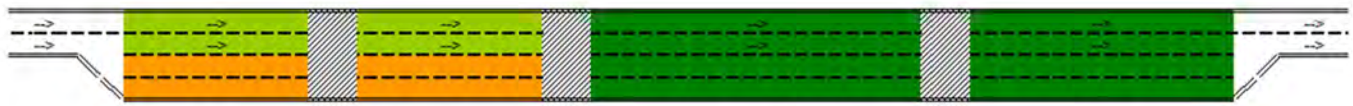
Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7



Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	550	550	550	550	550	550	550
Roadway capacity (vph)	2,122	2,437	2,122	2,437	2,428	2,437	2,428
Roadway V/C ratio	0.259	0.226	0.259	0.226	0.227	0.226	0.227
Roadway LOS	B	A	B	A	A	A	A
Curb demand (# in sys 95% of time)	9.0	N/A	9.0	N/A	0.0	N/A	0.0
Curb capacity per lane (vehicles)	6.0	N/A	6.0	N/A	0.0	N/A	0.0
Curb utilization ratio	1.500	N/A	1.500	N/A	0.000	N/A	0.000
Curb LOS	D	N/A	D	N/A	A	N/A	A

Level-of-service (LOS) key:

A
B
C
D
E
F

PAL 1 - Midday

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parkin	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)							
Private Vehicle (staging)	23	23	23	23	23	23	23
Private Vehicle (pickup)	148	148	148	148	148	148	148
TNC (pickup)	4	4	4	4	4	4	4
Private Vehicle (drop)	399	399	399	399	399	399	399
Taxi (drop)	9	9	9	9	9	9	9
TNC (drop)	10	10	10	10	10	10	10
Airport Parking Shuttle (drop)	13	13	13	13	13	13	13
Rental Car Shuttle (drop)	2	2	2	2	2	2	2
Hotel Shuttle (drop)	2	2	2	2	2	2	2
Other	0	0	0	0	0	0	0
Volume of vehicles using curbside (vph)							
Private Vehicle (staging)	0	0	0	0	21	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	137
TNC (pickup)	0	0	0	0	0	0	4
Private Vehicle (drop)	200	0	199	0	0	0	0
Taxi (drop)	5	0	4	0	0	0	0
TNC (drop)	5	0	5	0	0	0	0
Airport Parking Shuttle (drop)	7	0	6	0	0	0	0
Rental Car Shuttle (drop)	1	0	1	0	0	0	0
Hotel Shuttle (drop)	1	0	1	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	610	610	610	610	610	610	610
Curbside demand (vph)	219	-	216	-	21	-	141
Average dwell time (minutes)	1.151917808	0	1.153981481	0	6	-	1
Average vehicle length (feet)	25.20547945	0	25.18518519	0	25	-	25.00
Average vehicle arrival rate (vph)	219	0	216	0	21	-	141.00
Estimated service rate	52.08704959	0	51.99390195	0	9.803921569	0.00E+00	5.18E+01
Derived number of servers	22	0	22	0	40	-	32.00
Utilization factor	0.191113636	0	0.188833333	0	0.05355	-	0.09
Utilization ratio	4.2045	0	4.154333333	0	2.142	0.0%	272.2%
Idle probability	0.014928248	0	0.015696252	0	0.117419768	0.0%	6.6%
95th percentile vehicles in system	8		8		5		600.0%
95th percentile queue length	0		0		0		0.0%
% utilization	0.363636364		0.363636364		0.125		0.188
%of 1st lane full when next vehicle double parks	0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple parks	0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2647.689141	2850	2647.689141	2850	2854.066986	2,850.00	2,865.06
Adjusted through lane roadway capacity	2255.624628	2436.75	2255.624628	2436.75	2431.442455	2,436.75	2,440.81
Estimated roadway V/C ratio	0.270435068	0.250333436	0.270435068	0.250333436	0.250879884	0.250	0.250
Curb capacity per lane (vehicles)	6	0	6	0	10	0	8
Curb utilization ratio	1.333333333	0	1.333333333	0	0.5	0	0.75
% occupancy in lane 1	0.915	0	0.915	0	0.49	0	0.62
% occupancy in lane 2	0.415	0	0.415	0	0	0	0.12
% occupancy in lane 3	0	0	0	0	0	0	0
# of cars in curbside lane	5.49	0	5.49	0	4.9	0	4.96
# of double-parked cars	2.49	0	2.49	0	0	0	0.96
# of triple-parked cars	0	0	0	0	0	0	0
Curbside LOS	D		D		A		A
Roadway LOS	B	B	B	B	B	B	A

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

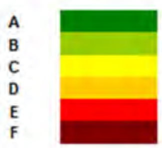
Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	610	610	610	610	610	610	610
Roadway capacity (vph)	2,256	2,437	2,256	2,437	2,431	2,437	2,441
Roadway V/C ratio	0.270	0.250	0.270	0.250	0.251	0.250	0.250
Roadway LOS	B	B	B	B	B	B	A
Curb demand (# in sys 95% of time)	8.0	N/A	8.0	N/A	5.0	N/A	6.0
Curb capacity per lane (vehicles)	6.0	N/A	6.0	N/A	10.0	N/A	8.0
Curb utilization ratio	1.333	N/A	1.333	N/A	0.500	N/A	0.750
Curb LOS	D	N/A	D	N/A	A	N/A	A

Level-of-service (LOS) key:



PAL 1 - PM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double park	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle park	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2

Volume of vehicles using roadway (vph)

Private Vehicle (staging)	49	49	49	49	49	49	49
Private Vehicle (pickup)	316	316	316	316	316	316	316
TNC (pickup)	9	9	9	9	9	9	9
Private Vehicle (drop)	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Volume of vehicles using curbside (vph)

Private Vehicle (staging)	0	0	0	0	44	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	284
TNC (pickup)	0	0	0	0	0	0	9
Private Vehicle (drop)	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	374	374	374	374	374	374	374
Curbside demand (vph)	-	-	-	-	44	-	293
Average dwell time (minutes)	0	0	0	0	6	-	1
Average vehicle length (feet)	0	0	0	0	25	-	25.00
Average vehicle arrival rate (vph)	0	0	0	0	44	-	293.00
Estimated service rate	0	0	0	0	9.803921569	0.00E+00	5.19E+01
Derived number of servers	0	0	0	0	40	-	32.00
Utilization factor	0	0	0	0	0.1122	-	0.18
Utilization ratio	0	0	0	0	4.488	0.0%	565.1%
Idle probability	1	0	1	0	0.011243108	0.0%	0.4%
95th percentile vehicles in system	0		0		8		1000.0%
95th percentile queue length	0		0		0		0.0%
% utilization					0.2		0.313
%of 1st lane full when next vehicle double par	0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple park	0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2850	2850	2850	2850	2862.298219	2,850.00	2,705.68
Adjusted through lane roadway capacity	2427.9777	2436.75	2427.9777	2436.75	2438.454824	2,436.75	2,305.03
Estimated roadway V/C ratio	0.154037659	0.153483123	0.154037659	0.153483123	0.153375817	0.153	0.162
Curb capacity per lane (vehicles)	0	0	0	0	10	0	8
Curb utilization ratio	0	0	0	0	0.8	0	1.25
% occupancy in lane 1	0	0	0	0	0.645	0	0.87
% occupancy in lane 2	0	0	0	0	0.145	0	0.37
% occupancy in lane 3	0	0	0	0	0	0	0
# of cars in curbside lane	0	0	0	0	6.45	0	6.96
# of double-parked cars	0	0	0	0	1.45	0	2.96
# of triple-parked cars	0	0	0	0	0	0	0
Curbside LOS	A		A		A		C
Roadway LOS	A	A	A	A	A	A	A

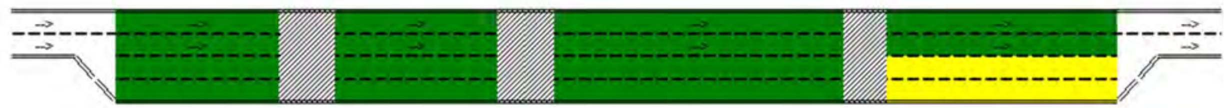
Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7



Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	k	active
Roadway volume (vph)	374	374	374	374	374	374	374
Roadway capacity (vph)	2,428	2,437	2,428	2,437	2,438	2,437	2,305
Roadway V/C ratio	0.154	0.153	0.154	0.153	0.153	0.153	0.162
Roadway LOS	A	A	A	A	A	A	A
Curb demand (# in sys 95% of time)	0.0	N/A	0.0	N/A	8.0	N/A	10.0
Curb capacity per lane (vehicles)	0.0	N/A	0.0	N/A	10.0	N/A	8.0
Curb utilization ratio	0.000	N/A	0.000	N/A	0.800	N/A	1.250
Curb LOS	A	N/A	A	N/A	A	N/A	C

Level-of-service (LOS) key:

A
B
C
D
E
F

PAL 2 - AM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double park	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle park	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)							
Private Vehicle (staging)	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0
Private Vehicle (drop)	590	590	590	590	590	590	590
Taxi (drop)	10	10	10	10	10	10	10
TNC (drop)	15	15	15	15	15	15	15
Airport Parking Shuttle (drop)	14	14	14	14	14	14	14
Rental Car Shuttle (drop)	2	2	2	2	2	2	2
Hotel Shuttle (drop)	3	3	3	3	3	3	3
Other	0	0	0	0	0	0	0
Volume of vehicles using curbside (vph)							
Private Vehicle (staging)	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0
Private Vehicle (drop)	295	0	295	0	0	0	0
Taxi (drop)	5	0	5	0	0	0	0
TNC (drop)	8	0	7	0	0	0	0
Airport Parking Shuttle (drop)	7	0	7	0	0	0	0
Rental Car Shuttle (drop)	1	0	1	0	0	0	0
Hotel Shuttle (drop)	2	0	1	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	634	634	634	634	634	634	634
Curbside demand (vph)	318	-	316	-	-	-	-
Average dwell time (minutes)	1.15632075	0	1.15588608	0	-	-	-
Average vehicle length (feet)	25.1572327	0	25.1424051	0	0	-	-
Average vehicle arrival rate (vph)	318	0	316	0	0	-	-
Estimated service rate	51.8887167	0	51.9082298	0	0	0.00E+00	0.00E+00
Derived number of servers	22	0	22	0	0	-	-
Utilization factor	0.27856818	0	0.27671212	0	0	-	-
Utilization ratio	6.1285	0	6.08766667	0	0	0.0%	0.0%
Idle probability	0.00217985	0	0.0022707	0	1	0.0%	100.0%
95th percentile vehicles in system	10		10		0		0.0%
95th percentile queue length	0		0		0		0.0%
% utilization	0.45454545		0.45454545				
%of 1st lane full when next vehicle double p	0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple pa	0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2302.85179	2850	2302.85179	2850	2850	2,850.00	2,850.00
Adjusted through lane roadway capacity	1961.8501	2436.75	1961.8501	2436.75	2427.9777	2,436.75	2,427.98
Estimated roadway V/C ratio	0.32316434	0.2601826	0.32316434	0.2601826	0.26112266	0.260	0.261
Curb capacity per lane (vehicles)	6	0	6	0	0	0	0
Curb utilization ratio	1.66666667	0	1.66666667	0	0	0	0
% occupancy in lane 1	1	0	1	0	0	0	0
% occupancy in lane 2	0.66	0	0.66	0	0	0	0
% occupancy in lane 3	0	0	0	0	0	0	0
# of cars in curbside lane	6	0	6	0	0	0	0
# of double-parked cars	3.96	0	3.96	0	0	0	0
# of triple-parked cars	0	0	0	0	0	0	0
Curbside LOS	D		D		A		A
Roadway LOS	B	B	B	B	B	B	B

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	634	634	634	634	634	634	634
Roadway capacity (vph)	1,962	2,437	1,962	2,437	2,428	2,437	2,428
Roadway V/C ratio	0.323	0.260	0.323	0.260	0.261	0.260	0.261
Roadway LOS	B	B	B	B	B	B	B
Curb demand (# in sys 95% of time)	10.0	N/A	10.0	N/A	0.0	N/A	0.0
Curb capacity per lane (vehicles)	6.0	N/A	6.0	N/A	0.0	N/A	0.0
Curb utilization ratio	1.667	N/A	1.667	N/A	0.000	N/A	0.000
Curb LOS	D	N/A	D	N/A	A	N/A	A

Level-of-service (LOS) key:

PAL 2 - Midday

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double p	0.5
% of 2nd lane full when next vehicle triple pa	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parking leng	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)							
Private Vehicle (staging)	28	28	28	28	28	28	28
Private Vehicle (pickup)	176	176	176	176	176	176	176
TNC (pickup)	5	5	5	5	5	5	5
Private Vehicle (drop)	476	476	476	476	476	476	476
Taxi (drop)	11	11	11	11	11	11	11
TNC (drop)	12	12	12	12	12	12	12
Airport Parking Shuttle (drop)	16	16	16	16	16	16	16
Rental Car Shuttle (drop)	2	2	2	2	2	2	2
Hotel Shuttle (drop)	3	3	3	3	3	3	3
Other	0	0	0	0	0	0	0
Volume of vehicles using curbside (vph)							
Private Vehicle (staging)	0	0	0	0	26	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	163
TNC (pickup)	0	0	0	0	0	0	5
Private Vehicle (drop)	238	0	238	0	0	0	0
Taxi (drop)	6	0	5	0	0	0	0
TNC (drop)	6	0	6	0	0	0	0
Airport Parking Shuttle (drop)	8	0	8	0	0	0	0
Rental Car Shuttle (drop)	1	0	1	0	0	0	0
Hotel Shuttle (drop)	2	0	1	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	729	729	729	729	729	729	729
Curbside demand (vph)	261	-	259	-	26	-	168
Average dwell time (minutes)	1.153333333	0	1.152393822	0	6	-	1
Average vehicle length (feet)	25.21072797	0	25.19305019	0	25	-	25.00
Average vehicle arrival rate (vph)	261	0	259	0	26	-	168.00
Estimated service rate	52.02312139	0	52.06553422	0	9.803921569	0.00E+00	5.18E+01
Derived number of servers	22	0	22	0	40	-	32.00
Utilization factor	0.228045455	0	0.226113636	0	0.0663	-	0.10
Utilization ratio	5.017	0	4.9745	0	2.652	0.0%	324.1%
Idle probability	0.00662437	0	0.006911974	0	0.070510052	0.0%	3.9%
95th percentile vehicles in system	9		9		6		600.0%
95th percentile queue length	0		0		0		0.0%
% utilization	0.409090909		0.409090909		0.15		0.188
%of 1st lane full when next vehicle double p	0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple pa	0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2491.117726	2850	2491.117726	2850	2862.11283	2,850.00	2,865.06
Adjusted through lane roadway capacity	2122.237996	2436.75	2122.237996	2436.75	2438.296887	2,436.75	2,440.81
Estimated roadway V/C ratio	0.3435053	0.299168975	0.3435053	0.299168975	0.298979178	0.299	0.299
Curb capacity per lane (vehicles)	6	0	6	0	10	0	8
Curb utilization ratio	1.5	0	1.5	0	0.6	0	0.75
% occupancy in lane 1	0.995	0	0.995	0	0.545	0	0.62
% occupancy in lane 2	0.495	0	0.495	0	0.045	0	0.12
% occupancy in lane 3	0	0	0	0	0	0	0
# of cars in curbside lane	5.97	0	5.97	0	5.45	0	4.96
# of double-parked cars	2.97	0	2.97	0	0.45	0	0.96
# of triple-parked cars	0	0	0	0	0	0	0
Curbside LOS	D		D		A		A
Roadway LOS	B	B	B	B	B	B	B

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	PAL 2, Midday
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description	Ticketing A		Ticketing B		Unassigned		Baggage Claim
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	729	729	729	729	729	729	729
Roadway capacity (vph)	2,122	2,437	2,122	2,437	2,438	2,437	2,441
Roadway V/C ratio	0.344	0.299	0.344	0.299	0.299	0.299	0.299
Roadway LOS	B	B	B	B	B	B	B
Curb demand (# in sys 95% of time)	9.0	N/A	9.0	N/A	6.0	N/A	6.0
Curb capacity per lane (vehicles)	6.0	N/A	6.0	N/A	10.0	N/A	8.0
Curb utilization ratio	1.500	N/A	1.500	N/A	0.600	N/A	0.750
Curb LOS	D	N/A	D	N/A	A	N/A	A

Level-of-service (LOS) key:

A
B
C
D
E
F

PAL 2 - PM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double par	0.5
% of 2nd lane full when next vehicle triple park	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle park	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2

Volume of vehicles using roadway (vph)

Private Vehicle (staging)	56	56	56	56	56	56	56
Private Vehicle (pickup)	364	364	364	364	364	364	364
TNC (pickup)	11	11	11	11	11	11	11
Private Vehicle (drop)	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Volume of vehicles using curbside (vph)

Private Vehicle (staging)	0	0	0	0	50	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	328
TNC (pickup)	0	0	0	0	0	0	11
Private Vehicle (drop)	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	431	431	431	431	431	431	431
Curbside demand (vph)	-	-	-	-	50	-	339
Average dwell time (minutes)	0	0	0	0	6	-	1
Average vehicle length (feet)	0	0	0	0	25	-	25.00
Average vehicle arrival rate (vph)	0	0	0	0	50	-	339.00
Estimated service rate	0	0	0	0	9.80392157	0.00E+00	5.19E+01
Derived number of servers	0	0	0	0	40	-	32.00
Utilization factor	0	0	0	0	0.1275	-	0.20
Utilization ratio	0	0	0	0	5.1	0.0%	653.4%
Idle probability	1	0	1	0	0.00609675	0.0%	0.1%
95th percentile vehicles in system	0		0		9		1100.0%
95th percentile queue length	0		0		0		0.0%
% utilization					0.225		0.344
%of 1st lane full when next vehicle double	0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple p	0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2850	2850	2850	2850	2849.46395	2,850.00	2,614.94
Adjusted through lane roadway capacity	2427.9777	2436.75	2427.9777	2436.75	2427.52102	2,436.75	2,227.72
Estimated roadway V/C ratio	0.17751399	0.17687494	0.17751399	0.17687494	0.17754738	0.177	0.193
Curb capacity per lane (vehicles)	0	0	0	0	10	0	8
Curb utilization ratio	0	0	0	0	0.9	0	1.375
% occupancy in lane 1	0	0	0	0	0.695	0	0.935
% occupancy in lane 2	0	0	0	0	0.195	0	0.435
% occupancy in lane 3	0	0	0	0	0	0	0
# of cars in curbside lane	0	0	0	0	6.95	0	7.48
# of double-parked cars	0	0	0	0	1.95	0	3.48
# of triple-parked cars	0	0	0	0	0	0	0
Curbside LOS	A		A		A		D
Roadway LOS	A	A	A	A	A	A	A

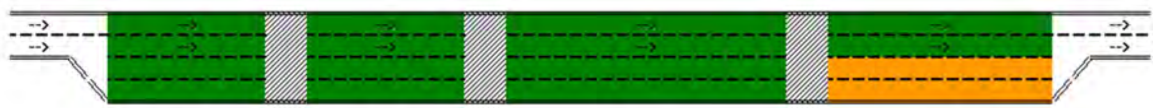
Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7



Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	431	431	431	431	431	431	431
Roadway capacity (vph)	2,428	2,437	2,428	2,437	2,428	2,437	2,228
Roadway V/C ratio	0.178	0.177	0.178	0.177	0.178	0.177	0.193
Roadway LOS	A	A	A	A	A	A	A
Curb demand (# in sys 95% of time)	0.0	N/A	0.0	N/A	9.0	N/A	11.0
Curb capacity per lane (vehicles)	0.0	N/A	0.0	N/A	10.0	N/A	8.0
Curb utilization ratio	0.000	N/A	0.000	N/A	0.900	N/A	1.375
Curb LOS	A	N/A	A	N/A	A	N/A	D

Level-of-service (LOS) key:

A
B
C
D
E
F

PAL 3 - AM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double parl	0.5
% of 2nd lane full when next vehicle triple park	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parl	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)							
Private Vehicle (staging)	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0
Private Vehicle (drop)	677	677	677	677	677	677	677
Taxi (drop)	11	11	11	11	11	11	11
TNC (drop)	18	18	18	18	18	18	18
Airport Parking Shuttle (drop)	16	16	16	16	16	16	16
Rental Car Shuttle (drop)	2	2	2	2	2	2	2
Hotel Shuttle (drop)	3	3	3	3	3	3	3
Other	0	0	0	0	0	0	0
Volume of vehicles using curbside (vph)							
Private Vehicle (staging)	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0
Private Vehicle (drop)	339	0	338	0	0	0	0
Taxi (drop)	6	0	5	0	0	0	0
TNC (drop)	9	0	9	0	0	0	0
Airport Parking Shuttle (drop)	8	0	8	0	0	0	0
Rental Car Shuttle (drop)	1	0	1	0	0	0	0
Hotel Shuttle (drop)	2	0	1	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	727	727	727	727	727	727	727
Curbside demand (vph)	365	-	362	-	-	-	-
Average dwell time (minutes)	1.1560274	0	1.15533149	0	-	-	-
Average vehicle length (feet)	25.1506849	0	25.1381215	0	0	-	-
Average vehicle arrival rate (vph)	365	0	362	0	0	-	-
Estimated service rate	51.9018841	0	51.9331468	0	0	0.00E+00	0.00E+00
Derived number of servers	22	0	22	0	0	-	-
Utilization factor	0.31965909	0	0.31684091	0	0	-	-
Utilization ratio	7.0325	0	6.9705	0	0	0.0%	0.0%
Idle probability	0.00088272	0	0.00093918	0	1	0.0%	100.0%
95th percentile vehicles in system	12		12		0		0.0%
95th percentile queue length	0		0		0		0.0%
% utilization	0.54545455		0.54545455				
%of 1st lane full when next vehicle double p	0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple p	0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	1786.48894	2850	1786.48894	2850	2850	2,850.00	2,850.00
Adjusted through lane roadway capacity	1521.94923	2436.75	1521.94923	2436.75	2427.9777	2,436.75	2,427.98
Estimated roadway V/C ratio	0.47767691	0.2983482	0.47767691	0.2983482	0.29942614	0.298	0.299
Curb capacity per lane (vehicles)	6	0	6	0	0	0	0
Curb utilization ratio	2	0	2	0	0	0	0
% occupancy in lane 1	1	0	1	0	0	0	0
% occupancy in lane 2	0.87	0	0.87	0	0	0	0
% occupancy in lane 3	0.12	0	0.12	0	0	0	0
# of cars in curbside lane	6	0	6	0	0	0	0
# of double-parked cars	5.22	0	5.22	0	0	0	0
# of triple-parked cars	0.72	0	0.72	0	0	0	0
Curbside LOS	E		E		A		A
Roadway LOS	C	B	C	B	B	B	B

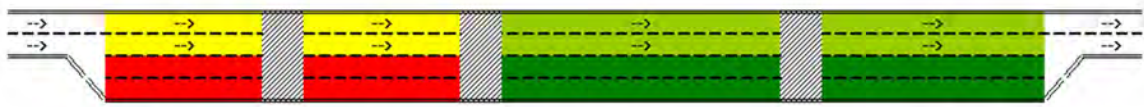
Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7



Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	727	727	727	727	727	727	727
Roadway capacity (vph)	1,522	2,437	1,522	2,437	2,428	2,437	2,428
Roadway V/C ratio	0.478	0.298	0.478	0.298	0.299	0.298	0.299
Roadway LOS	C	B	C	B	B	B	B
Curb demand (# in sys 95% of time)	12.0	N/A	12.0	N/A	0.0	N/A	0.0
Curb capacity per lane (vehicles)	6.0	N/A	6.0	N/A	0.0	N/A	0.0
Curb utilization ratio	2.000	N/A	2.000	N/A	0.000	N/A	0.000
Curb LOS	E	N/A	E	N/A	A	N/A	A

Level-of-service (LOS) key:

PAL 3 - Midday

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parking lengt	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)							
Private Vehicle (staging)	35	35	35	35	35	35	35
Private Vehicle (pickup)	222	222	222	222	222	222	222
TNC (pickup)	7	7	7	7	7	7	7
Private Vehicle (drop)	599	599	599	599	599	599	599
Taxi (drop)	14	14	14	14	14	14	14
TNC (drop)	15	15	15	15	15	15	15
Airport Parking Shuttle (drop)	20	20	20	20	20	20	20
Rental Car Shuttle (drop)	3	3	3	3	3	3	3
Hotel Shuttle (drop)	4	4	4	4	4	4	4
Other	0	0	0	0	0	0	0
Volume of vehicles using curbside (vph)							
Private Vehicle (staging)	0	0	0	0	32	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	205
TNC (pickup)	0	0	0	0	0	0	7
Private Vehicle (drop)	300	0	299	0	0	0	0
Taxi (drop)	7	0	7	0	0	0	0
TNC (drop)	8	0	7	0	0	0	0
Airport Parking Shuttle (drop)	10	0	10	0	0	0	0
Rental Car Shuttle (drop)	2	0	1	0	0	0	0
Hotel Shuttle (drop)	2	0	2	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name								
Type of zone		active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)		140	20	140	20	250	20	200
Number of lanes		4	4	4	4	4	4	4
Number of approach lanes		2	2	2	2	2	2	2
Roadway volume (vph)		919	919	919	919	919	919	919
Curbside demand (vph)		329	-	326	-	32	-	212
Average dwell time (minutes)		1.153069909	0	1.15328221	0	6	-	1
Average vehicle length (feet)		25.21276596	0	25.1993865	0	25	-	25.00
Average vehicle arrival rate (vph)		329	0	326	0	32	-	212.00
Estimated service rate		52.03500633	0	52.0254276	0	9.80392157	0.00E+00	5.19E+01
Derived number of servers		22	0	22	0	40	-	32.00
Utilization factor		0.287393939	0	0.28482576	0	0.0816	-	0.13
Utilization ratio		6.322666667	0	6.26616667	0	3.264	0.0%	408.5%
Idle probability		0.00179515	0	0.0018995	0	0.03823515	0.0%	1.7%
95th percentile vehicles in system		11		11		6		800.0%
95th percentile queue length		0		0		0		0.0%
% utilization		0.5		0.5		0.15		0.250
%of 1st lane full when next vehicle double pa		0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple parl		0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor		0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity		2062.440901	2850	2062.4409	2850	2862.11283	2,850.00	2,825.29
Adjusted through lane roadway capacity		1757.038777	2436.75	1757.03878	2436.75	2438.29689	2,436.75	2,406.93
Estimated roadway V/C ratio		0.523039111	0.377141685	0.52303911	0.37714168	0.37690242	0.377	0.382
Curb capacity per lane (vehicles)		6	0	6	0	10	0	8
Curb utilization ratio		1.833333333	0	1.83333333	0	0.6	0	1
% occupancy in lane 1		1	0	1	0	0.545	0	0.745
% occupancy in lane 2		0.79	0	0.79	0	0.045	0	0.245
% occupancy in lane 3		0.04	0	0.04	0	0	0	0
# of cars in curbside lane		6	0	6	0	5.45	0	5.96
# of double-parked cars		4.74	0	4.74	0	0.45	0	1.96
# of triple-parked cars		0.24	0	0.24	0	0	0	0
Curbside LOS	E		E		A			A
Roadway LOS	C	B	C	B	B		B	B

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	919	919	919	919	919	919	919
Roadway capacity (vph)	1,757	2,437	1,757	2,437	2,438	2,437	2,407
Roadway V/C ratio	0.523	0.377	0.523	0.377	0.377	0.377	0.382
Roadway LOS	C	B	C	B	B	B	B
Curb demand (# in sys 95% of time)	11.0	N/A	11.0	N/A	6.0	N/A	8.0
Curb capacity per lane (vehicles)	6.0	N/A	6.0	N/A	10.0	N/A	8.0
Curb utilization ratio	1.833	N/A	1.833	N/A	0.600	N/A	1.000
Curb LOS	E	N/A	E	N/A	A	N/A	A

Level-of-service (LOS) key:

A
B
C
D
E
F

PAL 3 - PM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle park	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)							
Private Vehicle (staging)	67	67	67	67	67	67	67
Private Vehicle (pickup)	417	417	417	417	417	417	417
TNC (pickup)	13	13	13	13	13	13	13
Private Vehicle (drop)	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Volume of vehicles using curbside (vph)							
Private Vehicle (staging)	0	0	0	0	60	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	375
TNC (pickup)	0	0	0	0	0	0	13
Private Vehicle (drop)	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	497	497	497	497	497	497	497
Curbside demand (vph)	-	-	-	-	60	-	388
Average dwell time (minutes)	0	0	0	0	6	-	1
Average vehicle length (feet)	0	0	0	0	25	-	25.00
Average vehicle arrival rate (vph)	0	0	0	0	60	-	388.00
Estimated service rate	0	0	0	0	9.80392157	0.00E+00	5.19E+01
Derived number of servers	0	0	0	0	40	-	32.00
Utilization factor	0	0	0	0	0.153	-	0.23
Utilization ratio	0	0	0	0	6.12	0.0%	747.5%
Idle probability	1	0	1	0	0.00219846	0.0%	0.1%
95th percentile vehicles in system	0		0		10		1200.0%
95th percentile queue length	0		0		0		0.0%
% utilization					0.25		0.375
%of 1st lane full when next vehicle double parl	0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple park	0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2850	2850	2850	2850	2825.29171	2,850.00	2,491.12
Adjusted through lane roadway capacity	2427.9777	2436.75	2427.9777	2436.75	2406.92816	2,436.75	2,122.24
Estimated roadway V/C ratio	0.2046971	0.20396019	0.2046971	0.20396019	0.20648726	0.204	0.234
Curb capacity per lane (vehicles)	0	0	0	0	10	0	8
Curb utilization ratio	0	0	0	0	1	0	1.5
% occupancy in lane 1	0	0	0	0	0.745	0	0.995
% occupancy in lane 2	0	0	0	0	0.245	0	0.495
% occupancy in lane 3	0	0	0	0	0	0	0
# of cars in curbside lane	0	0	0	0	7.45	0	7.96
# of double-parked cars	0	0	0	0	2.45	0	3.96
# of triple-parked cars	0	0	0	0	0	0	0
Curbside LOS	A		A		A		D
Roadway LOS	A	A	A	A	A	A	A

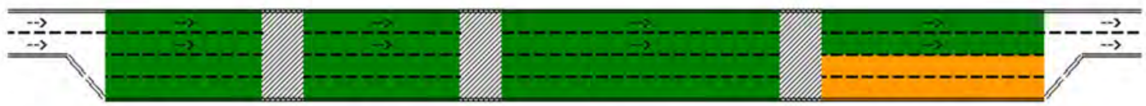
Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7



Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	497	497	497	497	497	497	497
Roadway capacity (vph)	2,428	2,437	2,428	2,437	2,407	2,437	2,122
Roadway V/C ratio	0.205	0.204	0.205	0.204	0.206	0.204	0.234
Roadway LOS	A	A	A	A	A	A	A
Curb demand (# in sys 95% of time)	0.0	N/A	0.0	N/A	10.0	N/A	12.0
Curb capacity per lane (vehicles)	0.0	N/A	0.0	N/A	10.0	N/A	8.0
Curb utilization ratio	0.000	N/A	0.000	N/A	1.000	N/A	1.500
Curb LOS	A	N/A	A	N/A	A	N/A	D

Level-of-service (LOS) key:

PAL 4 - AM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parl	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)							
Private Vehicle (staging)	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0
Private Vehicle (drop)	846	846	846	846	846	846	846
Taxi (drop)	14	14	14	14	14	14	14
TNC (drop)	22	22	22	22	22	22	22
Airport Parking Shuttle (drop)	19	19	19	19	19	19	19
Rental Car Shuttle (drop)	3	3	3	3	3	3	3
Hotel Shuttle (drop)	4	4	4	4	4	4	4
Other	0	0	0	0	0	0	0
Volume of vehicles using curbside (vph)							
Private Vehicle (staging)	0	0	0	0	0	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	0
TNC (pickup)	0	0	0	0	0	0	0
Private Vehicle (drop)	423	0	423	0	0	0	0
Taxi (drop)	7	0	7	0	0	0	0
TNC (drop)	11	0	11	0	0	0	0
Airport Parking Shuttle (drop)	10	0	9	0	0	0	0
Rental Car Shuttle (drop)	2	0	1	0	0	0	0
Hotel Shuttle (drop)	2	0	2	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	908	908	908	908	908	908	908
Curbside demand (vph)	455	-	453	-	-	-	-
Average dwell time (minutes)	1.15610989	0	1.15653422	0	-	-	-
Average vehicle length (feet)	25.1538462	0	25.1324503	0	0	-	-
Average vehicle arrival rate (vph)	455	0	453	0	0	-	-
Estimated service rate	51.8981807	0	51.8791395	0	0	0.00E+00	0.00E+00
Derived number of servers	22	0	22	0	0	-	-
Utilization factor	0.39850758	0	0.39690152	0	0	-	-
Utilization ratio	8.76716667	0	8.73183333	0	0	0.0%	0.0%
Idle probability	0.00015576	0	0.00016137	0	1	0.0%	100.0%
95th percentile vehicles in system	14		14		0		0.0%
95th percentile queue length	0		0		0		0.0%
% utilization	0.63636364		0.63636364				
%of 1st lane full when next vehicle double park	0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple parks	0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	1181.37628	2850	1181.37628	2850	2850	2,850.00	2,850.00
Adjusted through lane roadway capacity	1006.44044	2436.75	1006.44044	2436.75	2427.9777	2,436.75	2,427.98
Estimated roadway V/C ratio	0.9021895	0.37262748	0.9021895	0.37262748	0.37397378	0.373	0.374
Curb capacity per lane (vehicles)	6	0	6	0	0	0	0
Curb utilization ratio	2.33333333	0	2.33333333	0	0	0	0
% occupancy in lane 1	1	0	1	0	0	0	0
% occupancy in lane 2	1	0	1	0	0	0	0
% occupancy in lane 3	0.33	0	0.33	0	0	0	0
# of cars in curbside lane	6	0	6	0	0	0	0
# of double-parked cars	6	0	6	0	0	0	0
# of triple-parked cars	1.98	0	1.98	0	0	0	0
Curbside LOS	F		F		A		A
Roadway LOS	E	B	E	B	B	B	B

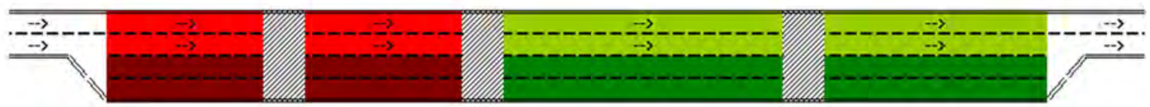
Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7



Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	908	908	908	908	908	908	908
Roadway capacity (vph)	1,006	2,437	1,006	2,437	2,428	2,437	2,428
Roadway V/C ratio	0.902	0.373	0.902	0.373	0.374	0.373	0.374
Roadway LOS	E	B	E	B	B	B	B
Curb demand (# in sys 95% of time)	14.0	N/A	14.0	N/A	0.0	N/A	0.0
Curb capacity per lane (vehicles)	6.0	N/A	6.0	N/A	0.0	N/A	0.0
Curb utilization ratio	2.333	N/A	2.333	N/A	0.000	N/A	0.000
Curb LOS	F	N/A	F	N/A	A	N/A	A

Level-of-service (LOS) key:

PAL 4 - Midday

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double parks	0.5
% of 2nd lane full when next vehicle triple parks	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle parking lengt	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2

Volume of vehicles using roadway (vph)							
Private Vehicle (staging)	41	41	41	41	41	41	41
Private Vehicle (pickup)	255	255	255	255	255	255	255
TNC (pickup)	8	8	8	8	8	8	8
Private Vehicle (drop)	690	690	690	690	690	690	690
Taxi (drop)	16	16	16	16	16	16	16
TNC (drop)	18	18	18	18	18	18	18
Airport Parking Shuttle (drop)	22	22	22	22	22	22	22
Rental Car Shuttle (drop)	3	3	3	3	3	3	3
Hotel Shuttle (drop)	4	4	4	4	4	4	4
Other	0	0	0	0	0	0	0

Volume of vehicles using curbside (vph)							
Private Vehicle (staging)	0	0	0	0	38	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	236
TNC (pickup)	0	0	0	0	0	0	8
Private Vehicle (drop)	345	0	345	0	0	0	0
Taxi (drop)	8	0	8	0	0	0	0
TNC (drop)	9	0	9	0	0	0	0
Airport Parking Shuttle (drop)	11	0	11	0	0	0	0
Rental Car Shuttle (drop)	2	0	1	0	0	0	0
Hotel Shuttle (drop)	2	0	2	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	1,057	1,057	1,057	1,057	1,057	1,057	1,057
Curbside demand (vph)	377	-	376	-	38	-	244
Average dwell time (minutes)	1.153236074	0	1.15284574	0	6	-	1
Average vehicle length (feet)	25.19893899	0	25.1861702	0	25	-	25.00
Average vehicle arrival rate (vph)	377	0	376	0	38	-	244.00
Estimated service rate	52.0275088	0	52.0451242	0	9.80392157	0.00E+00	5.19E+01
Derived number of servers	22	0	22	0	40	-	32.00
Utilization factor	0.329371212	0	0.32838636	0	0.0969	-	0.15
Utilization ratio	7.246166667	0	7.2245	0	3.876	0.0%	470.2%
Idle probability	0.000712902	0	0.00072852	0	0.02073359	0.0%	0.9%
95th percentile vehicles in system	12		12		7		900.0%
95th percentile queue length	0		0		0		0.0%
% utilization	0.545454545		0.54545455		0.175		0.281
%of 1st lane full when next vehicle double parks	0.5	0.5	0.5	0.5	0.5	0.500	0.500
%of 2nd lane full when next vehicle triple parks	0.75	0.75	0.75	0.75	0.75	0.750	0.750
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.900	0.900
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	1786.48894	2850	1786.48894	2850	2865.74513	2,850.00	2,779.10
Adjusted through lane roadway capacity	1521.949231	2436.75	1521.94923	2436.75	2441.39133	2,436.75	2,367.58
Estimated roadway V/C ratio	0.694504113	0.433774495	0.69450411	0.43377449	0.43294985	0.434	0.446
Curb capacity per lane (vehicles)	6	0	6	0	10	0	8
Curb utilization ratio	2	0	2	0	0.7	0	1.125
% occupancy in lane 1	1	0	1	0	0.595	0	0.81
% occupancy in lane 2	0.87	0	0.87	0	0.095	0	0.31
% occupancy in lane 3	0.12	0	0.12	0	0	0	0
# of cars in curbside lane	6	0	6	0	5.95	0	6.48
# of double-parked cars	5.22	0	5.22	0	0.95	0	2.48
# of triple-parked cars	0.72	0	0.72	0	0	0	0
Curbside LOS	E		E		A		C
Roadway LOS	D	C	D	C	C	C	C

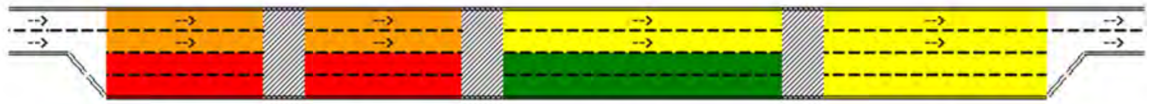
Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7



Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	1,057	1,057	1,057	1,057	1,057	1,057	1,057
Roadway capacity (vph)	1,522	2,437	1,522	2,437	2,441	2,437	2,368
Roadway V/C ratio	0.695	0.434	0.695	0.434	0.433	0.434	0.446
Roadway LOS	D	C	D	C	C	C	C
Curb demand (# in sys 95% of time)	12.0	N/A	12.0	N/A	7.0	N/A	9.0
Curb capacity per lane (vehicles)	6.0	N/A	6.0	N/A	10.0	N/A	8.0
Curb utilization ratio	2.000	N/A	2.000	N/A	0.700	N/A	1.125
Curb LOS	E	N/A	E	N/A	A	N/A	C

Level-of-service (LOS) key:

PAL 4 - PM

Inputs

Quick Analysis Tool for Airport Roadways
QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Summary of Inputs and Assumptions
Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7
% of 1st lane full when next vehicle double park	0.5
% of 2nd lane full when next vehicle triple park:	0.75
Crosswalk adjustment factor	0.9
Regional adjustment factor	0.95

Frontage and dwell time per curbside operation

Vehicle class	Vehicle park	Average dwell time (minutes)
Private Vehicle (staging)	25	6.12
Private Vehicle (pickup)	25	1.17
TNC (pickup)	25	0.75
Private Vehicle (drop)	25	1.17
Taxi (drop)	25	1.02
TNC (drop)	25	0.92
Airport Parking Shuttle (drop)	30	0.82
Rental Car Shuttle (drop)	30	1.3
Hotel Shuttle (drop)	30	1.53
Other	30	3.5

Assumptions by zone

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type	active	xwalk	active	xwalk	active	xwalk	active
Curbside frontage (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Volume of vehicles using roadway (vph)							
Private Vehicle (staging)	83	83	83	83	83	83	83
Private Vehicle (pickup)	521	521	521	521	521	521	521
TNC (pickup)	16	16	16	16	16	16	16
Private Vehicle (drop)	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Volume of vehicles using curbside (vph)							
Private Vehicle (staging)	0	0	0	0	75	0	0
Private Vehicle (pickup)	0	0	0	0	0	0	469
TNC (pickup)	0	0	0	0	0	0	16
Private Vehicle (drop)	0	0	0	0	0	0	0
Taxi (drop)	0	0	0	0	0	0	0
TNC (drop)	0	0	0	0	0	0	0
Airport Parking Shuttle (drop)	0	0	0	0	0	0	0
Rental Car Shuttle (drop)	0	0	0	0	0	0	0
Hotel Shuttle (drop)	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Outputs

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Detailed Report By Zone

Model run by: Kimley-Horn on 6/5/2018

ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name							
Type of zone	active	xwalk	active	xwalk	active	xwalk	active
Curbside length (feet)	140	20	140	20	250	20	200
Number of lanes	4	4	4	4	4	4	4
Number of approach lanes	2	2	2	2	2	2	2
Roadway volume (vph)	620	620	620	620	620	620	620
Curbside demand (vph)	-	-	-	-	75	-	485
Average dwell time (minutes)	0	0	0	0	6.12	0	1.15614433
Average vehicle length (feet)	0	0	0	0	25	0	25
Average vehicle arrival rate (vph)	0	0	0	0	75	0	485
Estimated service rate	0	0	0	0	9.80392157	0	51.8966347
Derived number of servers	0	0	0	0	40	0	32
Utilization factor	0	0	0	0	0.19125	0	0.29204688
Utilization ratio	0	0	0	0	7.65	0	9.3455
Idle probability	1	0	1	0	0.00047604	0	8.7358E-05
95th percentile vehicles in system	0		0		12		15
95th percentile queue length	0		0		0		0
% utilization					0.3		0.46875
%of 1st lane full when next vehicle double p	0.5	0.5	0.5	0.5	0.5	0.5	0.5
%of 2nd lane full when next vehicle triple pa	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Crosswalk adjustment factor	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Regional adjustment factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Through lane roadway capacity	2850	2850	2850	2850	2736.91864	2850	2000.41929
Adjusted through lane roadway capacity	2427.9777	2436.75	2427.9777	2436.75	2331.6412	2436.75	1704.2012
Estimated roadway V/C ratio	0.25535655	0.25443726	0.25535655	0.25443726	0.26590712	0.25443726	0.36380681
Curb capacity per lane (vehicles)	0	0	0	0	10	0	8
Curb utilization ratio	0	0	0	0	1.2	0	1.875
% occupancy in lane 1	0	0	0	0	0.845	0	1
% occupancy in lane 2	0	0	0	0	0.345	0	0.81
% occupancy in lane 3	0	0	0	0	0	0	0.06
# of cars in curbside lane	0	0	0	0	8.45	0	8
# of double-parked cars	0	0	0	0	3.45	0	6.48
# of triple-parked cars	0	0	0	0	0	0	0.48
Curbside LOS	A		A		C		E
Roadway LOS	B	B	B	B	B	B	B

Quick Analysis Tool for Airport Roadways

QATAR v0.6 developed by LeighFisher in association with Dowling Associates, Inc.

Results: Level-of-Service by Zone

Model run by: Kimley-Horn on 6/5/2018

Airport	PIE
Roadway location	Terminal 1
Scenario	
Level / type of roadway	Mixed
Total lanes / approach lanes	4 / 2
Number of curbside zones	7

Zone ID	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
Name/description							
Curb length (feet)	140	20	140	20	250	20	200
Zone type	active	xwalk	active	xwalk	active	xwalk	active
Roadway volume (vph)	620	620	620	620	620	620	620
Roadway capacity (vph)	2,428	2,437	2,428	2,437	2,332	2,437	1,704
Roadway V/C ratio	0.255	0.254	0.255	0.254	0.266	0.254	0.364
Roadway LOS	B	B	B	B	B	B	B
Curb demand (# in sys 95% of time)	0.0	N/A	0.0	N/A	12.0	N/A	15.0
Curb capacity per lane (vehicles)	0.0	N/A	0.0	N/A	10.0	N/A	8.0
Curb utilization ratio	0.000	N/A	0.000	N/A	1.200	N/A	1.875
Curb LOS	A	N/A	A	N/A	C	N/A	E

Level-of-service (LOS) key:

APPENDIX F

Recycling, Reuse, and Waste Reduction Plan

APPENDIX F

Recycling, Reuse, and Waste Reduction Plan

In 2012, the *Federal Aviation Administration (FAA) Modernization and Reform Act of 2012* was issued and included a new requirement for airport master plans to address recycling by:

- Assessing the feasibility of solid waste recycling at the airport;
- Minimizing the generation of waste at the airport;
- Identifying operations and maintenance requirements;
- Reviewing waste management contracts; and
- Identifying the potential for cost savings or generation of revenue.

Subsequent to the passing of the 2012 FAA Reauthorization bill, the FAA issued guidance[1] on preparing recycling, reuse, and waste reduction plans as part of airport master plans. This appendix provides detailed information regarding the management of St. Pete-Clearwater International Airport's (PIE) waste and recycling programs. This Recycling, Reuse, and Waste Reduction Plan (RRWRP) includes a waste audit, a review of PIE's waste management and recycling operations throughout the terminal and airfield, and a review of tenant practices.

F.1 Airport Description and Background

Recycling was initiated at PIE approximately seven years ago, and currently includes cardboard only. The airport has direct control over waste disposed of in the parking lots, public and passenger terminal spaces (e.g., terminal areas and offices), and the airfield. Pinellas County does not mandate recycling. Solid waste and recycling collection are provided by several contractors, including Waste Pro and Waste Management, as well as pickups by Pinellas County.

PIE owns a significant amount of property that is leased, which also includes property outside the aircraft operating area (AOA) fence line. PIE has more than 20 commercial business tenants located either within the AOA fence line, including several that have informal recycling programs. For example, there are tenants that currently recycle fluorescent light bulbs and scrap metals. Working with these tenants could improve the airport's overall recycling practices, including additional recycling activities by tenants.

The majority of waste at an airport is generated by passengers, tenants, and airport users. Common waste disposed of at PIE, including that by tenants, consists of:

- Common office/terminal waste: paper, plastic (hard plastic containers and film plastics), cans and bottles, food and food-packaging waste, and cardboard boxes.
- Deplaned waste (e.g., beverage cups and newspapers).

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[1] FAA. *Guidance on Airport Recycling, Reuse, and Waste Reduction Plans.* September 30, 2014. http://www.faa.gov/airports/environmental/media/airport-recycling-reuse-waste-reduction-plans-guidance.pdf

- Construction and demolition waste from construction projects.
- Hazardous waste such as batteries, fluorescent light tubes, solvents, and paint.

The airport is responsible for collecting waste generated by the passenger terminal users and airport employees. The tenants are responsible for their own trash and recycling disposal. In addition to municipal solid waste, the airport and some of the tenants have hazardous waste, spill waste, and project-related construction and demolition waste, which are typically managed by a contractor.

Containers used to contain the airport's waste for collection and cardboard recycling are located at various areas around the airport property (see **Figure F-1**). **Figure F-2** depicts the typical combination waste/recycling receptacles that are located throughout the public spaces in the terminal building.

Figure F-1

Examples of PIE Waste and Recycling Containers

Figure F-2

Typical Waste/Recycling Receptacle

The local landfill and recycling facility (Bridgeway Acres Landfill, located on 110th Avenue North in St. Petersburg) is approximately 1.5 miles south of PIE. The primary commodity markets in this area are for scrap metals (e.g., steel, aluminum); presently, several tenants retain these materials for sale in the marketplace.

Most of the waste generated by the airport staff is from the office areas; however, this is a small volume relative to the overall waste airport-wide, which is generated by tenants and other airport users. The airport administrative office has paper recycling bins located throughout the office areas. Employees are encouraged to use less paper through the use of electronic files as well as double-sided printing, and all printing occurs on one centralized printer. Recycling bins are co-located with waste bins throughout the passenger terminal areas.

Some of the waste minimization efforts undertaken by one or more tenants include:

- Double-sided printing and electronic document usage/storage.
- Recycling of fluorescent light bulbs, oil, and cleaning solvents.
- Conversion from fluorescent light bulbs to light emitting diode (LED) light bulbs.
- Recycling of scrap metal.

PIE does not have a formalized recycling/waste reduction program; however, the airport has taken steps to reduce waste and increase recycling. There are no formalized goals or targets for recycling and no tracking or reporting on the performance of the solid waste recycling programs at PIE. Due to the way solid waste and recycling services are billed (i.e., flat rate billing rather than by volume), it is difficult to track and monitor the airport's performance. A formalized recycling program could be established, but staff time requirements are commonly a challenge to such programs and limited resources are available to implement waste-reduction initiatives.

F.2 Waste Audit

A waste audit was conducted in October 2018. The waste audit included sorting through the contents of the refuse dumpsters and recycling dumpster for contamination (e.g., recyclables in waste bins and vice versa, hazardous materials, etc.), a walk-through of the passenger terminal facilities to identify current practices, and a similar walk-through of select tenant facilities. As previously mentioned, PIE only recycles cardboard, and a visual inspection of the recycling dumpster did not reveal any contamination; however, it was noted that some cardboard was present in the waste dumpsters.

Sorting the waste that was discarded in the dumpsters revealed that at least 65 percent of this trash (by volume) could have been diverted from the landfill through recycling or composting (see **Figure F-3**), which included paper, plastic, and aluminum. Additionally, sorting revealed a large amount of food waste (presumably from the airport restaurant) that would have been compostable. In additional to recyclables, some materials that should not have been discarded included garage door openers, wallets, and a wheel/tire combination (assumed from rental car operations).

Figure F-3

Examples of Sorted Waste

Contractors responsible for waste removal at PIE (i.e., Waste Pro, Waste Management) bill PIE based on container volumes and do not track the actual volume or weight of waste and recycling. Currently, PIE has four waste containers (eight cubic yards each) picked up six days per week (every day but Sunday); and one eight cubic yard container for cardboard that is also picked up six days per week.

There are no set requirements for construction and demolition materials; however, recycling efforts include recycling scrap metals when possible.

The airport is responsible for collecting waste generated by passengers and airport employees. Additionally, the airport is responsible for the ramp agents that collect trash from several on-airfield tenants as well as the airlines. Many of the other tenants are responsible for their own trash and recycling disposal. In addition to municipal solid waste, the airport and some of the tenants may have hazardous waste (typically waste oil/fuel and cleaning solvents) and spill waste, as described above. Project-related construction and demolition waste is managed by a contractor, typically under contract to the airport or one of its tenants. Landscaping waste is managed similarly.

F.3 Review of Recycling Feasibility

PIE currently experiences factors that impact the airport's ability to recycle. There is limited financial incentive to recycle because the volume of waste and recycled materials at PIE is low. PIE is also an airport with limited staff resources, which would make recycling programs challenging to implement. PIE has a large footprint with many tenants and it is logistically challenging to coordinate with each and every tenant. Continual coordination with all of the tenants would be time consuming for the limited administrative staff.

Additionally, discussions with airport staff revealed that contamination due to airport users incorrectly disposing of trash (i.e., placing recyclables in trash receptacles) is one of the greatest barriers to an effective recycling program.

F.4 Operation and Maintenance (O&M) Requirements

PIE janitorial staff are responsible for collecting in-house waste from the passenger terminal and airport office spaces, which typically occurs hourly in the terminal spaces and daily throughout the airport administrative areas. Janitorial staff are also responsible for transporting waste to the disposal containers. Pinellas County is responsible for tracking and paying bills related to waste management services at the airport.

F.5 Review of Waste Management Contracts

As previously mentioned, two private contractors (Waste Pro and Waste Management) as well as Pinellas County are responsible for providing recycling and waste removal services at PIE. The airport is charged a flat rate for solid waste services and volume information was not available. There is no requirement for, or impediment to, the use of environmentally-preferred products.

PIE has more than 20 commercial business tenants located either within the AOA fence. Each company has its own lease, with its own time frame. Individual tenant leases were requested; however, this information was unavailable.

F.6 Potential for Cost Savings or Revenue Generation

The airport may be able to sell scrap metal, particularly from construction and demolition projects. Some of the current tenants sell scrap metals, proving the commodity market is present in the area. However, the low volume of waste limits the potential for savings or a reliable revenue generation option.

F.7 Plan to Minimize Solid Waste Generation

PIE does not have a formalized recycling and waste reduction program, but does encourage and support recycling in the administrative offices and the passenger terminal. The airport and many tenants have been actively recycling municipal solid waste for several years.

Many initiatives were identified for this RRWRP that would advance PIE's waste reduction and recycling efforts. These initiatives include the following.

- **Broaden the Recycling Program:** Work with Pinellas County, as well as the City of St. Petersburg and City of Clearwater, to embrace a top-down approach to the recycling program to be implemented by the County/Cities and encourage employee participation. The program should incentivize waste reduction, diversion, and recycling. Identify relevant waste reduction goals as well as recycling methods (e.g., reusable toner cartridges, rechargeable batteries, reusable packaging, etc.) to further this program.
- **Develop Environmentally Preferable Purchasing Procedures:** Work with the County and Cities to establish procedures for purchasing materials with recycled/bio-based content, low toxicity, or other environmentally-friendly products. Consider Green Label

equipment in purchasing guidelines or other equipment that has low emissions and/or low sound levels.

- **Provide Additional Recycling Bins:** Collocate recycling receptacles with waste receptacles throughout the passenger terminal and airport offices, and use same-sized receptacles where practical.
- **Develop an Awareness Campaign:** Educate employees, tenants, and passengers about proper recycling practices; this could include posters and additional signage.
- **Periodic Monitoring:** Conduct a monthly walk-through of passenger terminal and airport offices to monitor the progress of the waste reduction and recycling program.
- **Provide Hand Dryers:** For restrooms that don't already have them, install high-efficiency hand dryers, and reposition towel dispensers to reduce paper towel use.
- **Charitable Donations:** Collect lost and found items (e.g., jackets, sunglasses), as well as materials abandoned at the security checkpoints, and donate these materials to a local charity, as allowable.
- **Improve Handling of Deplaned Waste:** Work with airlines to ensure deplaned waste is appropriately recycled. Provide bins and signage where needed.
- **Enhance Tenant Engagement:** Coordinate with tenants to consolidate materials and improve economies of scale.
- **Update Contract Language:** Revise existing contract language to establish waste diversion or recycling goals for all tenants, with annual audits and training provided by Pinellas County; or potentially the City of St. Petersburg, City of Clearwater, or a qualified third party.
- **Host a Periodic Universal Waste Collection Day:** Coordinate with the solid waste departments of Pinellas County, the City of St. Petersburg, or City of Clearwater to host a periodic (recommend quarterly or semi-annually) collection day for universal waste. Provide an opportunity to airport employees, tenants, and the local community to drop off materials such as batteries, lightbulbs, electronics, pesticides, and more.

This plan would not require any significant capital improvements. The most significant investment would be providing additional in-house recycling receptacles and signage which could be added when there is available operating budget. The airport should consider future development projects, and whether any of the initiatives would become obsolete or if there would be synergy in implementing the initiative as part of a future project (e.g., develop recycling signage when replacing other airport signs).

The recommended plan is flexible and would allow PIE to implement initiatives when it is financially and logistically feasible. Many of the initiatives could be implemented in phases or in conjunction with other projects, such as installing high efficiency hand dryers when renovating or constructing new restroom facilities.

It is recommended that PIE review their waste reduction initiatives annually to identify whether they need to be revised or updated to meet current goals or new goals established in the future. The airport's plan should document the process and requirements for including waste reduction in new development projects as well as establishing goals for utilizing recycled/repurposed materials for new development projects (as applicable).

Additional Resources

Leadership in Energy and Environmental Design (LEED) is a rating system which evaluates the sustainability / environmental performance of building development projects. The LEED rating criteria provide valuable ideas for waste reduction techniques during construction and operation of new facilities, and *LEED for Existing Building O&M* (LEED EBOM)[2] provides ideas for waste reduction at existing facilities. The Sustainable Aviation Guidance Alliance[3] also provides ideas for advancing airport sustainability efforts, including waste reduction and recycling.

[2] https://www.usgbc.org/articles/getting-know-leed-building-operations-and-maintenance-om
[3] http://airportsustainability.org/

APPENDIX G

Sustainability Elements

Memorandum

To: Doug DiCarlo (ESA)

Date: August 13, 2018

Project #: 66165.00

From: Ben Siwinski (VHB)

Re: TASK 5.3.1 - St. Pete-Clearwater International Airport (PIE) Sustainability Baseline Assessment Overview

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This memorandum provides the sustainability baseline assessment for the St. Pete-Clearwater International Airport (PIE or the Airport) in support of the ongoing Airport Master Plan. Comprehension of the sustainability performance and information provided will facilitate evaluation and measurement of sustainability metrics and initiatives for prospective implementation. Where applicable, resource use is correlated with the number of passengers using the Airport. Historical passenger use is listed in **Table 1-1**. Figures referenced throughout the memorandum are provided in **Attachment 1**.

The Sustainability Baseline Assessment includes the following topics:

- Water Resources
- Energy
- Economic Impact and Community
- Procurement and Operational Policies
- Tenant Sustainability

Table 1-1 St Pete-Clearwater International Airport Annual Passengers (2015-2017)

Month	2015	2016	2017
January	109,628	124,742	150,112
February	116,483	137,907	151,795
March	167,263	184,454	206,806
April	143,657	146,723	181,649
May	135,022	150,421	166,314
June	157,220	175,787	195,060
July	173,743	194,243	204,853
August	133,846	142,458	156,983
September	91,607	118,304	100,249
October	136,718	153,677	178,372
November	134,860	144,394	171,040
December	145,355	163,925	192,036
Total Annual Passengers	**1,645,402**	**1,837,035**	**2,055,269**

Source: PIE Total Passengers Spreadsheet, St. Pete-Clearwater International Airport. (2018, April).

Water Resources

Introduction

Water resources are categorized into water use, stormwater and water quality, and water-based natural resources. The Airport implements potable water reduction practices and uses reclaimed water for irrigation to conserve local water resources. The Airport minimizes potential stormwater and pollution impacts by implementing a Stormwater Management Plan; Stormwater Pollution Prevention Plan (SWPPP); and Spill Prevention, Control, and Countermeasure (SPCC) Plan.

Water Use

Pinellas County provides potable water to the Airport through fourteen (14) meters divided into Terminal and Other Buildings[1] categories (see data table in **Attachment 4**). Irrigation is conducted with reclaimed water from the City of Largo (see data table in **Attachment 4**). Tracking of water use data in this baseline assessment starts December 2015 through February 2018. Overall water usage has decreased at the Airport during this time period (see **Attachment 1, Figure 1-1**).

The Terminal (passenger use) average daily water usage fluctuated monthly with an overall decrease, in comparison to the constant average daily water usage for Irrigation (reclaimed water) and Other Buildings (see **Attachment 1, Figure 1-2**). Daily potable water usage in the Terminal averaged 14.47 kilogallons (kgal), with daily Irrigation water usage averaging 8.68 kgal, and water usage in Other Buildings averaging 0.46 kgal daily. Passenger traffic fluctuates seasonally; therefore, historical passenger data was used to determine Terminal building water usage per passenger (see **Attachment 1, Figure 1-3**).

Water Quality

Maintaining and enhancing water quality plays a vital role in the Airport's sustainability performance. The Airport has formed several plans that aim to protect and enhance water quality, including:

- Stormwater Pollution Prevention Plan (SWPPP)
  - Erosion and sediment control
  - Structural development to prevent exposed soil, and divert pollutant discharge (drainage fixtures, silt fences, lining of existing culvers to seal cracks at pipe joint dislocations, etc.)
  - Stormwater management
- Spill Prevention, Control, and Countermeasure Plan (SPCC)
  - Prevention of oil discharge of oil into waterbodies
  - Control measures to prevent oil spills from entering waterbodies
  - Countermeasure procedures to clean, restrain, and mitigate areas affected by oil spills
- Stormwater Management Plan

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[1] Term refers to all buildings other than the terminal. This includes Fixed Base Operator buildings, Aircraft Rescue and Firefighting facility, and others.

  - Maintenance of safe, economic, and efficient stormwater operations separate storm sewer system
  - Treatment of stormwater runoff before it leaves the storm drainage system and enters waterbodies
- Surface Water Management Plan
  - Addresses flooding, water quality, and county-owned stormwater systems
  - Includes assessment of impervious surfaces which increase stormwater runoff and cause pollution and flooding issues

As part of its commitment to develop the Airport in a manner that protects the built environment and natural resources, a stormwater management plan is being developed as part of this Master Plan.

Water-based Natural Resources

Southwest Florida Water Management District provided the Airport with a Seagrass Permit (see **Attachment 1, Figure 1-4.**), which allowed for completion of the Seagrass Marsh Habitat Oyster Bar Mitigation effort. The mitigation effort allowed the Airport to conduct grading and excavation for development north of the T-Hangar area.

Energy

Introduction

A review of historic energy use was conducted for the following areas:

- Terminal
- Airfield lighting
- Landside lighting
- Other buildings[2]

Electric energy usage was evaluated using billing data from Duke Energy for the period of January through December 2017. Overall average daily electrical energy use at the Airport increased slightly since 2017 (see **Attachment 1, Figure 1-6**). Average electrical energy use per month fluctuated, with an aggregate increase over time (see **Attachment 1, Figure 1-5**). To account for seasonal changes in passenger use of the Terminal facility, the average monthly electric energy use per passenger in the Terminal is provided in **Attachment 1, Figure 1-7**. A notable increase of average monthly energy use per passenger in the Terminal occurred in September 2017, likely due to the fact that the Airport was closed to passenger traffic during Hurricane Irma (resulting in overall reduction in passengers; see **Table 1-1** above) while continuing to use energy with cooling and lighting. Average daily energy use in the Terminal fluctuated monthly, with an overall increase over time (see **Attachment 1, Figure 1-7**), which could be due to increases in passenger use (see **Table 1-1** above).

The Airport has reduced energy usage in the passenger terminal facility through use of a Building Energy Management system. Energy reduction is attributed to, but is not limited to, a system-controlling HVAC system and room occupancy light sensors. There is currently one Airport-owned hybrid vehicle, the GemCar,[3] which is used for

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[2] Term refers to all buildings other than the terminal. This includes Fixed Base Operator buildings, Aircraft Rescue and Firefighting facility, and any unidentified buildings.
[3] https://gem.polaris.com/en-us/

traffic enforcement within Airport property. Additionally, two gates use 400Hz connections and/or pre-conditioned air, which increase terminal energy use but decrease air emissions from idling aircraft.

Economic Impact and Community

The Airport is home to a variety of businesses and organizations that result in an important employment center for the region. A recent Airport Economic Activity and Economic Impact Study[4] noted that PIE contributed to 7,020 full-time equivalent (FTE) jobs in 2016, including the following: direct airport, visitor spending, new domestic routes, new international routes, non-airline aviation operations, and non-airline (General and Military Aviation) jobs.

In addition to aeronautical activity, PIE provides a variety of non-aeronautical facilities and services, attributing to the economy and tourism of Pinellas County. The total economic impact of non-aeronautical activity is approximated at 1,417.1 FTE, an estimated $1.044 billion, and labor income of $81.275 million per FTE of $59,355.[5]

The Airport is involved in an array of community activities. Example community services activities include:

- Big Brothers Big Sisters Workplace Monitoring Program (since 2016);
- Pinellas County Schools Lunch Pal Mentors;
- Food & Supply Drive for Hispanic Outreach Network Puerto Rico Evacuee Families (since 2017);
- Pinellas County Schools Executive Internship Program;
- Quarterly Mobile Blood Drive;
- Airport Employee Food Drives (various charities);
- World War II Veterans Honor Flights; and,
- Tony Jannus Distinguished Aviation Society members.

Procurement and Operational Policies

Procurement and Purchasing

The Airport seeks opportunities for cooperative purchases with government entities, adhere to County recycled product procurement policies, and to decrease volume of paperwork (moving to electronic documentation). Procurement policies for recycled materials is encouraged under the Pinellas County guidelines.[6] The Pinellas County Director of Purchasing requires bidders to specify products made of recycled materials.

The Airport diversity program includes consideration of Disadvantaged Business Enterprises (DBE), Small Business Enterprises (SBE), and Airport Concession Disadvantaged Business Enterprises (ACDBE), which is encouraged by the

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4 St. Pete-Clearwater International (PIE). (2018, May). St. Pete-Clearwater International (PIE) Economic Impact ... Retrieved May 20, 2018, from http://fly2pie.com/docs/default-source/news/press-releases/2018/pie-economic-impact-report.pdf?sfvrsn=23cb4ddb_2&p=DevEx.LB.1,5037.1

5 Ibid.

6 Pinellas County. (n.d.). Purchasing Policies - Existing Procurement Procedures [PDF]. Pinellas County. http://www.pinellascounty.org/purchase/PolicyandProcedureManual%2008-2017%20(Section%2015%20Revised).pdf

County for employee hiring diversity practices, as well as seeking to do business with companies who are owned by historically disadvantaged populations.[7]

Operations

Minimum standards apply to any person or entity that provides one or more commercial aeronautical services or operates a private or commercial hangar at the Airport. These include minimum standards of fair and reasonable opportunity without discrimination and honoring the noise abatement and mitigation procedures.[8] Minimum standards are implemented to ensure a consistent standard and quality for all Airport tenants. All tenants are required to enter into an agreement, permit, license, or lease with the County in order to operate on the Airport. These standards support sustainability efforts of the Airport through policies that foster promotion of orderly development of airport land, protection from unlicensed and unauthorized products and services, and provision of service providers with a satisfactory level of service.

Tenant Sustainability

Introduction

An online Sustainability Planning Questionnaire Survey was distributed by email to PIE's tenants on April 6, 2018. The survey was intended to gain information on current tenant sustainability practices, and to solicit ideas regarding the Airport's prospective sustainability efforts which could be leveraged by tenants (see **Attachment 2**).

Tenants were surveyed on current sustainability practices, initiatives, activities, and were asked to provide any useful documentation or suggestions to the Consultant Team.

The survey results reflected the following:

- Two tenants have formalized sustainability programs/policies.
- All survey participants implement initiatives to contribute to the sustainability of their business or the Airport.
- Two tenants provided various suggestions to enhance the sustainability of PIE facilities:
  - LED lights in all the parking locations;
  - Electric charging stations;
  - Alternative fuel vehicles for the shuttle programs;
  - Upgrade fixtures and motion activated on/off switches;
  - Waterless/"flushless" toilets;
  - Drought tolerant landscaping;
  - Energy Efficient windows;
  - Solar panels on airport roofs; and,

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7 Pinellas County. (n.d.). Training & Development. Retrieved May 19, 2018, from http://www.pinellascounty.org/hr/training_development.htm

8 St. Pete-Clearwater international Airport (PIE). (n.d.). Airport Projects Information [PDF]. St. Pete-Clearwater International Airport (PIE). http://www.fly2pie.com/docs/default-source/news/airport-projects-information/1628-pie_-_airport_min__stand_5-01-12_final.pdf?sfvrsn=2

- Favorable lease terms and rent credits for sustainable renovation/construction.

Tenant Sustainability Highlight

In the survey, tenants were offered the opportunity to showcase their sustainability programs, activities, and policies. Below are the tenants' sustainability programs, activities and policies:

- BBA Aviation
  - Sustainability is embedded in their Corporate Social Responsibility (CSR) Approach:
    - Management of societal and environmental impacts by taking the responsible approach to the operations and conduct of the company.
    - Commitment to limiting business activity impacts on the environment.
    - Commitment to continuous improvement in environmental performance each year, including elimination of environmental incidents.
    - Reduction of environmental impact through use of resources.
    - Use of technology that supports business objectives in conjunction with environmental benefits.
    - Commitment to reducing and preventing pollution and reducing emissions.
    - Work with customers and supply chains that develop effective and sustainable products.
    - Compliance with international and local environmental legislation.
    - Provision of information to personnel in order to meet the company's environmental goals.
- Signature Flight Support[9]
  - Sustainability is embedded in the company's Corporate Responsibility Policy:
    - Commitment to innovation in both local community and environmental aspects.
    - Eco-friendly facility design, construction, and operations ($100 million dollars spent towards the design over a period of five years).
    - Ecological responsibility achievements include being the first LEED-certified FBO and LEED-certified hangar,[10] conscious purchase of low emissions equipment, and a network wide recycling initiative.
    - Positive impact on society and environment through delivery of services, and personnel conduct.
    - Participation in the Carbon Disclosure Project.
    - Commitment to monitoring and reporting efficiency to improve environmental performance.
    - Use of electric crew cars and charge stations.

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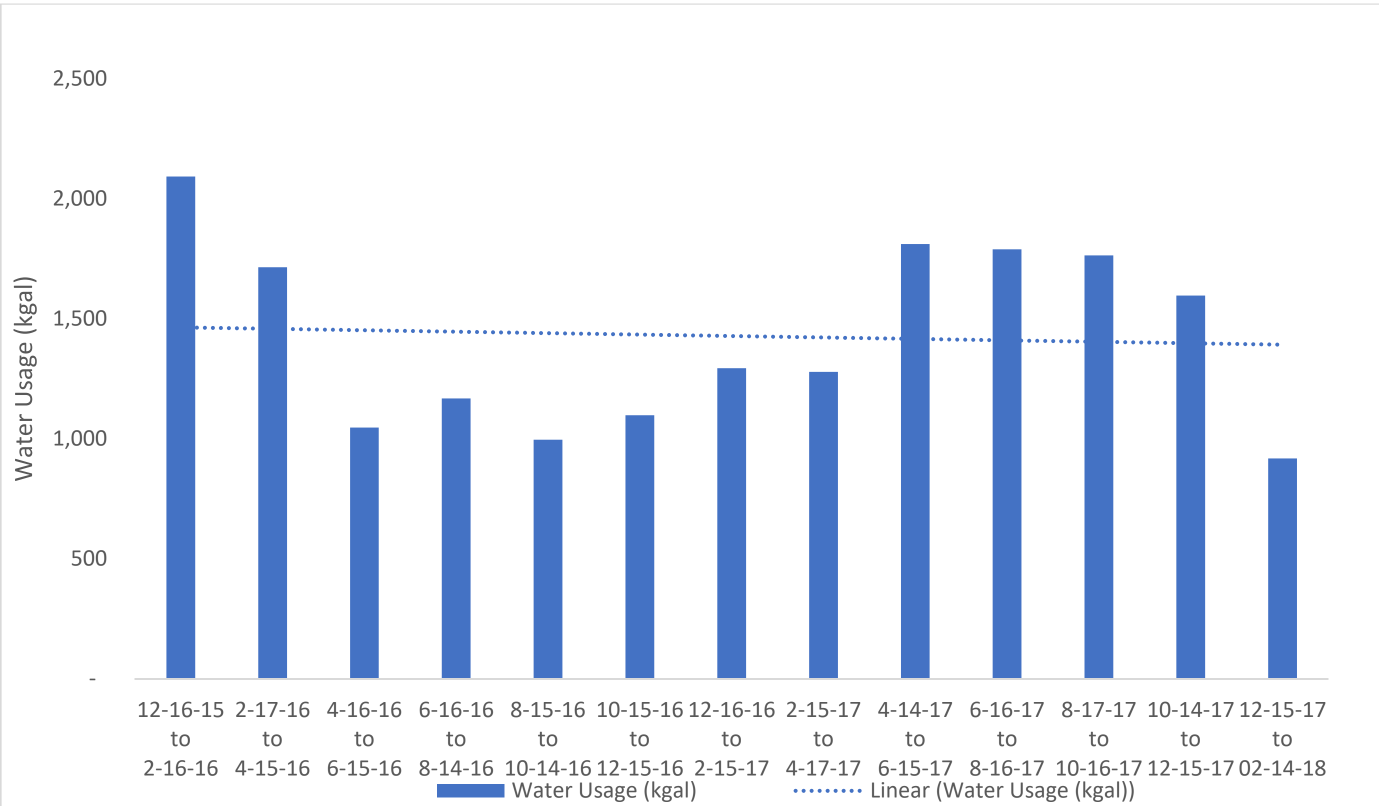
[9] Expressed interest in submitting additional information. Current information retrieved from company website.

[10] LEED-certified FBO and LEED-certified hangar currently at San Francisco International Airport and Norman Y. Mineta San Jose International Airport only.

Memorandum

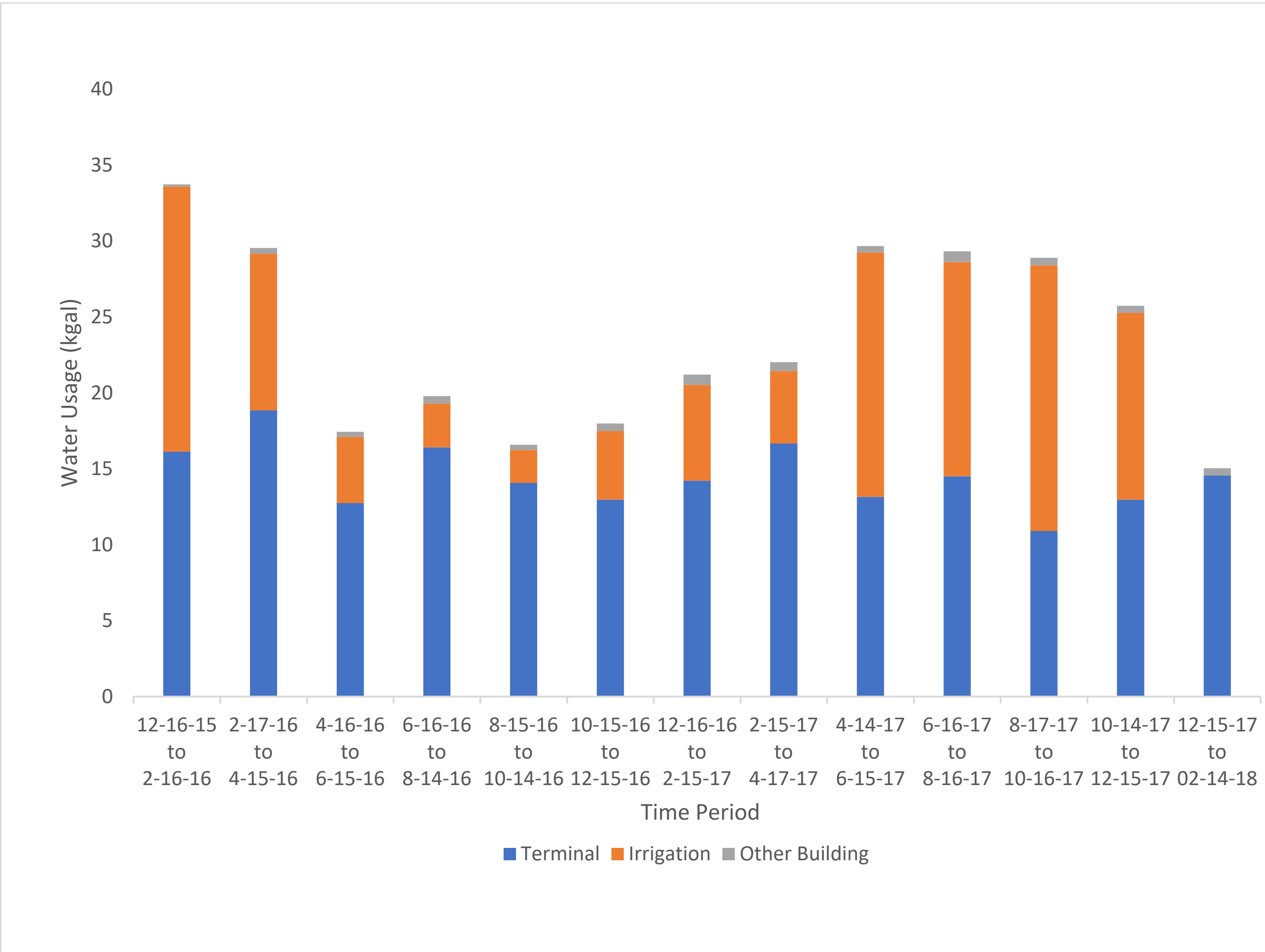
ATTACHMENT 1: Figures and Graphs

Figure 1-1 Overall Water Use at PIE (December 2015 through February 2018)



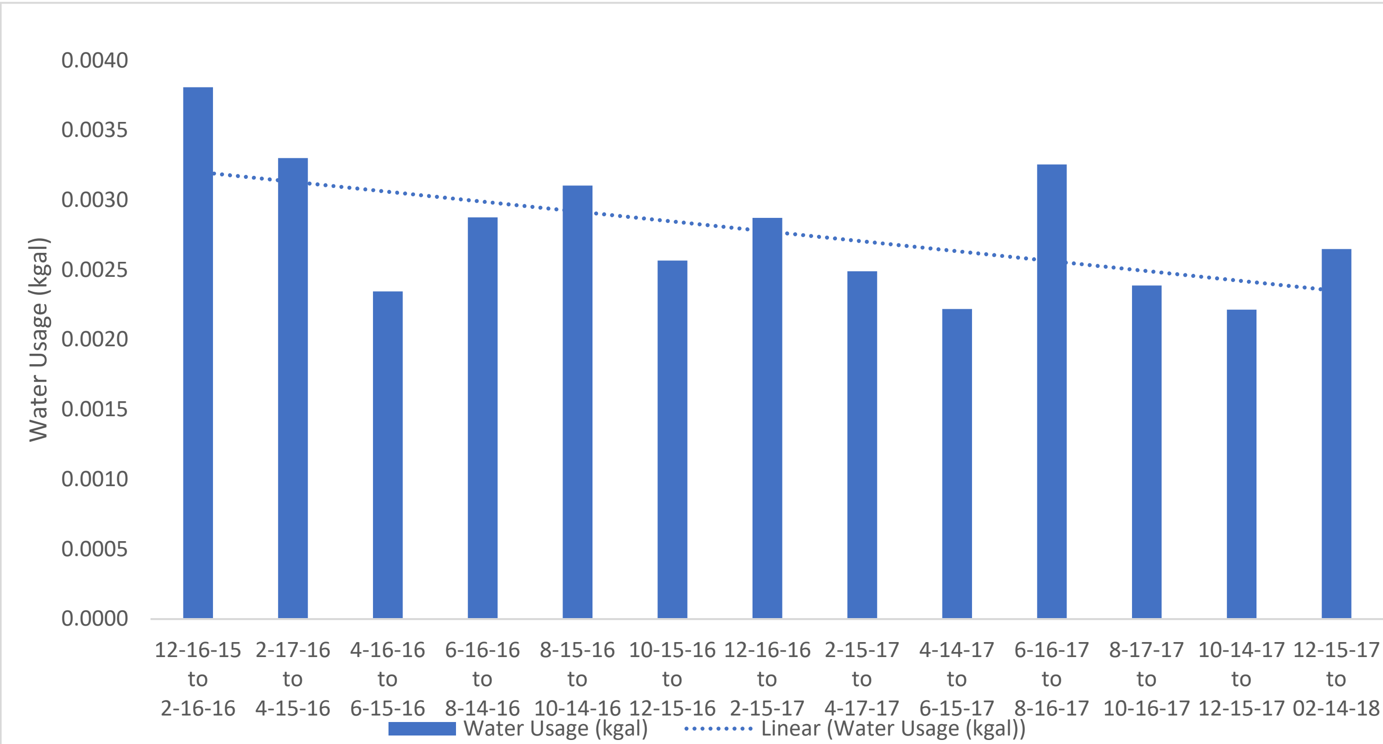
Source: Pinellas County, City of Largo. [PIE Energy and Water Input Spreadsheet].
Note: Two months of data were used for each time period within the water usage graphs. The exception was July – October 2017, which was adjusted proportionally due to missing July utility bills and overlapping billing periods.

Figure 1-2 Average Daily Water Use at PIE (December 2015 through February 2018)- Terminal, Irrigation, Other Buildings



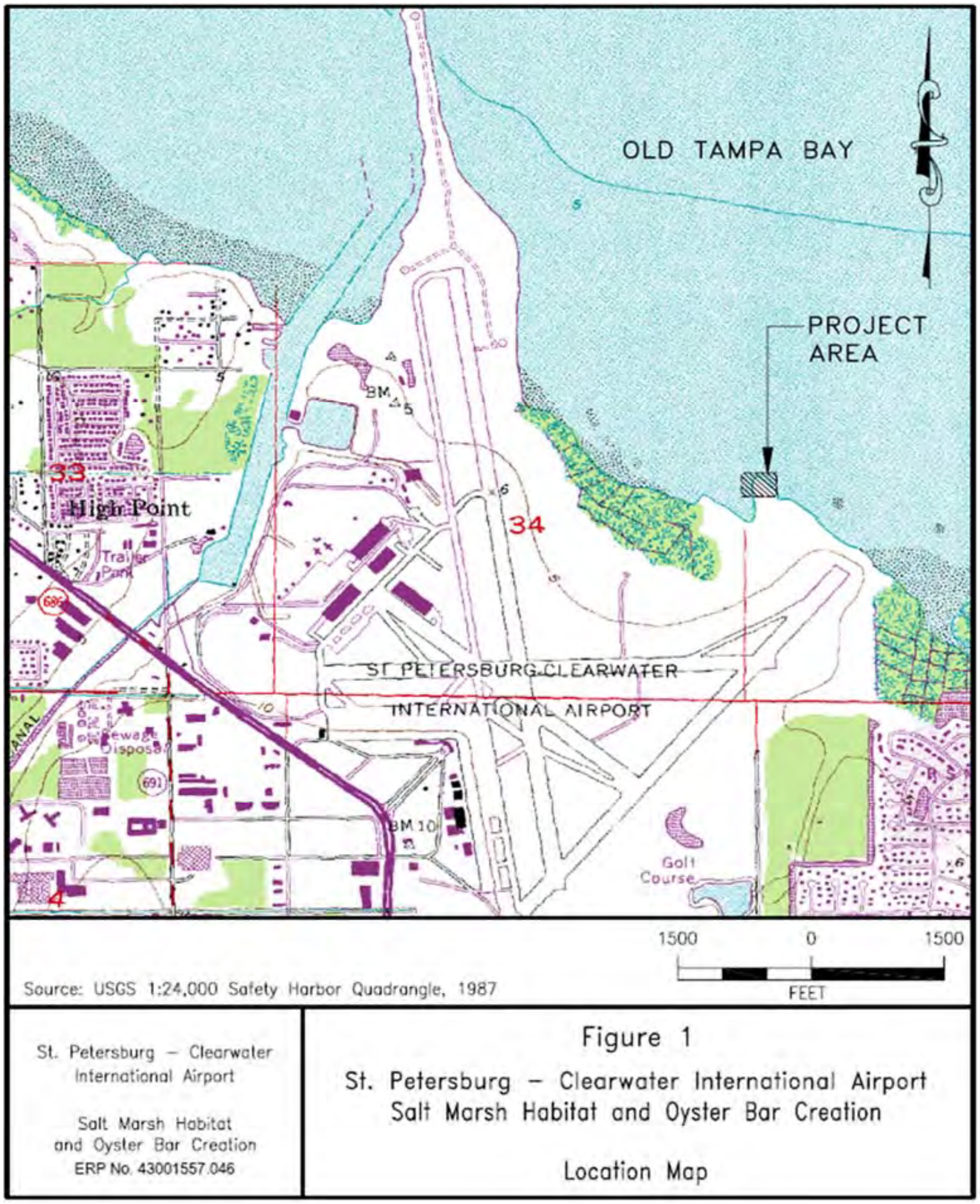
Source: Pinellas County, City of Largo. (2018, April). [PIE Energy and Water Input Spreadsheet].
Note: Two months of data were used for each time period within the water usage graphs. The exception was July – October 2017, which was adjusted proportionally due to missing July utility bills and overlapping billing periods.

Figure 1-3 Average Daily Water Use per Passenger at PIE (December 2015 through February 2018)-Terminal



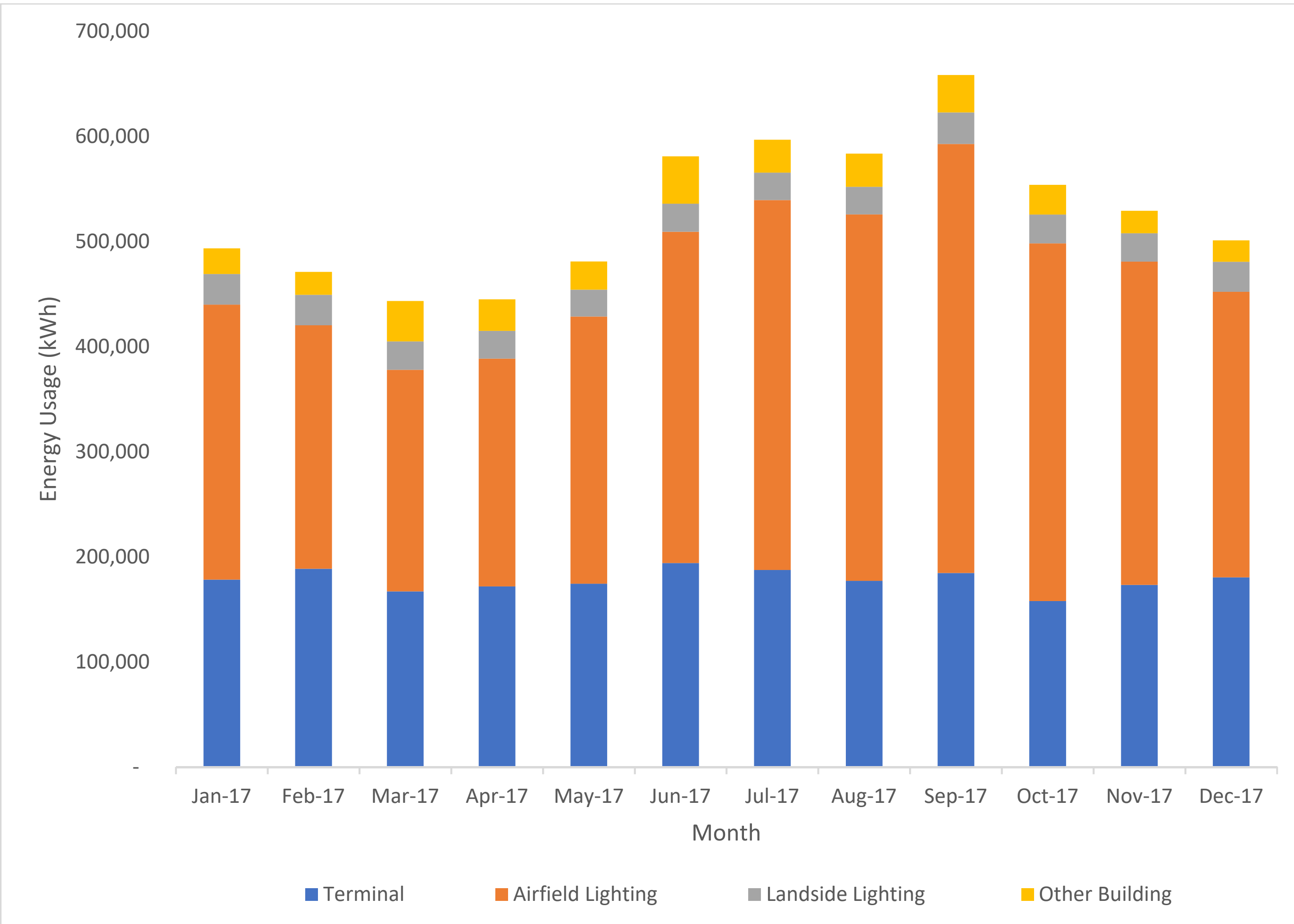
Source: Pinellas County, St. Pete-Clearwater International Airport. (2018, April). [PIE Total Passengers Spreadsheet]. Unpublished raw data.
Note: Two months of data were used for each time period within the water usage graphs. The exception was July – October 2017, which was adjusted proportionally due to missing July utility bills and overlapping billing periods.

Figure 1-4 St. Pete-Clearwater International Airport (PIE) Salt Marsh-Oyster Bar Mitigation Area



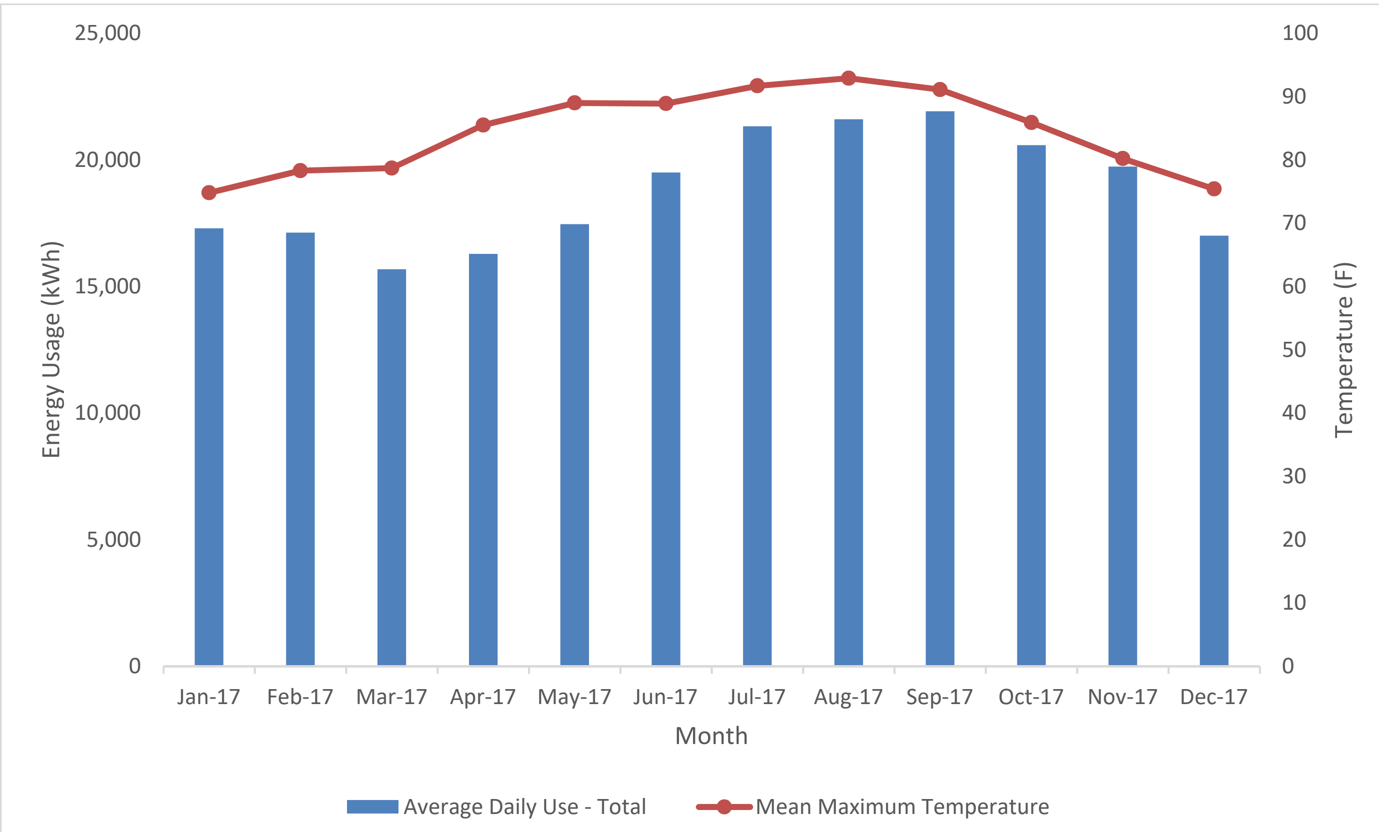
Source: St. Pete-Clearwater International Airport (1987). Salt Marsh-Oyster Bar Mitigation Area Completion Report [PDF].

Figure 1-5 Electrical Energy Use per Month at PIE (January 2017 through December 2017)- Terminal, Airfield Lighting, Landside Lighting, Other Building



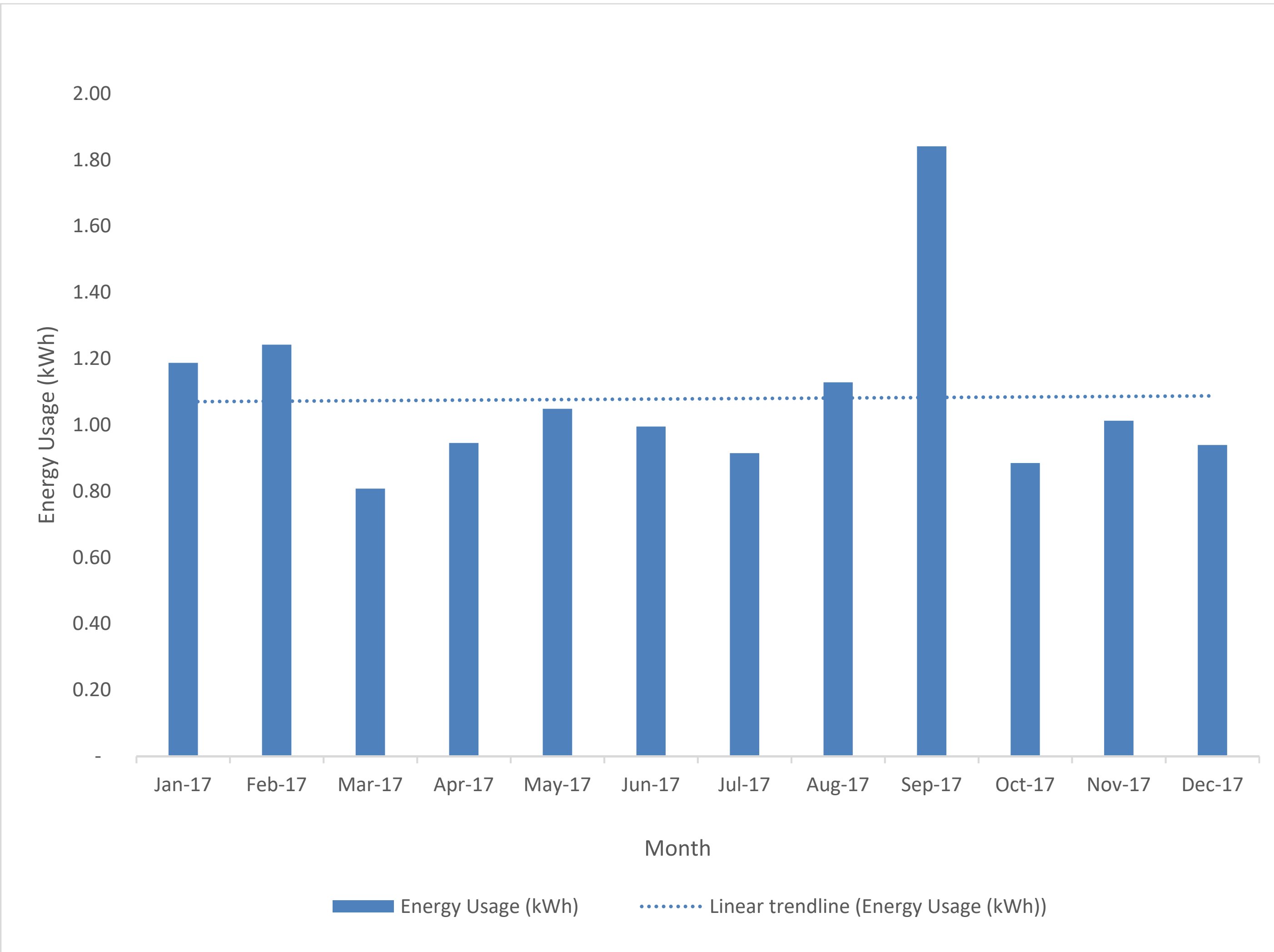
Source: Duke Energy. (2018, April). [PIE Energy and Water Input Spreadsheet]. Unpublished raw data.

Figure 1-6 Overall Average Daily Electrical Energy Use at PIE (January 2017 through December 2017)



Source: Duke Energy. (2018, April). [PIE Energy and Water Input Spreadsheet]. Unpublished raw data.

Figure 1-7 Average Daily Electrical Energy Use per Passenger at PIE (Terminal - January 2017 through December 2017)



Source: Duke Energy. (2018, April). [PIE Energy and Water Input Spreadsheet]. Unpublished raw data.
Note: Passenger data obtained from St. Pete-Clearwater International Airport (2018, April).

ATTACHMENT 2: St. Pete-Clearwater International Airport (PIE) Master Plan Sustainability Questionnaire

St. Pete-Clearwater International Airport (PIE) Master Plan- Sustainability Planning Questionnaire

Purpose and Background

As part of the ongoing PIE Master Plan (piemasterplan.com), sustainability is being considered. Sustainability is generally defined as a holistic approach to managing an airport so as to ensure the integrity of the economic viability, operational efficiency, natural resource conservation and social responsibility of the airport.

Purpose of this Questionnaire:
1. To collect information on any sustainability activities your company is planning or has initiated.
2. To better understand if there are opportunities for the Airport's sustainability initiatives to support your efforts.

PIE Sustainability Study Background:
Due to rising concerns regarding resource conservation, environmental protection, and fiscal responsibility, airports worldwide are part of a growing debate regarding airport growth and the environmental consequences of aviation. To address these issues, the ongoing PIE Master Plan includes a sustainability and resiliency planning aspect. The sustainability planning portion of the Master Plan is generally comprised of the following components:

-Baseline Assessment
-Sustainability Goals & Objectives
-Identification and evaluation of potential sustainability strategies at PIE
-Implementation Strategy

PIE Master Plan Background:
PIE and the Pinellas County Board of County Commissioners are preparing for a comprehensive Airport Master Plan. The primary goal is to create a 20-year airport development program to maintain a safe, efficient, economical, and environmentally acceptable airport facility for the Tampa Bay community. To achieve this goal, it is essential to receive input from key stakeholders, including the interested public, surrounding community, and users and tenants of the airport's facilities.

The following questionnaire is an important component of the PIE Master Plan, and should take approximately 5 - 15 minutes to complete. **You can assist PIE with this effort by completing the questionnaire by Friday, April 27.**

It is important to understand that sustainability does not only address environmental issues. The most effective sustainability strategies have varying levels of economic, social *and* environmental benefits. Please keep this in mind when completing the questionnaire.

Thank you in advance for your participation.

For questions or concerns, please contact *Ben Siwinski* at BSiwinski@VHB.com. Ben is with VHB, a sub consultant to ESA- the prime consultant conducting the Master Plan.

1. Does your organization have a formalized sustainability program / policy / goals?

- ◯ Yes
- ◯ No

If yes, please describe below and/or provide relevant documents to Ben Siwinski at BSiwinski@VHB.com

2. Is your organization implementing any initiatives to contribute to the sustainability of your business or of the airport?

- ◯ Yes
- ◯ No

If yes, please describe below and/or provide relevant documents to Ben Siwinski at BSiwinski@VHB.com

3. Is your organization considering any other potential sustainability-related activities?

- ◯ Yes
- ◯ No

If yes, please describe below and/or provide relevant documents to Ben Siwinski at BSiwinski@VHB.com.

4. Please provide any ideas/suggestions to enhance the energy efficiency of PIE facilities (including passenger terminal, airfield, and other airport buildings).

5. Please describe any ways in which the St. Pete-Clearwater International Airport could aid your organization in accomplishing its sustainability goals.

6. PIE would like to acknowledge the sustainability efforts of its tenants. Would you be willing to have your sustainability projects or activities identified in the sustainability planning portion of the PIE Master Plan? If so, whom shall we contact to get further information?

Name

Company

Address

Address 2

City/Town

State/Province -- select state --

ZIP/Postal Code

Country

Email Address

Phone Number

Source: Survey Monkey, Vanasse Hangen Brustlin, Inc. (2018, April 6). St. Pete-Clearwater International Airport (PIE) Master Plan- Sustainability Planning Questionnaire.

ATTACHMENT 3: References

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[External] FW: PIE Master Plan - Sustainability Questionnaire [E-mail from BBA Aviation]. (2018, April 17).

Attachment 4: Water Usage Spreadsheet and Calculations

Account Number	Meter Number	Service Address	Monthly Totals (kgal)													Calendar Total (kgal)
			12-16-15 to 2-16-16	2-17-16 to 4-15-16	4-16-16 to 6-15-16	6-16-16 to 8-14-16	8-15-16 to 10-14-16	10-15-16 to 12-15-16	12-16-16 to 2-15-17	2-15-17 to 4-17-17	4-14-17 to 6-15-17	6-16-17 to 8-16-17	8-17-17 to 10-16-17	10-14-17 to 12-15-17	12-15-17 to 02-14-18	
100103652113		3650 Old Roosevelt Blvd	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0
100107491996		4401 144th Ave N	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0
100115919983		4455 144th Ave N	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0
100106554130	47576993	4600 142nd Ave N	7	20	8	6	8	7	6	7	7	8	8	8	6	106
100104903312	60831401	4660 Rescue Way	19	18	17	19	16	16	15	15	14	15	19	17	15	215
100106177749	52865272	15295 Fairchild Drive	95	46	34	28	123	26	42	27	21	16	14	15	14	501
100106555039	60810840	0 St Pete CLW Airport	437	518	293	433	334	352	396	499	424	459	319	383	409	5256
100108182518	60810885	14700 Terminal Blvd	163	187	155	183	127	134	142	149	110	136	96	130	153	1865
100116989108	60839537	14700 Terminal Blvd	277	301	256	296	234	253	264	268	225	248	207	250	289	3368
100118862622	91920732	14700 Terminal Blvd	2	3	2	3	2	3	2	2	1	2	2	1	2	27
100123228733	52865276	14695 Airport Pkwy	8	20	18	26	18	29	41	32	23	26	24	26	27	318
100108069754	52865279	0 St Pete CLW Airport	0	0	0	0	0	0	0	0	0	1	0	0	0	1

Account Number	Meter Number	Service Address	Monthly Totals (kgal)													Calendar Total (kgal)
			12-16-15 to 2-16-16	2-17-16 to 4-15-16	4-16-16 to 6-15-16	6-16-16 to 8-14-16	8-15-16 to 10-14-16	10-15-16 to 12-15-16	12-16-16 to 2-15-17	2-15-17 to 4-17-17	4-14-17 to 6-15-17	6-16-17 to 8-16-17	8-17-17 to 10-16-17	10-14-17 to 12-15-17	12-15-17 to 02-14-18	
100106445309	94442500	4501 42nd St N	0	0	0	1	0	0	0	0	1	14	1	0	1	18
100102271073	52865277	13746 Stoney Brook Dr.	0	2	2	2	3	2	0	2	2	3	5	2	1	26
00000000174 0000371526		Roosevelt Blvd	275.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	275.2
00000001248 0000280008		13690 Stoney Brook Dr.	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
00000000174 0000520163		Roosevelt Blvd	808	N/A	N/A	N/A	N/A	N/A	385.3	N/A	N/A	N/A	N/A	N/A	N/A	1193.3
00000001248 0000350009		13690 Stoney Brook Dr.	0	N/A	N/A	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	0
00000000174 0000373282		Roosevelt Blvd	N/A	598.7	N/A	N/A	N/A	N/A	N/A	276.5	N/A	N/A	N/A	N/A	N/A	875.2
00000001248 0000420000		13690 Stoney Brook Dr.	N/A	0	N/A	N/A	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	0
00000000174 0001326115		Roosevelt Blvd	N/A	N/A	260.9	N/A	N/A	N/A	N/A	N/A	982.3	N/A	N/A	N/A	N/A	1243.2
00000001248 0000070003		13690 Stoney Brook Dr.	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	0
00000000174 0001441534		Roosevelt Blvd	N/A	N/A	N/A	170.1	N/A	N/A	N/A	N/A	N/A	N/A	1067.8	N/A	N/A	1237.9
00000001248 0000700003		13690 Stoney Brook Dr.	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	0	0	N/A	N/A	0
00000000174 0001161686		Roosevelt Blvd	N/A	N/A	N/A	N/A	130.2	N/A	N/A	N/A	N/A	860.5	0	N/A	N/A	990.7
00000000174 0001031004		Roosevelt Blvd	N/A	N/A	N/A	N/A	N/A	275.2	N/A	N/A	N/A	N/A	N/A	763.7	N/A	1038.9
All Meters (Total)			**2,091**	**1,714**	**1,046**	**1,167**	**995**	**1,097**	**1,293**	**1,278**	**1,810**	**1,789**	**1,763**	**1,596**	**917**	**18,555**

Water Use Calculations

	12-16-15 to 2-16-16	2-17-16 to 4-15-16	4-16-16 to 6-15-16	6-16-16 to 8-14-16	8-15-16 to 10-14-16	10-15-16 to 12-15-16	12-16-16 to 2-15-17	2-15-17 to 4-17-17	4-14-17 to 6-15-17	6-16-17 to 8-16-17	8-17-17 to 10-16-17	10-14-17 to 12-15-17	12-15-17 to 02-14-18	Calendar Total (kgal)
Days	62	58	60	59	60	61	61	58	61	61	61	62	61	**785**
Average Daily Use - Total (gallons)	34	30	17	20	17	18	21	22	30	29	29	30	15	**24**[1]
Terminal (kgal)	1,000	1,093	765	968	844	791	867	967	802	885	665	804	888	**11,339**
Irrigation (kgal)	1,083	599	261	170	130	275	385	277	982	861	1,068	1,039	0	**6,854**
Other Building (kgal)	8	22	20	29	21	31	41	34	26	43	30	28	29	**362**
Average Daily Use (kgal) - Terminal	16	19	13	16	14	13	14	17	13	15	11	13	15	**14.47**[1]
Average Daily Use (kgal) - Irrigation	17	10	4	3	2	5	6	5	16	14	18	17	0	**8.68**[1]
Average Daily Use (kgal) - Other Building	0	0	0	0	0	1	1	1	0	1	0	0	0	**0.46**[1]
Passengers	262,649	331,177	326,208	336,701	271,981	308,319	301,907	388,455	361,374	271,981	278,621	363,076	335,298	**4,137,747**
Dates used from Total PAX	Jan-Feb 2016	Mar-Apr 2016	May-Jun 2016	Jul-Aug 2016	Sep-Oct 2016	Nov - Dec 2016	Jan-Feb 2017	Mar-Apr 2017	May-Jun 2017	Jul-Aug 2017	Aug-Oct 2017	Nov-Dec 2017	Jan-Feb 2018	--
Average Use (kgal) per PAX - Terminal	0.0038	0.0033	0.0023	0.0029	0.0031	0.0026	0.0029	0.0025	0.0022	0.0033	0.0024	0.0022	0.0026	**0.0027**[1]

1 These values are the average of the row total.

Memorandum

To: Doug DiCarlo (ESA)

Date: April 12, 2019

Project #: 66165.00

From: VHB Team

Re: TASK 5.3.2 - St. Pete-Clearwater International Airport (PIE) Sustainability Goals

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Goal-setting is an essential step of the sustainability planning process and follows the development of the baseline assessment. Developing an overall vision statement as well as more specific goals serves to guide the process of alternatives evaluation and preferred alternative selection for the St. Pete-Clearwater International Airport (PIE) Master Plan.

Pinellas County Mission Statement and Values

Pinellas County (as owner and operator of PIE) has already established a mission statement and values that will serve as the backdrop for the sustainability vision and goals developed for PIE. In its latest Strategic Plan[1], the County has defined its mission statement and values, which guide the way it operates and serves the community.

> **Mission Statement**
> Pinellas County Government is committed to progressive public policy, superior public service, courteous public contact, judicious exercise of authority and responsible management of public resources, to meet the needs and concerns of our citizens today and tomorrow.
>
> **Values**
> - We will be respectful of the needs of individuals while recognizing our responsibility to the community as a whole.
> - We will be community-centric, embracing the individuality of partners working together as one, toward the community's vitality.
> - We believe it is our responsibility to improve the overall quality of life through the management and preservation of the natural and built environment.
> - We will provide open and accountable governance.
> - We will foster a diverse work culture, a safe workplace, and opportunity for professional and personal growth.

The County's mission statement and values align with a general sustainability vision by incorporating the following terms, among others:

- "responsible management of public resources"
- "meet the needs and concerns of our citizens today and tomorrow"
- "improve the overall quality of life through the management and preservation of the natural and built environment"

[1] http://www.pinellascounty.org/strategicplan/mission.htm

PIE Sustainability Vision Statement

Based on the Project Team and PIE staff coordination in a visioning exercise, and subsequent sustainability and resiliency-focused discussions, the following vision (or mission) statement is identified to guide the Airport's sustainability and resiliency efforts:

> PIE will serve as a sustainable catalyst for economic growth in the region by providing convenient air service options and aviation-related business opportunities while maintaining its resiliency to changing environmental and economic conditions.

PIE Sustainability Goals

As part of the Sustainable Master Plan process, the Project Team has identified a manageable set of sustainability goals. These goals are intended to inform the development of sustainability alternatives screening criteria for the Master Plan as well as guide future sustainability efforts at PIE. The PIE sustainability goals are consistent with the County's mission and values described previously in this memorandum. The goals are listed with a brief further explanation of their meaning provided below each:

- Maximize the economic potential of PIE
    - Enhanced air service offerings
    - Developing business and employment opportunities
- Conserve resources through effective design and operation of facilities
    - Reduce energy and water use in buildings
    - Closely monitor spending on electricity and water
- Plan future facilities and infrastructure to be resilient to changing conditions
    - Incorporate all available scientific data on sea level rise and storm surge in future planning
    - Diversify revenue streams to withstand changing economic conditions or other events

APPENDIX H

Vulnerability Assessment

Memorandum

To: Doug DiCarlo, ESA

Date: April 16, 2019

Project #: 66165.00

From: VHB Team

Re: TASK 5.5 - St. Pete-Clearwater International Airport (PIE) Master Plan Vulnerability Assessment and Resiliency Planning

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1. Introduction

This memo summarizes preliminary findings from the Vulnerability Assessment workshop and Resiliency Planning for St. Pete-Clearwater International Airport (PIE), as part of its Master Planning process. This document summarizes the findings of the Vulnerability Assessment and the Resiliency Plan.

2. Vulnerability Assessment

A Vulnerability Assessment Workshop was held on Monday, October 22, 2018 at PIE. The following PIE staff participated in the workshop:

- Tom Jewsbury, Airport Director
- Yvette Aehle, Deputy Director of Finance
- Jeff Carrington, Airport Fire Chief
- Jeff Claus, Air Service Development and Marketing
- Jeff Gilquist, Signature (via telephone)
- Kathleen Good, Director of Properties
- Michael Iguina, Facilities
- Scott Yarley, Airport Engineer
- Michele Routh, Public Relations
- Erin Johnson, Airport Operations Manager

The following individuals from the ESA Team facilitated and provided support for the workshop:

- Neale Stralow, VHB
- Van Du, VHB
- Sierra LePore, VHB
- Michael Arnold, ESA
- Joe Halisky, ESA

During the workshop, the ESA Team presented the vulnerability assessment approach as well as a summary of the local and regional climate change projections and impacts (see **Attachment 1**). Workshop participants were then divided into small groups to review the Impacts Matrix, and to evaluate sensitivity, adaptive capacity, and overall vulnerability for the identified airport functional areas and their critical assets and operational requirements. See the Vulnerability Assessment Matrix (**Attachment 2**) for the scoring results.

Critical assets and operational components at PIE were categorized into the following functional areas for the vulnerability assessment exercise:

- Aircraft Operation Areas
- Airspace and Airport Traffic Control
- Airfield Lighting
- Takeoff and Landing Aids
- Passenger Terminal Facilities
- Passenger Terminal Landside Facilities

- Airport Facilities
- Utility Systems
- Information Technology and Telecommunications
- Passengers, Employees, and Human Resources

Vulnerability refers to the overall sensitivity and adaptive capacity of assets to respond to anticipated climate change impacts. The Project Team facilitated an exercise in which workshop participants assessed the current vulnerabilities of assets within each functional area under the four (4) projected climate change impact scenarios (Sea Level Rise, Increase in Temperature, Changing Precipitation, and Increase in Hurricane/Extreme Storm Events). The following section summarizes the sensitivity, adaptive capacity, and overall vulnerability of these functional areas. Understanding the criticality and vulnerability of these functional areas will inform the framework for adaptive planning and action at PIE.

Based on the vulnerability assessment workshop discussions, the ESA Team developed the following list of key findings:

- Of the four (4) projected climate scenarios, sea level rise and increase in hurricanes/extreme storm events are the two major concerns. Most of functional areas at PIE are highly vulnerable to the potential impacts from these projected conditions.
- There is uncertainty regarding what aspects of the Pinellas County hurricane recovery plan apply to PIE, but it is assumed that there will be substantial flight traffic and recovery staging.
- System redundancies should be made a goal in the PIE Master Plan to ensure quick recovery and increased operational effectiveness.

2.1 Aircraft Operation Areas

Identified critical assets and operational requirements for this functional area include:

- Runways (18-36 and 4-22)
- Taxiways and taxilanes
- Ramp/apron areas (for aircraft parking, GSE storage)

Overall Vulnerability:
Based on PIE staff's input and feedback, Aircraft Operation Areas have a relatively high vulnerability to projected sea level rise. To date, runways have already been shut down due to flooding that is not caused by extreme weather events. These events typically occur on Runway 4-22 and surrounding taxiways closest to Tampa Bay. The perimeter road is also frequently inundated with water. This functional area is also highly vulnerable to flooding associated with the projected increase in frequency and volume of extreme rainfall events. In fact, taxiways are often closed 1-2 times a year due to flooding from heavy rain. Currently, the only solution is to wait until floodwater retreats to resume operations on the affected taxiways.

PIE staff indicated that Aircraft Operation Areas have moderately low vulnerability to projected increase in temperature. While the pavement at the end of Runway 36 has experienced bulking and/or shifting, and the taxiway and ramp have incurred minor damage, participants determined the system would be minimally affected by increases in temperature. There is an ongoing project to fix Taxiway A pavement issues at the ramp. Overall, PIE adheres to standard FAA requirements for pavement maintenance and renovation, and contractors that have been at the airport for existing projects have been able to immediately repair any emergency pavement distresses. However, PIE has had to request emergency purchase orders when a contractor was not readily available to repair a pavement issue. Therefore, the airport plans to advertise a Request for Proposal (RFP) to have a contractor on "stand-by" for emergency pavement and lighting repairs.

PIE staff indicated that lightning strikes are a top concern for the Airport. Lightning strikes have previously affected airport operations and required patching of the airfield's pavement at least four times in the past. Lightning strikes also posed a safety risk to the ground crew. Participants reported that in recent years, the Airport has closed runways and taxiways 1-2 times annually due to lightning strikes from extreme thunderstorms.

Given its geographic location, the risk of more frequent and intense hurricanes/extreme storms is also a major concern. However, the Airport has experience responding to frequent afternoon thunderstorms between July and September and has a hurricane plan and after-hurricane plan in place for emergency responses. As a result, while Aircraft Operation Areas may be moderately sensitive to the projected increase in hurricanes and extreme storm events, the Airport also has moderate adaptive capacity in place to accommodate or adjust to potential impacts.

2.2 Airspace and Airport Traffic Control

Identified critical assets and operational requirements for this functional area include:

- PIE Airport Traffic Control Tower

Overall Vulnerability:

Overall, Airspace and Airport Traffic Control are highly vulnerable to projected sea level rise and the projected increase in hurricanes/extreme storms. Under these scenarios, critical assets will be highly susceptible to the potential impacts. Disruption of the Airport's operations is inevitable during hurricanes or extreme storm events, when airport personnel are typically required to evacuate due to high wind speeds.

This functional area has a moderately low vulnerability to the projected increase in temperature scenarios. Participants noted that the increase in temperature or increase in precipitation would not affect Airport Traffic Control (ATC) function or structure. The Airport has not experienced operational delays due to high temperatures.

2.3 Airfield Lighting

Critical assets and operational requirements under this functional area include:

- Runway lighting systems

- Identification lighting beacon
- Taxiway lighting
- Airfield signage

Overall Vulnerability:

Overall, Airfield Lighting has medium to low vulnerability to the projected sea level rise, and moderately high vulnerability to the projected increase in hurricanes/extreme storm events. Based on PIE staff's input and feedback, this functional area does not have adaptive capacity to accommodate and adjust to potential impacts under the projected sea level rise scenario. Participants also noted that although impacts from lightning strikes and storm surges are major concerns at PIE, generators are able to restart the lighting systems within minutes. Additionally, if only a portion of the airfield lights are unavailable, the Airport will issue a Notice to Airmen (NOTAM) until the lighting system can be restored. The Airport expressed that it does not experience or anticipate airfield lighting issues due to increased temperatures. However, as noted in Section 2.1, the airport plans to advertise a Request for Proposal (RFP) to have a contractor on "stand-by" for emergency pavement and lighting repairs.

2.4 Takeoff and Landing Aids

Identified critical assets and operational requirements under this functional area include:

- Runway end identification lights
- Runway Alignment Indicator Lights (MALSR)
- Precision Approach Path Indicator (PAPI) systems
- Runway Visual Range (RVR) sensor units
- Automated Surface Observing System (ASOS) equipment
- Remote transmitter/receiver (RTR) facility
- Instrument Landing Systems (ILS)

Overall Vulnerability:

Overall, Takeoff and Landing Aids are considered highly vulnerable to the projected sea level rise as well as the projected increase in extreme rainfall events. In general, however, NAVAID equipment under this functional area are under FAA control and maintenance; therefore, PIE staff cannot speak to the sensitivity and adaptive capacity levels of this equipment. For example, while PIE staff check NAVAIDs during airfield and perimeter inspections, the Airport could not provide input on their adaptive capacity because FAA is responsible for maintaining and fixing NAVAIDs at airports. Participants noted that under extreme circumstances during large storm events, the FAA has the right to dismantle NAVAIDS to protect them from potential damage. The Airport expressed that it does not experience or anticipate issues to NAVAIDS due to increased temperatures.

2.5 Passenger Terminal Facilities

Identified critical assets and operational requirements under this functional area include:

- Terminal building
- Emergency/Severe weather shelter locations
- TSA equipment/operations
- Baggage handling equipment
- Concessionaires and other non-airline tenants

Overall Vulnerability:

This functional area has a moderately high vulnerability to the projected sea level rise. Participants indicated that there is currently no official plan in place, in the event that sea water reaches the terminal building (potentially due to storm surge based on end-of-the-century projection for sea level rise). Similarly, these terminal facilities are highly vulnerable to damages during hurricanes and extreme storm events. Currently, the Airport is closed for hurricanes for mandatory evacuation, and sandbags are used to reduce potential structural impacts from flooding to these facilities.

Conversely, this functional area has moderately low vulnerability to the projected increase in temperature. PIE staff noted that increased HVAC demand and duration can put stress on the existing chiller. However, a new back-up chiller was recently installed and can provide redundancy support for long durations.

2.6 Passenger Terminal Landside Facilities

Identified critical assets and operational requirements for this functional area include:

- Terminal access roadways
- Curb front areas (access for ticketing/check-in/departure area, and baggage claim/arrival area)
- Ground transportation area (GTA)
- Parking lots (short-term, long-term, employee, economy/remote #1, overflow, remote #2) and cell phone lot
- Rental car facilities

Overall Vulnerability:

Overall, Passenger Terminal Landside Facilities are highly vulnerable to the projected sea level rise and increase in hurricanes/extreme storms, with minimal adaptive capacity to respond to or accommodate the potential climate change impacts associated with these projected conditions. PIE staff voiced concern that flooding or salt water intrusion due to sea level rise will more frequently impact regular operations. They expressed uncertainty regarding long-term and incremental capital improvement budgeting that would enable the Airport to enhance these critical assets and operational requirements and improve their response. While staff indicated that the Airport has a hurricane plan in place, they were unsure if the infrastructure under this functional area would be able to withstand more frequent and intense impacts due to extreme storm events.

This functional area has moderately minimal vulnerability to the projected increase in temperature and changing precipitation patterns. Participants did not consider extreme temperature and extreme rain events to be major issues when compared to potential extreme storm damage and flooding. It is unclear, however, whether there are adequate redundancy systems in place to ensure that disruption to infrastructure will not affect other functional areas and overall Airport operations.

2.7 Airport Facilities

Identified critical assets and operational requirements for this functional area include:

- General aviation facilities (FBOs, National Aviation Academy, Pinellas County Sheriff's Hangar, the Landings Hangar Area)
- Support and service facilities (airfield electrical vault, Aircraft Rescue and Fire Fighting (ARFF) department, airport maintenance equipment storage area, fuel farm)

Overall Vulnerability:

Overall, Airport Facilities are highly vulnerable to the projected sea level rise and increase in hurricanes/extreme storms, with minimal adaptive capacity to respond to or accommodate the potential climate change impacts associated with these projected conditions. While there is a hurricane plan in place for emergencies, PIE staff recognized that additional hardened facilities might improve protection and recovery ability.

On the other hand, this functional area received a low vulnerability score relative to the projected increase in temperature and changing precipitation. PIE staff noted that extreme temperature and precipitation events would minimally impact identified critical assets under this functional area, and that the Airport would be somewhat able to accommodate or adjust to the potential climate impacts associated with these projected conditions. The major focus would be to ensure the safety of passengers, employees, and others working at the Airport.

2.8 Utility Systems

Identified critical assets and operational requirements for this functional area include:

- Grid-connected power
- Potable water system
- Sanitary sewer system
- Back-up generators
- Stormwater management/flood control systems

Overall Vulnerability:

Utility Systems are highly vulnerable to projected sea level rise, and the current systems would be minimally able to accommodate or adjust to potential impacts. PIE staff noted that stormwater outfalls are surcharged and get further backfilled at current high tides and are also subject to oyster growth/clogging. As a result, when the pipes and ponds are filled, stormwater backs up into open airfield space. There is opportunity for increased subterranean stormwater storage to reduce/control airfield effects.

PIE staff indicated that the major utility systems at the Airport are located underground and in good condition. Extreme storm events may more substantially affect above ground systems (e.g., towers, poles, etc.), however, which would require longer recovery. Overall, while underground utilities are in good condition, and while PIE staff anticipated a quick recovery process from hurricanes or extreme storm events, Utility Systems are still considered to have moderately high vulnerability to the projected increase in hurricanes and extreme storm events.

Potential issues or impacts to this functional area are not anticipated for the projected increase in temperature and changing precipitation scenarios. PIE staff noted that the Airport has not previously experienced long power interruption (usually restored within a couple of hours) during extreme hot days, or even during severe storms or hurricane events.

2.9 Information Technology and Telecommunications

Identified critical assets and operational requirements for this functional area include:

- IT infrastructure
- Internet, network, and communications systems (phones/radios)
- Emergency, communications/warning systems
- Communications (passenger to outside)

Overall Vulnerability:

Like Utility Systems, Information Technology and Telecommunications are considered moderately vulnerable to the projected sea level rise and increase in hurricanes/extreme storm events. While infrastructure is mostly underground and in good condition, above ground towers and pole mounts are more susceptible to damage from extreme storm events and may require longer recovery.

Overall, PIE staff did not anticipate potential issues or impacts to this functional area under the projected increase in temperature and changing precipitation scenarios. They noted that the Airport has not experienced substantial telecommunications or IT interruption during extreme hot days, or even during severe storms or hurricane events.

2.10 Passengers, Employees, and Human Resources

Identified critical assets and operational requirements for this functional area include:

- Employees’ health and well-being

- Irregular Operations (IROPS) procedures
- Alternative operation locations
- Family support strategies
- Employee accessibility/mobility
- Staff training/education
- Financial resources (insurance, access to cash, etc.)
- Passenger assistance staff

Overall Vulnerability:

Overall, this functional area has a moderate to high vulnerability to the projected climate change scenarios. Major concerns associated with this functional area focused on the safety of airport employees and passengers. Projected sea level rise will result in temporary and even permanent flooding of airport terminals and access areas, and therefore will also affect the Airport operations more regularly. This will inevitably compromise how PIE can accommodate passengers during extreme storm events. Similarly, safety risks to passenger and employees (particularly outdoor crews) due to high winds, debris, flooding, and lightning strikes during heavy rain, hurricanes and/or extreme storm events will increase, and will require enhanced weather protection to ensure safety.

3. Resiliency Planning

In general, it is recommended that PIE participate in the recently formed Tampa Bay Regional Resiliency Coalition (TBRRC) for access to the most up-to-date climate projections and connections with regional partners that can provide expertise in variety of different climate change-preparedness areas. The TBRRC was officially formed in October 2018 to regionally address sea level rise, climate change, and resiliency in the Tampa Bay region. Original membership is comprised of five counties (including Pinellas) and 23 municipalities.

Based on the findings of the Vulnerability Assessment, the following recommendations are provided to enhance the resiliency of PIE from climate change. The recommendations include a prioritization estimate (short, medium and long-term) and identification of key external stakeholders.

RECOMMENDED RESILIENCY MEASURES BY AIRPORT FUNCTIONAL AREA

Functional Area	Resiliency Recommendation	Recommended Priority	External Stakeholders and Resources
Aircraft Operation Areas	Gradual raising of most vulnerable aircraft operation areas to avoid flooding	Long-term (integrated into ongoing maintenance activities)	TBRRC (sea-level rise predictions)
	Contract mechanism for on-call emergency pavement repairs	Short-term	Florida Airports Council (advertisement of RFP)
Airspace and Airport Traffic Control	n/a	n/a	Federal Aviation Administration (FAA)
Airfield Lighting	Back-up generator system that can accommodate airfield lighting redundancy	On-going	n/a
	Contract mechanism for on-call emergency lighting repairs	Short-term	Florida Airports Council (advertisement of RFP)
Takeoff and Landing Aids	n/a	n/a	FAA
Passenger Terminal Facilities	New terminal facilities constructed to withstand demands of Coastal High Hazard Area (CHHA) and hurricane storm impacts	Long-term (integrated into future terminal development program)	FAA Advisory Circular (AC) 150/5360-13
Passenger Terminal Landside Facilities	Future design of parking facilities to account for more severe storm events	Long-term (integrated into future parking facility development)	US Green Building Council (USGBC) Parksmart certification program
Airport Facilities	Integration of design and construction criteria to accommodate for sea-level rise and increased storm events	Long-term (integrated into future FBO and support facility development and redevelopment)	Climate Resilience Design Guidelines – Port Authority of New York and New Jersey (PANYNJ)
Utility Systems	Increase in underground stormwater storage (to reduce/control back up to airfield areas)	Medium-term	n/a
Information Technology and Telecommunications	n/a	n/a	n/a
Passengers, Employees and Human Resources	n/a	n/a	n/a

Notes: Short-term = 0-3 years, Medium-term = 4-6 years; Long-term = 7+ years
n/a = not applicable or not available
Source: VHB, 2019.

ATTACHMENT 1

St. Pete-Clearwater International Airport Climate Vulnerability Assessment Workshop

Presented by

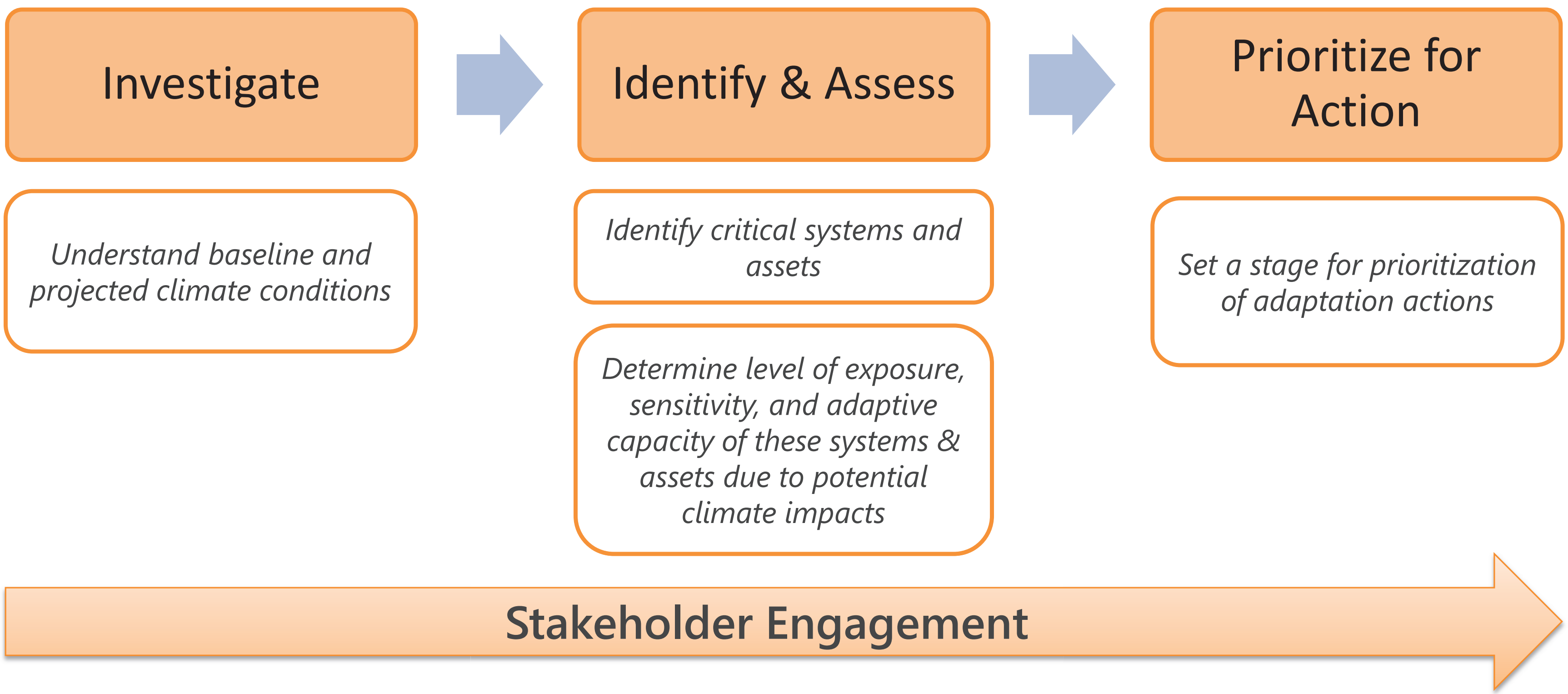
vhb

October 22, 2018

Workshop Agenda

I. Welcome & Introductions
II. Overview of the climate vulnerability assessment approach
III. Review of climate trends & projections
IV. Recommended critical systems and assets for PIE
V. Small-group discussions: sensitivity and adaptive capacity evaluation
VI. Report back, open discussion, Q&A
VII. Confirmation of PIE’s Sustainability Mission and Goals
VIII. Wrap up & next steps

Climate Vulnerability Assessment Approach



Climate Trends and Projections

Climate change scenarios

- Sea Level Rise (SLR)
- Increased Temperatures
- Changing Precipitation
- Hurricanes & Extreme Storms

Photo credit Getty Images

Sea Level Rise (SLR): trends & projections

- Local water levels (recorded at St. Petersburg tide station) have increased by 0.89 feet over the past century—approximately one inch per decade.
- Local average historical sea level rise rate is faster than the global average rate.
- By 2100, the range of likely sea level rise scenarios is 1.4 to 8.5 feet, with an extreme scenario extending the upper range to 10.5 feet (2017 NOAA study).
- It is estimated that today's 100-year (1-percent annual chance of occurring) magnitude flood elevation will begin to occur every 20 years at the projected mean sea level in 2050.

Sources:

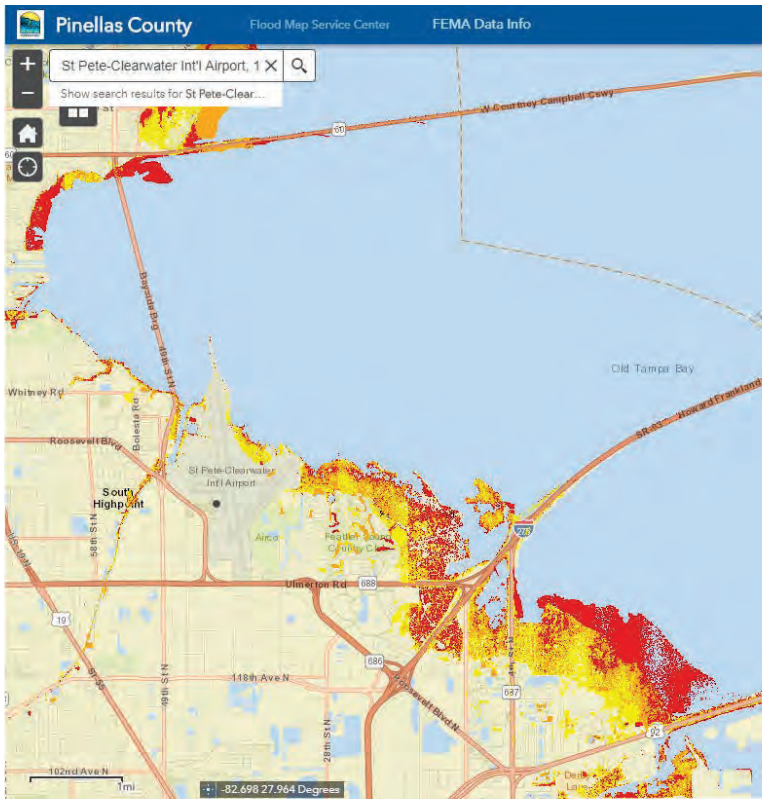
NOAA Sea Level Trends Online, https://tidesandcurrents.noaa.gov/sltrends

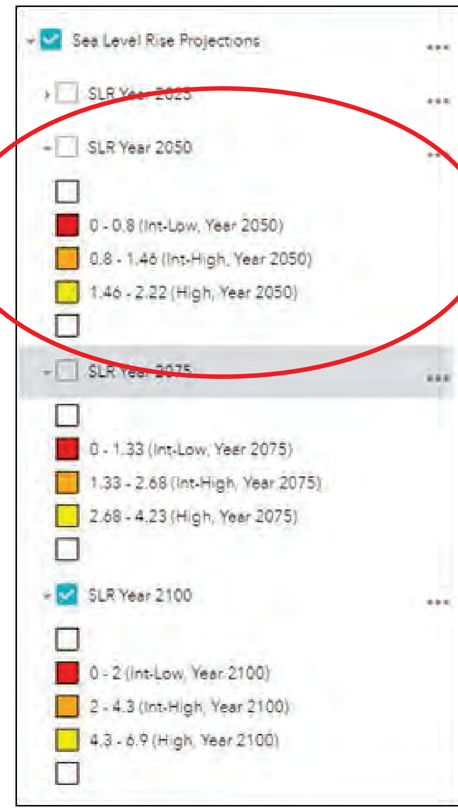
Valle-Levinson, A., A. Dutton, and J.B. Marin. 2017. Spatial and Temporal Variability of Sea Level Rise Hot Spots Over the Eastern United States. Geophysical Research Letters. Volume 44, Issue 15. Pages 7876-7882. Available at: http://onlinelibrary.wiley.com/doi/10.1002/2017GL073926/abstract

USGCRP, 2017: Climate Science Special Report: Fourth National Climate Assessment, Volume I [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 470 pp, doi: 10.7930/J0J964J6. Available at: https://tidesandcurrents.noaa.gov/publications/techrpt83_Global_and_Regional_SLR_Scenarios_for_the_US_final.pdf

Sea Level Rise (SLR): trends & projections

Year 2050

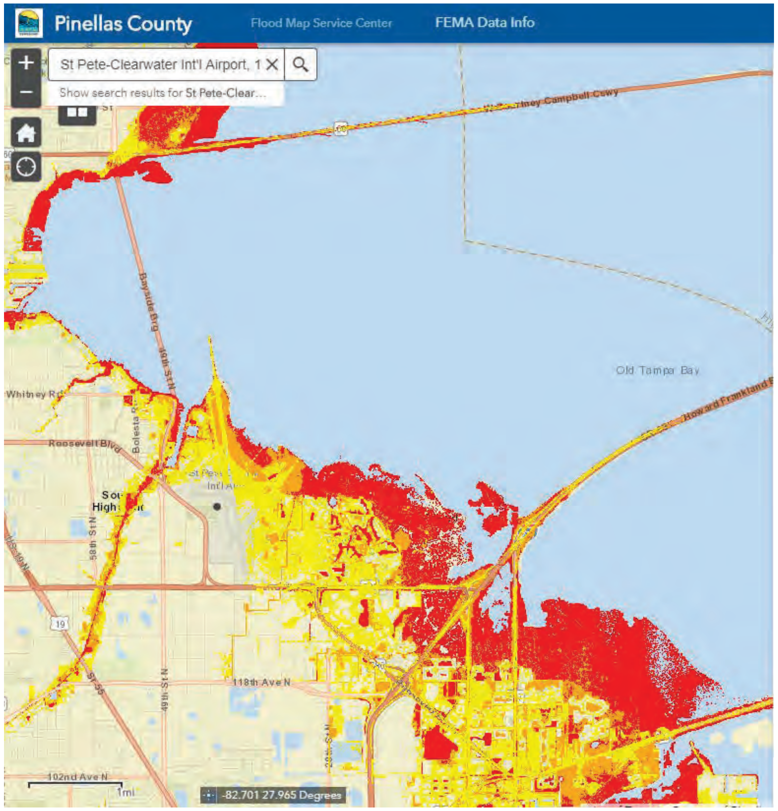


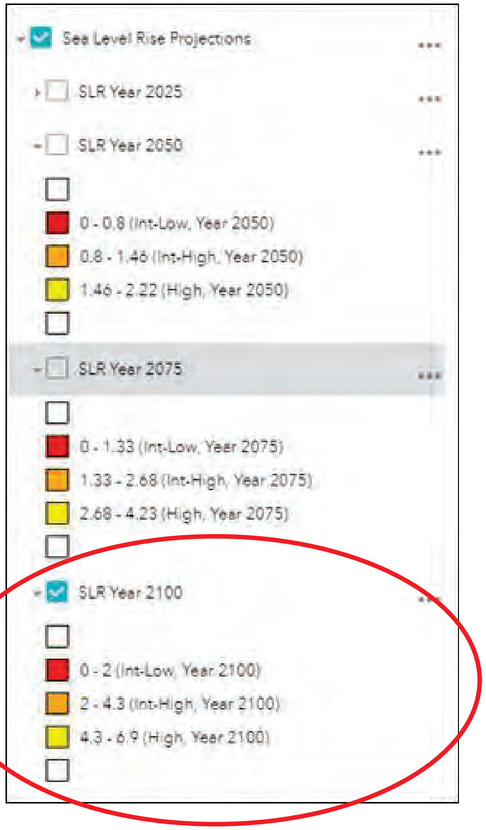


Source: Pinellas County 2018. Pinellas County Flood Map Information Service Center, https://arcg.is/PGLua

Sea Level Rise (SLR): trends & projections

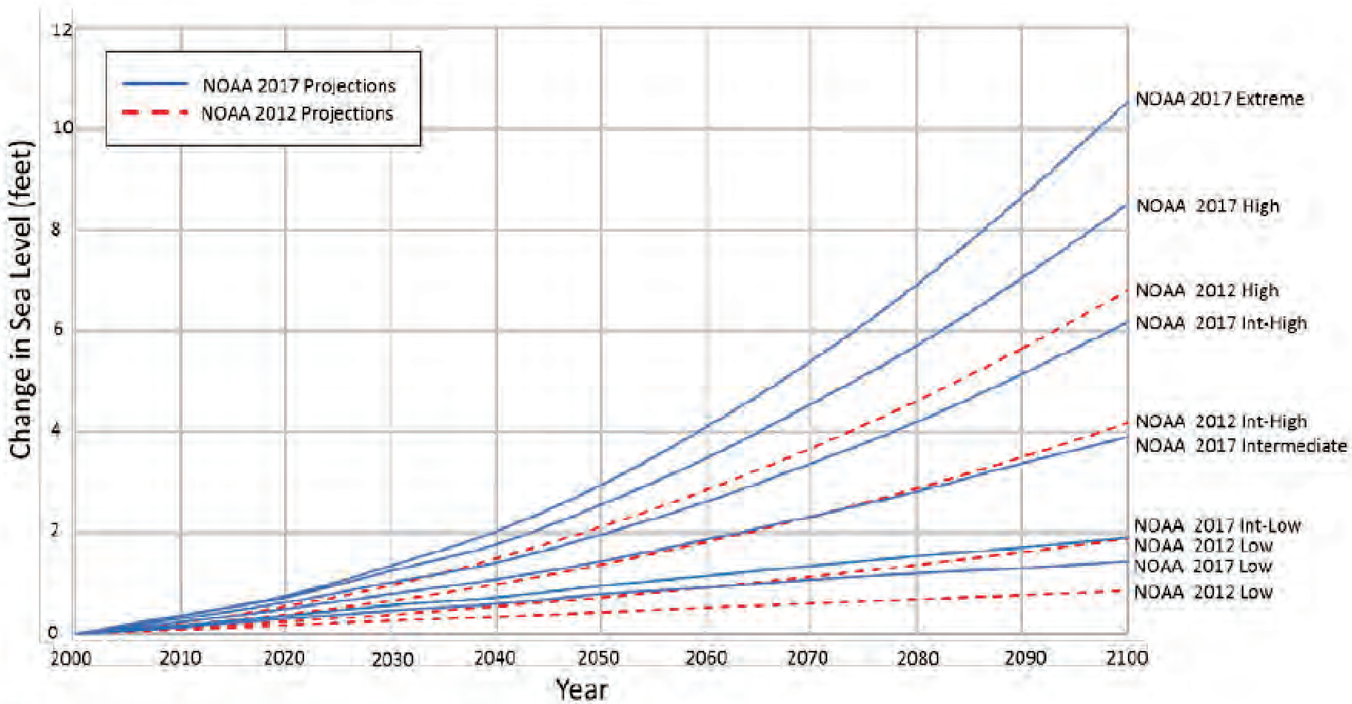
Year 2100





Source: Pinellas County 2018. Pinellas County Flood Map Information Service Center, https://arcg.is/PGLua

Sea Level Rise: trends & projections



Notes:
-Projections are relative to the year 2000.
-Data retrieved from the USACE Sea Level Change Curve Calculator for the St. Petersburg tide station:
http://www.corpsclimate.us/ccaceslcurves.cfm

Sea Level Rise: trends & projections

NOAA 2017 local mean sea level rise (SLR) projections for Tampa Bay Region						
	Scenario					
Year	Low	Intermediate-Low	Intermediate	Intermediate-High	High	Extreme
2040	0.59	0.72	1.08	1.41	1.77	2.03
2060	0.92	1.15	1.87	2.62	3.48	4.1
2070	1.08	1.35	2.33	3.38	4.56	5.41
2100	1.44	1.9	3.9	6.17	8.5	10.53
Note: Seal level rise projections are measured in feet and relative to the year 2000.						

Sources:

USGCRP, 2017: Climate Science Special Report: Fourth National Climate Assessment, Volume I [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 470 pp, doi: 10.7930/J0J964J6. Available at: https://tidesandcurrents.noaa.gov/publications/techrpt83_Global_and_Regional_SLR_Scenarios_for_the_US_final.pdf

Sea Level Rise: potential impacts

- Temporary or permanent inundation of airport infrastructure
- Erosion of runways & reduced equipment lifecycle due to saltwater intrusion
- Closure or reduced access to roadways and airport facilities due to flooding
- Waste containment issues

Precipitation: historic trends & projections

- Average rainfall in Pinellas County (between 1981-2010) is 54.70 inches
  - Florida receives an average of 55 inches of rain each year, but rainfall pattern is highly variable, both spatially and temporally.
- St. Pete area's long-term precipitation records (1892-2008) indicate a delay in the onset of the wet season and a decrease in summer precipitation.
  - Increased frequency of extreme rainfall events in St. Pete area
  - Since the 1950s, the Southwest Florida region has experienced a pattern of increasing extreme 1-, 2-, 3-, 6-, 12- and 24-hour precipitation events.
- Heavy rainfall events (1" or more of rainfall volume) are anticipated to occur more frequently.
- Seasonal shift of the wet season may result in localized drought conditions, particularly when combined with high atmospheric temperatures

Sources:

Florida Climate Center, Florida State University, https://climatecenter.fsu.edu/products-services/data/1981-2010-normals/st-petersburg

Mahjabin, Tasnuva, "Long-term Trends in Magnitude and Frequency of Extreme Rainfall Events in Florida" (2015). FIU Electronic Theses and Dissertations. 2257. http://digitalcommons.fiu.edu/etd/2257

Changing Precipitation: potential impacts

- Increased risk of flooding and standing water
- Reduced durability of exterior building envelopes or equipment due to weathering (e.g., driving rain and wind)
- Reduced visibility and navigability
- Erosion, scouring and undermining of pavement
- Failure of building envelope, mold vulnerability
- Limitation to outdoor maintenance and services

Photo credit: Richmond Airport RIC/Twitter. Temporary closure of RIC in June 2018 due to more than 7" of rain.

Hurricanes/Extreme Storms: trends & projections

- Since the early 1980s, there has been an increase in the intensity, frequency, and duration of Atlantic hurricanes.
  - Between 1900 and 2015, 63 tropical systems made landfall in Tampa Bay area.
  - Hurricane Irma was the most recent Category 4 storm to make landfall (southwest Florida), Cat 2 when reaching Tampa Bay.
- Tampa Bay area is one of the ten “most at-risk areas” globally for catastrophic damage from hurricanes and extreme storm events.
- By end-of-century, a decrease is projected in the overall number of storms in Florida, but severity may increase (Category 4 and 5).

Sources:

Bell, G. D., E. S. Blake, C. W. Landsea, T. B. Kimberlain, S. B. Goldenberg, J. Schemm, and R. J. Pasch, 2012: [Tropical cyclones] Atlantic basin [in "State of the Climate in 2011"]. Bulletin of the American Meteorological Society, 93, S99-S105, doi:10.1175/2012BAMSStateoftheClimate.1

Landsea, C. W., and J. L. Franklin, 2013: Atlantic hurricane database uncertainty and presentation of a new database format. Monthly Weather Review, 141, 3576-3592, doi:10.1175/MWR-D-12-00254.1.

Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, Eds., 2014: Climate Change Impacts in the United States: The Third National Climate Assessment. U.S. Global Change Research Program, 841 pp. doi:10.7930/J0Z31WJ2

Hurricanes/Extreme Storms – Potential impacts

- Debris and foreign object damage to facilities, ground service equipment, lighting, navigation equipment, etc.
- Damage to airport terminal and facilities due to high wind, hail, lightning strikes, etc.
- Increased risk of power outage, or electrical voltage spikes.
- Disruptions/delays in emergency/fire service response
- Safety risk to airport employees and passengers

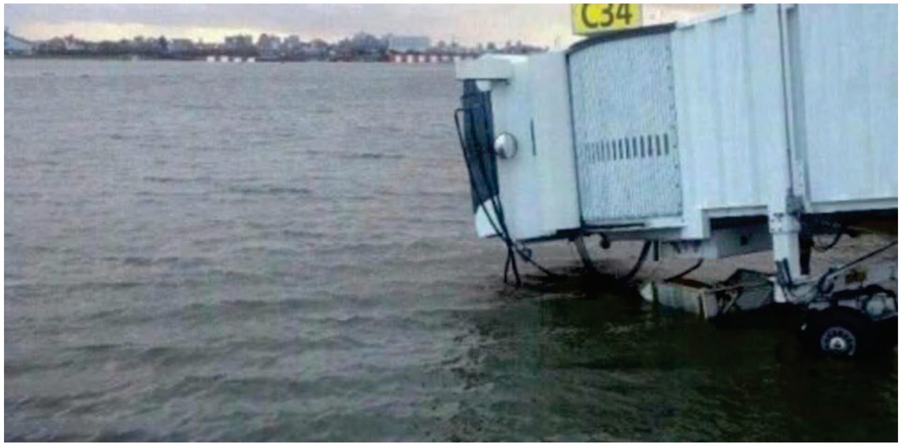
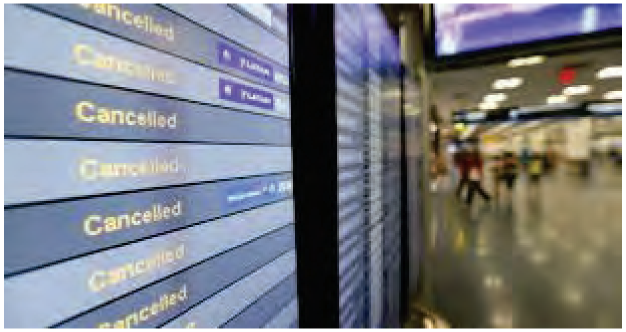
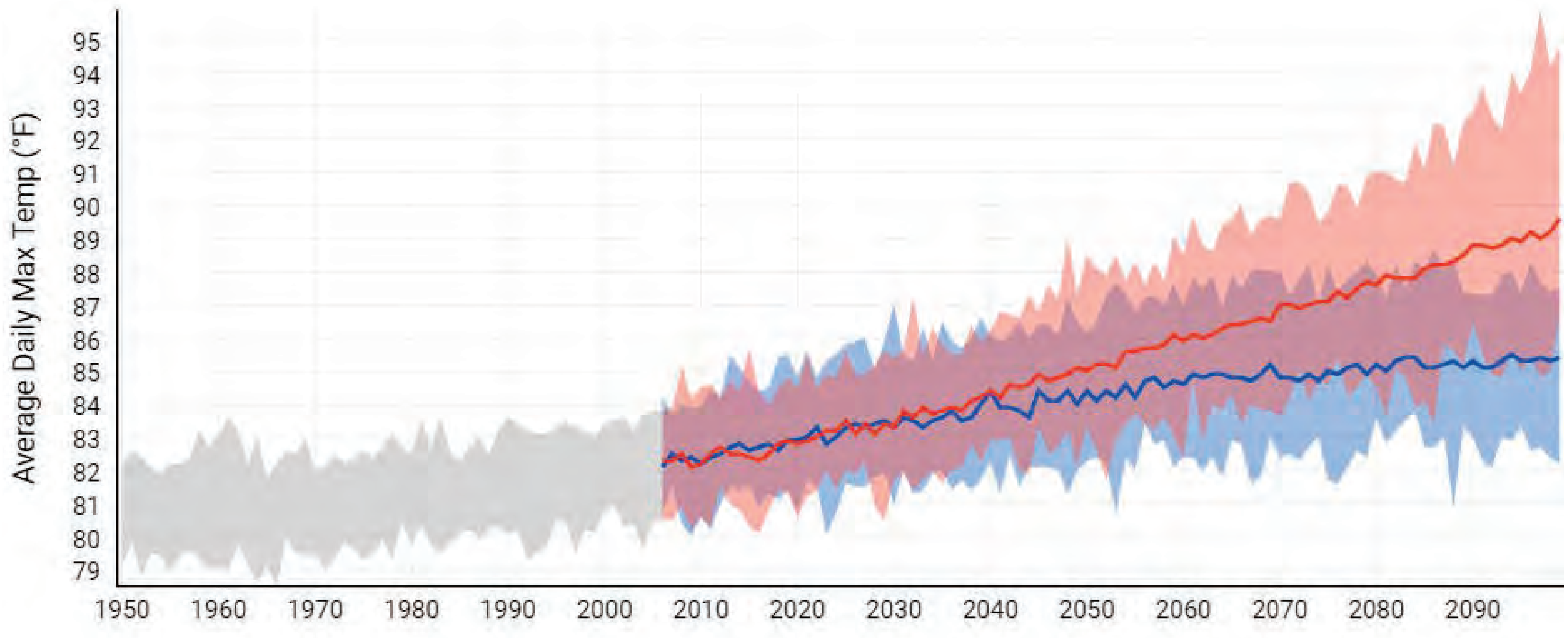


Photo Credit: jetBlue. At JFK during Hurricane Sandy.



Temperature: trends & projections

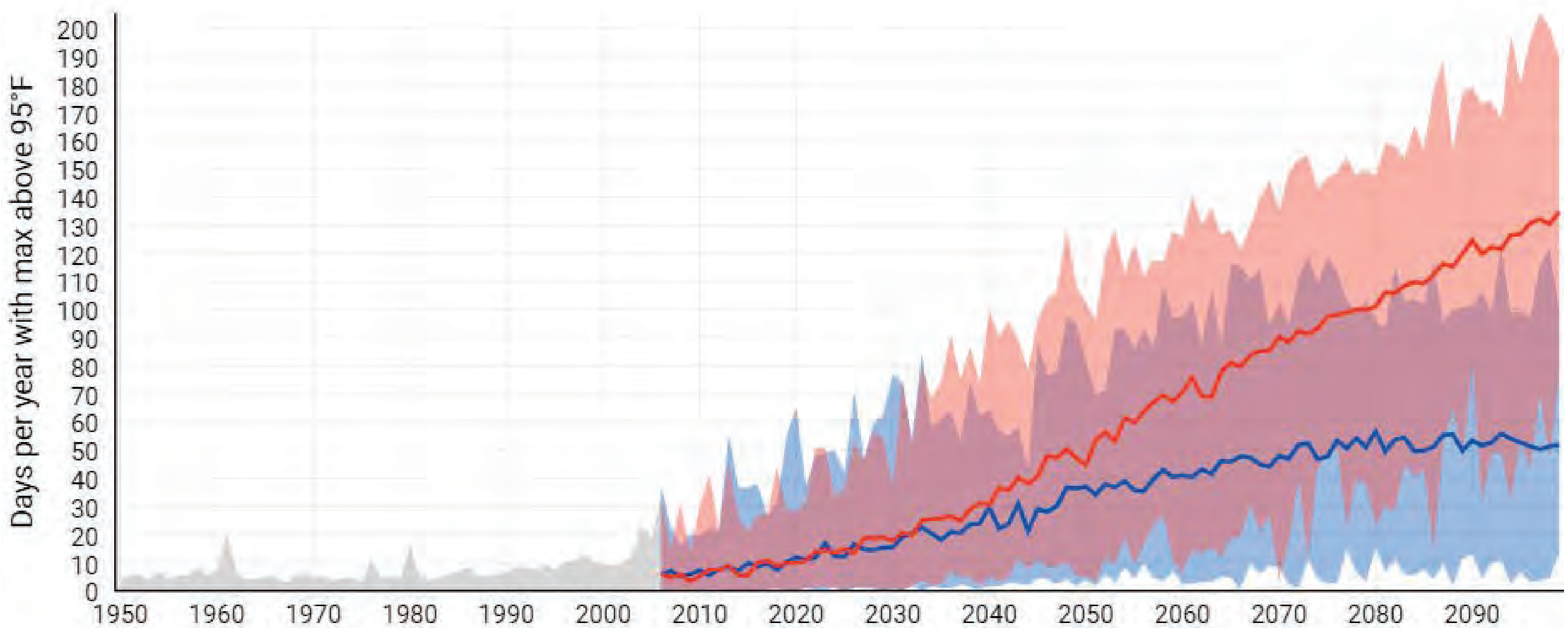
- Average Annual Maximum Temperature – Pinellas County



Sources: U.S. Federal Government, 2014: U.S. Climate Resilience Toolkit. [Online] http://toolkit.climate.gov.

Temperature: trends & projections

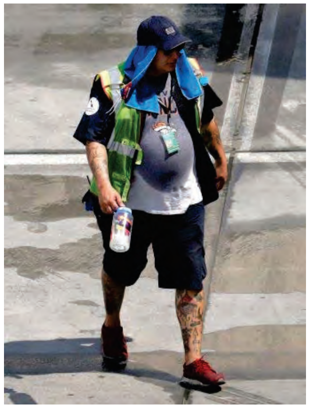
- Days per year with maximum above 95°F
  - Annual average of 9 days above 95°F; Mid-century – 30-50 days; End of century – 50-130 days



Sources: U.S. Federal Government, 2014: U.S. Climate Resilience Toolkit. [Online] http://toolkit.climate.gov.

Temperature: potential impacts

- Loss of pavement integrity/utility
- Reduced aircraft performance
- Stress on energy grid due to increased demand for cooling
- Increased fuel consumption and costs—resizing of fuel storage facilities
- Transformer failure due to high temperatures
- Heat exposure & safety risk for airport employees and passengers



Critical Systems and Assets

Functional Areas

- Aircraft Operation Areas
- Airfield Lighting
- Airport Facilities
- Passenger Terminal Facilities
- Information Technology and Telecommunications
- Airspace and Airport Traffic Control
- Takeoff and Landing Aids
- Utility Systems
- Passenger Terminal Landside Facilities
- Passengers, Employees, and Human Resources

Sensitivity and Adaptive Capacity Analysis

Sensitivity Assessment

How a system or sub-system might be affected by the climate impacts to which it is exposed:

Sensitivity Levels	
S0	System will not be affected by the impact
S1	System will be minimally affected by the impact
S2	System will be moderately affected by the impact
S3	System will be largely affected by the impact
S4	System will be entirely affected by the impact

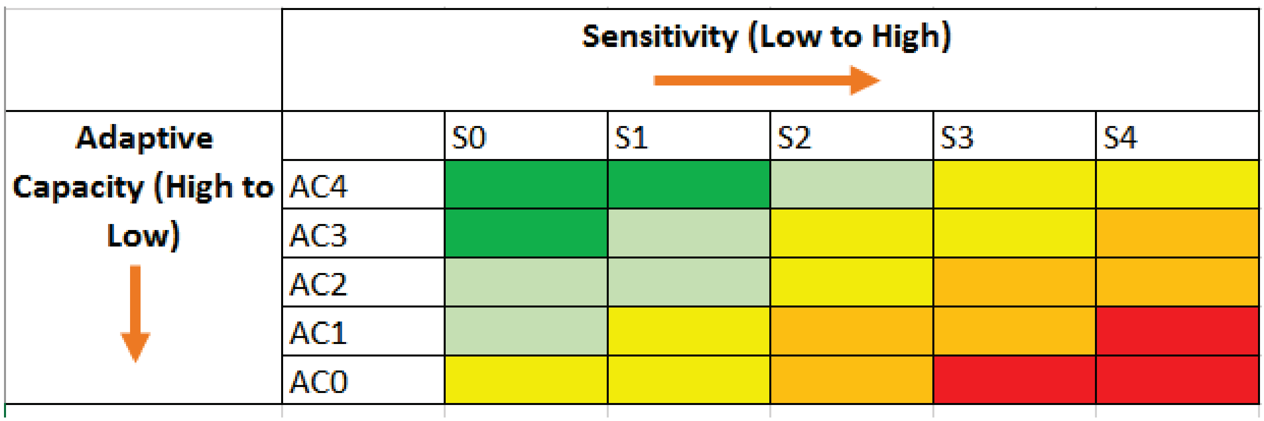
Adaptive Capacity Evaluation

A system's ability to accommodate changes, manage damages, take advantage of opportunities, or cope with various climate impacts:

Adaptive Capacity Levels	
AC0	System is not able to accommodate or adjust to impact
AC1	System is minimally able to accommodate or adjust to impact
AC2	System is somewhat able to accommodate or adjust to impact
AC3	System is mostly able to accommodate or adjust to impact
AC4	System is able to accommodate or adjust to impact in a beneficial way

Vulnerability Ranking

How vulnerable a system is to the effects of climate change based on rankings of sensitivity and adaptive capacity:



Vulnerability Ranking Table
Potential Opportunity
Low Vulnerability
Medium-Low Vulnerability
Medium-High Vulnerability
High Vulnerability

Breakout/Discussion & Next Steps

Proposed PIE Sustainability Vision Statement and Goals

Proposed PIE Sustainability Vision Statement

PIE will serve as a sustainable catalyst for economic growth in the region by providing convenient air service options and aviation-related business opportunities while maintaining its resiliency to changing environmental and economic conditions.

Proposed PIE Sustainability Goals

- **Maximize the economic potential of PIE**
  - Enhance air service offerings
  - Develop business and employment opportunities
- **Conserve resources through effective design and operation of facilities**
  - Reduce energy and water use in buildings
  - Closely monitor spending on electricity and water
- **Plan future facilities and infrastructure to be resilient to changing conditions**
  - Incorporate all available scientific data on sea level rise and storm surge in future planning
  - Diversify revenue streams to withstand changing economic conditions or other events.

Example Sustainability Evaluation Criteria

Criteria	Alternative A1	Alternative A2	Alternative B3	Alternative D4
Sustainability				
Reuses the existing facilities to the extent practical				
Use of existing infrastructure investment vs. new construction				
Stormwater management				
Consistent with airport's resiliency initiatives				
Promotes natural light/sense of space				
Opportunities to create landscaped areas/ public spaces				
Promotes positive economic feedback				

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ATTACHMENT 2

PIE Vulnerability Assessment - Impacts Matrix

	Aircraft Operation Areas (Sierra)	Airspace & Airport Traffic Control (Sierra)	Airfield Lighting (Sierra)	Takeoff and Landing Aids (Sierra)	Passenger Terminal Facilities (Sierra)	Passenger Terminal Landside Facilities (Neale)	Airport Facilities (Neale)	Utility systems (Neale)	Information Technology and Telecommunications (Neale)	Passengers, Employees, and Human Resources (Neale)
Sea Level Rise	Saltwater intrusion and erosion, damage to runways and taxiways Disruption of airside operations due to flooded runways Closure of Runway 4/22 is common; Already has to shut down some runways occasionally due to flooding, even not during extreme weather events Perimeter road is frequently under water on northeast side of airfield.	Disruption of airside and air traffic operations. Reduced equipment lifecycle due to saltwater intrusion from flooding	Reduced equipment lifecycle due to saltwater intrusion from flooding PIE should to review and confirm the Sensitivity score -saltwater intrusion really won't affect these system?	Reduced equipment lifecycle due to saltwater intrusion from flooding	Disruption to terminal facility operations Reduced equipment lifecycle due to saltwater intrusion from flooding Closure or reduced access to low-lying buildings Seawater could potentially reach terminal by end of the century No official plan in place	Impassibility/inaccessibility due to permanent/temporary flooding Concern for capital improvement budgeting for mid and end of century projections. Recognition that projections may affect regular operations more frequently	Permanent/temporary flooding of support and service facilities and inability to prepare aircraft for departure Submerged jet fuel systems and electrical vault Recognition that projections may affect regular operations	Permanent/temporary flooding of utility infrastructure, resulting in inoperability/inaccessibility of systems Reduced quality of water supply due to saltwater intrusion Waste containment issues Underground utilities in good condition and opportunity for enhancements to minimize inoperability Stormwater piping currently surcharges and backfills ponds in high tide events. Increased need for subsurface chamber storage systems, and/or armored systems in future	Risk of flooding or corrosion due to salt water intrusion in flood-prone or low-lying areas Permanent/temporary flooding of utility infrastructure, resulting in inoperability/inaccessibility of systems Underground utilities in good condition and anticipated to recover from storm events quickly. Pie to review/confirm Adaptive Capacity scoring: why is Utility systems AC1 but this one AC3 --what makes the difference?	Impassibility, inaccessibility, and/or inoperability of airport due to permanent/temporary flooding of airport terminals and access areas Compromised passenger/employee safety due to increased risk of storm surge in Tampa Bay Recognition that projections may affect regular operations
Sensitivity	*S4*	*S4*	*S1*	*S4*	*S3*	*S4*	*S4*	*S4*	*S3*	*S4*
Adaptive capacity	*AC0*	*AC0*	*AC0*	*AC0*	*AC1*	*AC1*	*AC1*	*AC1*	*AC3*	*AC3*
Overall vulnerability ranking										
Increase in temperature - days 95°F or higher	Loss of runway pavement integrity (pavement buckling, melt, etc.) Inadequate runway length for takeoff The end of Runway 36 pavement has experienced bulking/shifting; Taxiway A at ramp has experienced pavement buckling, but there is ongoing project to address it. On extreme hot day, tuck vehicles leave imprint on pavement PIE use standard FAA requirements when renovate runways PIE to review and confirm Adaptive Capacity score, given impacts already experienced.	Increased HVAC demand and duration Increased interior building moisture and mold vulnerability Reduced durability of exterior building or equipment due to heating/cooling cycles (e.g., roofing, walls, and glazing seals)	Reduced equipment lifecycle PIE to review & confirm S and AC scoring.	Reduced equipment lifecycle PIE to review & confirm S and AC scoring.	Increased HVAC demand and duration (and associated costs) Reduced durability of exterior building or equipment due to heating/cooling cycles (e.g., roofing, walls, and glazing seals) Record temperature months in the past 2 months. Increase demand definitely put stress on the chiller (but the new chiller, now online, provides redundancy/back-up system, and can support for as long as needed) PIE to review & confirm S and AC scoring.	Loss of pavement integrity/utility Not seen as a major issue when compared to storm event damage	Loss of pavement integrity/utility Potential increase in fire risks (flash point of aviation fuel is 100°F) Increased fuel consumption and potential costs due to related resizing of fuel storage facilities Increased building cooling demand Recognized need for customer and staff safety	Insufficient capacity for cooling due to increased demand Decreased reliability of energy systems due to stress (high demand, high temperatures) Transformer failure due to high temperatures Have not seen power interruption even during severe storms or hurricane events	Risk of overheating of infrastructure Increased cooling costs to maintain safe temperatures of equipment Not seen as a major issue	Increased risk of passenger, staff, and maintenance worker heat exposure Increased risk of contagious disease outbreak Worsening of existing health conditions (e.g., asthma, allergies) Increase in ground-level pollution (particulate matter and ozone) Recognized need for customer and staff safety accommodation
Sensitivity	*S2*	*S2*	*S1*	*S0*	*S0*	*S1*	*S1*	*S1*	*S1*	*S3*
Adaptive capacity	*AC4*	*AC4*	*AC4*	*AC4*	*AC4*	*AC2*	*AC2*	*AC3*	*AC3*	*AC3*
Overall vulnerability ranking										
Changing precipitation (increased volume/frequency of extreme rainfall events)	Runway closure due to flooding Reduced aircraft performance Reduced visibility Closure or reduced access to terminal due to surrounding ramp in low-lying area No current measures in place for preparedness, except looking at stormwater/drainage (PIE to provide description of stormwater projects in place or plans if stormwater is overloaded with rainwater) Closure of taxiways 1-2 times a year due to flooding	Disruption of airside and air traffic operations. Reduced visibility Structure damage due to wind, debris, or flooding. Wind is a non-issue and at certain windspeed then they are typically required to evaluate; ATC can still function under heavy rains Electrical interruption or electronic systems failure from direct lightning strikes	Electrical failure due to intrusion flooding Electrical interruption or lighting system failure from direct lighting strikes Lightning strikes is a major concern at PIE (PIE to review and confirm Sensitvity score - if lightning strikes are major concern, than Sensitivity score should be higher) Part of preparedness plan (PIE - please provide description and name of document that includes airfield lighting as part of the prepardness plan. Is this in the AEP?)	Electrical failure due to intrusion flooding Electrical interruption or electronic system failure from direct lightning strikes FAA handles NAVAIDS N/A	Reduced durability of exterior building envelope or equipment due to weathering Structural damage due to flooding Interior water intrusion (e.g., roofing, walls, and glazing seals)- yes but there is design flaw Increased interior building moisture and mold vulnerability Electrical interruption or electronic system failure from direct lightning strikes	Flooding of terminal access roadways, GTA, curbside access, ground-level parking lots, rental car facilities Pavement erosion/degradation Not seen as an issue when compared to storm event damage	Flooding of support and service facilities and inability to prepare aircraft for departure External facility damage due to driving rain Inoperability of controls equipment in electrical vault due to flooding Increased risk of building moisture and mold damage due to heavy rains	Increased discharge quantity and reduced water quality Permit compliance issues due to reduced water quality Flooding of on-site energy facilities Overwhelmed lift stations Not seen as an issue	Increased risk of flooding of underground infrastructure Exposed infrastructure due to erosion Long-term changes to humidity conditions, resulting in equipment maintenance requirements Electrical interruption or electronic system failure from direct lightning strikes Have not seen power interruption even during severe storms or hurricane events	Impassibility of access roads due to flooding Increased risk of contagious disease outbreak and spread of vector-borne diseases Increased risk of employee/passenger respiratory problems due to standing water-related mold growth Recognized need for passenger and staff safety, opportunity for covered pedestrian enhancements for weather protection
Sensitivity	*S4*		*S1*		*S2*	*S2*	*S1*	*S1*	*S1*	*S3*
Adaptive capacity	*AC0*	*AC4*	*AC4*		*AC4*	*AC1*	*AC2*	*AC3*	*AC3*	*AC3*
Overall vulnerability ranking										
Increase in hurricanes/extreme storm events	Erosion, scouring and undermining of pavement Damage to runways & taxiways due to fallen debris and foreign objects, and from storm surge Greater turbulence due to high winds/microbursts, which can interfere with landings and takeoffs Disruption of airside operations Lightning affects operations; had 4 times that the airfield had patches July- September afternoon storms are major concern Airport has a hurricane plan and after-	Disruption of airport operations Reduced visibility Structural damage due to wind, debris, or flooding	Electrical failure due to intrusion flooding Damage from wind, debris, or water intrusion Affected by storm surge Generators are able to restore airfield lighting within minutes, however airport will issue a NOTAM until lighting is restored.	Electrical failure due to flooding Damage from wind, debris, or water intrusion FAA will dismantle NAVAIDS if storm is approaching N/A	Disruption to terminal facility operations Increased emergency shelter accommodations Structural damage from wind, debris, or flooding Completely closed for hurricanes, mandatory evacuation Sandbags are used during hurricanes	Impassibility/inaccessibility due to structural damage, debris, and/or flooding Transportation service disruption Hurricane plan in place	Flight delays and/or cancellations due to loss of power Disruptions/delays in emergency/fire service response due to unsafe conditions Damage to maintenance equipment from debris/wind and inability to repair and service aircraft Damage to building exteriors due to debris/winds/driving rain Hurricane plan in place, additional hardened facilities may improve protection and recovery ability	Increased risk of power outages due to high winds, debris, or flooding Utility damage due to voltage spikes Increased repair and maintenance costs due to more frequent damage Blocked drains due to debris Increased discharge quantity and reduced water quality Permit compliance issues due to reduced water quality Underground utilities in good condition and anticipated to recover from storm events quickly.	Increased risk of power outages due to high winds, debris, or flooding Compromised IT, communications, and warning systems due to high winds, debris, or flooding Increased risk of damage to above-ground infrastructure (including risk of fallen cell towers/telephone poles) due to high winds, debris, or flooding Underground utilities in good condition and anticipated to recover from storm events quickly. Above ground towers and pole mounts more susceptible to damage.	Increased prevalence of flight delay/cancellations due to weather events and related damage Increased prevalence of isolated or prolonged migration events due to climate change impacts/displacement, leading to increased demand for flights and associated airport services Compromised humanitarian assistance capacity due to damage to airport facilities/service delays Increased risk to passenger/employee safety due to high winds, debris, or flooding Completely closed for hurricanes, mandatory evacuation
Sensitivity	*S2*	*S3*	*S4*		*S4*	*S4*	*S4*	*S3*	*S3*	*S4*
Adaptive capacity	*AC2*	*AC0*	*AC3*		*AC0*	*AC1*	*AC1*	*AC2*	*AC2*	*AC0*
Overall vulnerability ranking										

PIE Vulnerability Assessment - Critical Assets	
Functional Area	**Critical assets and/or operational requirements**
Aircraft Operation Areas	Runways (18-36, 4-22) Taxiways and taxilanes
Airspace & Airport Traffic Control	PIE Airport Traffic Control Tower Instrument Landing Systems (ILS)
Airfield Lighting	Runway lighting systems Identification lighting beacon Taxiway lighting Airfield signage
Takeoff and Landing Aids	Runway end identification lights Runway Alignment Indicator Lights (MALSR) Precision Approach Path Indicator (PAPI) systems Runway Visual Range (RVR) sensor units Automated Surface Observing System (ASOS) equipment Remote transmitter/receiver (RTR) facility
Passenger Terminal Facilities	Terminal building Terminal aprons/ramps (for aircraft parking, GSE storage) Emergency/Severe Weather Shelter Locations TSA equipment/operations Baggage handling Concessionaires and Other Non-Airline Tenants
Passenger Terminal Landside Facilities	Terminal access roadways Curbfront areas - providing access to the ticketing/check-in (departures) area and baggage claim (arrivals) area Ground transportation area (GTA) Parking lots (short-term, long-term, employee, economy/remote#1, overflow, remote#2) and cell phone lot Rental car facilities
Airport Facilities	General aviation facilities (FBOs, National Aviation Academy, Pinellas County Sheriff’s Hangar, The Landings Hangar Area) Support & service facilities (airfield electrical vault, Aircraft Rescue and Fire Fighting (ARFF) department, airport maintenance equipment storage area, fuel farm)
Utility systems	Grid-connected power Potable water system Sanitary sewer system Backup generators Stormwater management/flood control systems
Information Technology and Telecommunications	IT infrastructure Internet, network, and communications systems (phones/radios) Emergency communications/warning systems Communications (passenger to outside)
Passengers, Employees, and Human Resources	Employees' health and well-being Irregular Operations (IROPS) procedures Alternative operation locations Family support strategies Employee accessibility/mobility Staff training/education Financial resources (insurance, access to cash, etc.) Passenger assistance staff

This list of critical systems and assets were developed using the "St Pete-Clearwater International Airport Master Plan Working Paper #1" document developed by ESA.

APPENDIX I

Parking Structure Study

MEMORANDUM

To: Tom Jewsbury

Director, St. Pete-Clearwater International Airport

From: William Schmitz and Jill Capelli

Kimley-Horn and Associates, Inc.

Date: 4/10/2019

Subject: Parking Structure Study

Introduction

St. Pete-Clearwater International Airport (Airport) staff requested that Kimley-Horn perform an additional parking study in support of the new Master Plan and the proposed parking structure development. This study has two primary purposes:

1. Identify the demand for short-duration parking and assess how peer airports are accommodating short-duration parking to inform the parking structure programming
2. Develop concepts for structured parking development that account for the Airport's budget, preferred short-duration parking operation, and consider future expansion

This study builds on the analysis completed as part of the new Master Plan regarding parking demand and preferred parking development locations. The following sections outline the study work completed, the coordination with the Airport, and the recommended next steps.

Short-Duration Parking Demand

Short-duration parking demand was assessed for October 2017 and the week of Thanksgiving 2017. These periods were used because:

- 2017 represents a period prior to construction impacting airport parking lots – construction causes changes in customer behavior and impacts the validity of results
- October represents a busy month for airport activity, but not the busiest month for parking demand
- The week of Thanksgiving reflects an extremely busy period

The Airport's parking manager, Republic Parking, provided Kimley-Horn with parking transaction data for October 2017 and the week of Thanksgiving. The parking transaction data included the entry and exit time for each vehicle. The parking transaction data was for all airport parking lots, not limited to only the Short Term Lot. This is important because during peak periods when walking distance lots are full, Republic parking indicated that short-duration parkers utilize shuttle lots. Not accounting for this demand would underestimate the demand for short-duration parking.

Kimley-Horn processed the raw data provided to approximate the short-duration parking demand. Vehicles that parked in the facilities for over four hours were first removed from the analysis; customers parking over four hours are assumed to be long-duration parkers. An analysis was then run on the under four-hour transactions to determine the short-duration vehicle occupancy in each hour of October 2017 and Thanksgiving week 2017. Graphs showing the facility occupancy of short-duration parkers is included in **Appendix 1**. Based on the analysis, the occupancy for each time interval was similar. **Figure 1** and **Figure 2** illustrate the number of occurrences within each range of short-duration parking occupancy per hour. These graphs show that the short-duration demand is typically less than 100 vehicles. During peak periods, such as Thanksgiving, there were approximately 30 one-hour periods where the demand for short-duration parking exceeded 100 vehicles.

Figure 1 – October 2017 Facility Vehicle Occupation Histogram (1-Hour Periods)

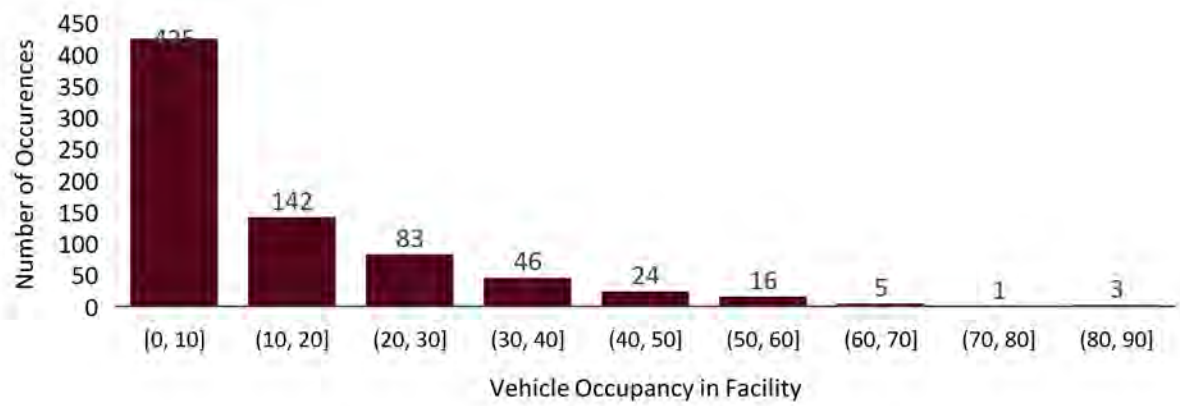
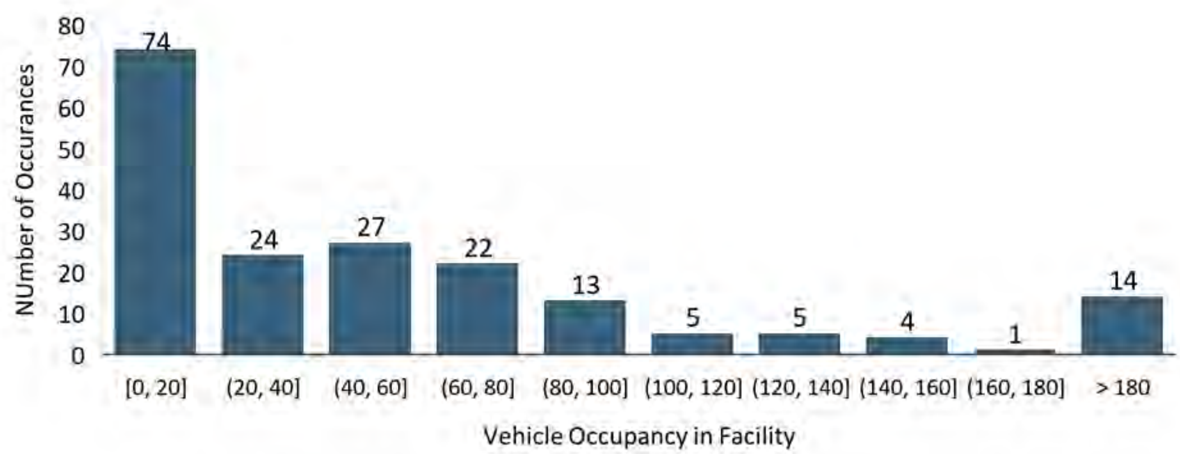


Figure 2 – Week of Thanksgiving 2017 Facility Vehicle Occupation Histogram (1-Hour Periods)



Parking Benchmarking Study

A parking benchmarking study was conducted to identify the use of separate short-duration parking facilities from long-duration parking and rates for parking lots within walking distance of the terminal at Florida and similarly-sized airports. The airports studied provided a mix of results to which the Airport may compare itself. Some of the airports studied provided both short-duration and long-duration parking rates, while others only provided a single consolidated daily parking rate. Also, some airports provided separate facilities for short-duration and long-duration parking, while others did not separate the two user groups.

The information gathered as part of the benchmarking study is summarized in **Table 1** and **Table 2**. Key takeaways from the study are:

- Half of the benchmark airports had a separate parking lot for short-duration parking versus an integrated short-duration/long-duration lot. Utilizing short-duration parking incorporated with long-duration parking is not outside of the mainstream.
- Short-duration parking rates at PIE are comparable to peer airports
- Long-duration, walking distance parking rates at PIE are comparable to peer airports
- Airports with a parking garage can charge a higher rate for parking in the structure in closer proximity to the terminal. The rate averaged between 25% and 50% greater than the current rate for the Long Term Lot at PIE.

Table 1 – Short-Duration Parking Benchmarking Study Summary

Airport LOCID	***Location***	***Enplanements CY 2017***	***Separate Short-Duration Parking Lot***	***Short Duration Parking Stalls***	***Parking Rate***
SAN	San Diego, CA	11,193,993	No	N/A	30 min. - $2.50 31-60 min. - $6 $2 per additional hr. $32 daily maximum
TPA	Tampa, FL	9,548,541	Yes	3,542	60 min. – Free 61-80 min. - $4 $2 per 20 min. over 80 $22 daily maximum
RSW	Fort Myers, FL	4,364,224	Yes	2,432	20 min. – Free 21- 59 min. - $2 $3 per additional hr. $18 daily maximum
JAX	Jacksonville, FL	2,701,861	Yes	1,317	$2 per 30 min. $20 daily maximum
CHS	Charleston, SC	1,945,699	No	N/A	$1 per 20 min. $15 daily maximum
SDF	Louisville, KY	1,684,728	No*	N/A	60 min. - $1 $1 per 30 min. $19 daily maximum
GEG	Spokane, WA	1,570,652	No	1,200	$2 per hour $10 daily maximum
SFB	Sanford, FL	1,434,990	Yes	450	15 min. – Free $2 per 20 min. $28 daily maximum
MYR	Myrtle Beach, SC	1,131,959	Yes	185	15 min. – Free 16 – 30 min. - $3 $1 per 15 min. $21 daily maximum
GSP	Greenville, SC	1,051,085	Yes	2,627	$1 per 30 min. $15 daily maximum
PIE	***Clearwater, FL***	***1,021,361***	***Yes***	***275 (Planned)***	***1 hour - $2*** ***$1 per 20 min.*** ***$18 per day***
PNS	Pensacola, FL	839,238	No	N/A	$1 per 30 min. $11 per day

* The short-term parking product is in the process of being eliminated

Table 2 – Long Duration Walking Distance Parking Benchmarking Study Summary

Airport LOCID	***Location***	***Enplanements CY 2017***	***Long-Duration Walking Distance Spaces***	***Parking Rate per Day***
SAN	San Diego, CA	11,193,993	5,400*	$32
TPA	Tampa, CA	9,548,541	6,584	$18
RSW	Fort Myers, FL	4,364,224	N/A	N/A
JAX	Jacksonville, FL	2,701,861	2,323 Garage 1,722 Surface	$17 Garage $11 Surface
CHS	Charleston, SC	1,945,699	2,323 Garage* 1,722 Surface	$15 Garage $10 Surface
SDF	Louisville, KY	1,684,728	3,229 Garage*^ 1,440 Surface 391 Credit Card	$13 Garage $9 Surface $8 Credit
GEG	Spokane, WA	1,570,652	2,600 Garage* 1,200 Surface	$10 Garage $8 Surface
SFB	Sanford, FL	1,434,990	800 Garage 830 Surface	$17 Garage $14 Surface
MYR	Myrtle Beach, SC	1,131,959	800 Surface 370 Credit Card	$12 Surface $9 Credit
GSP	Greenville, SC	1,051,085	400 (New Garage in Planning^)	$9
PIE	***Clearwater, FL***	***1,021,361***	***866 (Planned)***	***$12***
PNS	Pensacola, FL	839,238	1,300 Garage^ 2,000 Surface	$11 Garage $9 Surface

* Includes short-duration parking stalls

^Rental car operations within garage

Parking Structure Study

The results of the short-duration parking study and benchmarking study were reviewed with Airport staff on January 9, 2019. Based on the discussion, the Airport provided the following direction to Kimley-Horn for use in concept development:

- The short-duration parking demands identified above are consistent with observations. Due to the low demand for short-duration parking, a dedicated area for short-duration parking is not required in the parking structure.
- Structured parking should be located close to the terminal to reduce customer walking distance.
- Flexibility is important in the functional layout to allow flexing the use of space or reallocating to different uses over time as customer preferences change.
- Consideration needs to be given to future expansion of structured parking to meet growing demand for parking at the Airport as identified in the new Master Plan.
- The Airport budget for the parking structure is approximately $20 million dollars, which includes design and construction costs.

Using the input from Airport staff, Kimley-Horn developed four structured parking concepts. The concepts represent a range of strategies to meet the goals of the Airport. Where compatible, preferred elements from the individual concepts can be combined to address preferences of the Airport.

The following common parking structure elements were assumed in the development of concepts:

- Higher floor to ceiling between ground level and the first structured level
- Public parking exit plaza planned for the current landside construction project to remain
- New public parking entry plaza
- Public parking entry to generally remain on the east side of the parking structure
- Accommodations for separate structured parking and surface lot parking products
- No specific separate parking product within the structure
- 90-degree parking with 60’ column spacing perpendicular to the direction of vehicle drive aisles within the parking structure

Detailed graphics of the concepts developed can be found in **Appendix 2**. The approach taken in each concept is to show a first phase of development (Phase 1) in greater detail regarding vehicle access to the facility, vehicle vertical circulation, and interaction with existing facilities. Each concept also includes a conceptual graphic describing long-term parking development and conceptual facility modifications to meet future functional circulation needs.

In addition to graphic plans, estimates of probable construction cost were prepared for each concept. The following were assumed for developing estimates of probable construction cost:

- Parking structure with flat floor plates
- Structure cost includes structure, code required egress stairs, perimeter barrier, wayfinding signage, code required lighting, code required standpipes, and code required drainage
- Standalone elevator core that is an open structure with garage level finishes, two elevators, and a stairwell
- Replacement of the existing watermain that crosses under the existing Short Term Lot
- Repaving of the Short Term Lot at the completion of construction
- New public parking entry plaza
- Limited architectural finishes
- 15% of construction cost for project development and contingency

CONCEPT 1

Phase 1 Development Description

The following are major elements that describe this concept:

- Four structured levels of parking located on east side of the Short Term Lot footprint
- Approximately 800 total parking stalls within the footprint of the parking structure (approximately 160 stalls per level), which results in a net increase of approximately 650 stalls to the Airport parking supply
- Parking drive aisles oriented in an east-west direction
- Vehicle vertical circulation via express ramps that require a customer to circulate on a floor level to reach the level of parking above or below
- A new public parking entry plaza located in approximately the same location as the proposed Short Term Lot entry plaza, only with lanes oriented in a north-south direction

Long-Term Parking Development Description

To meet future parking operational needs, the speed ramps installed in Phase 1 are removed and replaced with two single threaded helices with the capacity to serve higher volumes of traffic. The helices are also positioned to better serve the facility. The exit helix is positioned at the western limit of the structure to increase the ground level area that is unimpeded by vehicles exiting from levels above. Future expansion to the west would likely require an additional elevator core to both meet increasing customer demand for vertical circulation and to provide a higher level of customer service in terms of walking distance.

Estimate of Probable Construction Cost

The estimate of probable construction cost in **Table 3** assumes a precast concrete structure. The cost for a post-tensioned concrete structure would be approximately 20% more for the garage structure line item.

Table 3 – Concept 1: Estimate of Probable Construction Cost

Element	***Cost Range***	
Garage Structure	$9.7M	$10.8M
Elevator Core	$2.0M	$2.5M
Speed Ramp Up	$1.5M	$1.8M
Speed Ramp Down	$1.5M	$1.8M
Site Civil	$0.8M	$1.0M
Sub-Total	$15.5M	$17.9M
Total (Includes 15%)	**$17.8M**	**$20.6M**

The approximate cost per stall of this concept is between $22,250 and $25,750. Much of this cost is driven by the limited number of at-grade stalls, which can be provided at a lower cost, and the cost of vehicle vertical circulation independent of the structure.

Concept Evaluation

The relative advantages associated with this concept include:

- Development footprint limited to the Short Term Lot, which reduces construction impacts to the Long Term Lot
- Phase 1 is the most cost-effective concept

The relative challenges associated with this concept include:

- Reduction in stall count on ground level due to speed ramp configuration
- Express ramp circulation on the parking level increases the potential for incidents due to intersecting traffic movements
- Limited operational flexibility to separate functions on ground level in Phase 1 due to the location of vehicle exiting
- Limited operational flexibility to separate functions on elevated levels in Phase 1 due to the need for vehicles to circulation on a level to access or exit the levels above
- Future development may be more expensive as it could require removal and replacement of the speed ramps with alternate vehicle vertical circulation to meet demand

CONCEPT 2

Phase 1 Development Description

The following are major elements that describe this concept:

- Four structured levels of parking located in the same location as Concept 1
- Approximately the same number of stalls as Concept 1
- Parking drive aisles oriented in an east-west direction
- Vehicle vertical circulation up via a single threaded helix
- Vehicle vertical circulation down via an express ramp that requires a customer to circulate from Level 5 to Level 4 and then provides access from each level below directly to the exit without circulating on the below floor level
- A new public parking entry plaza located in approximately the same location as the proposed Short Term Lot entry plaza, only with lanes oriented in a north-south direction

Long-Term Parking Development Description

This concept would not require new vehicle vertical circulation to meet future parking operational needs. The facility could be expanded to the west or south and be served by the vehicle vertical circulation provided in Phase 1. Future expansion to the west would likely require an additional elevator core to both meet increasing customer demand for vertical circulation and to provide a higher level of customer service in terms of walking distance.

Estimate of Probable Construction Cost

The estimate of probable construction cost in **Table 4** assumes a precast concrete structure. The cost for a post-tensioned concrete structure would be approximately 20% more for the garage structure line item.

Table 4 – Concept 2: Estimate of Probable Construction Cost

Element	***Cost Range***	
Garage Structure	$9.7M	$10.8M
Elevator Core	$2.0M	$2.5M
Helix Up	$3.0M	$3.5M
Speed Ramp Down	$1.5M	$1.8M
Site Civil	$0.8M	$1.0M
Sub-Total	*$17.0M*	*$19.6M*
Total (Includes 15%)	**$19.6M**	**$22.5M**

The approximate cost per stall of this concept is between $24,500 and $28,125. Much of this cost is driven by the limited number of at-grade stalls, which can be provided at a lower cost, and the cost of vehicle vertical circulation independent of the structure.

Concept Evaluation

The relative advantages associated with this concept include:

- Development footprint limited to the Short Term Lot, which reduces construction impacts to the Long Term Lot
- Vehicle vertical circulation allows flexibility in accommodating variable user groups in the facility, although Levels 4 and 5 would be challenging to differentiate due to the shared exit circulation
- Vehicle vertical circulation is not replaced in future phases, which reduces potential future costs
- Ground level in the area closest to the terminal is not impacted by vehicle circulation from levels above, which enhances this area as a potential premium product or some other means of enhancing revenue

The relative challenges associated with this concept include:

- The interface of the up helix and the down speed ramp on Levels 4 and 5 is less desirable than separating these movements as some customers may be confused and the concentration of traffic increases the potential for an incident
- Exit speed ramp limits the consistency and the quality of the connection between Phase 1 and future phases of parking development
- The exit speed ramp position to serve Phase 1 requires customers on upper levels to traverse the full length of the parking structure, east to west, to exit the facility – this sends the driver in the opposite direction of where they want to go to exit
- The upper end of the cost range exceeds the Airport's current budget

CONCEPT 3

Phase 1 Development Description

The following are major elements that describe this concept:

- Four structured levels of parking located in the same location as Concept 1
- Approximately the same number of stalls provided as Concept 1, but the net increase would be less due to helix placement
- Parking drive aisles oriented in a north-south direction
- Vehicle vertical circulation up via a single threaded helix
- Vehicle vertical circulation down via express ramps that require a customer to circulate on a floor level to reach the level of parking below
- A new public parking entry plaza located in approximately the same location as the proposed Short Term Lot entry plaza, only with lanes oriented in a north-south direction

Long-Term Parking Development Description

To meet future parking operation needs, the exit express ramp in Phase 1 is removed and replaced with a single threaded helix with the capacity to serve higher volumes of traffic. The exit helix is positioned at the western limit of the structure to increase the ground level area that is unimpeded by vehicles exiting from levels above. The facility could be expanded to the west or south. Future expansion to the west would likely require an additional elevator core to both meet increasing customer demand for vertical circulation and to provide a higher level of customer service in terms of walking distance.

Estimate of Probable Construction Cost

The estimate of probable construction cost for Concept 3 is consistent with the estimate of probable construction cost for Concept 2.

Concept Evaluation

The relative advantages associated with this concept include:

- The north-south drive aisles provide the Airport with multiple, reasonable options for phased parking expansion.
- The position of the exit from structured parking on ground level offers multiple options for multiple uses of the ground level.
- The positioning of vehicle vertical circulation in Phase 1 provides an efficient parking floor plate with the potential for more stalls per level than in other concepts.

The relative challenges associated with this concept include:

- A lower number of net new stalls is available due to helix placement within areas that are currently parking spaces.
- The exit express ramp configuration impacts the ability to have multiple user groups on different levels in Phase 1.
- The position of the exit from structured parking in Phase 1 could negatively impact the flow of customers from the terminal to parking and the existing rental car area.
- The configuration of the Phase 1 project would have significant impacts to the Long-Term Lot during construction and would likely require construction of a temporary entry plaza to maintain parking operations during construction.
- The upper end of the cost range exceeds the Airport’s current budget

CONCEPT 4

This concept was prepared at the request of Airport staff to show the parking structure layout from Concept 3 with an up helix position more consistent with Concept 2. As such, the description of the concept is substantially the same as Concept 3. The estimated cost for Concept 4 is substantially the same as Concept 3, although there is some additional cost associated with the helix configuration shown. The relative challenges associated with this concept are substantially the same as Concept 3, although this configuration would have a lesser impact on the Long Term Lot. The relative advantages associated with this concept are substantially the same as Concept 3, although this concept more efficiently utilizes the area near the Short Term Lot entry plaza.

ADDITIONAL STUDY REQUESTED BY THE AIRPORT

During a workshop on January 24, 2019, Airport staff requested that Kimley-Horn explore reducing the number of parking levels developed in Phase 1. The goal of this reduction is to increase the number of stalls provided by building additional flat structured and surface parking floor area and less height of vehicle and pedestrian circulation. Kimley-Horn explored this with Concept 1 and Concept 3 as they are representative of other concepts. The Airport should strongly consider any perceived near-term increases in the number of parking stalls versus potential long-range impacts to parking development to meet demand anticipated in the new Master Plan. An approach focused on a shorter structure also forgoes the potential development for a higher number of stalls in close proximity to the terminal.

Concept 1B

This concept provides approximately 1,000 parking stalls within the footprint of the Short Term Lot. This configuration results in a net increase of approximately 725 stalls. For this concept, the express ramps were shifted to the east and west sides of the structure to remove future expansion impediments. This shift enhances the flexibility and functionality of the ground level.

The estimate of probable construction cost in **Table 5** assumes a precast concrete structure. The cost for a post-tensioned concrete structure would be approximately 20% more for the garage structure line item.

Table 5 – Concept 1B: Estimate of Probable Construction Cost

Element	***Cost Range***	
Garage Structure	$11.4M	$12.7M
Elevator Core	$1.6M	$2.0M
Speed Ramp Up	$1.2M	$1.4M
Speed Ramp Down	$1.2M	$1.4M
Site Civil	$0.8M	$1.0M
Sub-Total	*$16.2M*	*$18.5M*
Total (Includes 15%)	**$18.6M**	**$21.3M**

The approximate cost per stall of this concept is between $18,600 and $21,300.

Concept 3B

This concept provides approximately 1,000 parking stalls, which results in a net increase of approximately 725 stalls. For this concept, the exit express ramp was shifted to the south side of the structure to enhance ground level circulation and open a larger area for future expansion to the west.

The estimate of probable construction cost in **Table 6** assumes a precast concrete structure. The cost for a post-tensioned concrete structure would be approximately 20% more for the garage structure line item.

Table 6 – Concept 3B: Estimate of Probable Construction Cost

Element	***Cost Range***	
Garage Structure	$11.4M	$12.7M
Elevator Core	$1.6M	$2.0M
Helix Up	$2.4M	$2.8M
Speed Ramp Down	$1.2M	$1.4M
Site Civil	$0.8M	$1.0M
Sub-Total	*$17.4M*	*$19.9M*
Total (Includes 15%)	**$20.0M**	**$22.9M**

The approximate cost per stall of this concept is between $20,000 and $22,900.

Additional Cost Information Requested by the Airport

Airport staff requested information on costs related to enhancements to the base estimates of probable construction cost presented above. The following are approximate costs for items requested:

- Parking Guidance System: $500 to $600 per stall
- Distributed Antenna System: $30,000 to $60,000 for setting up infrastructure to accommodate a system, with the physical infrastructure be provided by a vendor who would request rent free space in exchange for providing service
- Architectural Façade Enhancements: $5 to $75 per square foot of total garage exposed vertical area, depending on the quality and detail of finishes

Recommendations

Based on the analysis above and discussions with Airport staff, Kimley-Horn offers the following recommendations:

- The anticipated short-duration parking demand is considerably below the 275 stall capacity of the new Short Term Lot. Consideration should be given to developing a premium parking product in the new Short Term Lot to enhance utilization and revenue from the parking lot in closest proximity to the terminal. Providing this product may depend on the amount of time between opening the new lot and construction of the parking structure. Creating a new product to only take it away when the parking structure is built could frustrate customers.
- Short-duration parking should be accommodated as part of a larger parking product rather than as a separate nested area in the proposed parking structure.
- Structured parking development should be focused close to the terminal to enhance the attractiveness of these parking stalls to customers due to the convenience provided. The configuration of the structured parking can vary depending on the priorities of the Airport.
- Where short-duration parking is shared with long-duration parking, a strategy to assign parking spaces to be available at most times to short-duration parkers should be explored. Signage has been successfully employed at other airports to designate short-duration stalls in mixed use parking facilities.
- The concepts included in this study represent a sampling of feasible facilities for the proposed site given the constraints of the site and Airport funding. The concept work should be further refined as part of a program definition document to provide direction to a design team regarding the Airport’s preference for facility function which includes considerations for long range development.
- During the meeting on January 24, 2019, there was discussion regarding how to enhance revenue, particularly related to employee parking in spaces that could be revenue generating long-duration parking spaces. A landside revenue study could be conducted to assist the Airport in determining the optimal pricing and operational location for parking and ground transportation offerings. The study should consider the rates for services, the revenue generated by each service, expenses associated with each service, and total net revenue.

Construction operations related to the current landside reconstruction program have caused impacts to numerous parking lots which have resulted in decreased parking transactions and increased use of other transportation modes. PIE was particularly successful with using an advertising campaign during the 2018 holiday season encouraging customers to plan for alternatives to parking at PIE due to the construction and the parking lots did not approach capacity. Additional study work should be performed following completion of the landside reconstruction program to validate current passenger mode choice and parking demand to inform the timeline and scope of structured parking development.

Closure

We appreciate the opportunity to support the Airport in advancing their parking program. Please contact Bill Schmitz (651-643-0440) or Jill Capelli (954-535-5107) if you have any questions.

Appendix 1

Short-Duration Parking Analysis

Figure 1.1 - 2017 Overnight Occupancy: All Airport Parking Facilities

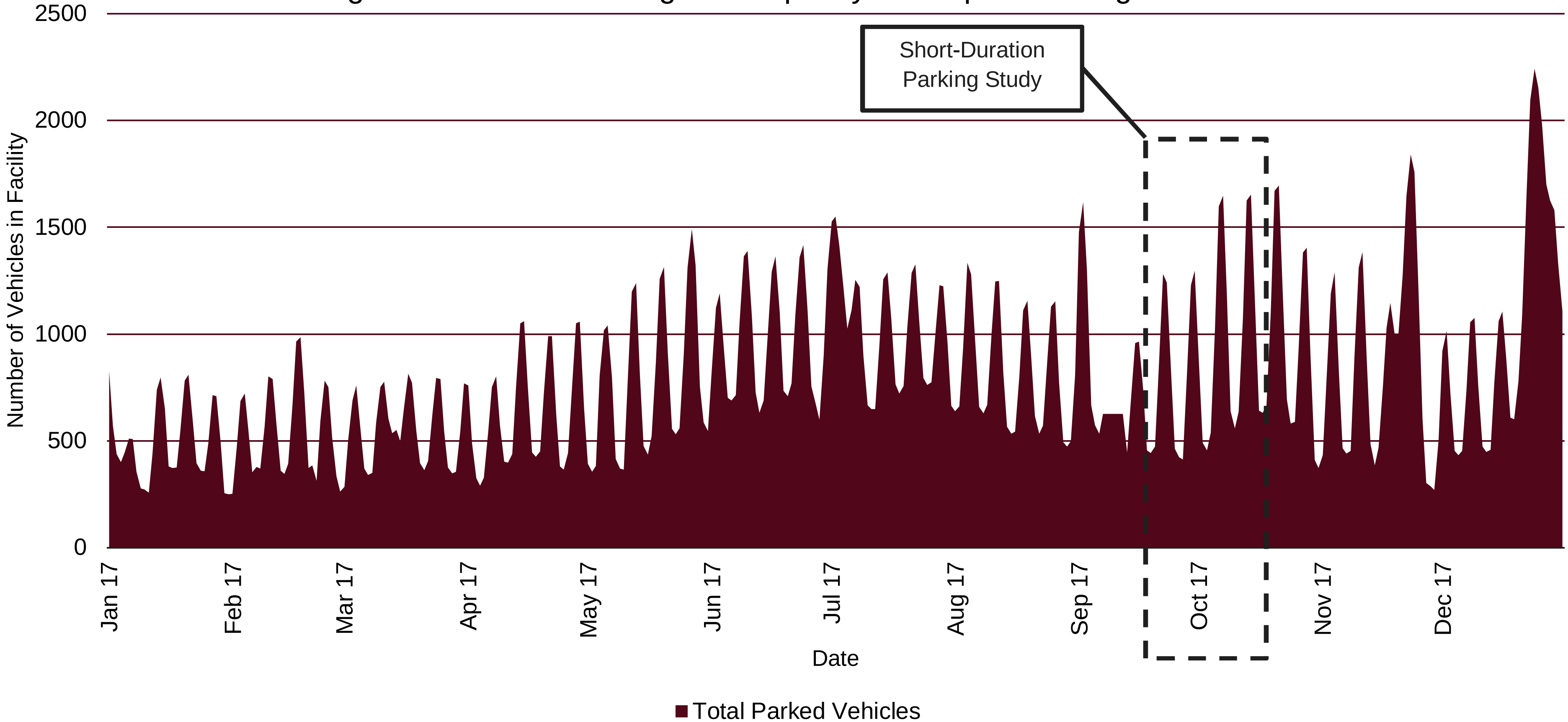


Figure 1.2 - Short-Duration Parking Activity: October 2017 (1-Hour Intervals)

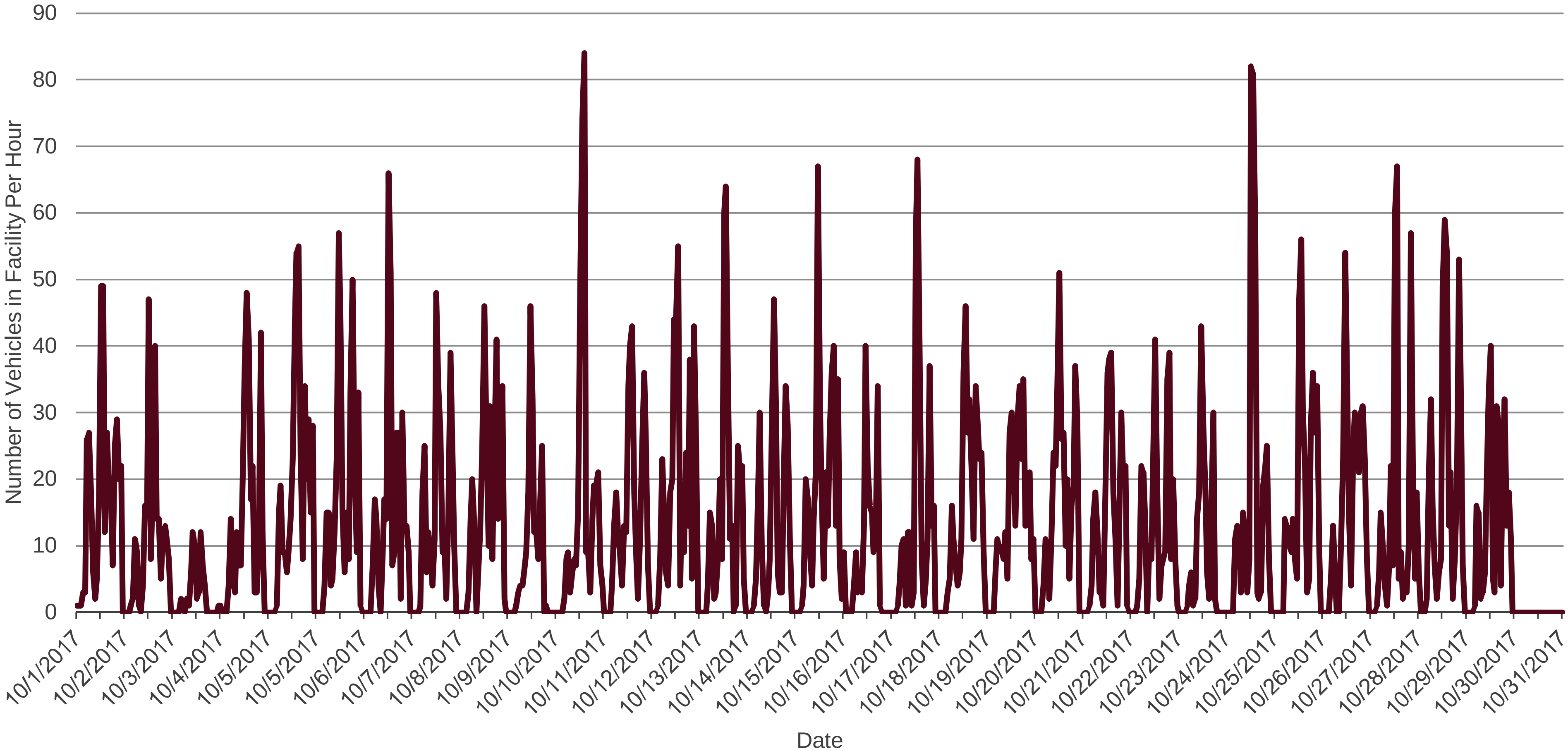


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Figure 1.3 - Short-Duration Activity: October 2017 (Activity by Week)

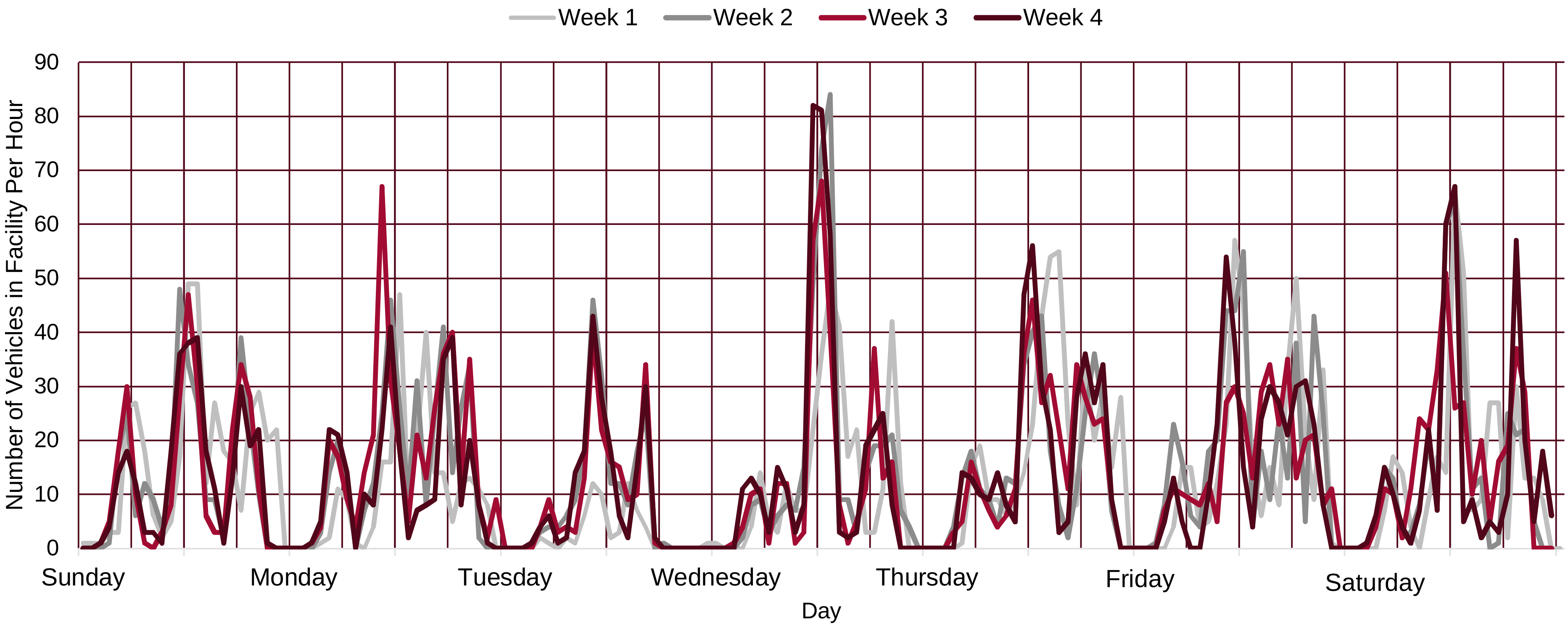

Figure 1.4 - Short-Duration vs Long-Duration Activity (Typical Week October 2017)

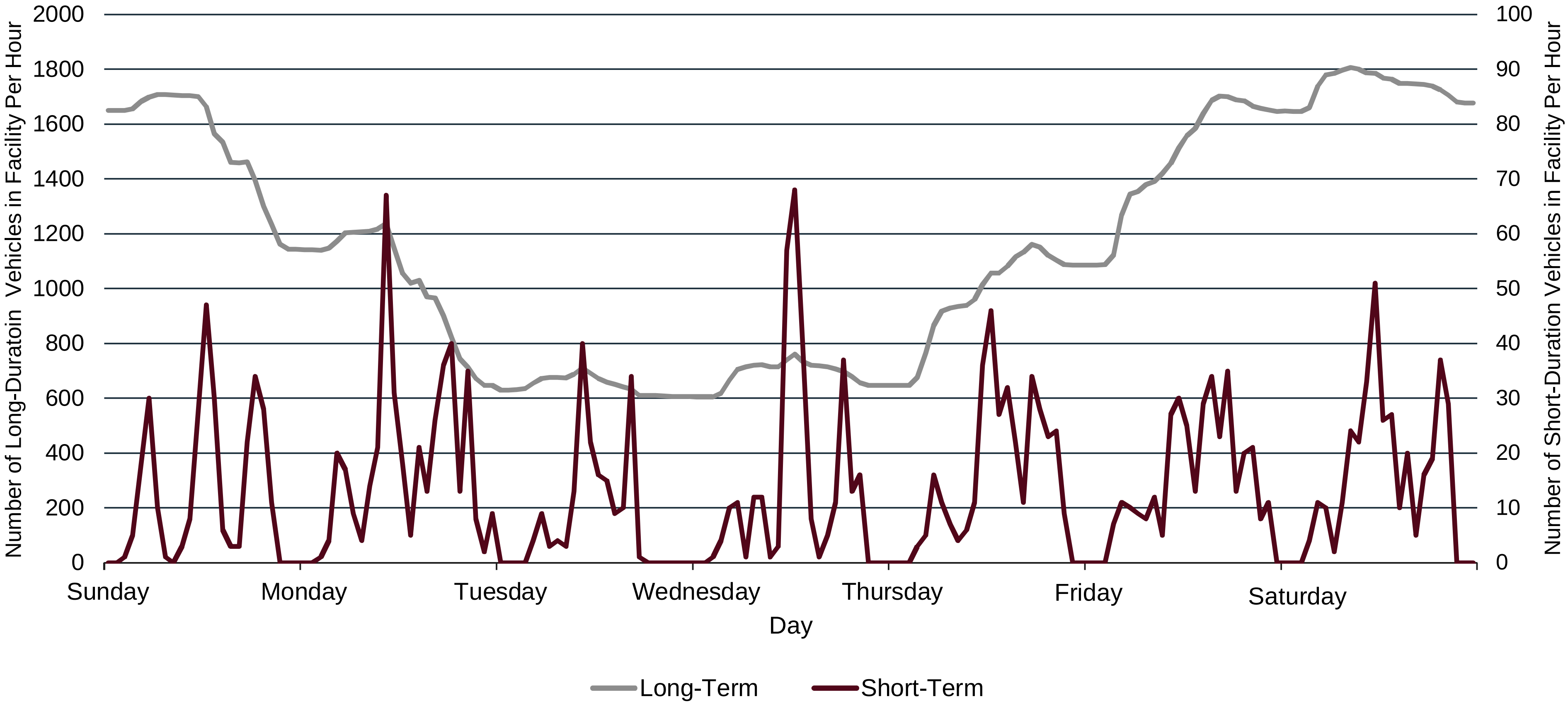

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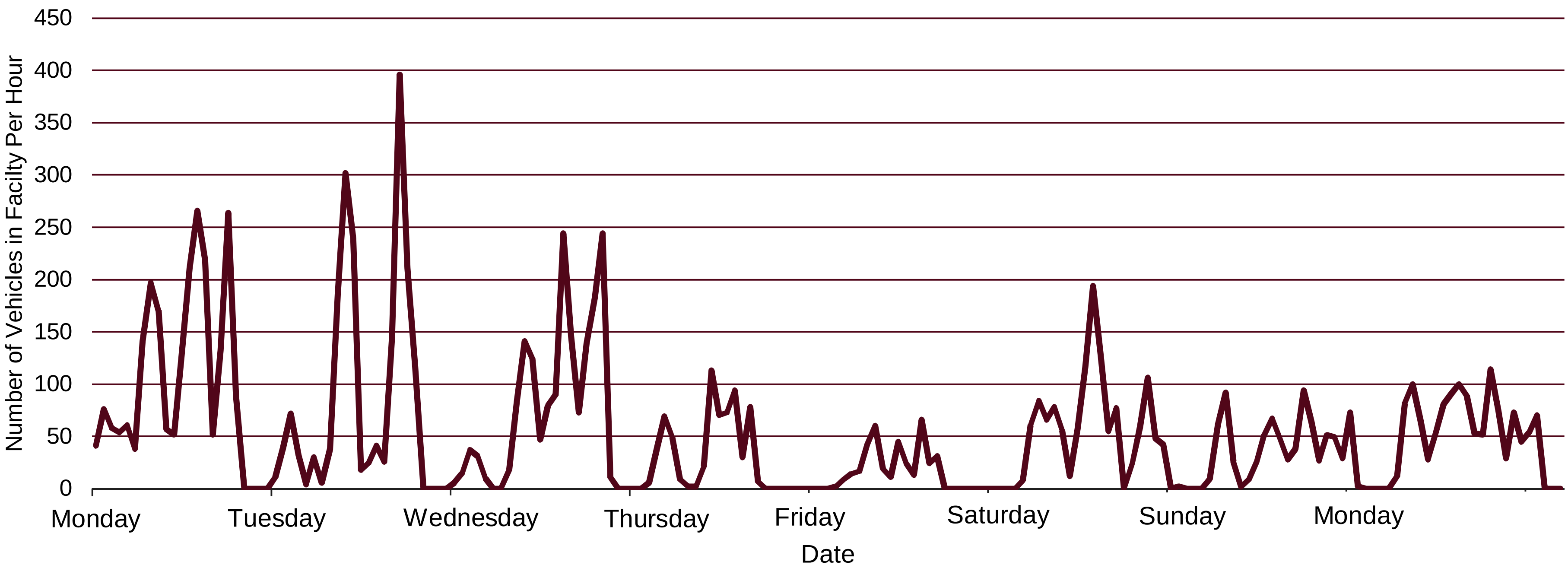
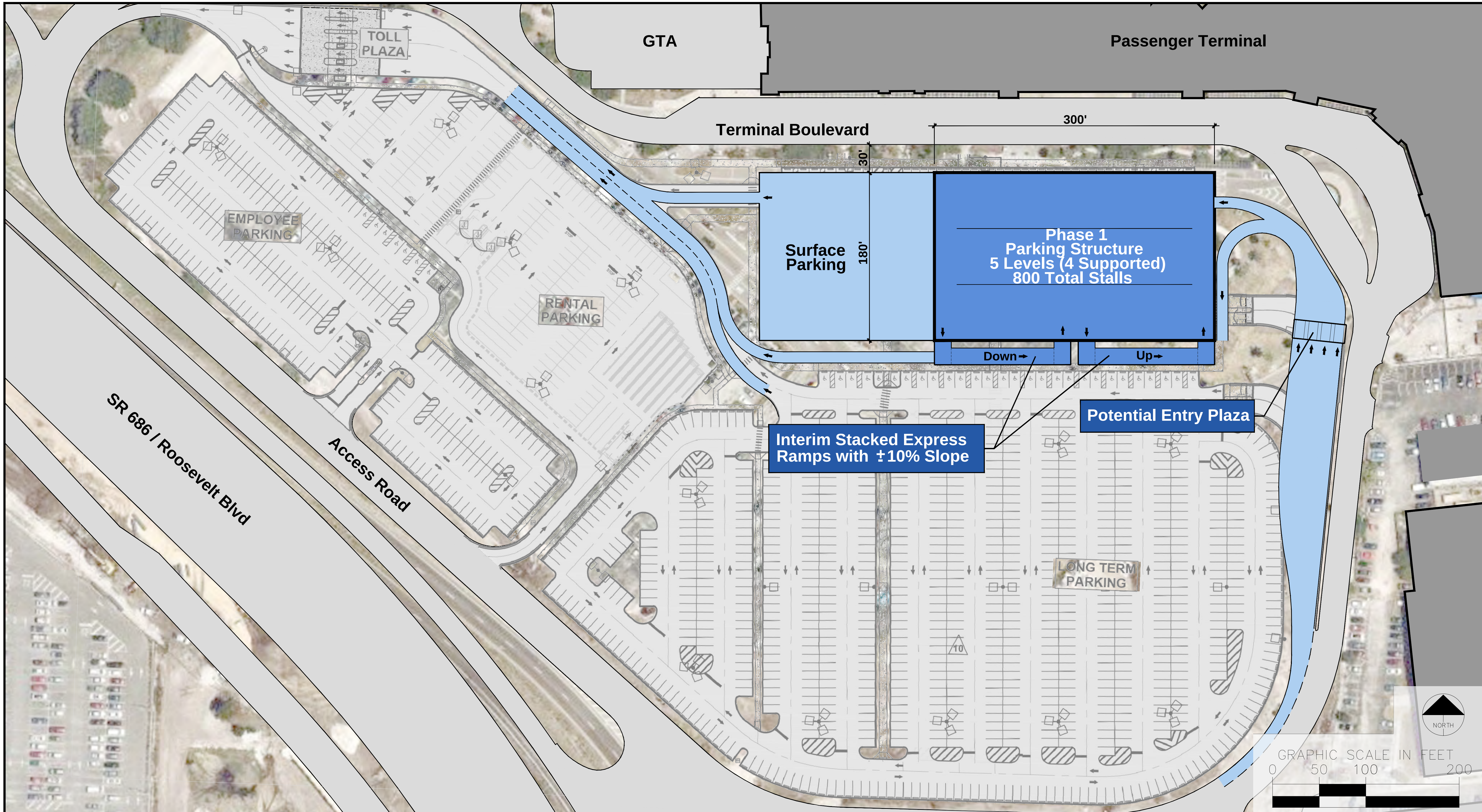
Figure 1.5 - Short-Duration Parking Activity: Thanksgiving 2017



Appendix 2

Concept Graphics



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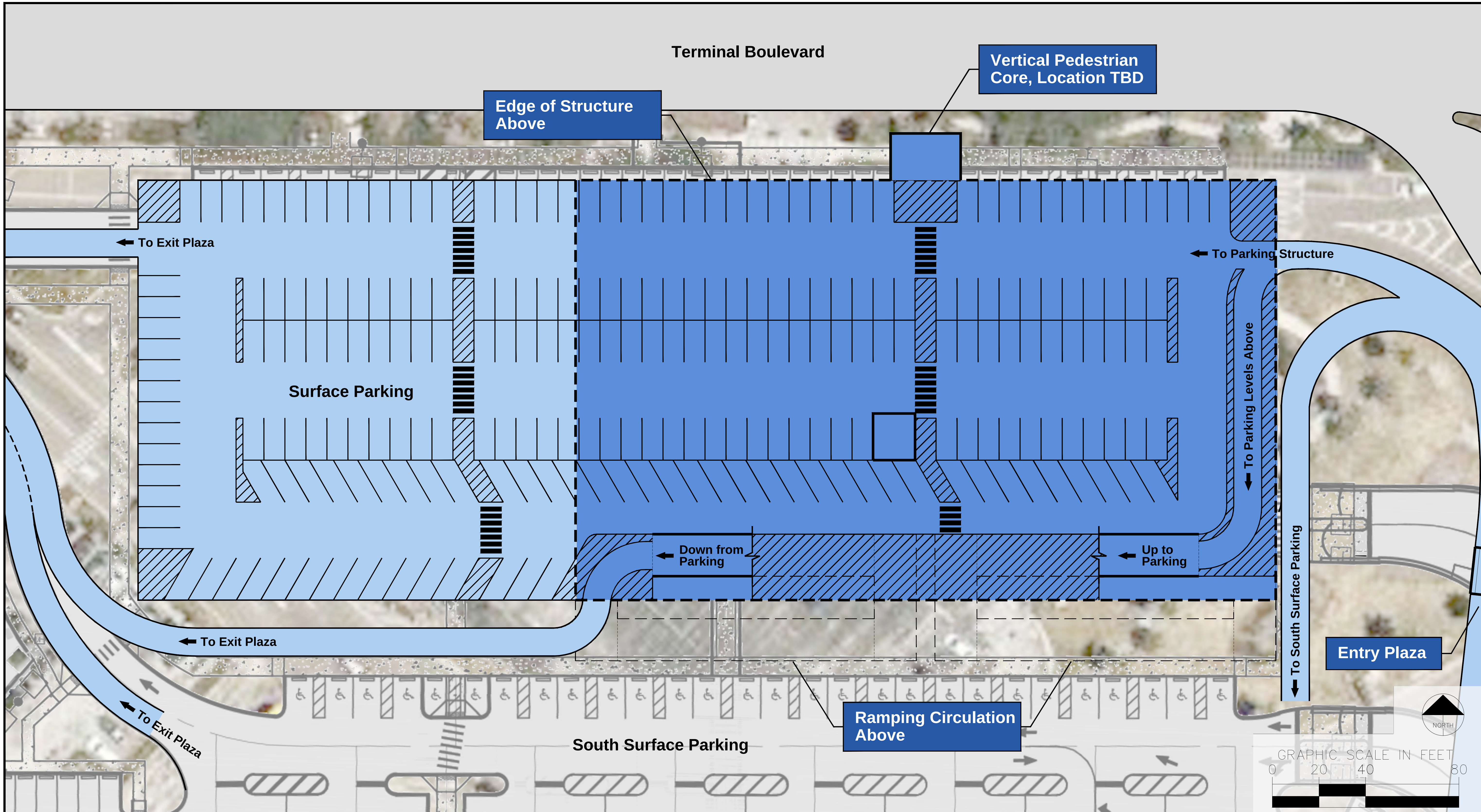
Parking Structure Study

Concept 1 Phase 1

Figure: **1**

St. Petersburg-Clearwater International Airport

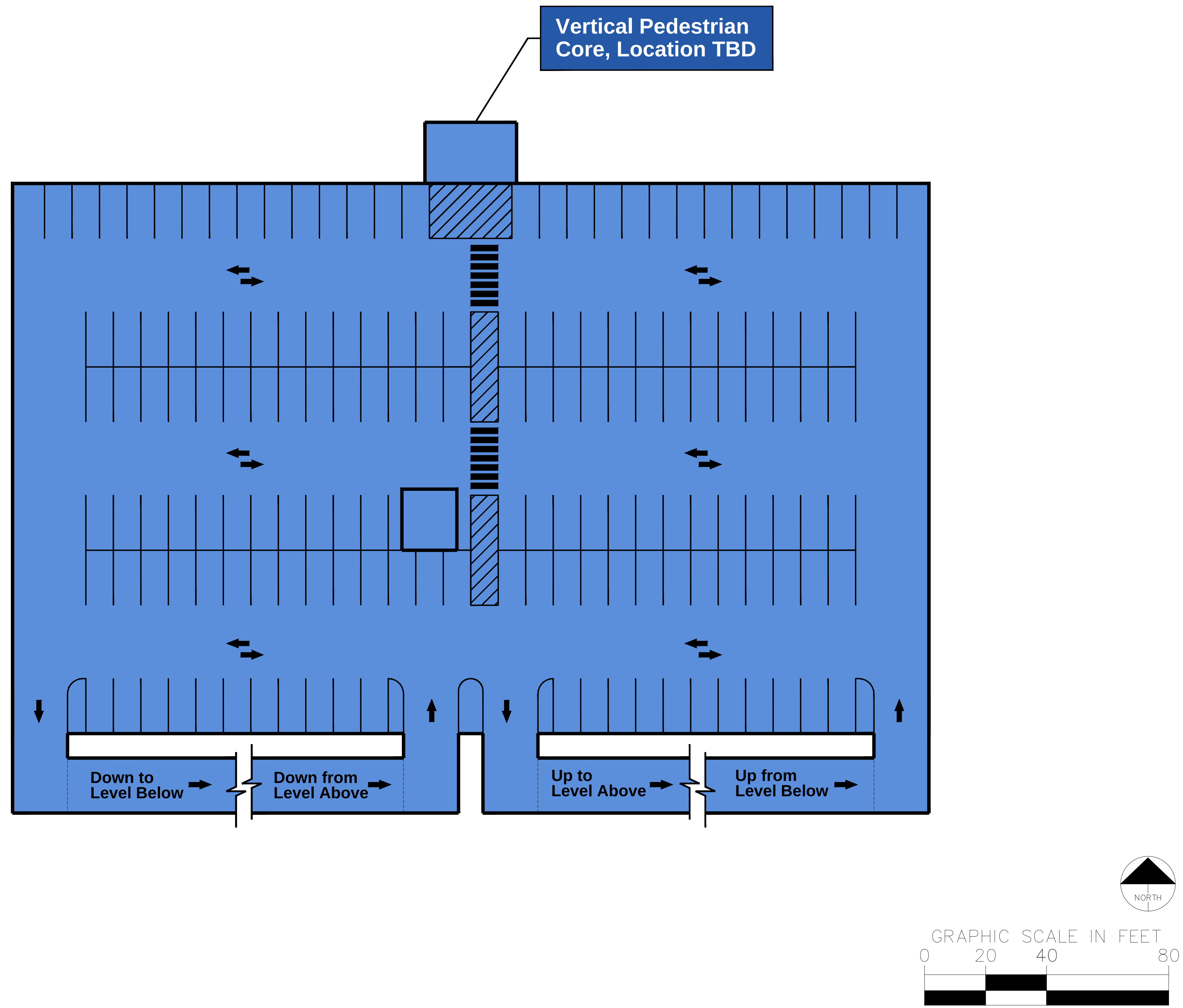


Parking Structure Study - Grade Level

Concept 1 Phase 1

Figure: 2

St. Petersburg-Clearwater International Airport

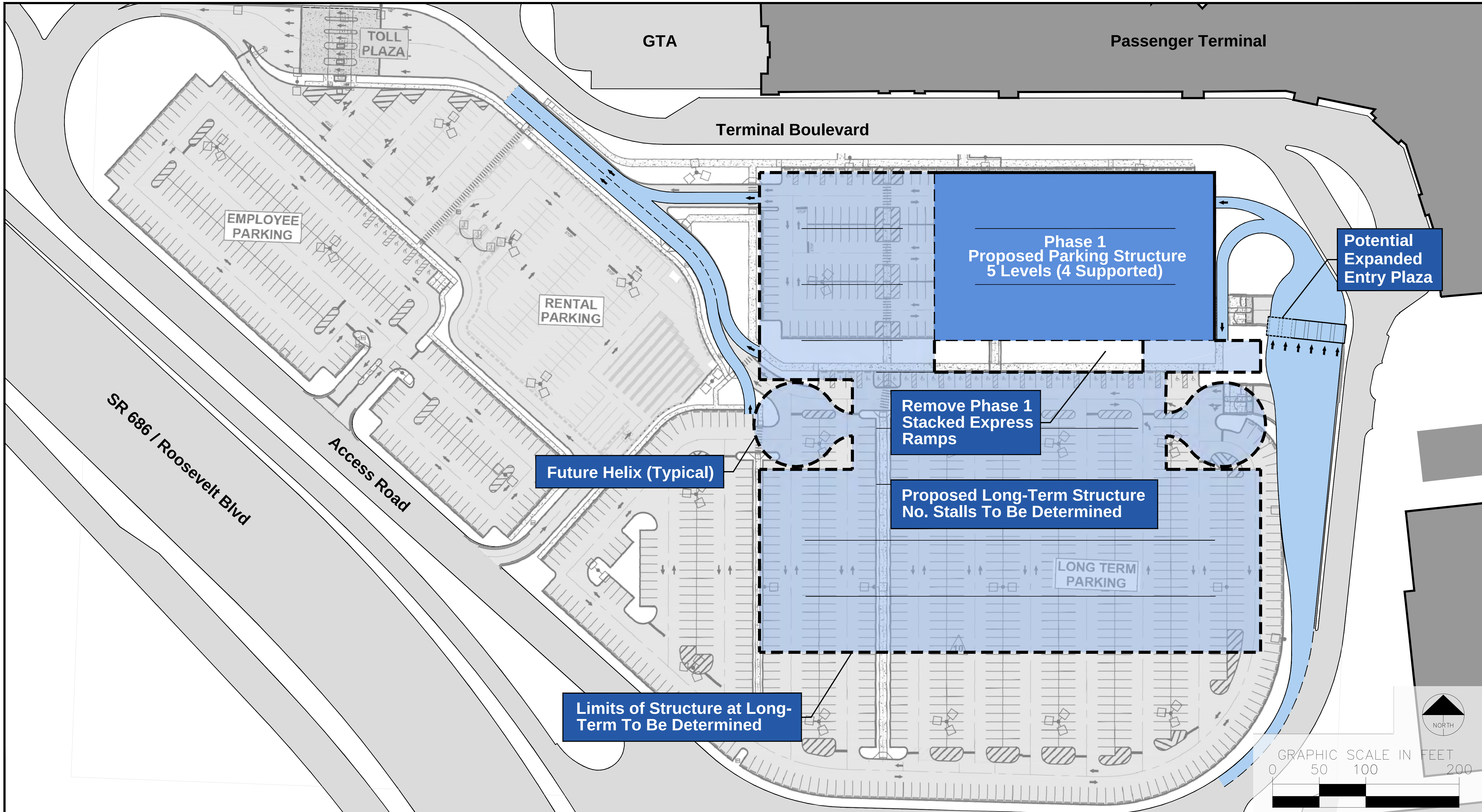


Parking Structure Study - Typical Structured Level

Concept 1
Phase 1

Figure:
3

St. Petersburg-Clearwater International Airport



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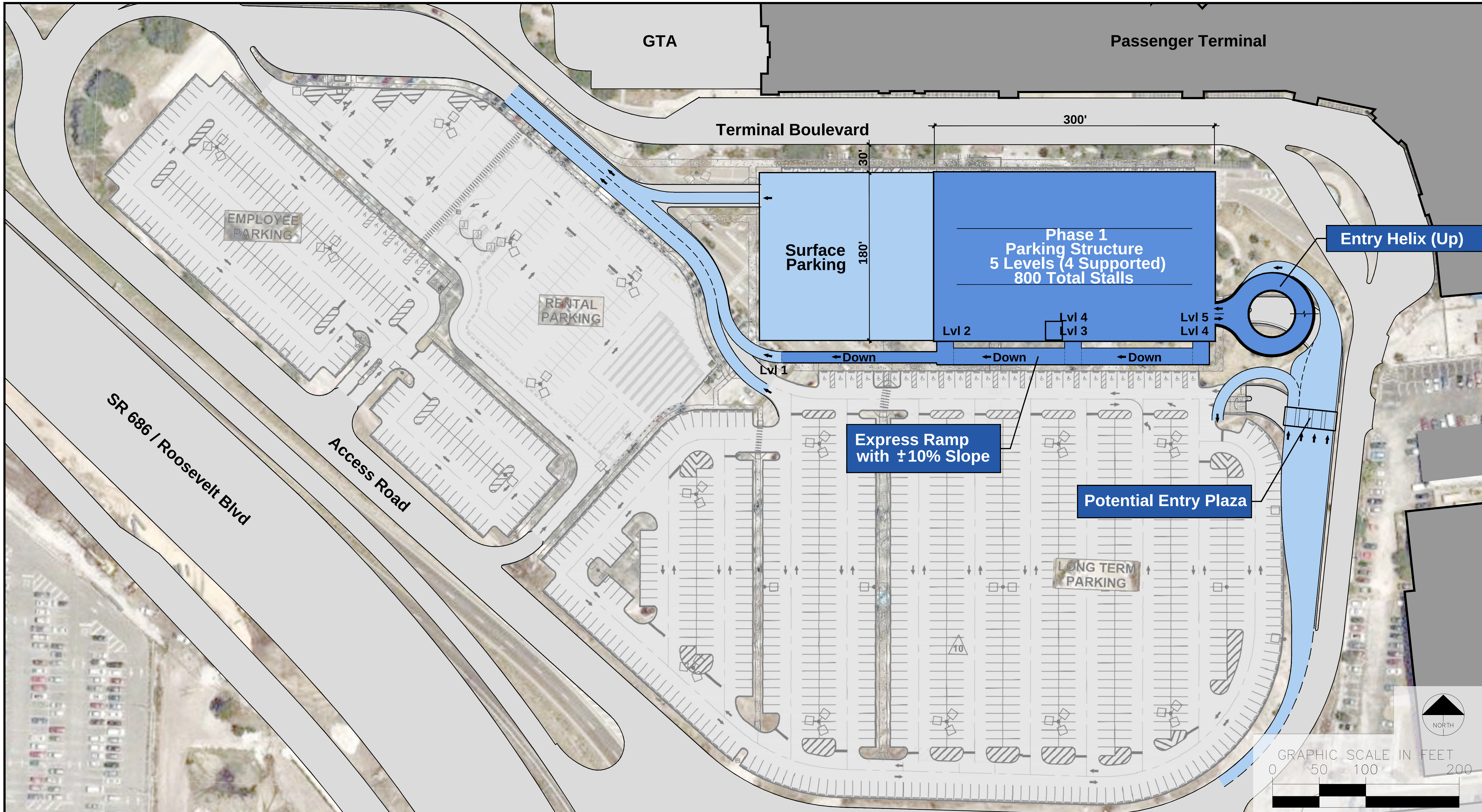
Parking Structure Study

Concept 1 Long-Term

Figure: 4

St. Petersburg-Clearwater International Airport



St. Pete-Clearwater International

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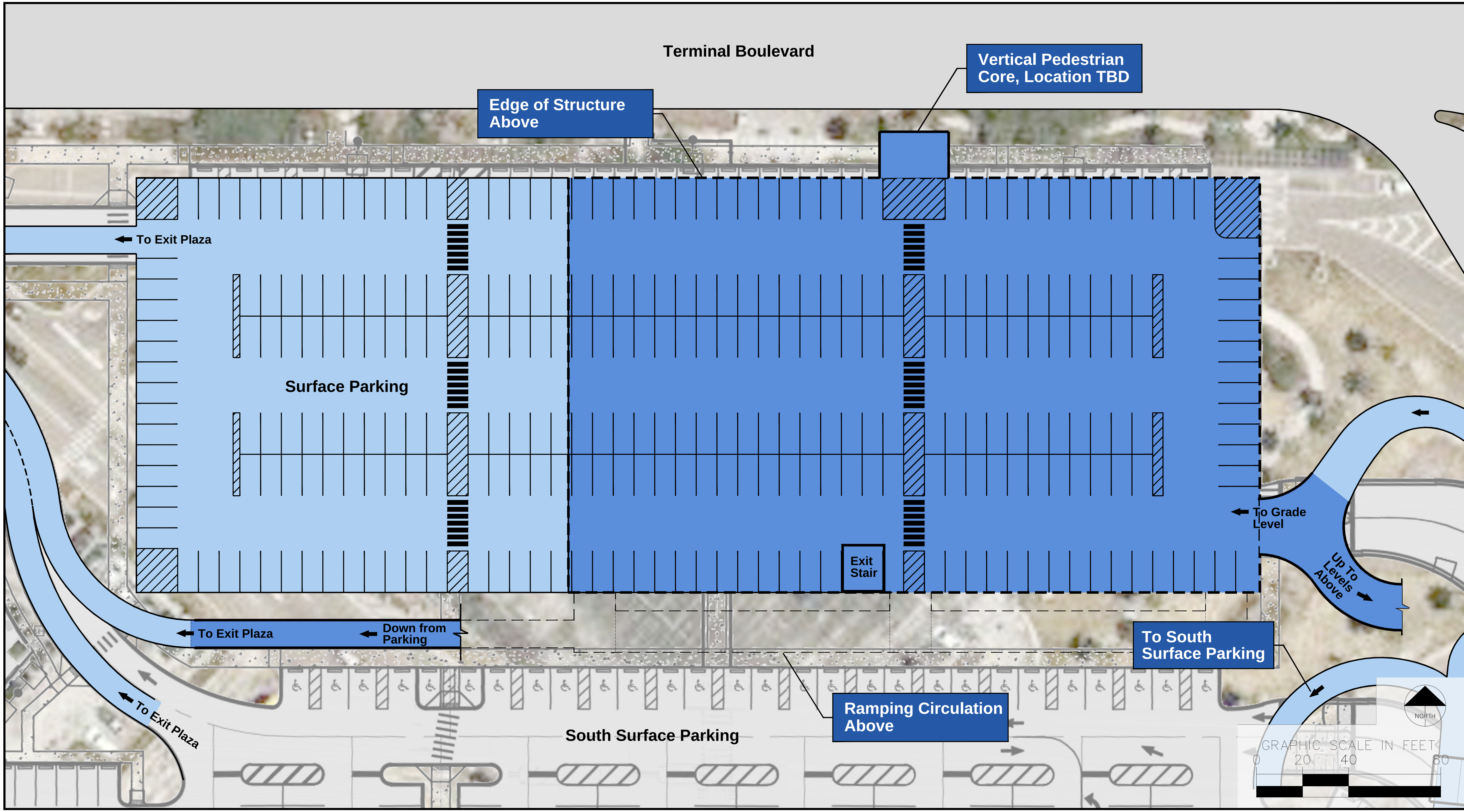
Parking Structure Study

Concept 2
Phase 1

Figure:
5

St. Petersburg-Clearwater International Airport



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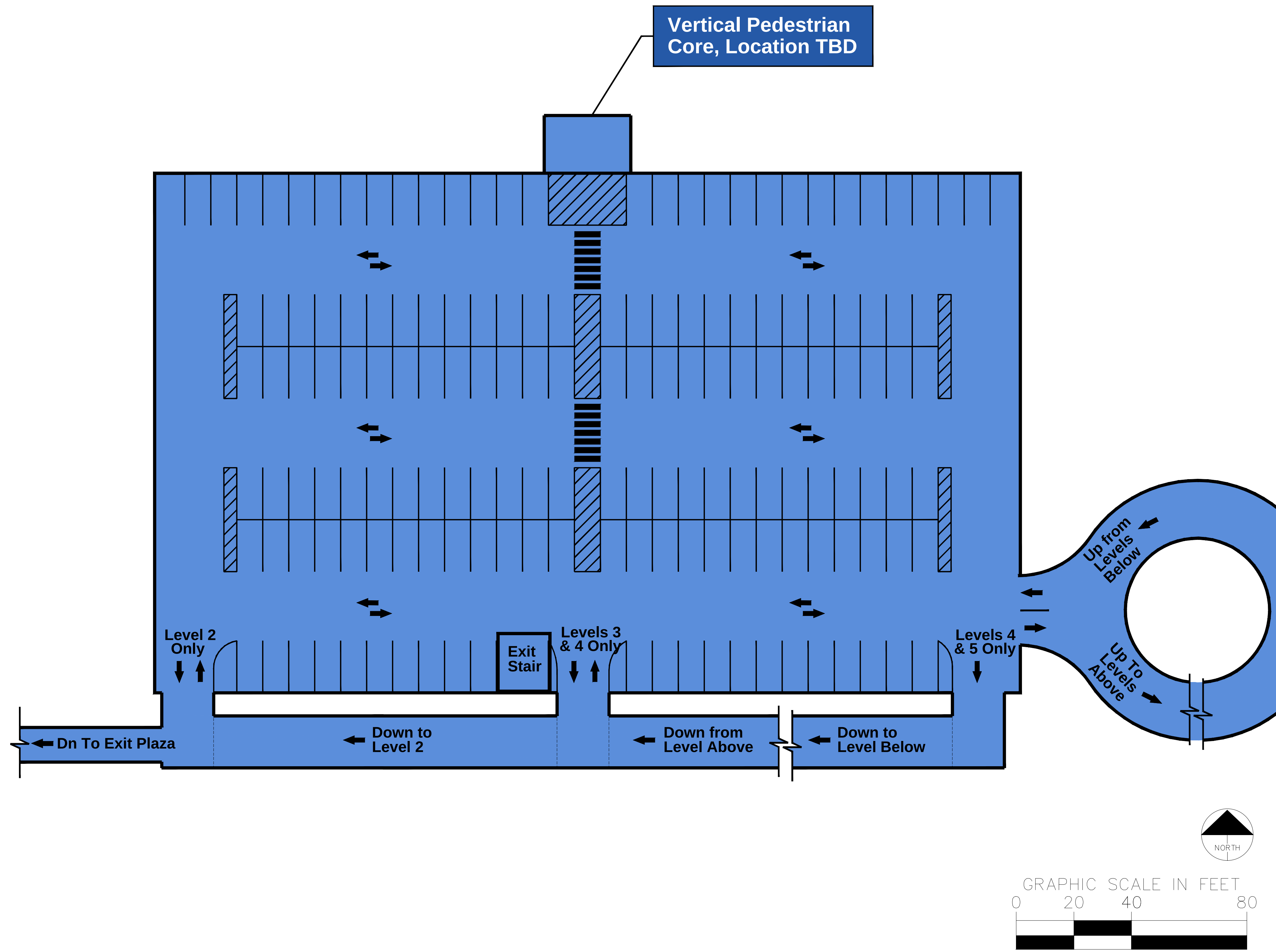
Parking Structure Study - Grade Level

Concept 2 Phase 1

Figure: 6

St. Petersburg-Clearwater International Airport



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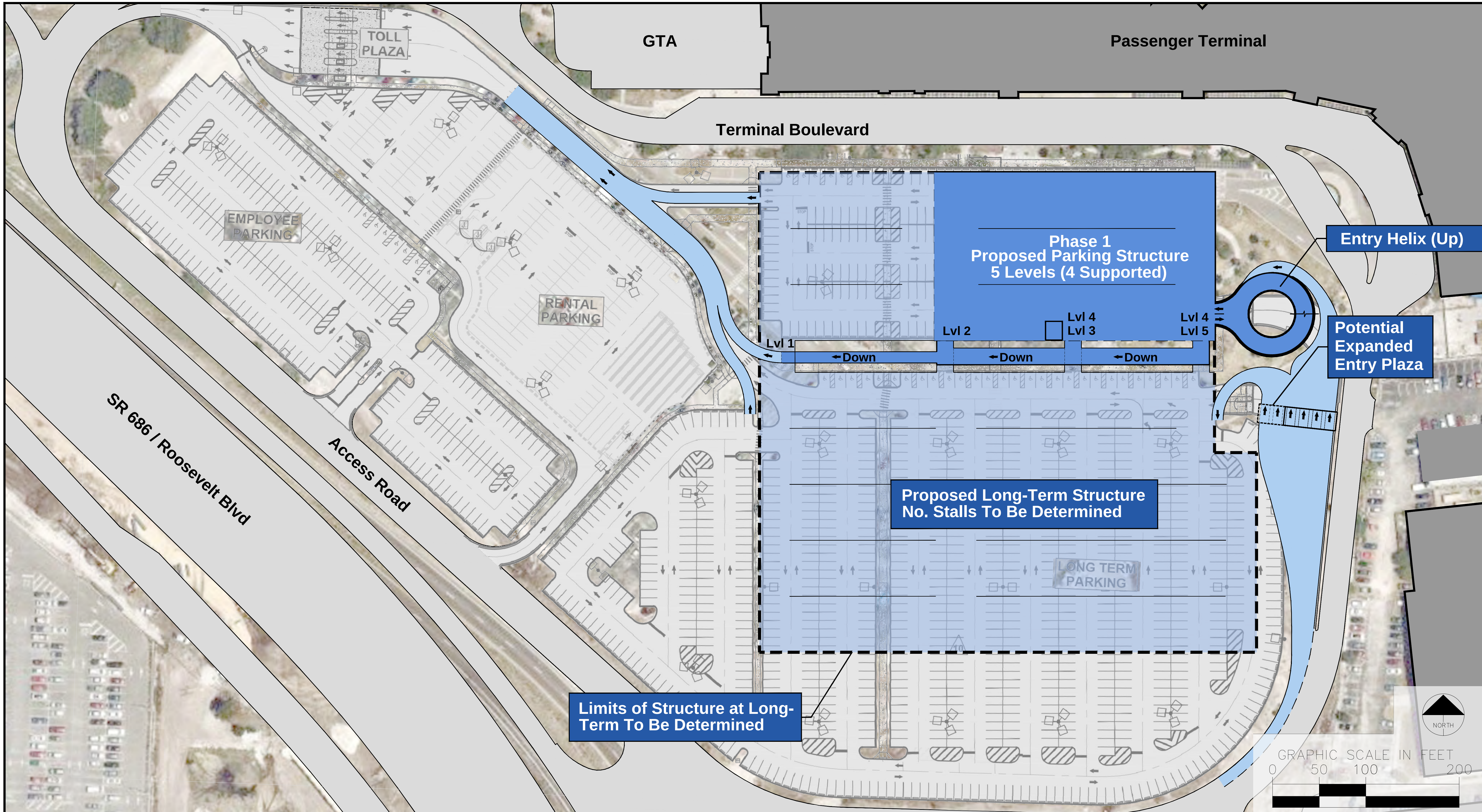
Parking Structure Study - Typical Structured Level

Concept 2 Phase 1

Figure: 7

St. Petersburg-Clearwater International Airport



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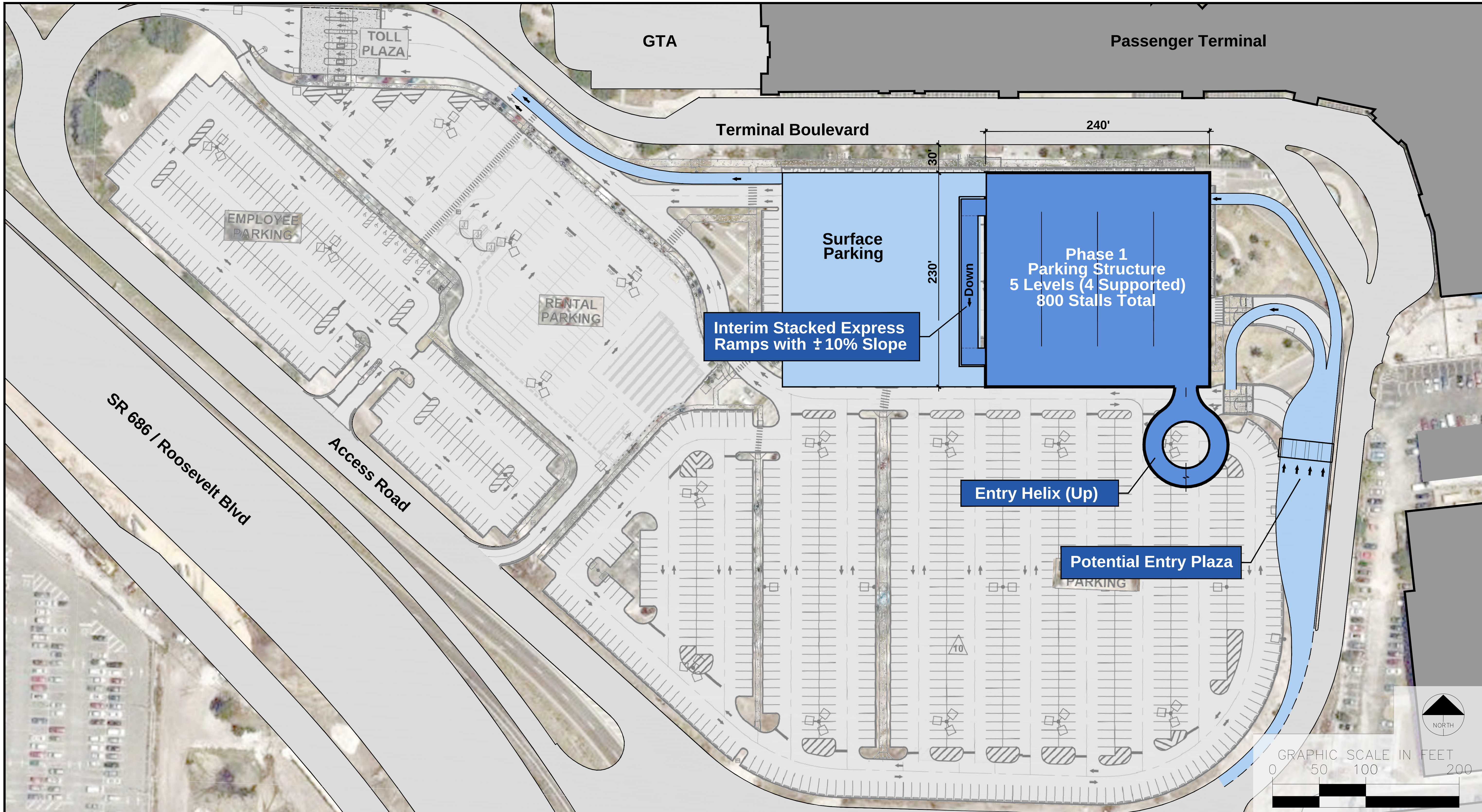
Parking Structure Study

Concept 2 Long-Term

Figure: 8

St. Petersburg-Clearwater International Airport



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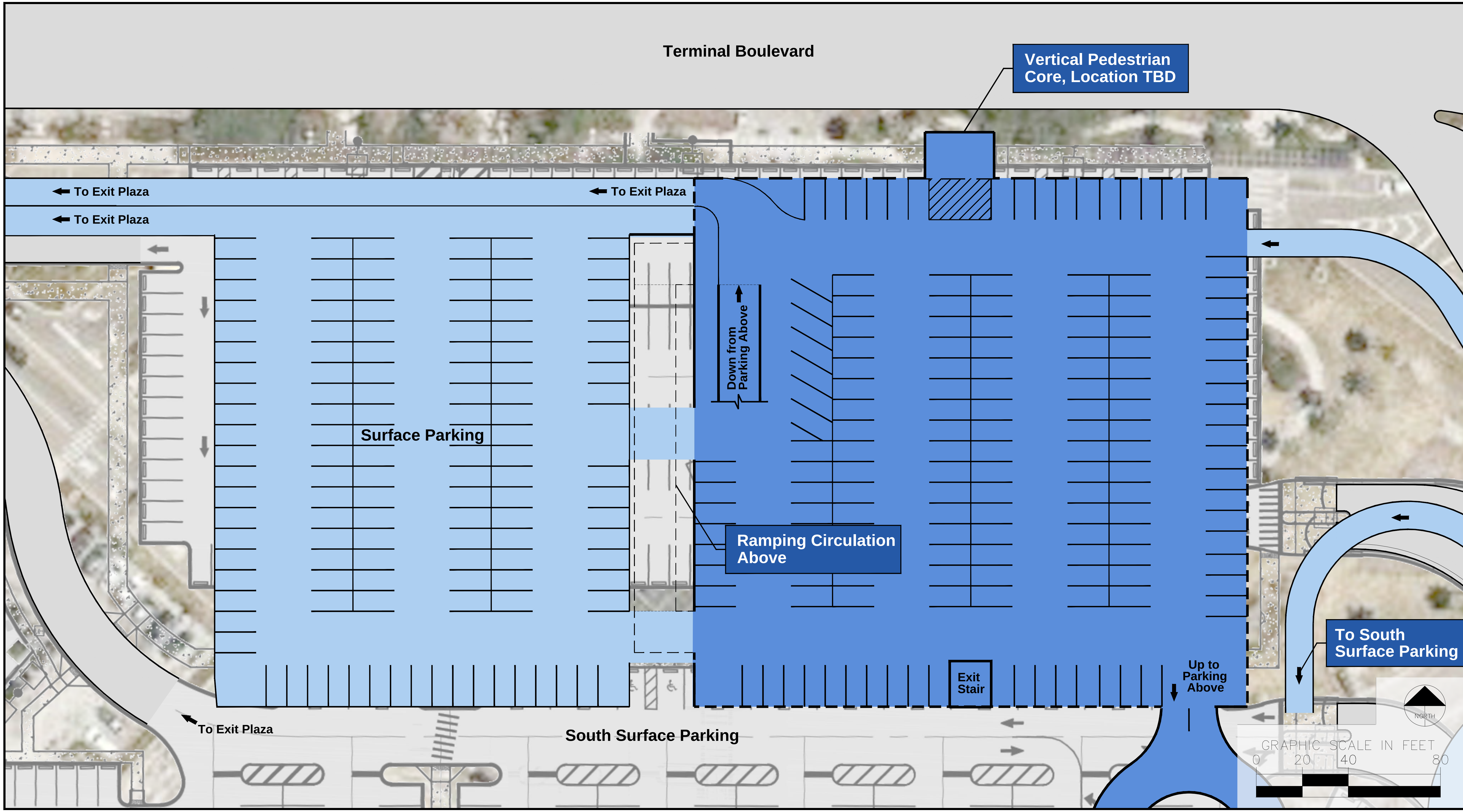
Parking Structure Study

Concept 3
Phase 1

Figure:
9

St. Petersburg-Clearwater International Airport



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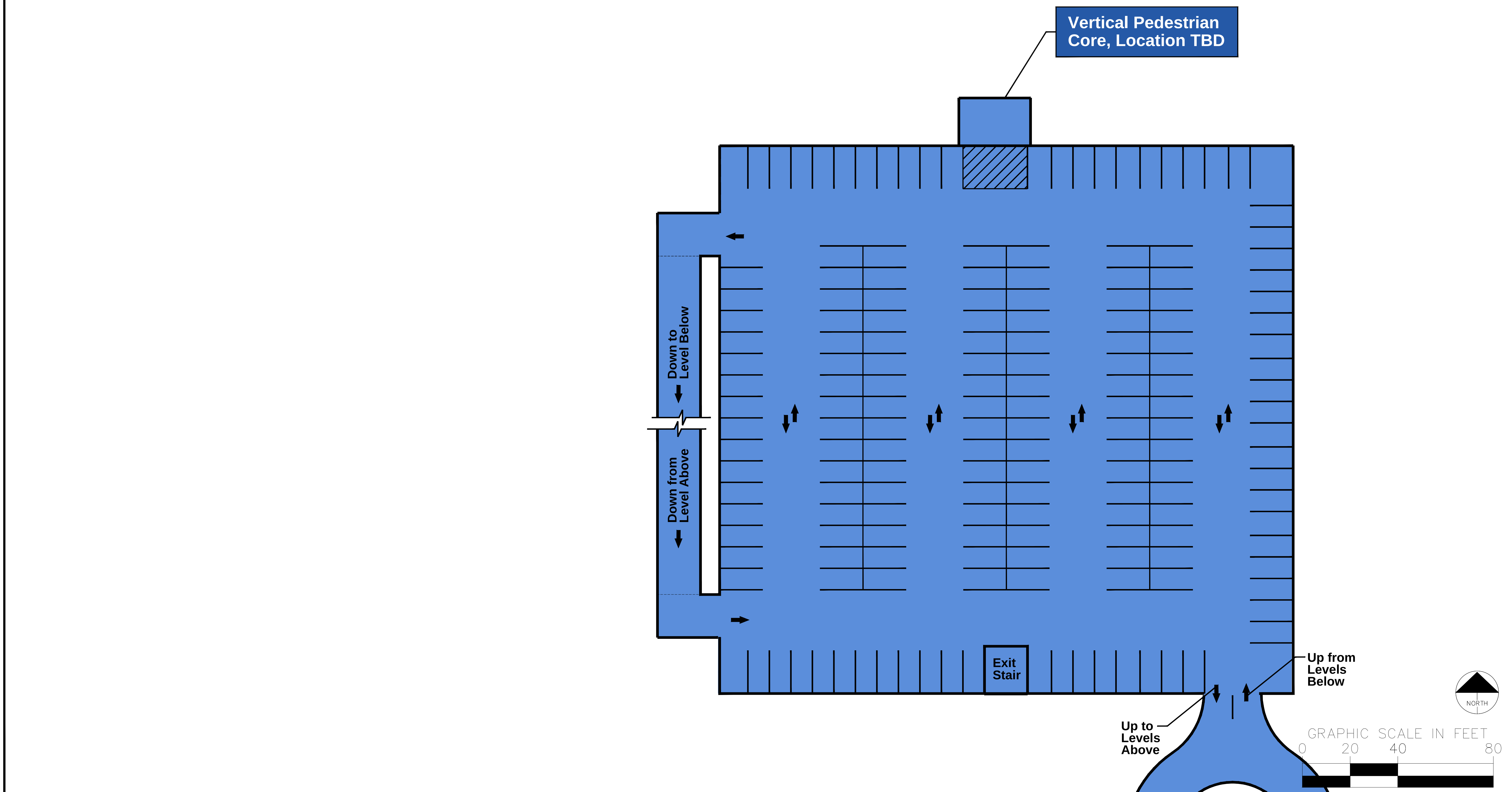
Parking Structure Study - Grade Level

Concept 3 Phase 1

Figure: 10

St. Petersburg-Clearwater International Airport



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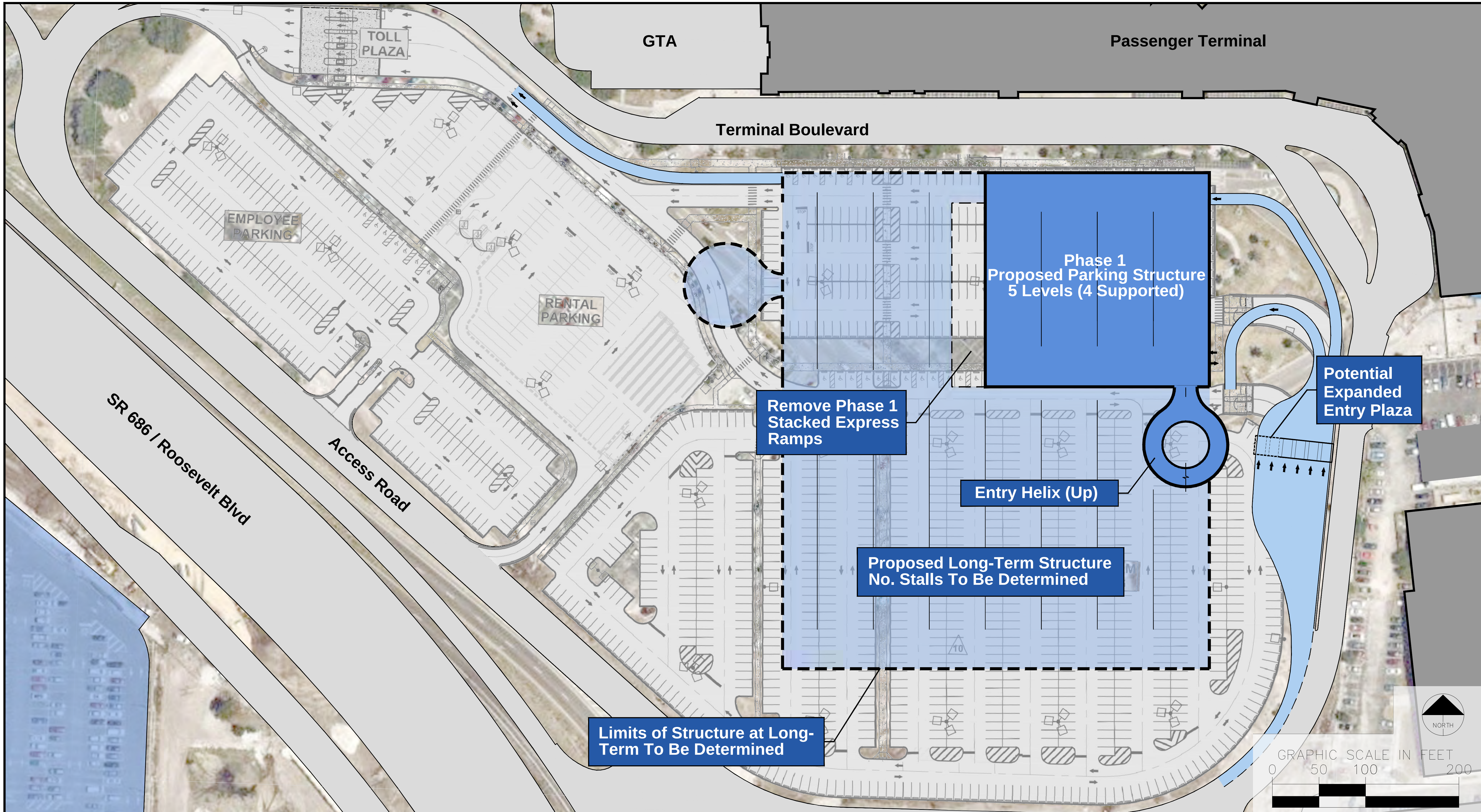
Parking Structure Study - Typical Structured Level

Concept 3
Phase 1

Figure:
11

St. Petersburg-Clearwater International Airport



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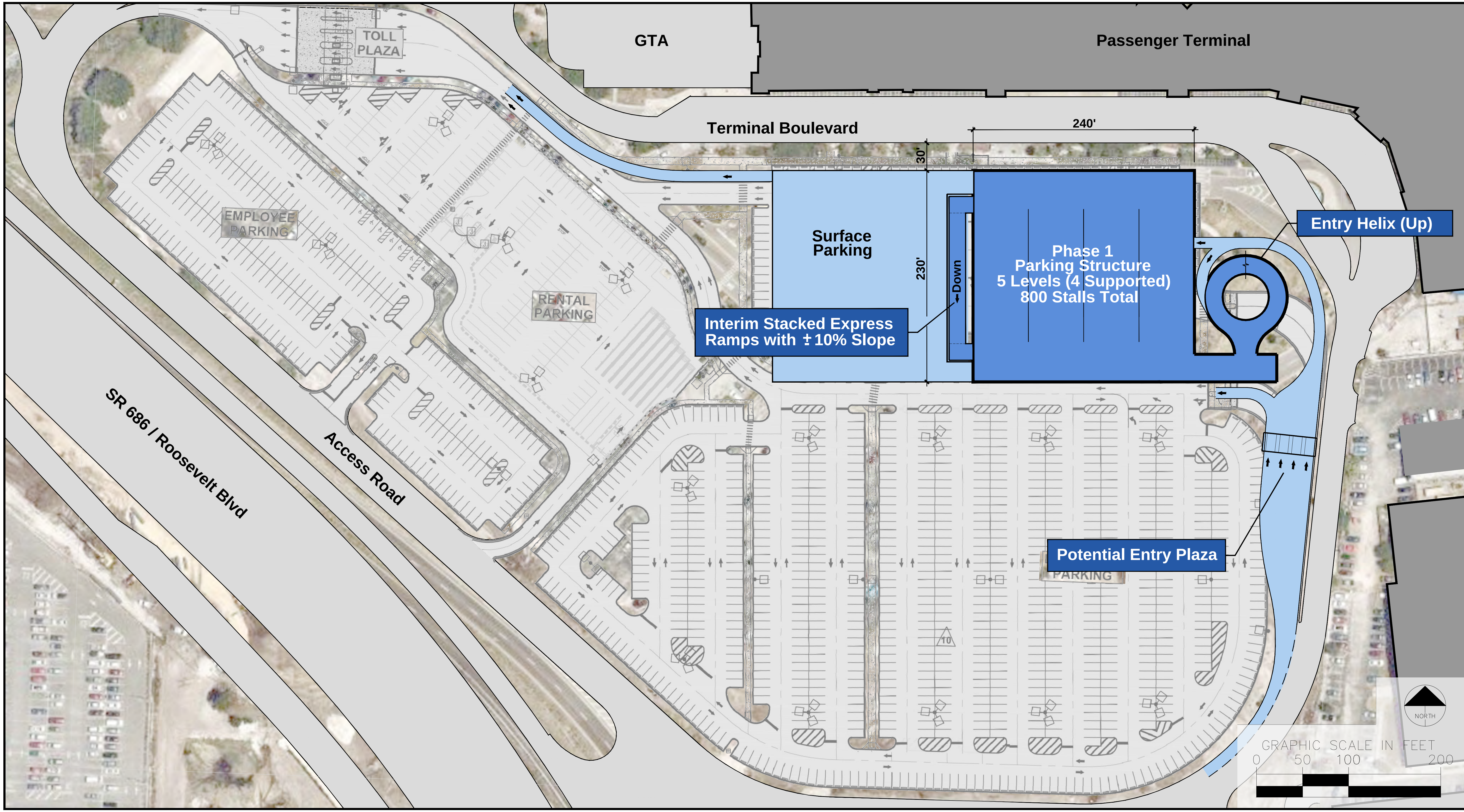
Parking Structure Study

Concept 3
Long-Term

Figure:
12

St. Petersburg-Clearwater International Airport



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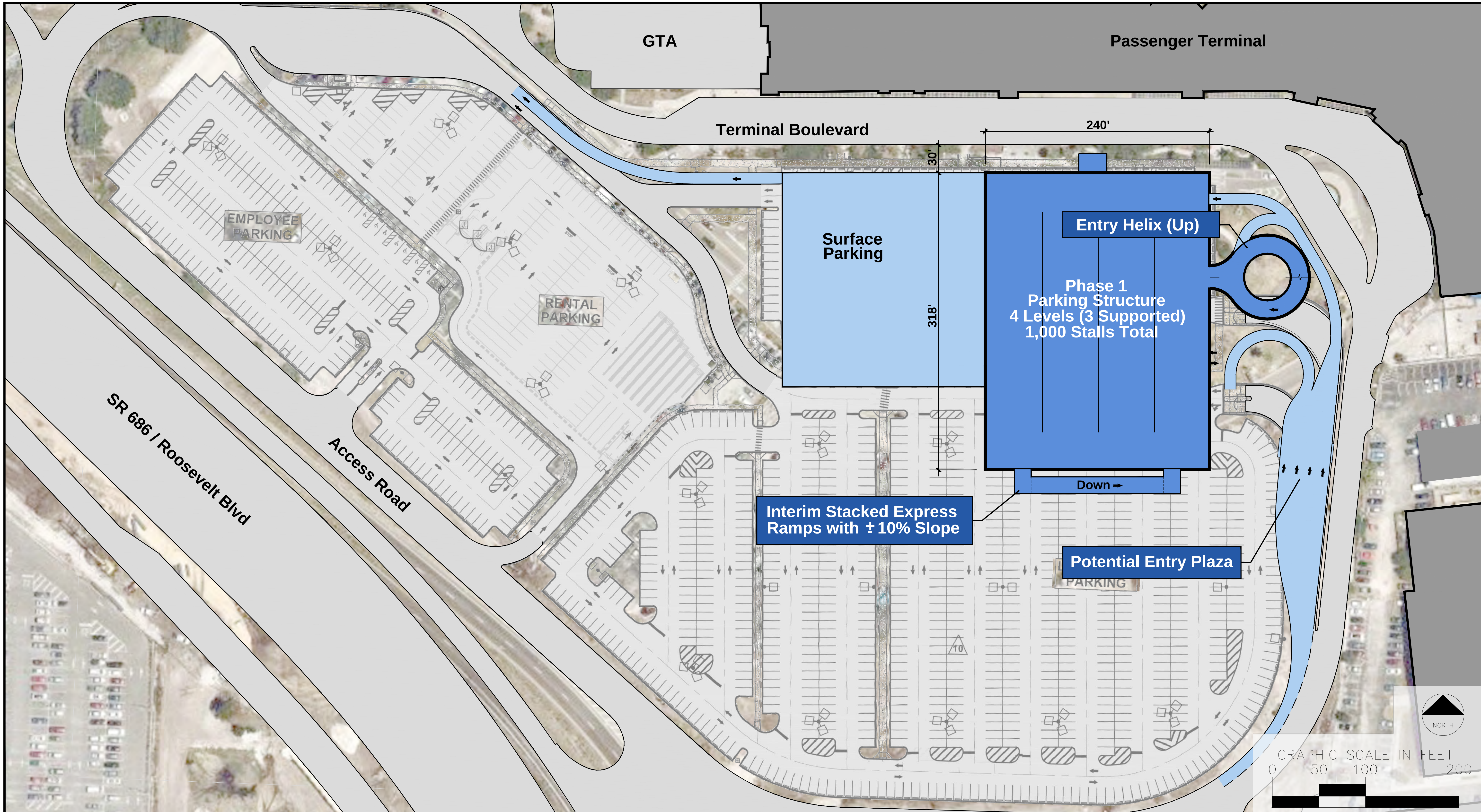
Parking Structure Study

Concept 4 Phase 1

Figure: 13

St. Petersburg-Clearwater International Airport



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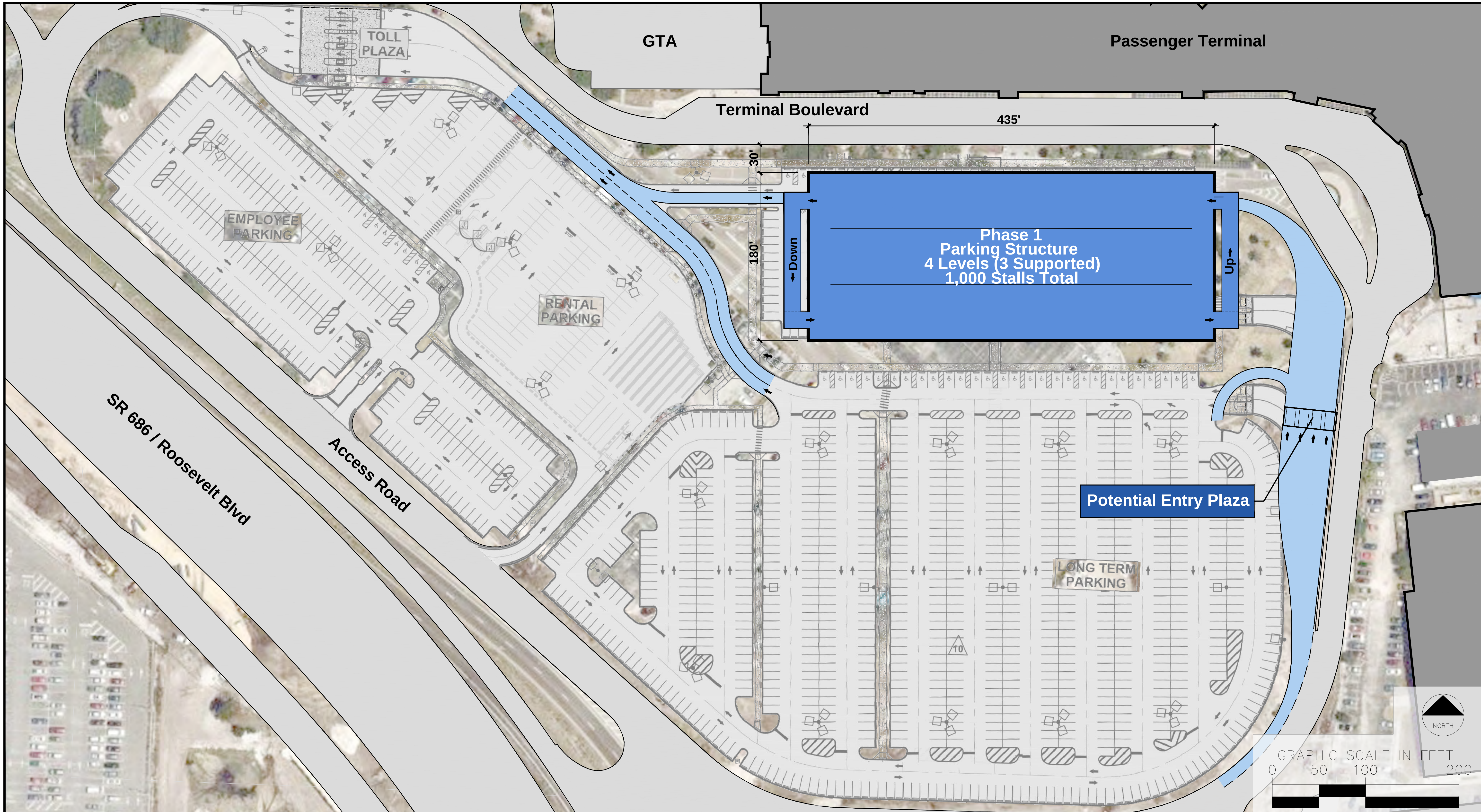
Parking Structure Study

Concept 3B Phase 1

Figure: **14**

St. Petersburg-Clearwater International Airport



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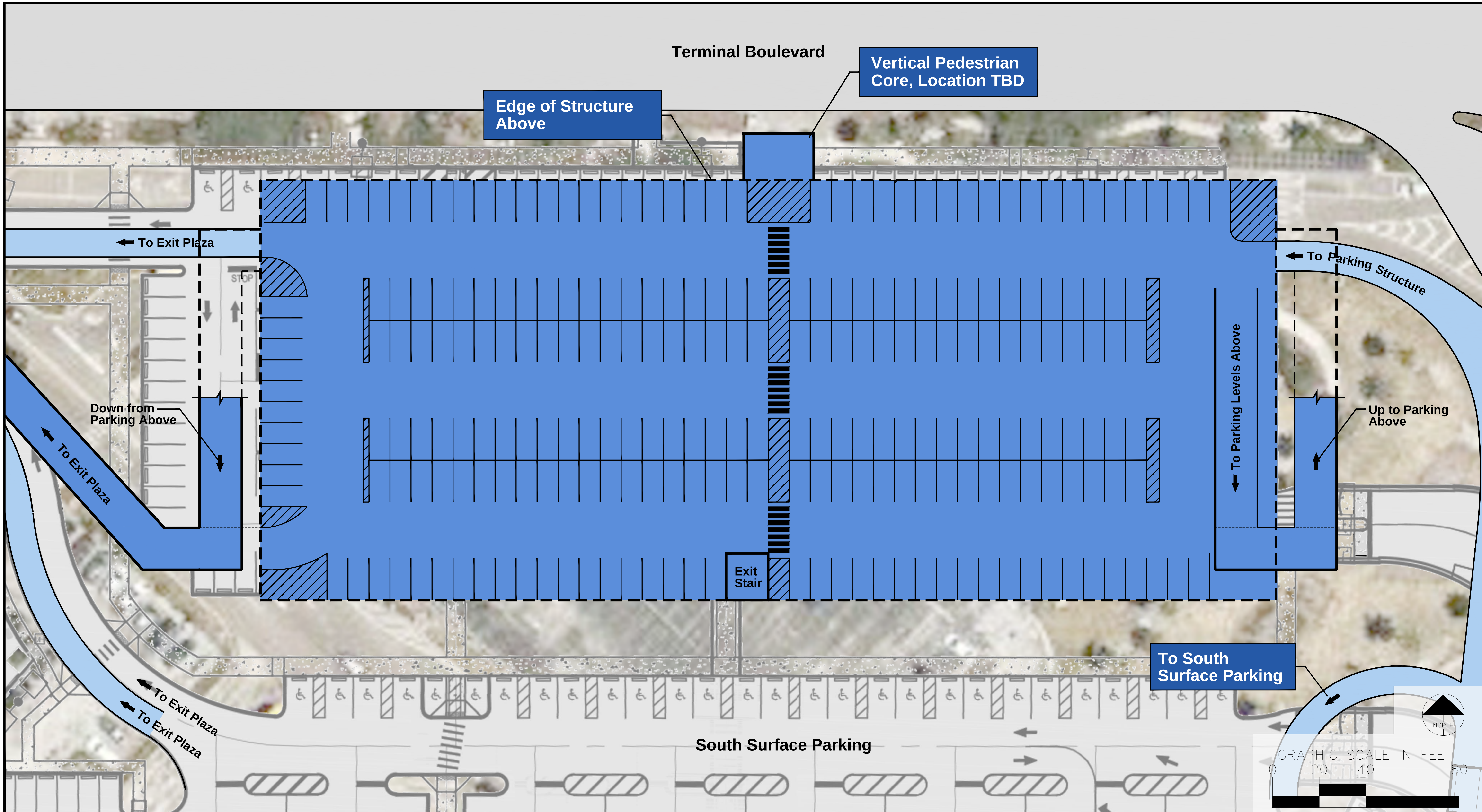
Parking Structure Study

Concept 1B Phase 1

Figure: 15

St. Petersburg-Clearwater International Airport

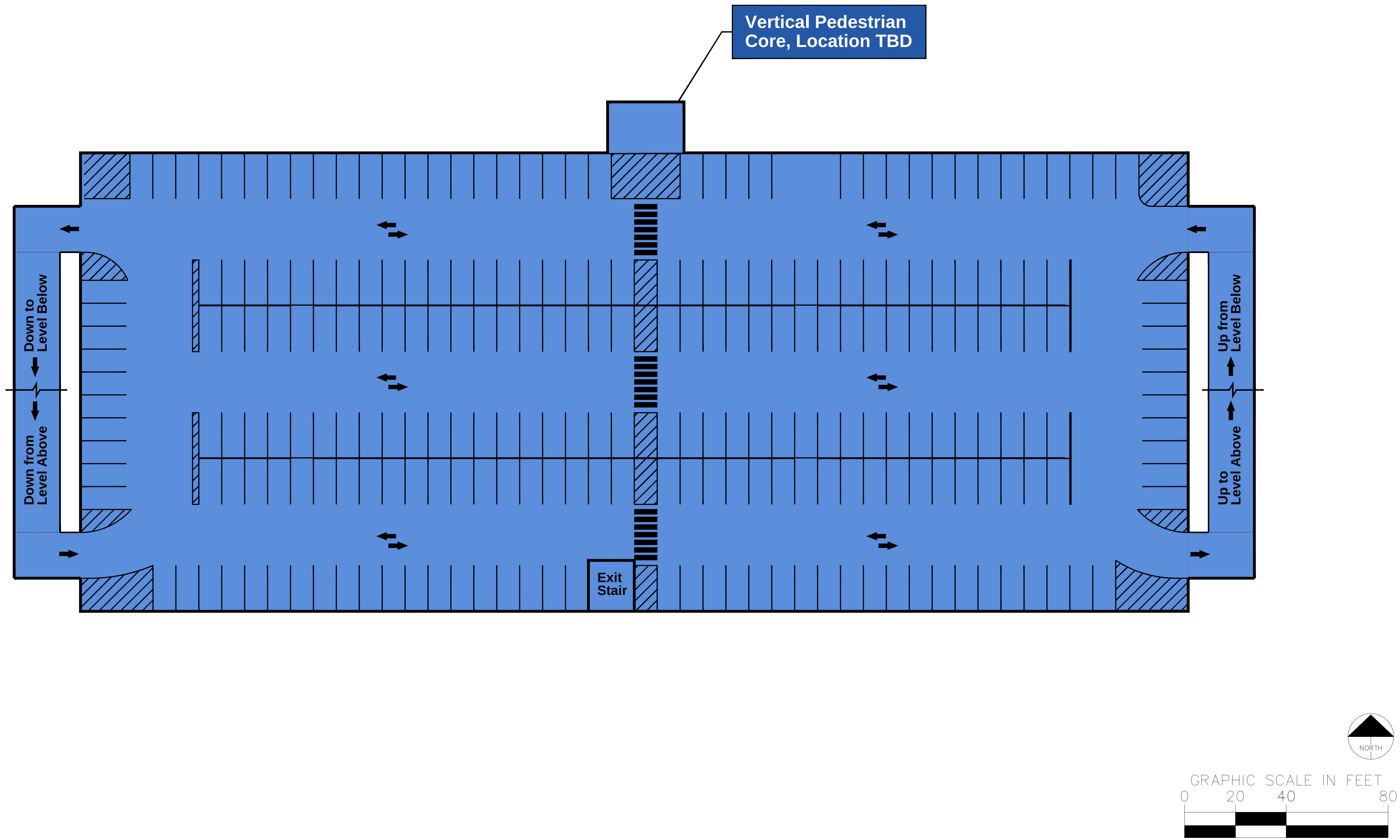


Parking Structure Study - Grade Level

Concept 1B Phase 1

Figure: 16

St. Petersburg-Clearwater International Airport



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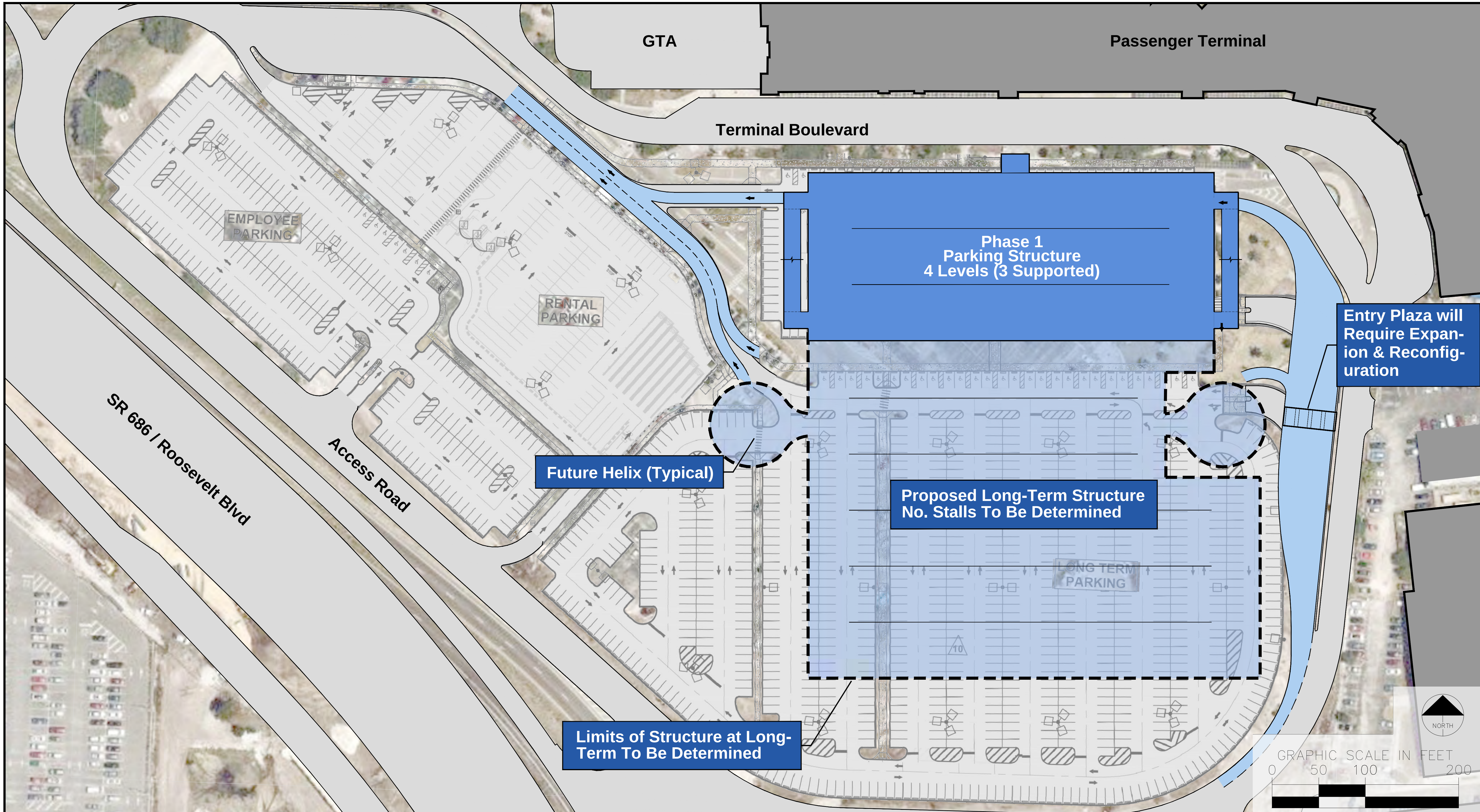
Parking Structure Study - Typical Structured Level

Concept 1B Phase 1

Figure: 17

St. Petersburg-Clearwater International Airport



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Parking Structure Study

Concept 1B Long Term

Figure: **18**

St. Petersburg-Clearwater International Airport