KITTELSON & ASSOCIATES

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Source: Google Earth (2018)

SE 17ᵗʰ Street Origin-Destination Study

This study used cell phone probe data from StreetLight Data to understand origin-destination patterns in the SE 17ᵗʰ Street study area. The study consists primarily of a study area circulations analysis, cut-through analyses on two local roadways in the study vicinity, and a regional origin-destination (O-D) assessment.

LIST OF FIGURES

EXECUTIVE SUMMARY

This study is intended to shed light on circulation patterns in the SE 17th Street study area evaluated as part of the larger SE 17th Street Multimodal Corridor Study (see Figure 1). In addition, the study evaluates origin-destination patterns to major regional activity centers and quantifies cut-through activity on two local roadways near the study area: SE 15th Street and Miami Road.

Figure 1: Multimodal Corridor Study Area

The study is based on 2017 origin-destination data collected by StreetLight Data. StreetLight Data relies on a sample of devices, meaning that only relative (i.e., percentage-based) travel patterns should be inferred from it. For privacy purposes, the data are aggregated to monthly averages. As such, the data do not capture the effect of special events that impact travel for a short period of time. Furthermore, sample size and GPS accuracy limitations prevent gathering information from low-volume or closely spaced alleys (e.g., parking lots).

Study Area Circulation

- SE 17th Street shows steady activity throughout the daytime, indicating that the corridor serves trip types beyond the typical commute-hour traffic.
- The predominant movements—accounting for nearly half of all activity—involve US 1 south of the study area and the barrier islands.
- The next five largest movements—which combine for about 25 percent of all activity—also do not interact with the activity centers in the SE 17th Street area (i.e., retail areas, the Port Everglades, or Convention Center). They are movements between the barrier islands and US 1 to the north, Miami Road to the south, or SE 17th Street to the west.
- In other words, at least three quarters of traffic on SE 17th Street is traveling through the study area without interacting with any of the activity centers inside it.

Cut-Through Activity

- On average, roughly 11 percent of SE 17th Street-bound motorists use Miami Road as a cut-through. This percentage climbs to as much as 25 percent during peak periods.
- On average, about 60 percent of all traffic on Miami Road is using it as a cut-through route.
- There is little cut-through activity on SE 15th Street.

Regional Origin-Destination Patterns

- The origin-destination pairs with most interaction involve downtown, SE 17th Street activity centers, and the beach area up to Sunrise Boulevard.
- Moderate interaction between SE 17th Street activity centers suggests that better pedestrian infrastructure and network connectivity could replace short-distance automobile trips.
- The data suggest that these regional origin-destination pairs would benefit from year-round connections.

The study concludes with a brief discussion of how the findings of this origin-destination study could inform the implementation of the recommendations in the SE 17th Street Multimodal Corridor Study. These include suggestions for additional network connections and multimodal infrastructure and services.

INTRODUCTION

Kittelson & Associates, Inc. (Kittelson) conducted this study to help the City of Fort Lauderdale understand the origin-destination patterns for vehicles using SE 17th Street. The study is intended to quantify circulation patterns by vehicles on SE 17th Street or accessing its businesses and destinations. This study also evaluates cut-through activity on two local roadways near the study area: SE 15th Street and Miami Road and addresses origin-destination patterns to major regional activity centers. Figure 2 presents a map of the study area.

BACKGROUND

The corridor is currently congested, and because of the auto-oriented nature of past development projects, there are many conflicts for pedestrian, bicycle, and vehicle movement. As redevelopment and economic activity occurs, the increased density and mix of uses along the corridor is encouraging more walking and biking. Currently, the corridor has large attractions such as the Convention Center and Port Everglades that generate thousands of trips that have a high propensity for walking to the shops and restaurants along SE 17th Street.

SE 17th Street serves as an important link from the mainland to the barrier islands. The SE 17th Street causeway is one of only three crossing locations between I-595 and the barrier island. Most importantly, SE 17th Street is the southernmost crossing location, meaning that travelers coming to or from the south are likely to use SE 17th Street to enter or exit the barrier island.

The corridor will continue to be critical to local and regional mobility, with transit service that requires safe and comfortable pedestrian access. Even so, the existing pedestrian and bicycle facilities are not comfortable or adequate to support the activity along the corridor. There are critical safety issues that need to be addressed on SE 17th Street. The corridor ranks in the top five corridors in the City when considering crashes per mile.

In recognition of these needs, the City of Fort Lauderdale initiated the SE 17th Street Corridor Mobility Plan to balance mobility in the area. The study was intended to evaluate the multimodal environment in and around the corridor and to develop short, mid, and long-term solutions to improve mobility for all modes. One of these recommendations was to conduct an origin-destination study to better understand the travel patterns of SE 17th Street users. The ultimate goal for this origin-destination study is to better understand travel patterns within the study area, as well as interactions with large trip generators in the region.

Figure 2: Study Area Map
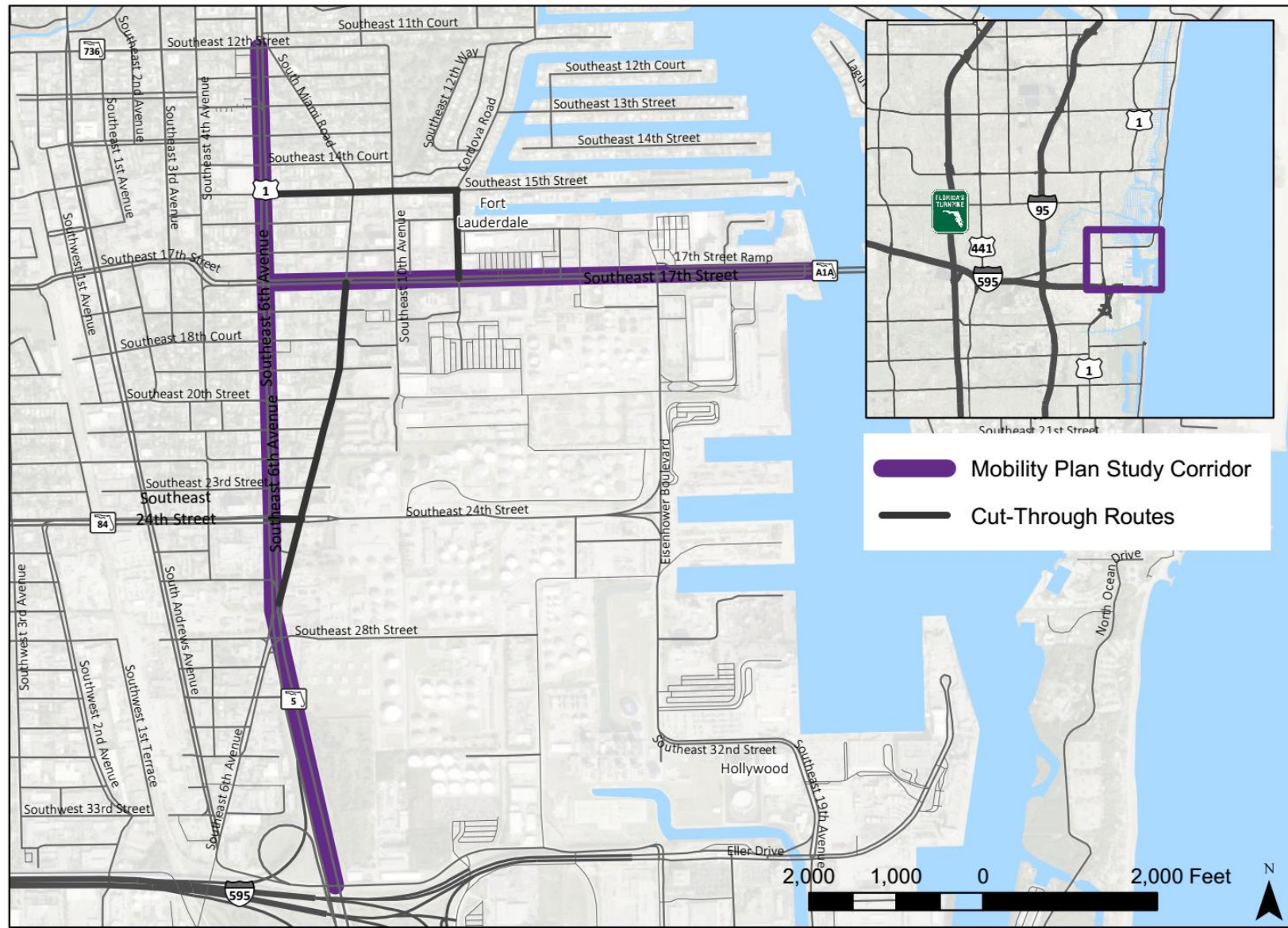
DATA COLLECTION

Kittelson obtained origin-destination data from StreetLight Data, a data aggregator based in San Francisco, CA. StreetLight Data collects, aggregates, and analyzes GPS probe data to inform origin-destination patterns and travel times. StreetLight Data's exclusive use of data from vehicular probes reduces the possibility that origin-destination patterns be skewed by transit riders, pedestrians, bicyclists, or multiple passengers on a vehicle. (For vehicle-focused analyses, this is a weakness of methods like using Bluetooth readers.)

Similar to other probe data sources, StreetLight Data relies on a sample of vehicles. This limitation means that only *relative* travel patterns should be inferred from StreetLight Data, rather than *absolute* numbers like traffic counts. Kittelson has used StreetLight Data products across the country and found it to be a reliable and cost-effective source for data on travel patterns.

This section describes the spatial and temporal extent of the data obtained from StreetLight Data.

The origins, destinations, and middle filters are as follows:

- Origins and Destinations – These zones define the location where trips originate from or end at. Each origin can also serve as a destination for a trip in the opposite direction. The origins and destinations for the study area circulation portion and the cut-through analyses are shown in blue in Figure 3 and Figure 4, respectively.
- Middle Filters – A middle filter is a zone through which a trip must travel between its origin and destination in order to be counted. The middle filters for the study area circulation portion and the cut-through analyses are shown in orange in Figure 3 and Figure 4, respectively.

In addition to the study area circulation portion of the study, data on regional origin-destination patterns were also obtained from StreetLight Data. The origins and destinations listed below and illustrated in Figure 5 were used for this portion of the analysis:

On or near study area:
- Port Everglades, referred to hereafter as "Port"
- Fort Lauderdale Convention Center, referred to hereafter as "Convention Center"
- SE 17th Street between Cordova Road and the Causeway (including Broadstone, Southport, and Harbor Shops), referred to hereafter as "SE 17th Street (East)"
- SE 17th Street between US 1 and Cordova Road, referred to hereafter as "SE 17th Street (West)"

Outside of study area:

- Downtown Fort Lauderdale, referred to hereafter as "Downtown"
- Fort Lauderdale International Airport, referred to hereafter as "Airport"
- Harbour Isles/Fort Lauderdale Beach up to Sunrise Boulevard, referred to hereafter as the "Beach Area"
- Rest of South Florida

StreetLight Data allows for the customization of various data reporting variables. Kittelson selected the custom options presented listed below:

- Data Period:
    - Full year (2017, the most recent full year available)
    - June 2017 through August 2017 (low traffic season)
    - November 2017 through December 2017 (peak cruise traffic season)
- Day Types
    - Average Weekday: Tuesday – Thursday
    - Average Weekend Day: Saturday - Sunday
- Day Parts
    - Midnight to Midnight (24-hour period)
    - Midnight – 6AM
    - 6 – 10AM
    - 7 - 9AM
    - 10AM – 3PM
    - 3 – 7PM
    - 4 – 6PM
    - 7PM - Midnight

As can be seen above, the analyses in this report are based on long-term averages of all-day or multi-hour peak periods. This choice of analysis periods is thought to most accurately capture the issues and opportunities in the SE 17th Street corridor—which are not limited to specific special events or weeks of the year. In fact, the SE 17th Street Mobility Study found that "SE 17th Street experiences a peak period that lasts from around 8:00 AM to around 6:00 PM. Events at the beach, convention center, port, and other venues can impact traffic volumes and congestion."

Due to the land uses along the SE 17th Street corridor, it is likely that origin-destination patterns spike during small windows of time before or after events at the convention center, cruise alightings at the port, and similar occasions. In these analyses, the effects of these spikes will be diluted due to the longer analysis time frames. The impact of these spikes is usually localized to the event location and constrained to its duration. These special event conditions are better evaluated in the context of a special event traffic management plan.

The data from StreetLight Data are separated between commercial and personal trips. For purposes of this report, only personal vehicle data are presented. More detailed analyses of commercial vehicle activity in the area have been performed by FDOT District Four and Port Everglades in recent years.

Figure 3: SE 17th Street Study Area Circulation Zones
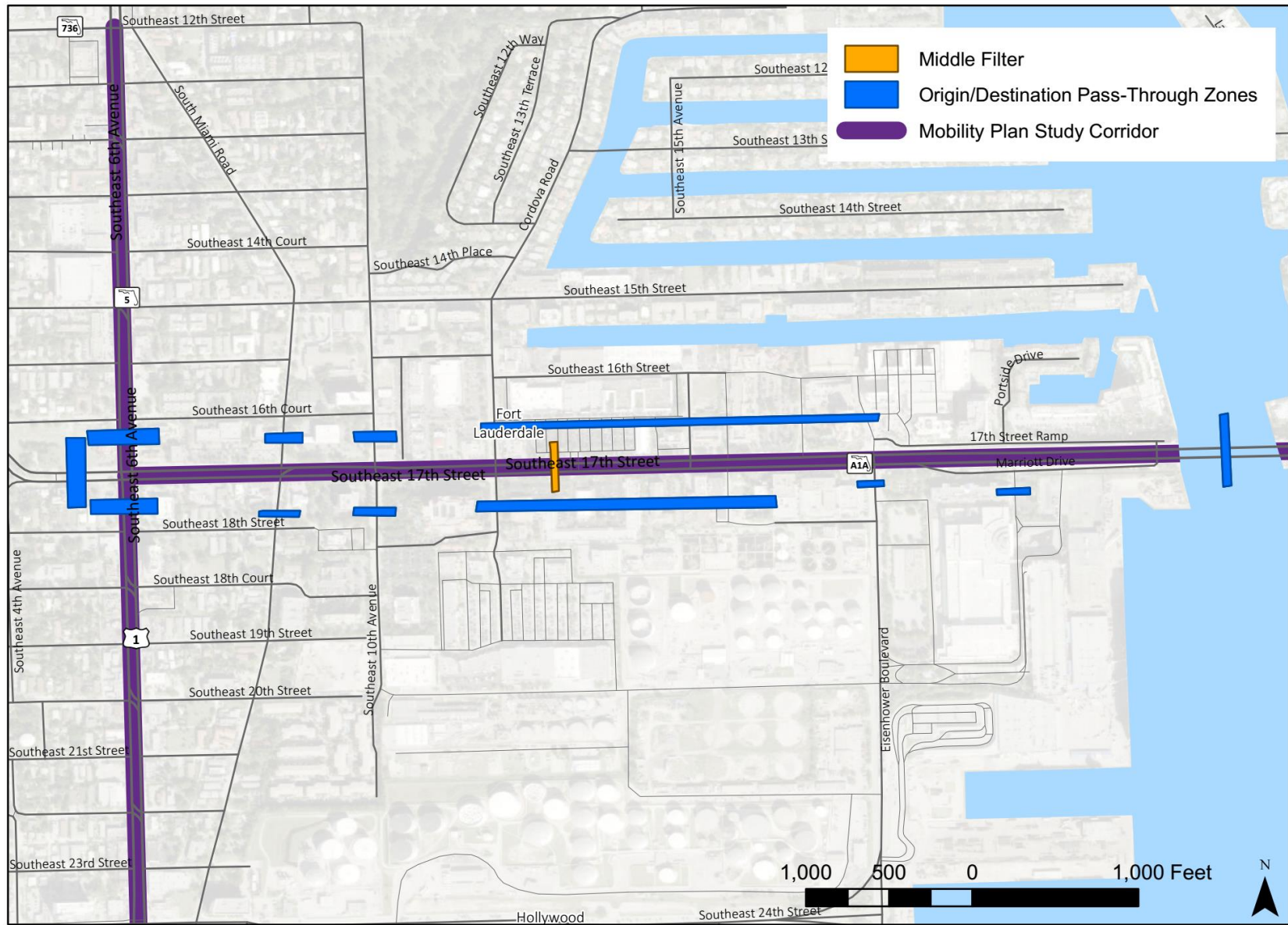
Figure 4: Cut-Through Analysis Zones
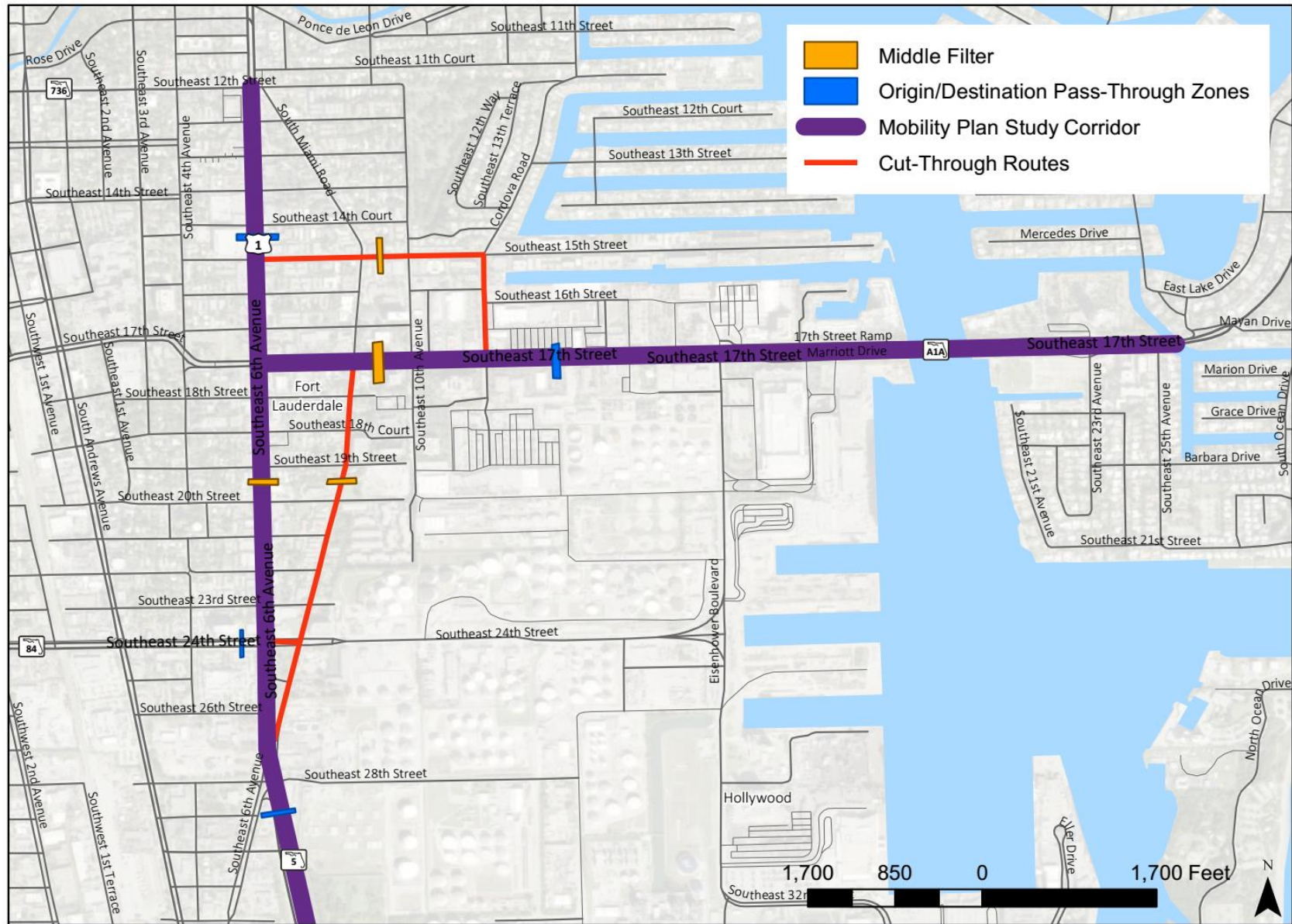
Figure 5: Regional Origin-Destination Zones
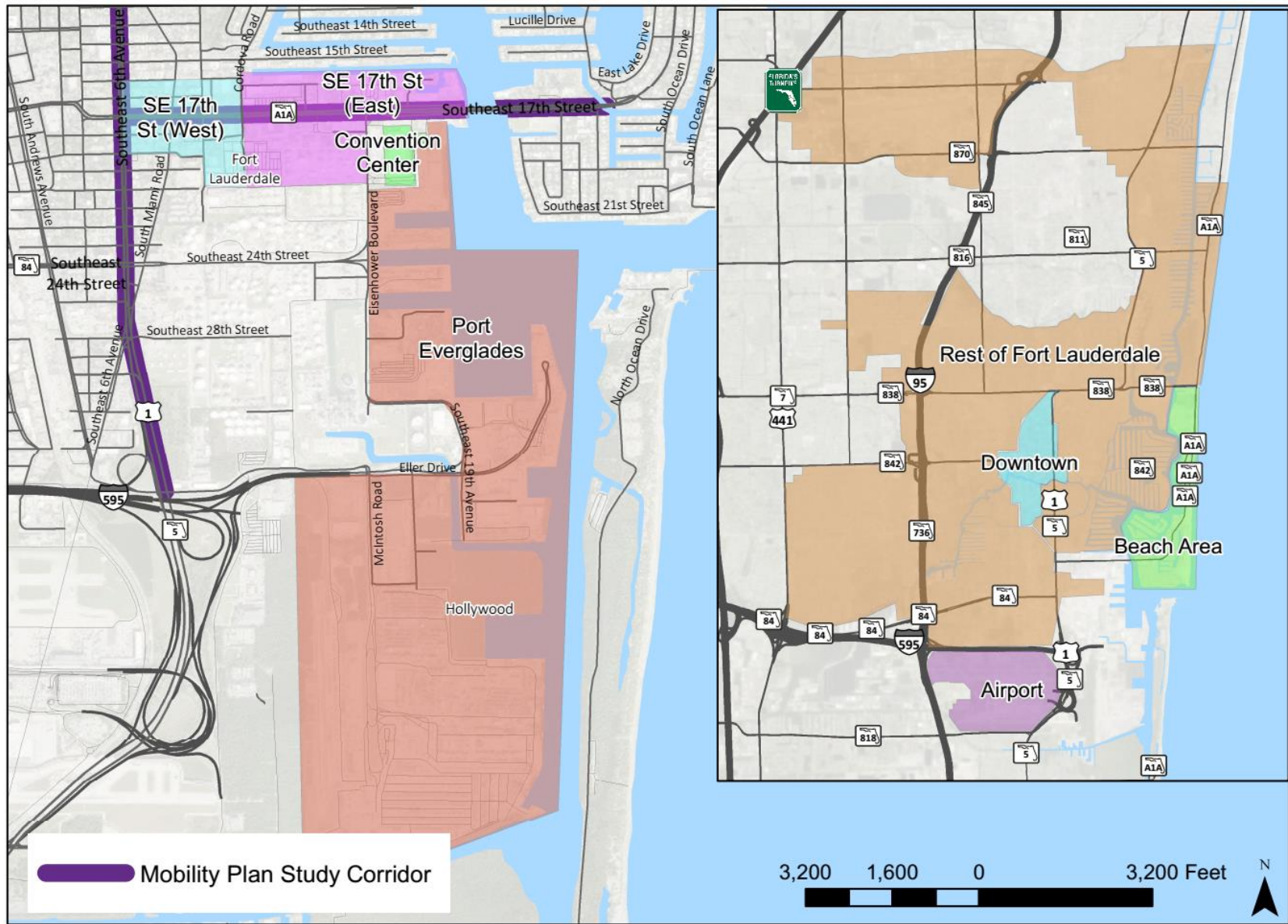
STUDY AREA CIRCULATION

The local circulation data collection was designed to answer the following question: *What are the traffic circulation patterns within the SE 17th Street study area?* Given the large number of possible combinations of origins and destinations, detailed charts answering this question are presented in Appendix A.

This section of the report highlights the *major* local circulation movements observed from the data. The analysis shows how the origin-destination patterns vary throughout the average midweek day (i.e., Tuesday through Thursday). These days are chosen as they typically experience the highest traffic demand. Weekend summaries are included in Appendix A.

MAJOR CIRCULATION PATTERNS

A simple threshold was used to narrow the results in Appendix A into a manageable set of major circulation movements. If the activity for a particular origin-destination pair was under one percent of the total SE 17th Street study area origin-destination activity, the movement was considered to be negligible and excluded from this summary.

Figure 6 presents the major circulation movements (i.e., each consisting of more than one percent of local circulation[1]). The length of the bars is representative of the volume of trips, per the StreetLight Index. The figure is broken down by three seasonal periods: a 2017 annual average, a November-December peak cruise season, and a June-July summer period. These represent the average, high, and low demand periods in the study area. The findings show that while the magnitude of trips is higher during the November-December season, circulation patterns—in percentage terms—are similar.

In Figure 7, the annual average results are further broken down into three time periods—all day, AM peak period (6-10 AM), and PM peak period (3-7 PM)— to highlight the changes in circulation throughout the average weekday. The percentage labels show the percent of all local circulation activity (in that time period) that the origin-destination pair represents.

A schematic figure of major circulation patterns is presented in Figure 8 for the average weekday. This figure includes all traffic entering and exiting the SE 17th Street study area—including vehicles crossing SE 17th Street using US 1.

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[1] These major movements comprise approximately 75 percent of the total origin-destination activity captured by StreetLight Data.

Figure 6: Major Circulation Movements by Season

Origin	Destination	Annual Average	November-December	June-August
			Season	
US 1 s-of SE 17th St (NB)	US 1 n-of SE 17th St (NB)	20.7%	21.3%	20.4%
	SE 17th St Causeway (EB)	5.5%	5.9%	6.0%
	SE 17th St w-of US 1 (WB)	1.5%	1.3%	1.5%
US 1 n-of SE 17th St (SB)	US 1 s-of SE 17th St (SB)	22.8%	23.4%	22.7%
	SE 17th St Causeway (EB)	1.3%	1.5%	1.2%
	SE 17th St w-of US 1 (WB)	1.1%	1.1%	1.0%
	South Harbor s-of SE 17th (SB)	1.1%	1.1%	1.2%
South Harbor s-of SE 17th St (NB)	US 1 n-of SE 17th St (NB)		1.0%	1.0%
SE 17th St w-of US 1 (EB)	US 1 s-of SE 17th St (SB)	1.6%	1.5%	1.6%
	US 1 n-of SE 17th St (NB)	1.6%	1.5%	1.4%
	SE 17th St Causeway (EB)	1.2%	1.3%	1.1%
SE 17th St Causeway (WB)	US 1 s-of SE 17th St (SB)	7.3%	7.8%	7.9%
	US 1 n-of SE 17th St (NB)	1.7%	1.7%	1.7%
	SE 17th St w-of US 1 (WB)	1.9%	1.7%	1.7%
Miami Rd s-of SE 17th St (NB)	SE 17th St Causeway (EB)	1.2%	1.5%	1.1%
		0K 100K 200K	0K 100K 200K	0K 100K 200K
		StreetLight Index	StreetLight Index	StreetLight Index

Source: 2017, midweek days (Tuesday-Thursday). Only movements representing 1% or more of total traffic are included.

Figure 7: Annual Average Major Circulation Movements by Time of Day

Origin	Destination	Weekday (Tu-Th) All Day (12am-12am)	Weekday (Tu-Th) Peak AM (6am-10am)	Weekday (Tu-Th) Peak PM (3pm-7pm)	Weekend (Sa-Su) All Day (12am-12am)
US 1 s-of SE 17th St (NB)	US 1 n-of SE 17th St (NB)	20.1%	21.9%	21.9%	16.6%
	SE 17th St Causeway (EB)	5.7%	3.0%	6.8%	8.0%
	SE 17th St w-of US 1 (WB)	1.5%	2.5%		
US 1 n-of SE 17th St (SB)	US 1 s-of SE 17th St (SB)	22.2%	27.6%	21.4%	18.7%
	SE 17th St Causeway (EB)	1.4%		1.5%	2.3%
	SE 17th St w-of US 1 (WB)	1.1%		1.2%	
	South Harbor s-of SE 17th (SB)	1.1%		1.2%	1.2%
South Harbor s-of SE 17th St (NB)	US 1 n-of SE 17th St (NB)	1.0%		1.0%	1.1%
SE 17th St w-of US 1 (EB)	US 1 s-of SE 17th St (SB)	1.6%	1.4%	1.9%	1.1%
	US 1 n-of SE 17th St (NB)	1.6%	1.4%	1.7%	1.2%
	SE 17th St Causeway (EB)	1.2%		1.5%	1.2%
SE 17th St Causeway (WB)	US 1 s-of SE 17th St (SB)	7.4%	9.6%	5.5%	10.1%
	US 1 n-of SE 17th St (NB)	1.7%	1.9%	1.4%	2.6%
	SE 17th St w-of US 1 (WB)	1.8%	2.7%	1.5%	1.6%
	Miami Rd s-of SE 17th St (SB)		1.1%		
Miami Rd s-of SE 17th St (NB)	SE 17th St Causeway (EB)	1.2%	1.2%	1.3%	1.4%
		0K 50K 100K 150K StreetLight Index	0K 50K 100K 150K StreetLight Index	0K 50K 100K 150K StreetLight Index	0K 50K 100K 150K StreetLight Index

Source: 2017 annual average for midweek days (Tuesday-Thursday). Only movements representing 1% or more of total traffic are included.
StreetLight Index is a proxy for volume of devices recorded. Percentages of StreetLight Index within each time-of-day period are shown. n-of = north of | s-of = south of | w-of = west of | e-of = east of

Figure 8: Midweek Daily Study Area Circulation Patterns

Source: 2017 annual average for midweek days (Tuesday-Thursday). Only movements representing 1% or more of total traffic are included.

As through traffic on US 1 is not the primary concern of the SE 17th Street stakeholders, an additional version of the circulation analysis was developed to focus on SE 17th Street. For this analysis, a middle filter on SE 17th Street was used to filter out any trips that did not use SE 17th Street.

Before analyzing the circulation patterns of vehicles using SE 17th Street, a simple analysis of seasonal and time-of-day patterns was conducted to screen for any time periods that demand additional attention. The analysis—shown in Figure 9 and Figure 10—confirms the finding that SE 17th Street experiences steady activity throughout the year and throughout the day—indicating that the corridor serves trip types beyond the typical commute-hour traffic.

Figure 9: Percent of Annual Average Activity on SE 17th Street by Season

	Peak AM (6am-10am)	Weekday (Tu-Th) Peak PM (3pm-7pm)	All Day (12am-12am)	Weekend (Sa-Su) All Day (12am-12am)
Annual Average	100%	100%	100%	100%
June-August	94%	99%	97%	93%
November-December	108%	112%	107%	106%
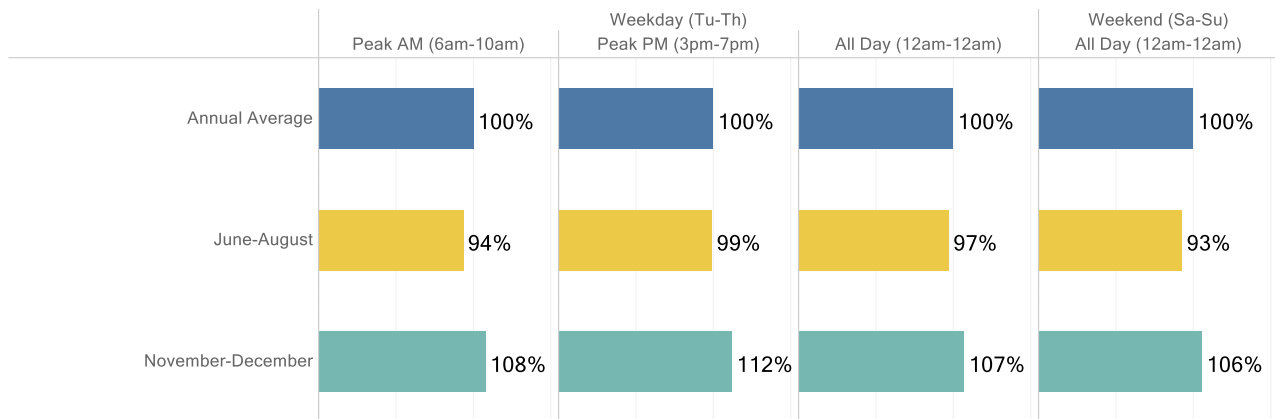
Figure 10: Annual Average Activity on SE 17th Street by Time of Day

		Percent of StreetLight Index
Weekday (Tu-Th)	Early AM (12am-6am)	1.0%
	Peak AM (6am-10am)	9.5%
	Mid-Day (10am-3pm)	15.8%
	Peak PM (3pm-7pm)	13.4%
	Late PM (7pm-12am)	8.4%
Weekend (Sa-Su)	Early AM (12am-6am)	2.5%
	Peak AM (6am-10am)	5.2%
	Mid-Day (10am-3pm)	19.1%
	Peak PM (3pm-7pm)	14.7%
	Late PM (7pm-12am)	10.5%
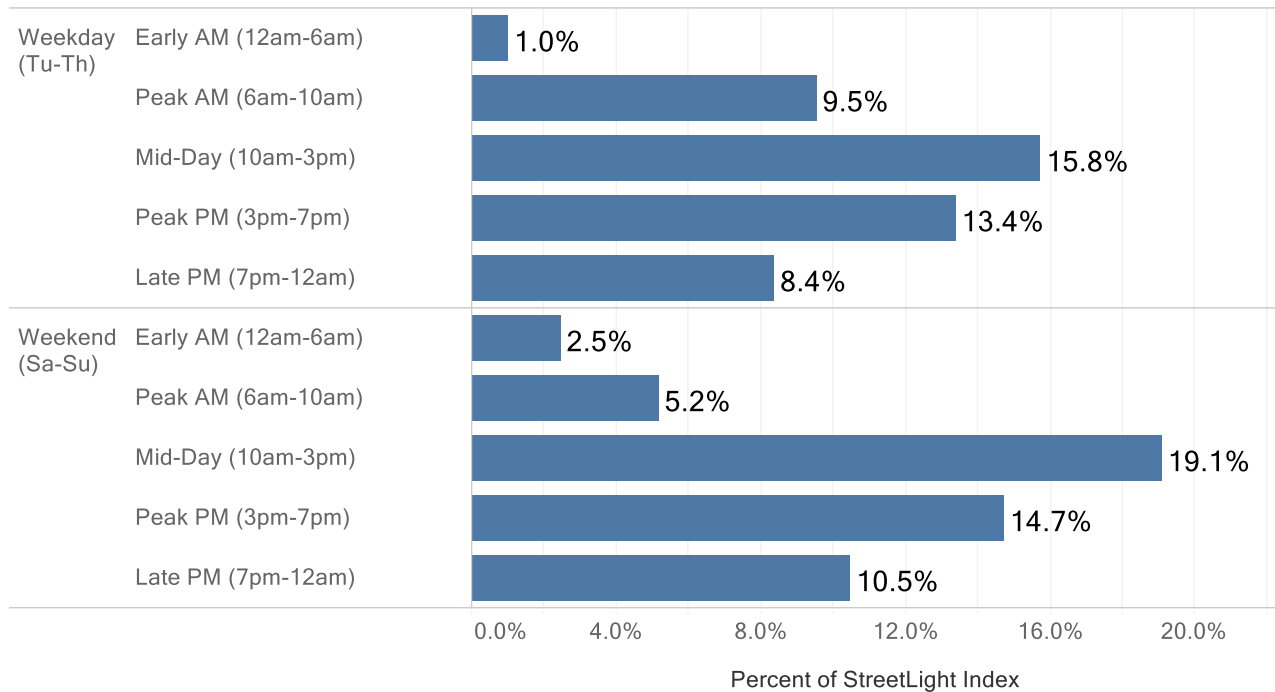
Source: 2017 annual average.

StreetLight Index is a proxy for volume of devices recorded. Percentages of StreetLight Index are shown.

A circulation figure showing only traffic which uses SE 17ᵗʰ Street is presented as Figure 11. Equivalent weekday peak period figures are presented in Figure 12 and Figure 13 for the AM period and the PM period, respectively. Weekend all-day figures are presented in Figure 14.

When considering SE 17ᵗʰ Street users only, circulation in the study area is characterized by:

- The predominant movements—accounting for nearly half of all activity—involve US 1 south of the study area and the barrier islands.
- The next five largest movements—which combine for about 25 percent of all activity—also do not interact with activity centers in the SE 17ᵗʰ Street area. They are movements between the barrier islands and US 1 to the north, Miami Road to the south, or SE 17ᵗʰ Street to the west.
- In other words, at least three quarters of traffic on SE 17ᵗʰ Street is traveling *through* the study area without interacting with any of the activity centers inside it.

Figure 11: Midweek Daily Circulation Patterns using SE 17th Street
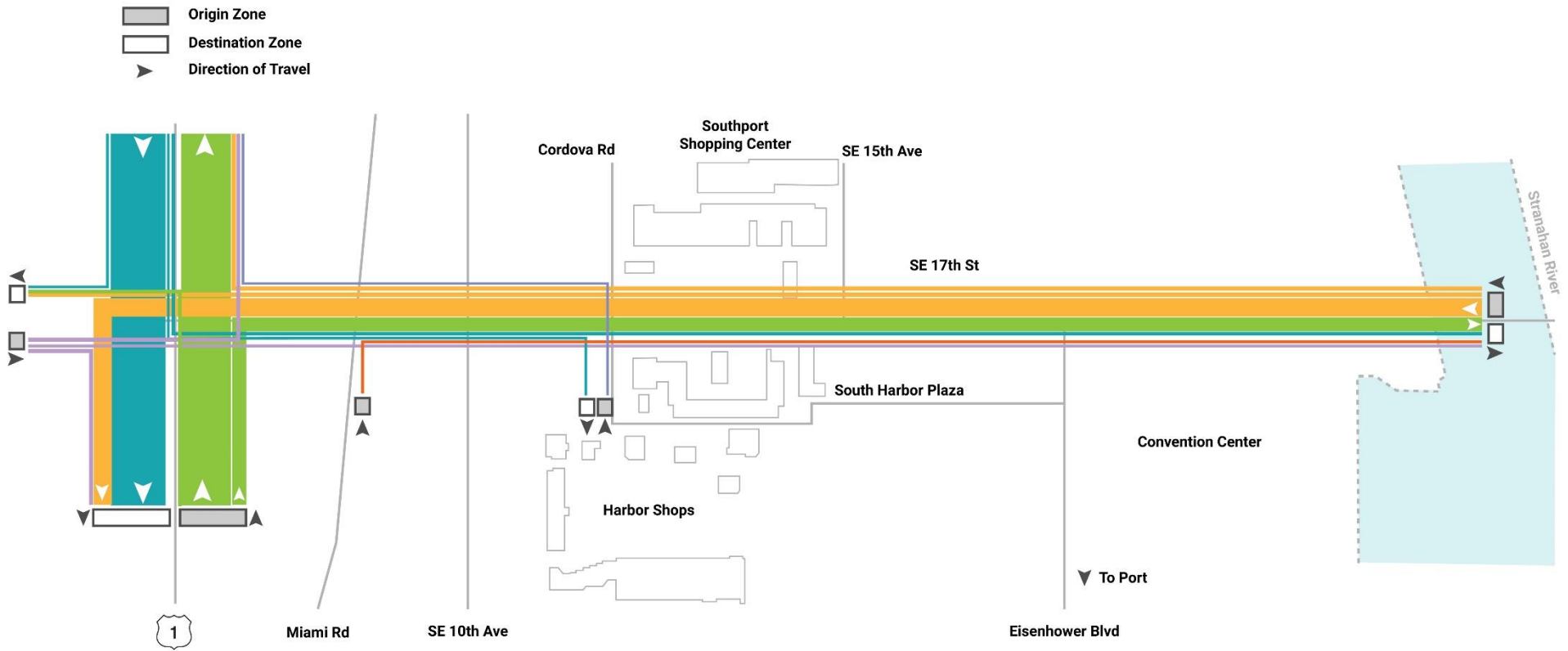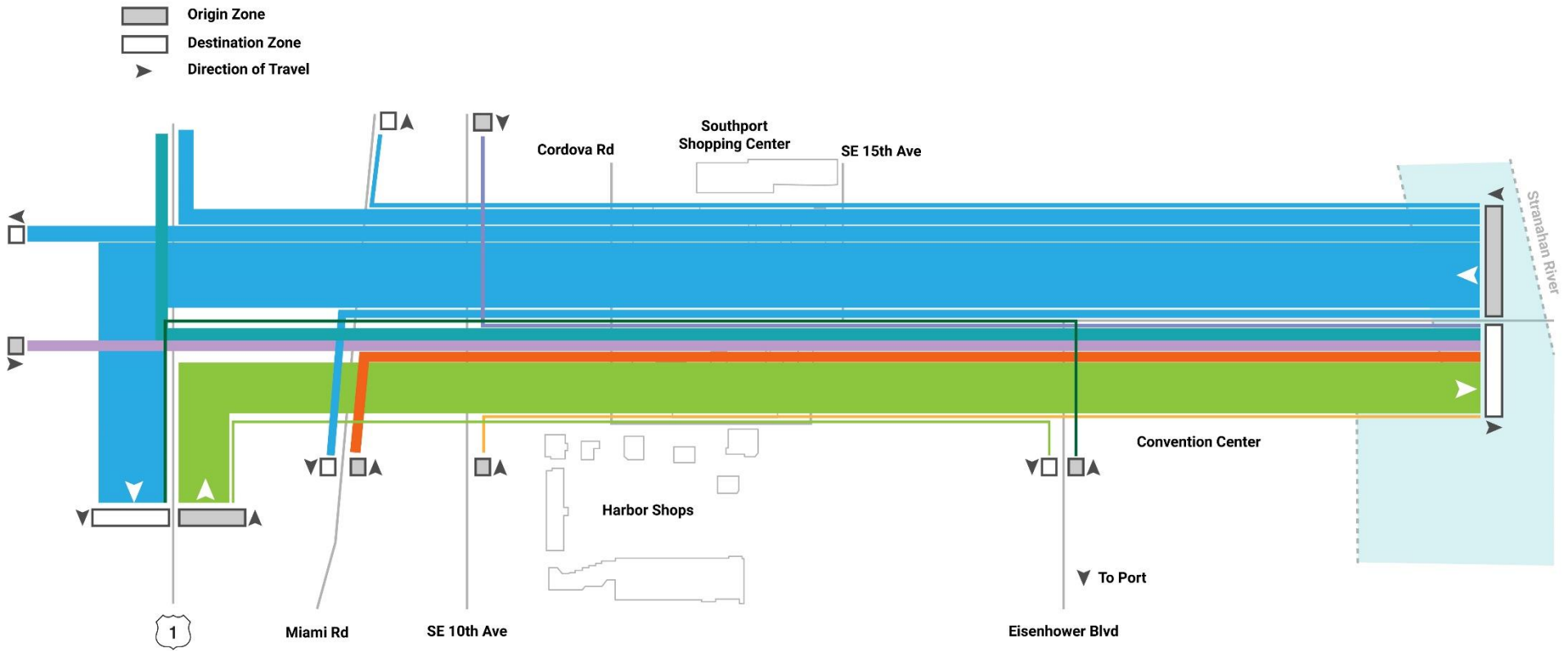

Source: 2017 annual average for midweek days (Tuesday-Thursday). Only movements representing 1% or more of total traffic are included.

Figure 12: Midweek AM Peak Period Circulation Patterns using SE 17th Street
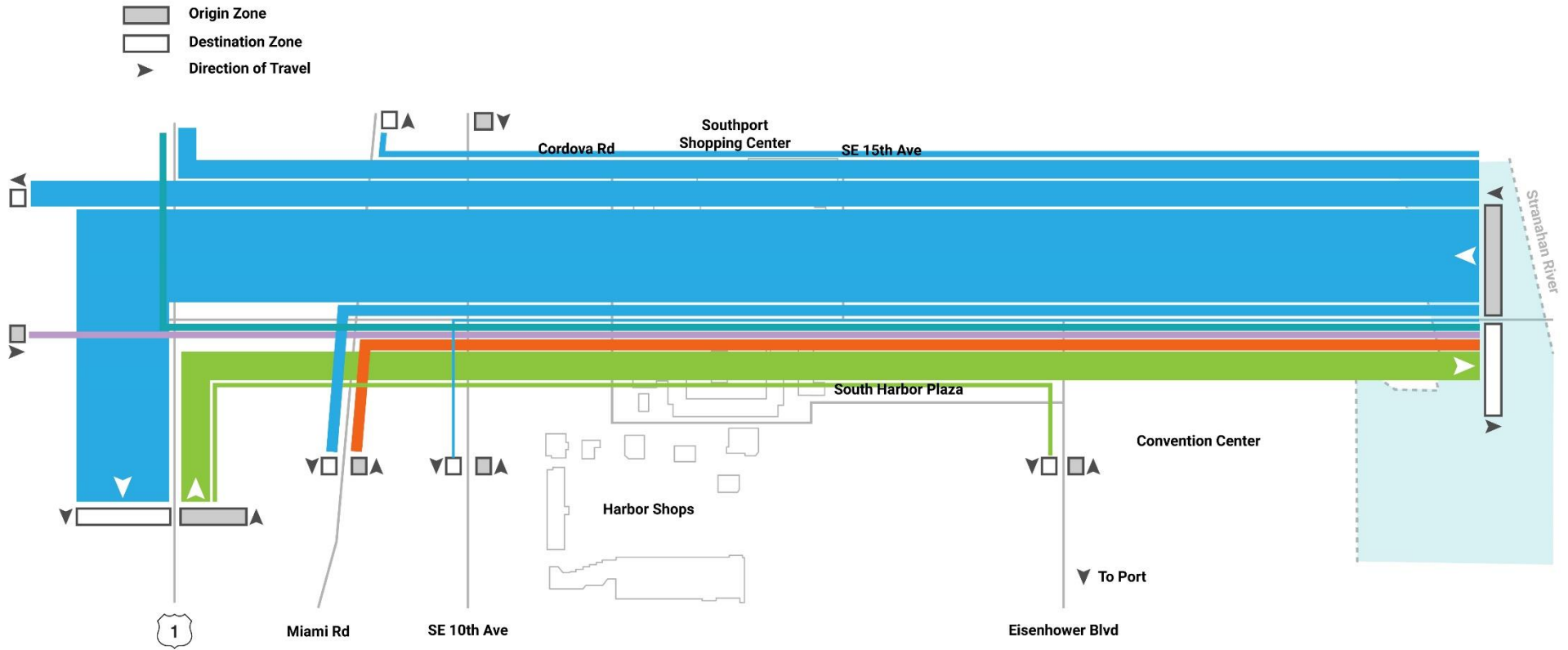
Source: 2017 annual average for midweek days (Tuesday-Thursday) between 6-10 AM. Only movements representing 1% or more of total traffic are included.

Figure 13: Midweek PM Peak Period Circulation Patterns using SE 17th Street
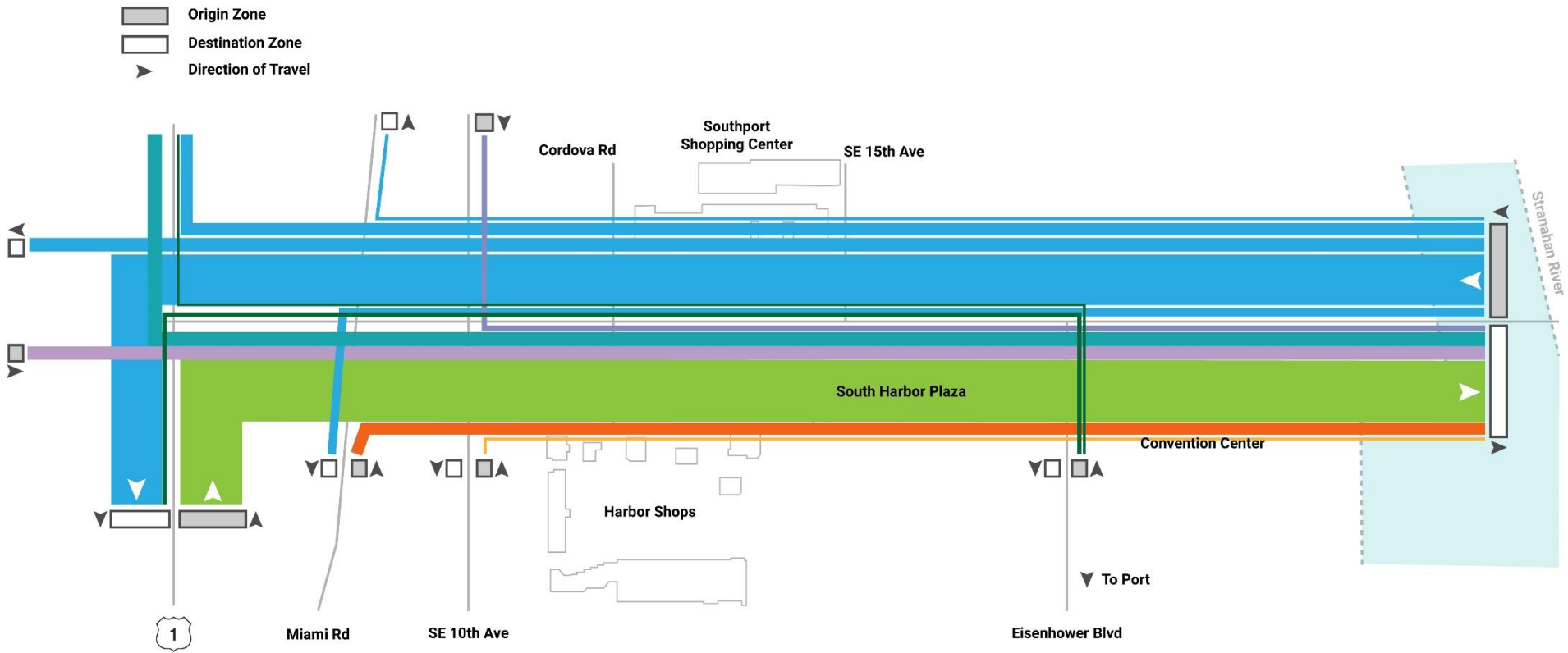
Source: 2017 annual average for midweek days (Tuesday-Thursday) between 3-7 PM. Only movements representing 1% or more of total traffic are included.

Figure 14: Weekend Daily Circulation Patterns using SE 17th Street
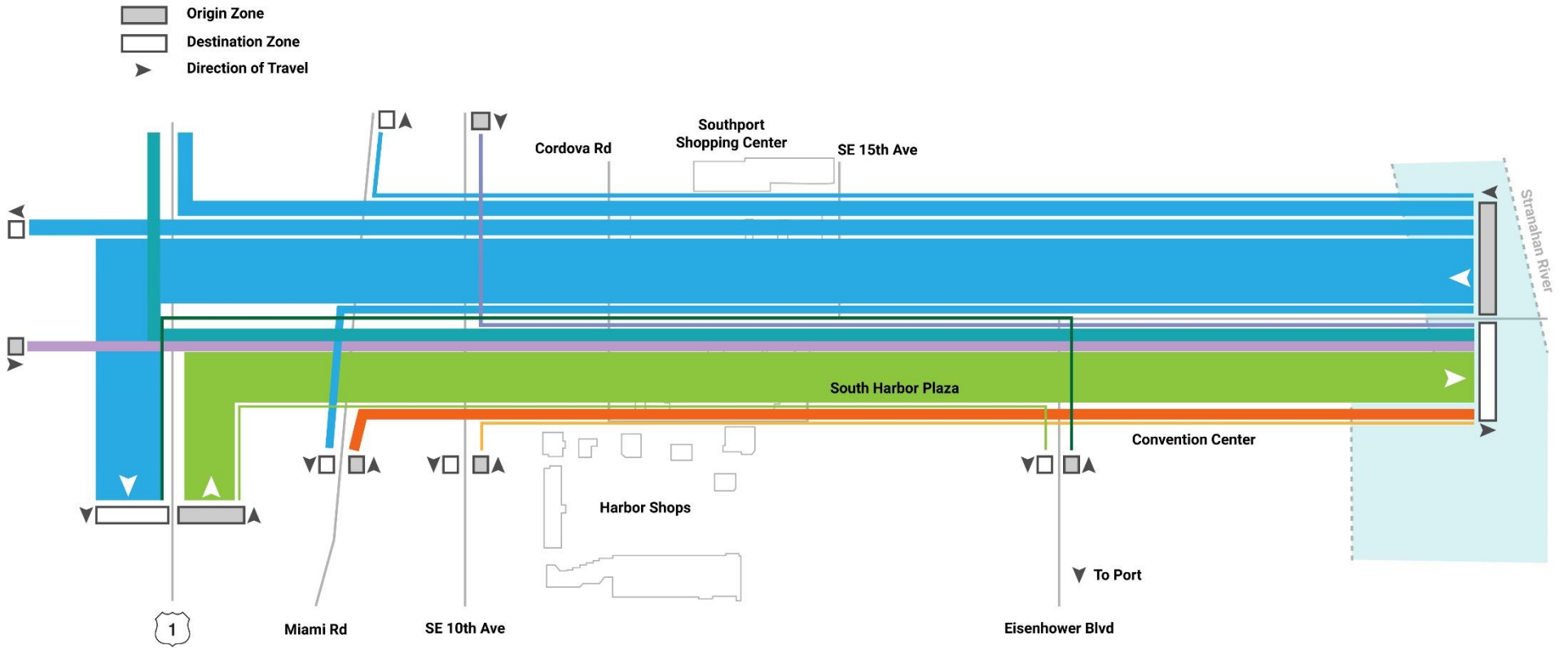
Source: 2017 annual average for weekend days (Saturday and Sunday) between 12 AM-12 PM. Only movements representing 1% or more of total traffic are included.

CUT-THROUGH ACTIVITY

Motorists seeking to avoid delays on SE 17th Street and US 1 may turn to local roadways instead. This section quantifies the percentage of motorists that choose to travel on two local roadways near the study area: Miami Road and SE 15th Street. The percentage of motorists cutting through can be calculated in more than one way, as the denominator changes depending on the perspective applied. This section describes two common ways of looking at cut-through activity.

Figure 15: Miami Road Cut-Through Analysis Routes

MIAMI ROAD

Miami Road is a local two-lane roadway that intersects US 1 at a sharp angle south of SR 84, continues with a north-northeast heading, intersects SE 17th Street, and then continues north-northwest to terminate at SE 12th Street near the US 1 and Davie Boulevard intersection. According to the Florida Department of Transportation's (FDOT's) [Florida Traffic Online](#), Miami Road carries about 4,000 vehicles per day.

The first approach answers the following question: *What percentage of motorists traveling from south of the study area to SE 17th Street are using Miami Road as a cut-through?* In this analysis, the numerator is the number of motorists using the red Miami Road cut-through path on Figure 15. The denominator is the sum of motorists on the green path (the "normal" path) and the red path. Figure 16 shows the results of this first analysis.

The second way to look at cut-through activity uses the number of motorists on the cut-through facility as the denominator. The question that is answered with this approach is: *What percentage of Miami Road travelers are using it only to cut through?* Following the graphical representation on Figure 15, the numerator is the number of motorists using the red Miami Road cut-through path, while the denominator is the total number of vehicles on Miami Road—or the equivalent of 4,000 vehicles per day in StreetLight Data's sample. Figure 17 shows the results of this second analysis. Appendix B contains the percentage figures shown in each chart.

An evaluation of both approaches yields the following findings regarding cut-through activity on Miami Road:

- On average, roughly 11 percent of SE 17th Street-bound motorists use Miami Road as a cut-through. This percentage climbs to as much as 25 percent during the AM peak period (6-10 AM) in the cruise peak season of November and December. During light-traffic times and months, only about 7 percent of these motorists cut through Miami Road.
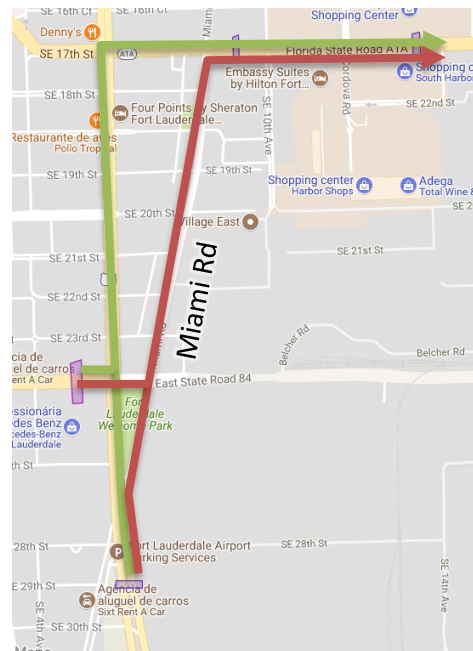
- Because Miami Road is a local facility, this cut-through activity makes up a large percentage of vehicles on Miami Road. On average, about 60 percent of all traffic on Miami Road is using it as a cut-through route. This number is relatively steady throughout the day and year.

Figure 16: Miami Road Cut-Through by Season and by Time of Day
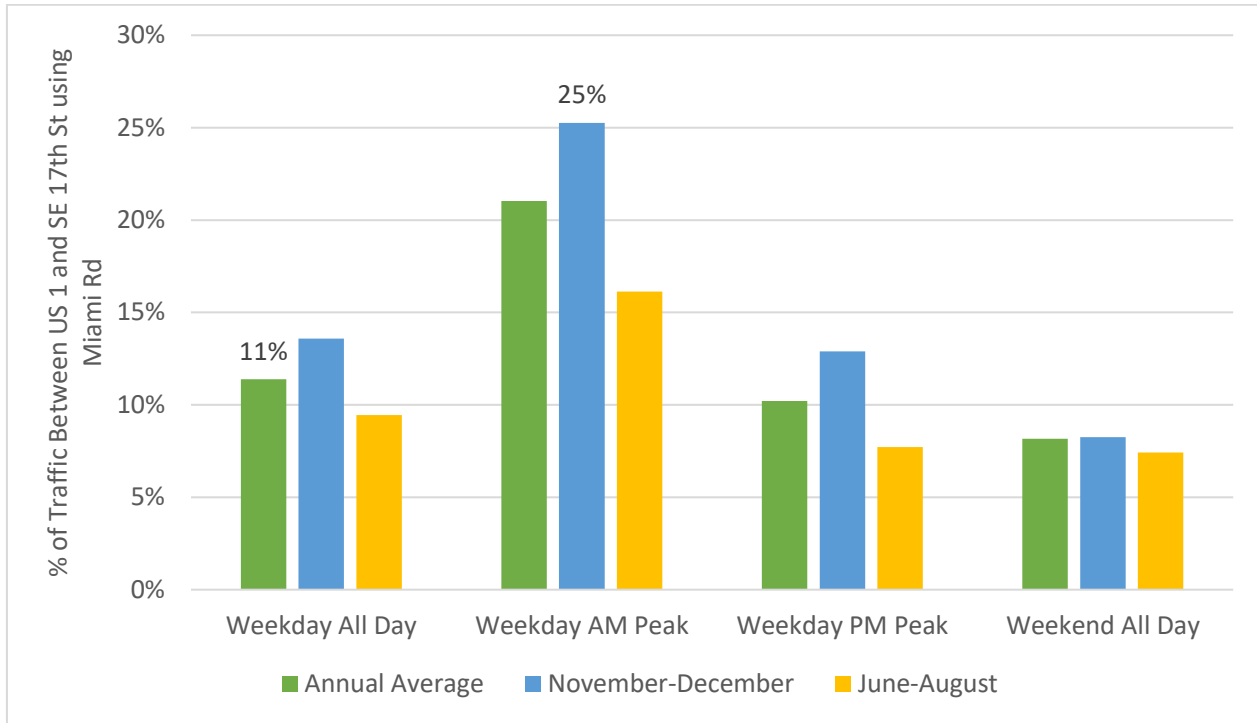
Figure 17: Cut-Through as a Percentage of Miami Road Traffic by Season and by Time of Day

SE 15TH STREET

Figure 18: SE 15th Street Cut-Through Analysis Routes
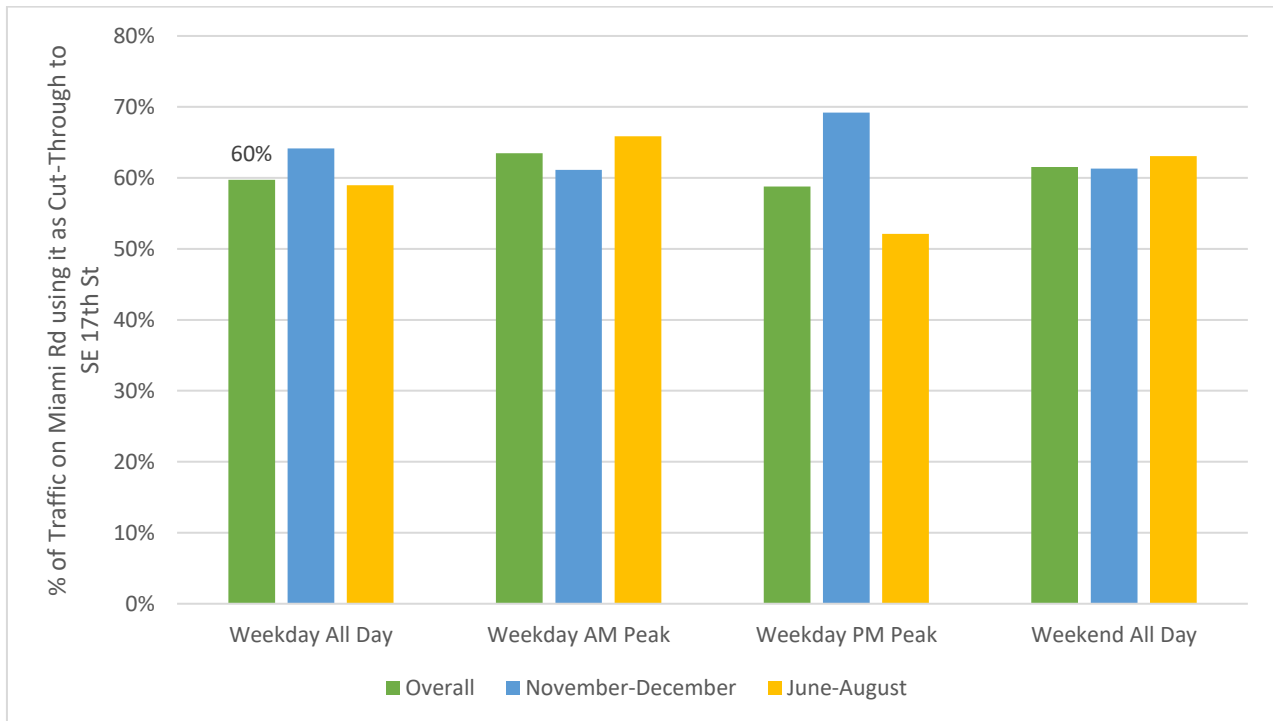
SE 15th Street is a local two-lane east-west roadway that parallels SE 17th Street. SE 15th Street connects Cordova Road and US 1, serving as a potential cut-through route to motorists wanting to avoid using SE 17th Street to connect to US 1. Figure 18 illustrates the cut-through route in red and the "normal" route in green. The analysis of SE 15th Street cut-through activity was bidirectional, meaning that both eastbound and westbound cut-throughs were evaluated together.

Note that some motorists may use SE 15th Street to access activity centers that are generally associated with the SE 17th Street corridor—including the Southport Shopping Center and adjacent retail and entertainment businesses. These motorists are not considered cut-through traffic because SE 15th Street could be the most direct path from their origins to their destinations. Only motorists that travel on US 1 and SE 17th Street at each end are counted in this analysis.

As with the analysis of cut-through activity on Miami Road, two approaches were considered. The first approach answers the question of *What percentage of motorists traveling from the study area to US 1 are using SE 15th Street as a cut-through?* In this analysis, the numerator is the number of motorists using the red SE 15th Street cut-through path on Figure 18. The denominator is the sum of motorists on the green path (the "normal" path) and the red path.

In the second approach, the question answered is: *What percentage of SE 15th Street travelers are using it only to cut through?* Following the graphical representation on Figure 18, the numerator is the number of motorists using the red SE 15th Street cut-through path, while the denominator is the total number of vehicles on SE 15th Street. Figure 20 shows the results of this analysis.

An evaluation of both approaches yields the following findings regarding cut-through activity on SE 15th Street:

- On average, roughly 4 percent of SE 17th Street- or US 1-bound motorists use SE 15th Street as a cut-through.
- Cut-through activity makes up 3 percent of the traffic on SE 15th Street.

Figure 19: SE 15th Street Cut-Through by Season and by Time of Day
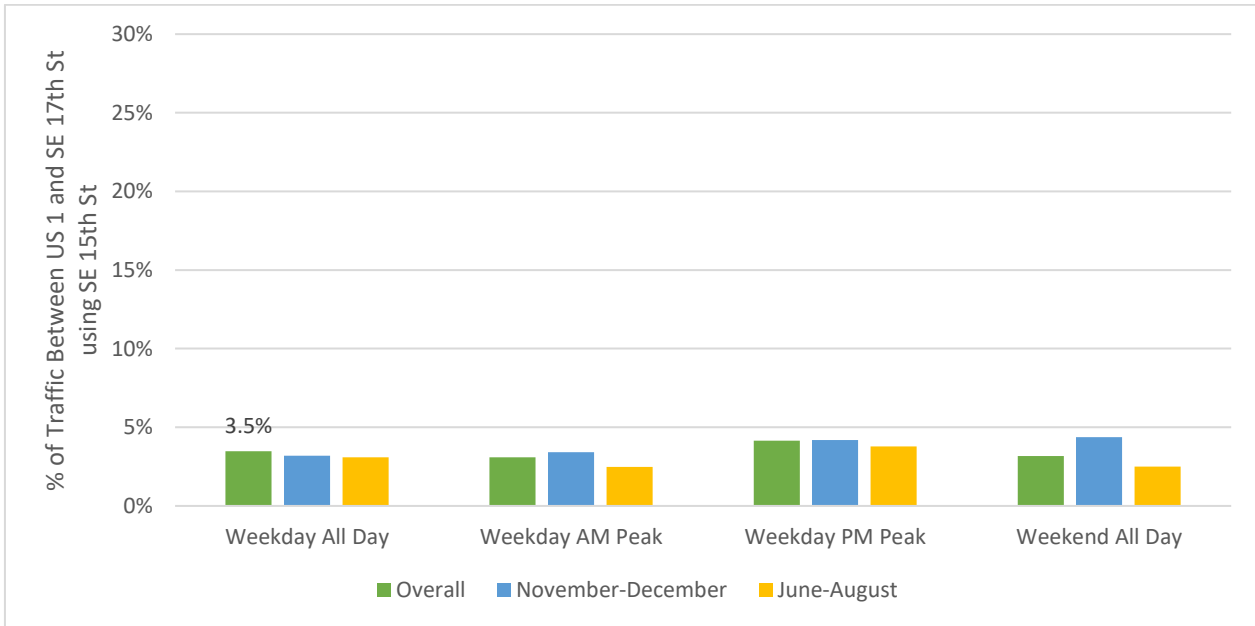
Figure 20: Cut-Through as a Percentage of SE 15th Street Traffic by Season and by Time of Day
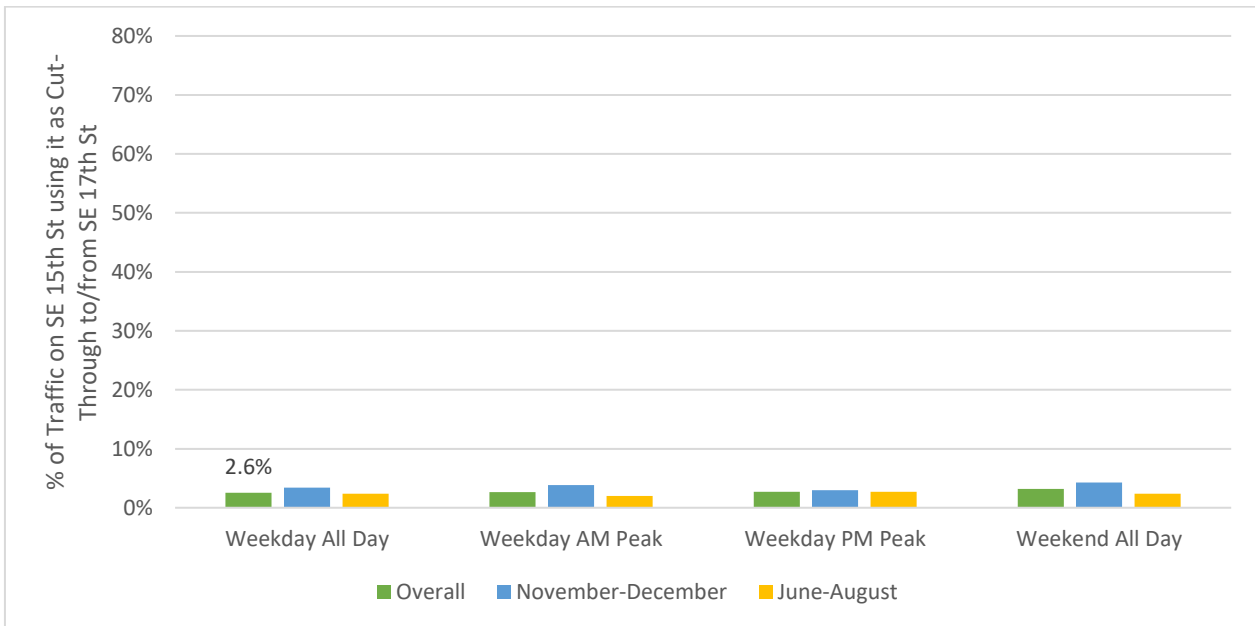
REGIONAL ORIGIN-DESTINATION PATTERNS

This section aims to answer the following question: *What percentage of SE 17th Street traffic is generated by _____ (e.g., the airport, the port, the rest of the city, etc.)?* To answer this question, a middle filter was located on SE 17th Street and used to filter traffic from the origin-destination zones shown in Figure 5. The contribution of each zone to SE 17th Street traffic was obtained by aggregating the number of trip origins and destinations in each zone. Origins and destinations were counted equally—meaning that both "trip ends" were accounted for. For example, a trip from downtown to the beach area has a trip end in downtown (the origin) and a trip end in the beach area (the destination).

Figure 21 summarizes this calculation by season. Figure 22 does the same for the annual average and adds 6-10 AM and 3-7 PM breakdowns.

The analysis shows that regional origin-destination patterns do not change much across the seasons and time periods studied. The findings confirm those from the Study Area Circulation section in that the activity centers along the SE 17th Street study area account for only a small portion of traffic using SE 17th Street.

- About 70 percent of trips using SE 17th Street start or end outside of the SE 17th Street activity centers, the airport, downtown, and the beach area. In other words, most usage of SE 17th Street is related to mid- and long-distance regional travel. These mid- and long-distance trips use the SE 17th Street causeway but originate from, and are destined to, areas further north on the barrier islands or further inland in the rest of Fort Lauderdale and South Florida.
- About 20 percent of the remaining trips start or end inside of the SE 17th Street activity centers.
- Downtown and the beach area activity centers—as defined by the boundaries in Figure 5— account for about five percent of trips each.

Figure 21: Percentage of SE 17th Street Traffic by Zone by Season
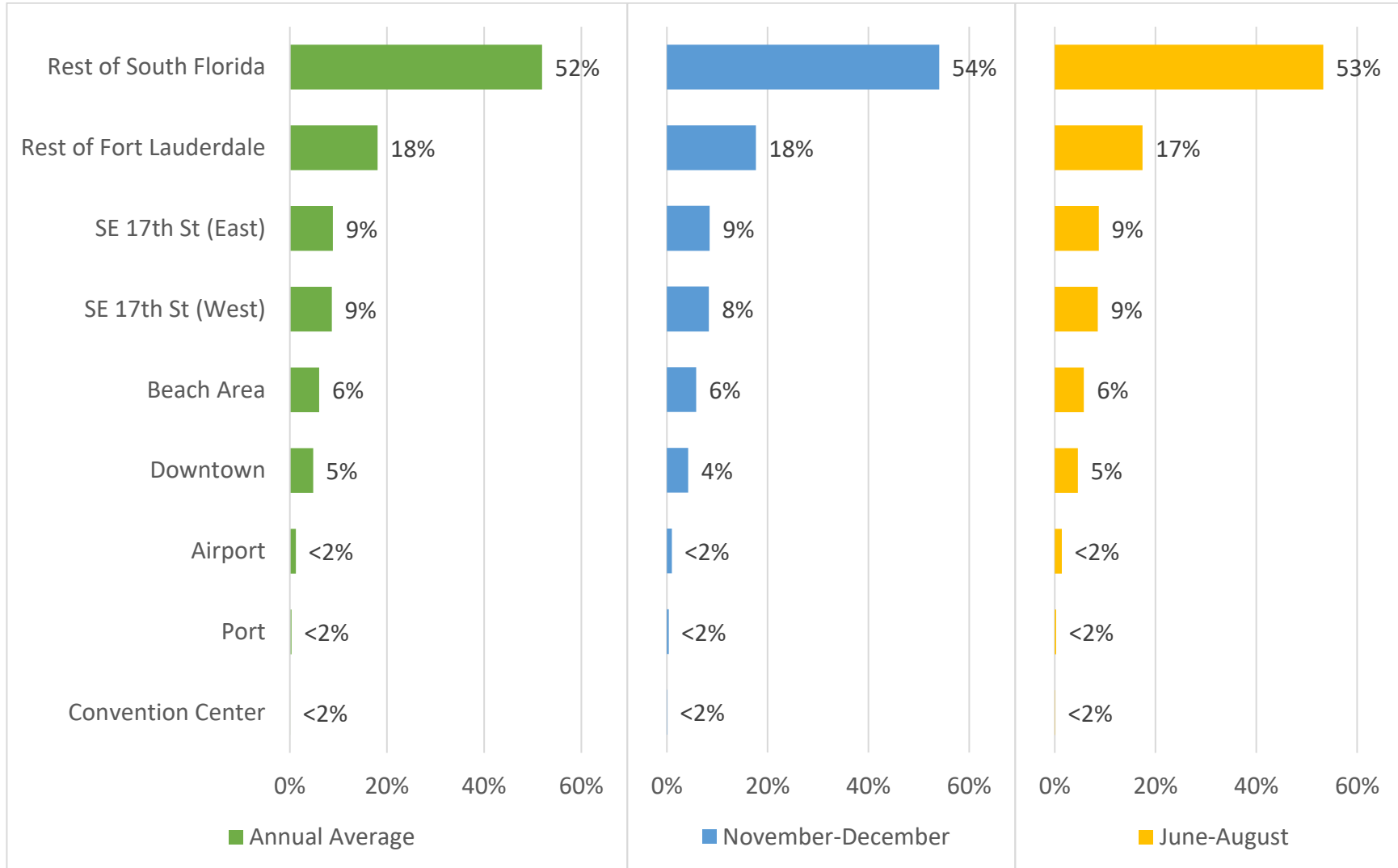
Source: 2017, midweek days (Tuesday-Thursday). Based on both origins and destinations.

Figure 22: Annual Average Percentage of SE 17th Street Traffic by Zone by Time of Day
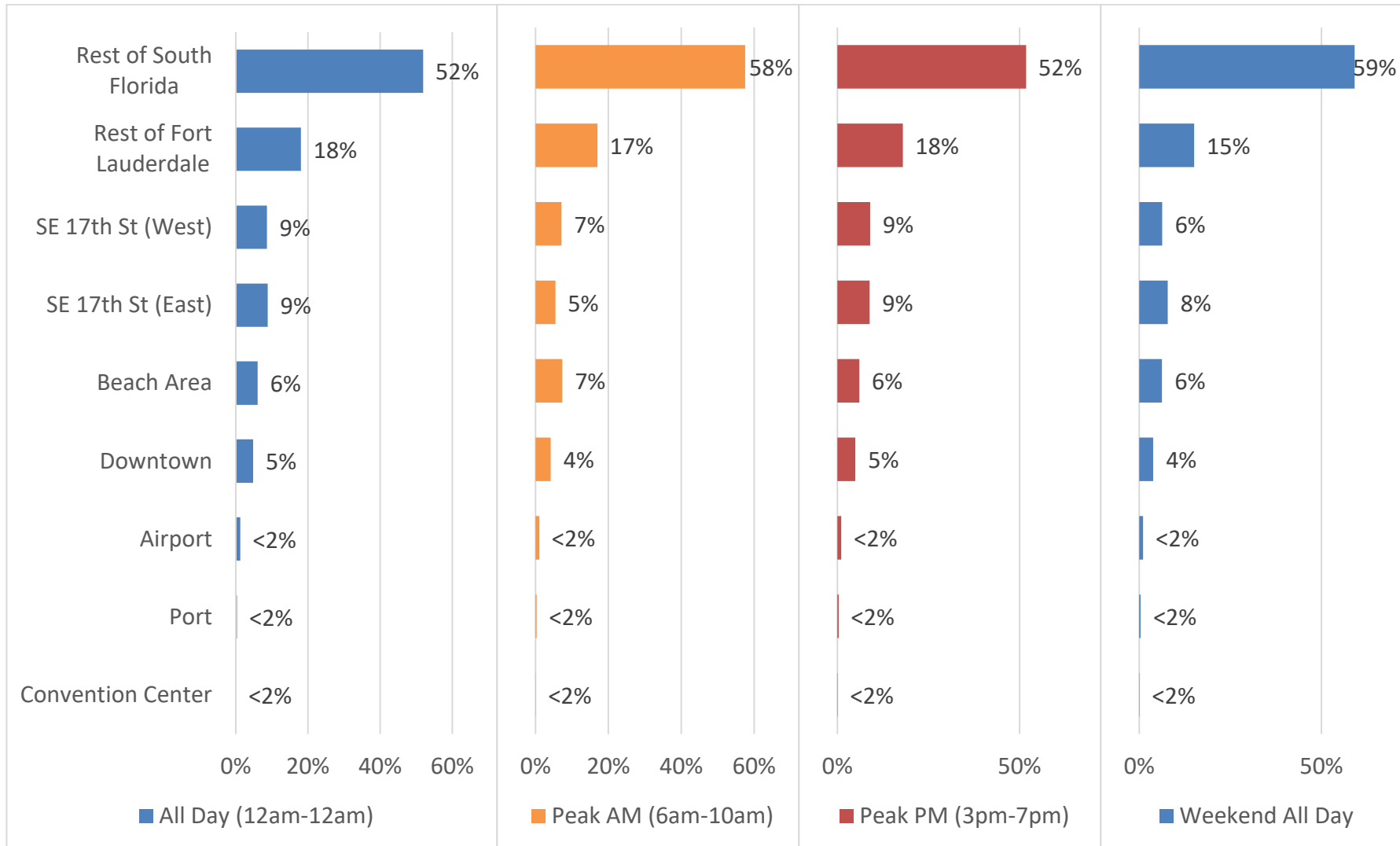
Source: 2017 annual average for midweek days (Tuesday-Thursday) and weekend days (Saturday-Sunday). Based on both origins and destinations.

To shed light on the origin-destination patterns—from where to where are SE 17th Street users traveling—additional analyses were conducted. Origin-destination pairs that make up a high proportion of SE 17th Street traffic are good candidates for holistic strategies that reduce vehicle demand on SE 17th Street. For example, an alternative route or increased transit service connecting a high-demand origin-destination pair could reduce SE 17th Street volumes.

Because the intent of this analysis is to identify high-demand, targeted connections, this section of the report excludes the zones encompassing the rest of Fort Lauderdale—outside of downtown, the airport, and the beach area—and the rest of South Florida. Therefore, the percentages in this section are based on trips between the smaller remaining zones.

Figure 23 summarizes this calculation by season. Figure 24 does the same for the annual average and adds 6-10 AM and 3-7 PM breakdowns. Findings from this analysis are summarized below:

- The origin-destination pairs with most interaction involve downtown, the SE 17th Street activity centers, and the beach area.
- Moderate interaction between the two SE 17th Street areas (i.e., "West" and "East") suggests that better pedestrian infrastructure and network connectivity could replace short-distance automobile trips between SE 17th Street activity centers.
- The data suggest that there is year-round demand for connections between downtown, the SE 17th Street activity centers, and the beach area.
- The percentage of SE 17th Street traffic between the airport and the zones studied in this analysis is small—with the exception of morning peak period trips from the beach area to the airport.
- Similarly, the percentage of SE 17th Street traffic between the port, the convention center, and the other zones studied in this analysis is small.

Figure 23: Major Origin-Destination Pairs by Season

Annual Average

Origin \ Destination	Convention Center	Downtown	Airport	Beach Area	Port	SE 17th St (East)	SE 17th St (West)
Convention Center		<1%	<1%	<1%	<1%	<1%	<1%
Downtown	<1%		<1%	5%	<1%	11%	12%
Airport	<1%	<1%		4%	<1%	2%	1%
Beach Area	<1%	9%	3%		<1%	<1%	7%
Port	<1%	<1%	<1%	<1%		<1%	<1%
SE 17th St (East)	<1%	15%	2%	<1%	<1%		6%
SE 17th St (West)	<1%	10%	<1%	5%	<1%	3%	

November-December

Origin \ Destination	Convention Center	Downtown	Airport	Beach Area	Port	SE 17th St (East)	SE 17th St (West)
Convention Center		<1%	<1%	<1%	<1%	<1%	<1%
Downtown	<1%		<1%	5%	<1%	10%	10%
Airport	<1%	<1%		4%	<1%	2%	1%
Beach Area	<1%	7%	2%		<1%	<1%	6%
Port	<1%	<1%	<1%	<1%		1%	<1%
SE 17th St (East)	<1%	15%	1%	<1%	<1%		6%
SE 17th St (West)	<1%	11%	<1%	6%	<1%	3%	

June-August

Origin \ Destination	Convention Center	Downtown	Airport	Beach Area	Port	SE 17th St (East)	SE 17th St (West)
Convention Center		<1%	<1%	<1%	<1%	<1%	<1%
Downtown	<1%		<1%	4%	<1%	11%	12%
Airport	<1%	<1%		5%	<1%	2%	2%
Beach Area	<1%	8%	4%		<1%	<1%	7%
Port	<1%	<1%	<1%	<1%		<1%	<1%
SE 17th St (East)	<1%	14%	2%	<1%	<1%		5%
SE 17th St (West)	<1%	9%	<1%	5%	<1%	3%	

Source: 2017, midweek days (Tuesday-Thursday).

Figure 24: Major Origin-Destination Pairs by Time of Day

Weekday All Day

Origin \ Destination	Convention Center	Downtown	Airport	Beach Area	Port	SE 17th St (East)	SE 17th St (West)
Convention Center		<1%	<1%	<1%	<1%	<1%	<1%
Downtown	<1%		<1%	5%	<1%	11%	12%
Airport	<1%	<1%		4%	<1%	2%	1%
Beach Area	<1%	9%	3%		<1%	<1%	7%
Port	<1%	<1%	<1%	<1%		<1%	<1%
SE 17th St (East)	<1%	15%	2%	<1%	<1%		6%
SE 17th St (West)	<1%	10%	<1%	5%	<1%	3%	

Weekday AM Peak

Origin \ Destination	Convention Center	Downtown	Airport	Beach Area	Port	SE 17th St (East)	SE 17th St (West)
Convention Center		<1%	<1%	<1%	<1%	<1%	<1%
Downtown	<1%		<1%	3%	<1%	8%	9%
Airport	<1%	<1%		2%	<1%	<1%	<1%
Beach Area	<1%	23%	7%		<1%	<1%	9%
Port	<1%	<1%	<1%	<1%		<1%	<1%
SE 17th St (East)	<1%	11%	2%	<1%	<1%		4%
SE 17th St (West)	<1%	11%	1%	3%	<1%	2%	

Weekday PM Peak

Origin \ Destination	Convention Center	Downtown	Airport	Beach Area	Port	SE 17th St (East)	SE 17th St (West)
Convention Center		<1%	<1%	<1%	<1%	<1%	<1%
Downtown	<1%		<1%	6%	<1%	11%	14%
Airport	<1%	<1%		4%	<1%	2%	1%
Beach Area	<1%	5%	3%		<1%	<1%	7%
Port	<1%	<1%	<1%	<1%		<1%	<1%
SE 17th St (East)	<1%	15%	1%	<1%	<1%		8%
SE 17th St (West)	<1%	9%	<1%	7%	<1%	3%	

Weekend All Day

Origin \ Destination	Convention Center	Downtown	Airport	Beach Area	Port	SE 17th St (East)	SE 17th St (West)
Convention Center		<1%	<1%	<1%	<1%	<1%	<1%
Downtown	<1%		<1%	5%	<1%	10%	9%
Airport	<1%	<1%		4%	<1%	2%	<1%
Beach Area	<1%	9%	4%		<1%	1%	8%
Port	<1%	<1%	<1%	<1%		<1%	<1%
SE 17th St (East)	<1%	15%	2%	1%	<1%		6%
SE 17th St (West)	<1%	8%	<1%	7%	<1%	4%	

Source: 2017 annual average for midweek days (Tuesday-Thursday) and average weekend day (Saturday-Sunday).

CONCLUSION

This study confirmed the findings of the larger SE 17th Street Multimodal Corridor Study and identified additional opportunities to explore as part of the effort to improve mobility and access on SE 17th Street. These opportunities are described below.

The findings of the circulation analyses reinforce the need to consider the role that SE 17th Street plays in the regional transportation system when making recommendations for future projects. Although certain land uses on the corridor may contribute to congestion before or after special events, the underlying cause of congestion on SE 17th Street is auto trips using it to connect between origins and destinations scattered throughout the region.

The most feasible opportunities for reducing congestion on SE 17th Street lie in creating **additional network capacity** to connect US 1 and the SE 17th Street activity centers[2]. In addition, more network on the southern side of the SE 17th Street corridor could help distribute the vehicular demand at the SE 17th Street and US 1 intersection across multiple intersections. This latter strategy is being evaluated as part of the bypass road study through port property.

The cut-through analyses found that most motorists using Miami Road are doing so to avoid traffic on US 1 and SE 17th Street. At the same time, Miami Road may be one of the best candidates for creating additional network capacity to connect US 1 and the SE 17th Street activity centers. The results of this study suggest that **a closer look at the role of Miami Road in the study area** is warranted. Several "Connectivity" recommendations in the SE 17th Street Multimodal Corridor Study relate to potential of Miami Road to provide additional multimodal network capacity. Collaboration with residents and business owners along Miami Road and SE 17th Street would be crucial in developing a holistic plan for this facility.

The regional origin-destination analyses found that the largest origin-destination pairs involve **downtown, the SE 17th Street activity centers, and the beach area**. Shifting a portion of these trips to modes other than single-occupant vehicles would likely result in a small but notable reduction in SE 17th Street congestion. A larger reduction in congestion would only be possible if trips from the greater Fort Lauderdale region are able to connect to the coastal areas using modes other than single-occupant vehicles. This would require more than a single transit route or bicycling facility—it would take a full network of reliable, simple, fast, and comfortable public or active transportation.

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[2] Additional network capacity across the intracoastal waterways would require new causeways—which carry financial, environmental, and maritime traffic concerns.

APPENDIX A: LOCAL CIRCULATION

Annual Average - Weekday (Tu-Th) - All Day (12am-12am)

Destination

Origin	Conv Ctr s (NB)	Conv Ctr s (SB)	Eisenhower s (NB)	Eisenhower s (SB)	Miami Rd n (NB)	Miami Rd n (SB)	Miami Rd s (NB)	Miami Rd s (SB)	SE 10th Ave n (NB)	SE 10th Ave n (SB)	SE 10th Ave s (NB)	SE 10th Ave s (SB)	Causeway (EB)	Causeway (WB)	w-US 1 (EB)	w-US 1 (WB)	S Harbor s (SB)	S Harbor s (NB)	Southport n (NB)	Southport n (SB)	US 1 n (NB)	US 1 n (SB)	US 1 s (NB)	US 1 s (SB)
Convention Center s-of SE 17th St (NB)			0%	0%	0%	0%	0%	0%	0%				0%	0%	0%	0%	0%		0%	0%	0%	0%		0%
Convention Center s-of SE 17th St (SB)			0%	0%	0%	0%	0%	0%	0%	0%			0%	0%	0%	0%		0%	0%		0%	0%	0%	0%
Eisenhower s-of SE 17th St (NB)	0%	0%			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%
Eisenhower s-of SE 17th St (SB)	0%	0%			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%		0%	0%	0%	0%
Miami Rd n-of SE 17th St (NB)	0%		0%				0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%
Miami Rd n-of SE 17th St (SB)				0%			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Miami Rd s-of SE 17th St (NB)	0%	0%	0%	0%	0%	0%			0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Miami Rd s-of SE 17th St (SB)	0%		0%	0%	0%	0%			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SE 10th Ave n-of SE 17th St (NB)			0%	0%	0%		0%				0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SE 10th Ave n-of SE 17th St (SB)	0%	0%	0%	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SE 10th Ave s-of SE 17th St (NB)	0%		0%	0%	0%	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SE 10th Ave s-of SE 17th St (SB)			0%	0%	0%	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SE 17th St Causeway (EB)		0%	0%		0%	0%	0%	0%			0%	0%			0%				0%		0%		0%	0%
SE 17th St Causeway (WB)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%			0%	2%	1%	0%	0%	0%	2%	0%		7%
SE 17th St w-of US 1 (EB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%			1%	0%	0%	0%	2%	0%	0%	2%
SE 17th St w-of US 1 (WB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%	0%	0%	0%
South Harbor s-of SE 17th St (NB)		0%	0%		0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	1%			1%	0%	1%	0%	0%	1%
South Harbor s-of SE 17th St (SB)		0%	0%		0%		0%	0%	0%		0%	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%	0%
Southport n-of SE 17th St (NB)		0%		0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	0%	0%	0%
Southport n-of SE 17th St (SB)	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%			0%	0%	0%	1%
US 1 n-of SE 17th (NB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	0%
US 1 n-of SE 17th St (SB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	0%	0%	0%	0%			0%	22%
US 1 s-of SE 17th St (NB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	1%	1%	0%	1%	0%	20%	0%		
US 1 s-of SE 17th St (SB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		

Annual Average - Weekday (Tu-Th) - Peak AM (6am-10am)

Destination

Origin	Convention Center s-of SE 17th St (NB)	Convention Center s-of SE 17th St (SB)	Eisenhower s-of SE 17th St (NB)	Eisenhower s-of SE 17th St (SB)	Miami Rd n-of SE 17th St (NB)	Miami Rd n-of SE 17th St (SB)	Miami Rd s-of SE 17th St (NB)	Miami Rd s-of SE 17th St (SB)	SE 10th Ave n-of SE 17th St (NB)	SE 10th Ave n-of SE 17th St (SB)	SE 10th Ave s-of SE 17th St (NB)	SE 10th Ave s-of SE 17th St (SB)	SE 17th St Causeway (EB)	SE 17th St Causeway (WB)	SE 17th St w-of US 1 (EB)	SE 17th St w-of US 1 (WB)	South Harbor s-of SE 17th St (SB)	South Harbor s-of SE 17th St (NB)	Southport n-of SE 17th St (NB)	Southport n-of SE 17th St (SB)	US 1 n-of SE 17th St (NB)	US 1 n-of SE 17th St (SB)	US 1 s-of SE 17th St (NB)	US 1 s-of SE 17th St (SB)
Convention Center s-of SE 17th St (NB)				0%	0%			0%						0%	0%					0%	0%			0%
Convention Center s-of SE 17th St (SB)			0%	0%			0%						0%	0%	0%					0%	0%	0%		0%
Eisenhower s-of SE 17th St (NB)	0%	0%			0%			0%				0%	0%	0%	0%	0%				0%	0%			0%
Eisenhower s-of SE 17th St (SB)	0%	0%			0%		0%	0%	0%	0%	0%		0%	0%	0%	0%		0%	0%		0%		0%	0%
Miami Rd n-of SE 17th St (NB)				0%			0%	0%	0%				0%			0%	0%		0%	0%	0%			0%
Miami Rd n-of SE 17th St (SB)				0%			0%	0%		0%			0%		0%	1%	0%		0%		0%	0%	0%	1%
Miami Rd s-of SE 17th St (NB)		0%	0%	0%	0%	0%			0%	0%		0%	1%	0%	0%		0%	0%	0%		0%	0%		0%
Miami Rd s-of SE 17th St (SB)									0%	0%	0%	0%	0%	0%			0%			0%	0%	0%	0%	0%
SE 10th Ave n-of SE 17th St (NB)			0%	0%									0%			0%				0%	0%	0%		0%
SE 10th Ave n-of SE 17th St (SB)		0%		0%	0%	0%	0%	0%				0%	0%	0%		0%	0%	0%	0%	0%	0%	0%		0%
SE 10th Ave s-of SE 17th St (NB)	0%	0%		0%	0%	0%	0%		0%	0%		0%	0%			0%	0%		0%	0%	1%	0%		0%
SE 10th Ave s-of SE 17th St (SB)			0%				0%		0%		0%		0%			0%	0%	0%	0%	0%	0%	0%		0%
SE 17th St Causeway (EB)							0%				0%			0%		0%	0%				0%	0%	0%	0%
SE 17th St Causeway (WB)	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%			0%	3%	0%	0%	0%	0%	2%	0%	0%	10%
SE 17th St w-of US 1 (EB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%			0%	0%	0%	0%	1%	0%	0%	1%
SE 17th St w-of US 1 (WB)			0%		0%			0%			0%	0%	0%	0%			0%			0%	0%	0%	0%	0%
South Harbor s-of SE 17th St (NB)		0%		0%	0%	0%		0%	0%	0%		0%	0%					0%	1%		1%	0%	0%	0%
South Harbor s-of SE 17th St (SB)				0%				0%	0%	0%		0%	0%				0%		0%	0%	0%			0%
Southport n-of SE 17th St (NB)								0%			0%	0%				0%				0%	0%			0%
Southport n-of SE 17th St (SB)		0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	1%	0%		0%	0%	0%	0%	1%
US 1 n-of SE 17th (NB)			0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%			0%	0%
US 1 n-of SE 17th St (SB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%	0%	0%	0%		0%		28%
US 1 s-of SE 17th St (NB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	1%	0%	0%	0%	22%	0%		
US 1 s-of SE 17th St (SB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		

Annual Average - Weekday (Tu-Th) - Peak PM (3pm-7pm)

Destination

Origin	Convention Center s-of SE 17th St (NB)	Convention Center s-of SE 17th St (SB)	Eisenhower s-of SE 17th St (NB)	Eisenhower s-of SE 17th St (SB)	Miami Rd n-of SE 17th St (NB)	Miami Rd n-of SE 17th St (SB)	Miami Rd s-of SE 17th St (NB)	Miami Rd s-of SE 17th St (SB)	SE 10th Ave n-of SE 17th St (NB)	SE 10th Ave n-of SE 17th St (SB)	SE 10th Ave s-of SE 17th St (NB)	SE 10th Ave s-of SE 17th St (SB)	SE 17th St Causeway (EB)	SE 17th St Causeway (WB)	SE 17th St w-of US 1 (EB)	SE 17th St w-of US 1 (WB)	South Harbor s-of SE 17th (SB)	South Harbor s-of SE 17th St (NB)	Southport n-of SE 17th St (NB)	Southport n-of SE 17th St (SB)	US 1 n-of SE 17th St (NB)	US 1 n-of SE 17th St (SB)	US 1 s-of SE 17th St (NB)	US 1 s-of SE 17th St (SB)
Convention Center s-of SE 17th St (NB)			0%	0%	0%	0%		0%					0%		0%	0%			0%	0%	0%	0%		0%
Convention Center s-of SE 17th St (SB)			0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%			0%	0%	0%		0%			0%
Eisenhower s-of SE 17th St (NB)				0%	0%	0%	0%	0%	0%		0%	1%	0%	0%	0%			0%	0%	0%	0%	0%	0%	0%
Eisenhower s-of SE 17th St (SB)	0%	0%			0%	0%		0%	0%		0%	0%	0%	0%	0%	0%			0%		0%			0%
Miami Rd n-of SE 17th St (NB)			0%				0%	0%	0%		0%	0%	0%	0%		0%	0%		0%	0%	0%	0%	0%	0%
Miami Rd n-of SE 17th St (SB)							0%	0%	0%	0%	0%	0%	0%		0%	0%	0%		0%	0%	0%	0%	0%	1%
Miami Rd s-of SE 17th St (NB)		0%		0%	0%	0%			0%	0%	0%	0%	1%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%
Miami Rd s-of SE 17th St (SB)			0%	0%					0%	0%		0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%
SE 10th Ave n-of SE 17th St (NB)			0%	0%	0%		0%						0%	0%	0%	0%	0%	0%		0%	0%	0%		0%
SE 10th Ave n-of SE 17th St (SB)	0%		0%	0%	0%		0%				0%		1%	0%		0%	0%		0%	0%	0%	0%		0%
SE 10th Ave s-of SE 17th St (NB)		0%	0%	0%	0%		0%	0%	0%	0%			0%	0%		0%	0%		0%	0%	1%	0%	0%	0%
SE 10th Ave s-of SE 17th St (SB)			0%				0%	0%	0%	0%			0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%
SE 17th St Causeway (EB)					0%	0%					0%						0%				0%	0%		0%
SE 17th St Causeway (WB)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%			0%	1%	0%	0%	1%	0%	1%	0%	0%	5%
SE 17th St w-of US 1 (EB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%			1%	0%	0%	0%	2%	0%		2%
SE 17th St w-of US 1 (WB)		0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%			0%		0%	0%	0%	0%	0%	0%
South Harbor s-of SE 17th (SB)			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			1%		1%	0%	1%	0%	0%	0%
South Harbor s-of SE 17th St (NB)		0%		0%	0%	0%		0%		0%	0%	0%	0%	0%			0%		0%		0%	0%	0%	0%
Southport n-of SE 17th St (NB)			0%	0%	0%		0%		0%	0%		0%			0%	0%	0%			0%	0%		0%
Southport n-of SE 17th St (SB)	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	1%	0%			0%	0%	0%	1%
US 1 n-of SE 17th (NB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%			0%	0%
US 1 n-of SE 17th St (SB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	1%	0%	0%	0%			0%	21%
US 1 s-of SE 17th St (NB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	1%	1%	0%	1%	0%	22%	0%		
US 1 s-of SE 17th St (SB)			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		

Annual Average - Weekend (Sa-Su) - All Day (12am-12am)

Destination

Origin	Convention Center s-of SE 17th St (NB)	Convention Center s-of SE 17th St (SB)	Eisenhower s-of SE 17th St (NB)	Eisenhower s-of SE 17th St (SB)	Miami Rd n-of SE 17th St (NB)	Miami Rd n-of SE 17th St (SB)	Miami Rd s-of SE 17th St (NB)	Miami Rd s-of SE 17th St (SB)	SE 10th Ave n-of SE 17th St (NB)	SE 10th Ave n-of SE 17th St (SB)	SE 10th Ave s-of SE 17th St (NB)	SE 10th Ave s-of SE 17th St (SB)	SE 17th St Causeway (EB)	SE 17th St Causeway (WB)	SE 17th St w-of US 1 (EB)	SE 17th St w-of US 1 (WB)	South Harbor s-of SE 17th (SB)	South Harbor s-of SE 17th St (NB)	Southport n-of SE 17th St (NB)	Southport n-of SE 17th St (SB)	US 1 n-of SE 17th St (NB)	US 1 n-of SE 17th St (SB)	US 1 s-of SE 17th St (NB)	US 1 s-of SE 17th St (SB)
Convention Center s-of SE 17th St (NB)			0%	0%	0%	0%		0%	0%	0%			0%	0%		0%	0%		0%	0%	0%	0%		0%
Convention Center s-of SE 17th St (SB)			0%	0%	0%	0%		0%		0%		0%	0%	0%		0%			0%		0%			0%
Eisenhower s-of SE 17th St (NB)		0%			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Eisenhower s-of SE 17th St (SB)	0%	0%			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%
Miami Rd n-of SE 17th St (NB)		0%	0%	0%			0%	0%	0%	0%	0%	0%	0%		0%		0%		0%	0%	0%	0%	0%	0%
Miami Rd n-of SE 17th St (SB)		0%		0%			0%	0%	0%	0%	0%	0%	0%		0%		0%	0%	0%	0%	0%	0%	0%	1%
Miami Rd s-of SE 17th St (NB)	0%	0%	0%	0%	0%	0%			0%	0%	0%	0%	1%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%
Miami Rd s-of SE 17th St (SB)		0%	0%	0%	0%				0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%
SE 10th Ave n-of SE 17th St (NB)		0%		0%	0%	0%		0%			0%	0%	0%		0%		0%	0%		0%	0%	0%	0%	0%
SE 10th Ave n-of SE 17th St (SB)		0%	0%	0%	0%	0%	0%				0%	0%	1%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%
SE 10th Ave s-of SE 17th St (NB)		0%		0%	0%	0%	0%	0%	0%	0%			0%	0%	0%		0%	0%		0%	1%	0%	0%	0%
SE 10th Ave s-of SE 17th St (SB)		0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	0%	0%		0%	0%		0%	0%	0%	0%	0%
SE 17th St Causeway (EB)		0%				0%	0%	0%		0%					0%	0%	0%		0%		0%		0%	0%
SE 17th St Causeway (WB)	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%			0%	2%	0%	0%	1%	0%	3%	0%	0%	10%
SE 17th St w-of US 1 (EB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%			1%	0%	0%	0%	1%	0%	0%	1%
SE 17th St w-of US 1 (WB)		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%					0%	0%	0%		0%	0%	0%	0%
South Harbor s-of SE 17th St (NB)		0%		0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%			1%	0%	1%	0%	0%	1%
South Harbor s-of SE 17th St (SB)		0%		0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%	0%
Southport n-of SE 17th St (NB)		0%		0%	0%	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%	0%			0%	0%	0%	0%
Southport n-of SE 17th St (SB)		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	1%	0%			0%	0%	0%	1%
US 1 n-of SE 17th (NB)		0%		0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	0%
US 1 n-of SE 17th St (SB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	1%	0%	0%	0%			0%	19%
US 1 s-of SE 17th St (NB)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	1%	1%	0%	1%	0%	17%	0%		
US 1 s-of SE 17th St (SB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		

Annual Average - Weekday (Tu-Th) - Peak AM (6am-10am) - With Middle Filter (i.e., using SE 17th Street)

Destination →

Origin	Convention Center s-of SE 17th St (NB)	Convention Center s-of SE 17th St (SB)	Eisenhower Blvd s-of SE 17th St (NB)	Eisenhower Blvd s-of SE 17th St (SB)	Miami Rd n-of SE 17th St (NB)	Miami Rd n-of SE 17th St (SB)	Miami Rd s-of SE 17th St (NB)	Miami Rd s-of SE 17th St (SB)	SE 10th Ave n-of SE 17th St (NB)	SE 10th Ave n-of SE 17th St (SB)	SE 10th Ave s-of SE 17th St (NB)	SE 10th Ave s-of SE 17th St (SB)	SE 17th St at the Causeway (EB)	SE 17th St at the Causeway (WB)	SE 17th St w-of US 1 (EB)	SE 17th St w-of US 1 (WB)	South Harbor s-of SE 17th (NB)	South Harbor s-of SE 17th St (SB)	Southport n-of SE 17th St (NB)	US 1 n-of SE 17th St (NB)	US 1 n-of SE 17th St (SB)	US 1 s-of SE 17th St (NB)	US 1 s-of SE 17th St (SB)
Convention Center s-of SE 17th St (NB)								0%							0%					0%			0%
Convention Center s-of SE 17th St (SB)							0%								0%					0%			0%
Eisenhower Blvd s-of SE 17th St (NB)					0%		0%					0%			0%	0%				0%	0%		0%
Eisenhower Blvd s-of SE 17th St (SB)					0%		0%	0%	0%	0%	0%				0%					0%			0%
Miami Rd n-of SE 17th St (NB)				0%									0%							0%			
Miami Rd n-of SE 17th St (SB)				0%									0%										
Miami Rd s-of SE 17th St (NB)		0%	0%	1%				0%					5%	0%	0%	0%		0%	0%	0%	0%	0%	0%
Miami Rd s-of SE 17th St (SB)													0%										
SE 10th Ave n-of SE 17th St (NB)													0%										
SE 10th Ave n-of SE 17th St (SB)		0%		0%									1%							0%	0%		0%
SE 10th Ave s-of SE 17th St (NB)		0%		0%									1%	0%						0%	0%	0%	0%
SE 10th Ave s-of SE 17th St (SB)				0%									0%										0%
SE 17th St at Causeway (WB)				0%	2%	0%	0%	4%	0%	0%	0%	1%			0%	10%		0%	0%	7%	1%	0%	37%
SE 17th St w-of US 1 (EB)	0%	1%	0%	0%				0%	0%				3%	0%			0%			0%	0%	0%	0%
SE 17th St w-of US1 (WB)	0%			0%									0%	0%					0%		0%	0%	0%
South Harbor s-of SE 17th St (NB)							0%									0%				0%			0%
Southport n-of SE 17th St (NB)													0%			0%				0%			0%
Southport n-of SE 17th St (SB)			0%		0%	0%		0%			0%		0%			0%				0%			0%
US 1 n-of SE 17th St (NB)				0%								0%	0%	0%		0%		0%					0%
US 1 n-of SE 17th St (SB)		0%	0%	1%		0%		0%					3%	0%	0%	0%	0%		0%				0%
US 1 s-of SE 17th St (NB)	0%	1%	0%	2%								0%	12%	0%		0%	0%	0%	0%	0%			
US 1 s-of SE 17th St (SB)	0%	0%		0%				0%					0%	0%	0%	0%	0%		0%	0%	0%		

Annual Average - Weekday (Tu-Th) - Peak PM (3pm-7pm) - With Middle Filter (i.e., using SE 17th Street)

Destination →

Column key (Destination):
CC-NB = Convention Center s-of SE 17th St (NB); CC-SB = Convention Center s-of SE 17th St (SB); EB-NB = Eisenhower Blvd s-of SE 17th St (NB); EB-SB = Eisenhower Blvd s-of SE 17th St (SB); MRn-NB = Miami Rd n-of SE 17th St (NB); MRn-SB = Miami Rd n-of SE 17th St (SB); MRs-NB = Miami Rd s-of SE 17th St (NB); MRs-SB = Miami Rd s-of SE 17th St (SB); 10n-NB = SE 10th Ave n-of SE 17th St (NB); 10n-SB = SE 10th Ave n-of SE 17th St (SB); 10s-NB = SE 10th Ave s-of SE 17th St (NB); 10s-SB = SE 10th Ave s-of SE 17th St (SB); Cw-EB = SE 17th St at the Causeway (EB); Cw-WB = SE 17th St at the Causeway (WB); U1w-EB = SE 17th St w-of US 1 (EB); U1w-WB = SE 17th St w-of US 1 (WB); SH-NB = South Harbor s-of SE 17th St (NB); SH-SB = South Harbor s-of SE 17th St (SB); SP-NB = Southport n-of SE 17th St (NB); SP-SB = Southport n-of SE 17th St (SB); U1n-NB = US 1 n-of SE 17th St (NB); U1n-SB = US 1 n-of SE 17th St (SB); U1s-NB = US 1 s-of SE 17th St (NB); U1s-SB = US 1 s-of SE 17th St (SB)

Origin	CC-NB	CC-SB	EB-NB	EB-SB	MRn-NB	MRn-SB	MRs-NB	MRs-SB	10n-NB	10n-SB	10s-NB	10s-SB	Cw-EB	Cw-WB	U1w-EB	U1w-WB	SH-NB	SH-SB	SP-NB	SP-SB	U1n-NB	U1n-SB	U1s-NB	U1s-SB
Convention Center s-of SE 17th St (NB)					0%	0%		0%						0%							0%	0%		0%
Convention Center s-of SE 17th St (SB)					0%	0%		0%					0%	0%							0%			0%
Eisenhower Blvd s-of SE 17th St (NB)					0%	0%		1%	0%	0%		0%	0%	0%	0%	0%					1%	0%	0%	2%
Eisenhower Blvd s-of SE 17th St (SB)					0%	0%		0%	0%			0%			0%	0%					0%	0%		0%
Miami Rd n-of SE 17th St (NB)				0%										0%					0%					0%
Miami Rd n-of SE 17th St (SB)														0%					0%					
Miami Rd s-of SE 17th St (NB)		0%		0%				0%				0%	5%	0%				0%	0%	0%	0%	0%		0%
Miami Rd s-of SE 17th St (SB)													0%						0%				0%	0%
SE 10th Ave n-of SE 17th St (NB)													0%			0%								
SE 10th Ave n-of SE 17th St (SB)	0%				0%								2%	0%		0%			0%					0%
SE 10th Ave s-of SE 17th St (NB)					0%			0%					1%	0%					0%		0%	0%	0%	0%
SE 10th Ave s-of SE 17th St (SB)					0%								0%		0%			0%	0%		0%	0%	0%	0%
SE 17th St at Causeway (EB)														0%										
SE 17th St at Causeway (WB)		0%		0%	1%	0%	0%	3%	1%	0%	0%	1%			0%	6%	0%		0%	0%	5%	0%	0%	20%
SE 17th St w-of US 1 (EB)	0%	0%	0%	0%			0%					0%	5%	0%				0%	0%	0%	0%	0%		
SE 17th St w-of US1 (WB)				0%									0%	0%					0%	0%				0%
South Harbor s-of SE 17th St (NB)					0%			0%											0%					0%
South Harbor s-of SE 17th St (SB)						0%		0%				0%							0%					
Southport n-of SE 17th St (NB)					0%														0%					0%
Southport n-of SE 17th St (SB)					0%	0%	0%	0%	0%	0%		0%		0%					0%		1%	0%	0%	1%
US 1 n-of SE 17th St (NB)	0%	0%	0%	0%			0%	0%		0%			1%	0%					0%					0%
US 1 n-of SE 17th St (SB)	0%	0%	0%	0%						0%			6%	0%				0%	0%	0%				0%
US 1 s-of SE 17th St (NB)	0%	0%	0%	1%	0%			0%	0%		0%	0%	25%	0%			0%	0%	1%	0%	0%	0%		
US 1 s-of SE 17th St (SB)					0%		0%	0%					1%	0%					0%					

Annual Average - Weekend (Sa-Su) - All Day (12am-12am) - With Middle Filter (i.e., using SE 17th Street)

Destination

Origin	Convention Center s-of SE 17th St (NB)	Convention Center s-of SE 17th St (SB)	Eisenhower Blvd s-of SE 17th St (NB)	Eisenhower Blvd s-of SE 17th St (SB)	Miami Rd n-of SE 17th St (NB)	Miami Rd n-of SE 17th St (SB)	Miami Rd s-of SE 17th St (NB)	Miami Rd s-of SE 17th St (SB)	SE 10th Ave n-of SE 17th St (NB)	SE 10th Ave n-of SE 17th St (SB)	SE 10th Ave s-of SE 17th St (NB)	SE 10th Ave s-of SE 17th St (SB)	SE 17th St at the Causeway (EB)	SE 17th St at the Causeway (WB)	SE 17th St w-of US 1 (EB)	SE 17th St w-of US 1 (WB)	South Harbor s-of SE 17th St (NB)	South Harbor s-of SE 17th St (SB)	Southport n-of SE 17th St (NB)	Southport n-of SE 17th St (SB)	US 1 n-of SE 17th St (NB)	US 1 n-of SE 17th St (SB)	US 1 s-of SE 17th St (NB)	US 1 s-of SE 17th St (SB)
Convention Center s-of SE 17th St (NB)					0%	0%		0%	0%							0%					0%	0%		0%
Convention Center s-of SE 17th St (SB)				0%	0%	0%		0%		0%		0%				0%					0%			0%
Eisenhower Blvd s-of SE 17th St (NB)					0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%					1%	0%	0%	2%
Eisenhower Blvd s-of SE 17th St (SB)					0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%		0%	0%	0%	1%
Miami Rd n-of SE 17th St (NB)		0%		0%			0%						0%			0%			0%	0%				
Miami Rd n-of SE 17th St (SB)				0%							0%		0%	0%	0%					0%				
Miami Rd s-of SE 17th St (NB)	0%	0%	0%	0%	0%						0%		4%	0%			0%		0%	0%	0%	0%		0%
Miami Rd s-of SE 17th St (SB)		0%		0%							0%		0%			0%			0%					0%
SE 10th Ave n-of SE 17th St (NB)							0%				0%		0%								0%			0%
SE 10th Ave n-of SE 17th St (SB)		0%	0%	0%			0%						1%	0%					0%	0%	0%	0%		0%
SE 10th Ave s-of SE 17th St (NB)		0%		0%	0%					0%			1%	0%					0%	0%	0%			0%
SE 10th Ave s-of SE 17th St (SB)		0%		0%	0%								0%	0%				0%						0%
SE 17th St at Causeway (EB)		0%				0%		0%							0%						0%	0%		0%
SE 17th St at Causeway (WB)		0%	0%	0%	2%	0%	0%	3%	1%	0%		1%			0%	4%	0%		0%	0%	7%	1%	0%	27%
SE 17th St w-of US 1 (EB)	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	3%	0%			0%	0%	0%	0%	0%			0%
SE 17th St w-of US1 (WB)		0%		0%			0%	0%					0%					0%				0%		0%
South Harbor s-of SE 17th St (NB)		0%		0%	0%			0%					0%				0%				0%	0%		0%
South Harbor s-of SE 17th St (SB)		0%															0%				0%	0%		0%
Southport n-of SE 17th St (NB)				0%	0%			0%				0%	0%				0%				0%	0%		0%
Southport n-of SE 17th St (SB)		0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%				0%				0%	0%	0%	1%
US 1 n-of SE 17th St (NB)		0%	0%	0%	0%		0%	0%				0%	0%	0%			0%		0%					0%
US 1 n-of SE 17th St (SB)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%		0%	0%	0%	0%	0%			0%	0%
US 1 s-of SE 17th St (NB)	0%	1%	0%	2%	0%	0%		0%	0%	0%	0%	0%	22%	0%			0%	0%	0%	1%	0%	0%		
US 1 s-of SE 17th St (SB)	0%	0%	0%	0%			0%	0%					1%	0%			0%		0%	0%	0%	0%		

Annual Average - Weekday (Tu-Th) - All Day (12am-12am) - With Middle Filter (i.e., using SE 17th Street)

Destination

Origin	Convention Center s-of SE 17th St (NB)	Convention Center s-of SE 17th St (SB)	Eisenhower Blvd s-of SE 17th St (NB)	Eisenhower Blvd s-of SE 17th St (SB)	Miami Rd n-of SE 17th St (NB)	Miami Rd n-of SE 17th St (SB)	Miami Rd s-of SE 17th St (NB)	Miami Rd s-of SE 17th St (SB)	SE 10th Ave n-of SE 17th St (NB)	SE 10th Ave n-of SE 17th St (SB)	SE 10th Ave s-of SE 17th St (NB)	SE 10th Ave s-of SE 17th St (SB)	SE 17th St at the Causeway (EB)	SE 17th St at the Causeway (WB)	SE 17th St w-of US 1 (EB)	SE 17th St w-of US 1 (WB)	South Harbor s-of SE 17th (NB)	South Harbor s-of SE 17th St (SB)	Southport n-of SE 17th St (NB)	Southport n-of SE 17th St (SB)	US 1 n-of SE 17th St (NB)	US 1 n-of SE 17th St (SB)	US 1 s-of SE 17th St (NB)	US 1 s-of SE 17th St (SB)
Convention Center s-of SE 17th St (NB)					0%	0%	0%	0%	0%				0%		0%	0%					0%	0%		0%
Convention Center s-of SE 17th St (SB)					0%	0%	0%	0%	0%	0%	0%		0%		0%	0%					0%	0%	0%	0%
Eisenhower Blvd s-of SE 17th St (NB)					0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%					1%	0%	0%	1%
Eisenhower Blvd s-of SE 17th St (SB)					0%	0%	0%	0%	0%	0%	0%	0%			0%	0%			0%		0%	0%		0%
Miami Rd n-of SE 17th St (NB)							0%						0%						0%		0%			0%
Miami Rd n-of SE 17th St (SB)							0%						0%						0%					0%
Miami Rd s-of SE 17th St (NB)	0%	0%	0%	0%	0%	0%		0%			0%	0%	4%	0%	0%		0%	0%	0%		0%	0%	0%	0%
Miami Rd s-of SE 17th St (SB)													0%		0%							0%		0%
SE 10th Ave n-of SE 17th St (NB)					0%			0%					0%		0%		0%				0%			0%
SE 10th Ave n-of SE 17th St (SB)	0%	0%	0%	0%				0%		0%			2%	0%	0%		0%	0%	0%		0%			0%
SE 10th Ave s-of SE 17th St (NB)		0%	0%	0%				0%					1%	0%		0%	0%	0%	0%		0%	0%		0%
SE 10th Ave s-of SE 17th St (SB)		0%		0%	0%					0%			0%		0%		0%	0%			0%	0%		0%
SE 17th St at Causeway (EB)														0%										
SE 17th St at Causeway (WB)		0%	0%	0%	2%	0%	0%	3%	1%	0%	0%	1%			0%	6%	0%	0%	0%	0%	6%	1%	0%	26%
SE 17th St w-of US 1 (EB)	0%	0%	0%	0%	0%				0%	0%	0%	0%	4%	0%			0%	0%	0%	0%	0%	0%		0%
SE 17th St w-of US1 (WB)	0%	0%		0%				0%					0%	0%					0%	0%		0%		0%
South Harbor s-of SE 17th St (NB)					0%			0%					0%	0%			0%				0%	0%		0%
South Harbor s-of SE 17th St (SB)						0%		0%					0%	0%			0%				0%			
Southport n-of SE 17th St (NB)					0%	0%		0%	0%	0%			0%				0%				0%	0%		0%
Southport n-of SE 17th St (SB)					0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	0%			1%	0%	0%	1%
US 1 n-of SE 17th St (NB)	0%	0%	0%	0%	0%	0%		0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%					0%
US 1 n-of SE 17th St (SB)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	1%	0%				0%
US 1 s-of SE 17th St (NB)	0%	0%	0%	1%	0%	0%	0%	0%	0%		0%	0%	20%	0%	0%	0%	0%	0%	1%	0%	0%	0%		
US 1 s-of SE 17th St (SB)	0%	0%	0%	0%	0%	0%	0%	0%			0%	0%	1%	0%	0%	0%		0%	0%		0%			

APPENDIX B: CUT-THROUGH ACTIVITY

Miami Road				
% of Traffic Between US 1 and SE 17th Street	Weekday All Day	Weekday AM Peak	Weekday PM Peak	Weekend All Day
Overall	11%	21%	10%	8%
Normal Season	11%	22%	10%	8%
November-December	14%	25%	13%	8%
June-August	9%	16%	8%	7%
% of Traffic on Miami Road	Weekday All Day	Weekday AM Peak	Weekday PM Peak	Weekend All Day
Overall	60%	63%	59%	62%
Normal Season	58%	64%	57%	61%
November-December	64%	61%	69%	61%
June-August	59%	66%	52%	63%
SE 15th Avenue				
% of Traffic Between US 1 and SE 17th Street	Weekday All Day	Weekday AM Peak	Weekday PM Peak	Weekend All Day
Overall	3.5%	3.1%	4.2%	3.17%
Normal Season	3.7%	3.2%	4.3%	3.0%
November-December	3.2%	3.4%	4.2%	4.4%
June-August	3.1%	2.5%	3.8%	2.5%
% of Traffic on SE 15th Avenue	Weekday All Day	Weekday AM Peak	Weekday PM Peak	Weekend All Day
Overall	2.6%	2.7%	2.7%	3.2%
Normal Season	2.6%	2.6%	2.7%	3.2%
November-December	3.4%	3.8%	3.0%	4.3%
June-August	2.4%	2.0%	2.7%	2.4%