APPENDIX A

Origin-Destination Analysis for Brightline Station Areas

Memo DRAFT – Origin Destination Analysis Brightline Station Areas

Date:	Thursday, December 28, 2023
Project:	Space Coast TPO Intermodal Station Feasibility Study
To:	SCTPO
From:	HDR
Subject:	Replica Market Analysis

The April 2022 Brightline Ridership and Revenue Study (WSP) used a 45-minute drive time to estimate the catchment areas for the proposed Brightline stations. For this 2023 analysis the potential Brevard County Brightline station travel market, the study team created initial market analysis areas by estimating a 60-mile buffer around each existing and proposed station. The analysts further refined these initial station buffers using straight-line influence areas or Thiessen polygons. The Google Maps API provided the minimum drive time from each census tract in these buffer areas to arrive at the nearest existing or proposed station by 9 a.m. on a weekday. Census tracts with a minimum drive time of 45 minutes or less were included in the catchment area for market analysis using the online Replica database. Figure 1 shows the station catchment areas for existing and proposed stations based on 2023 drive times.

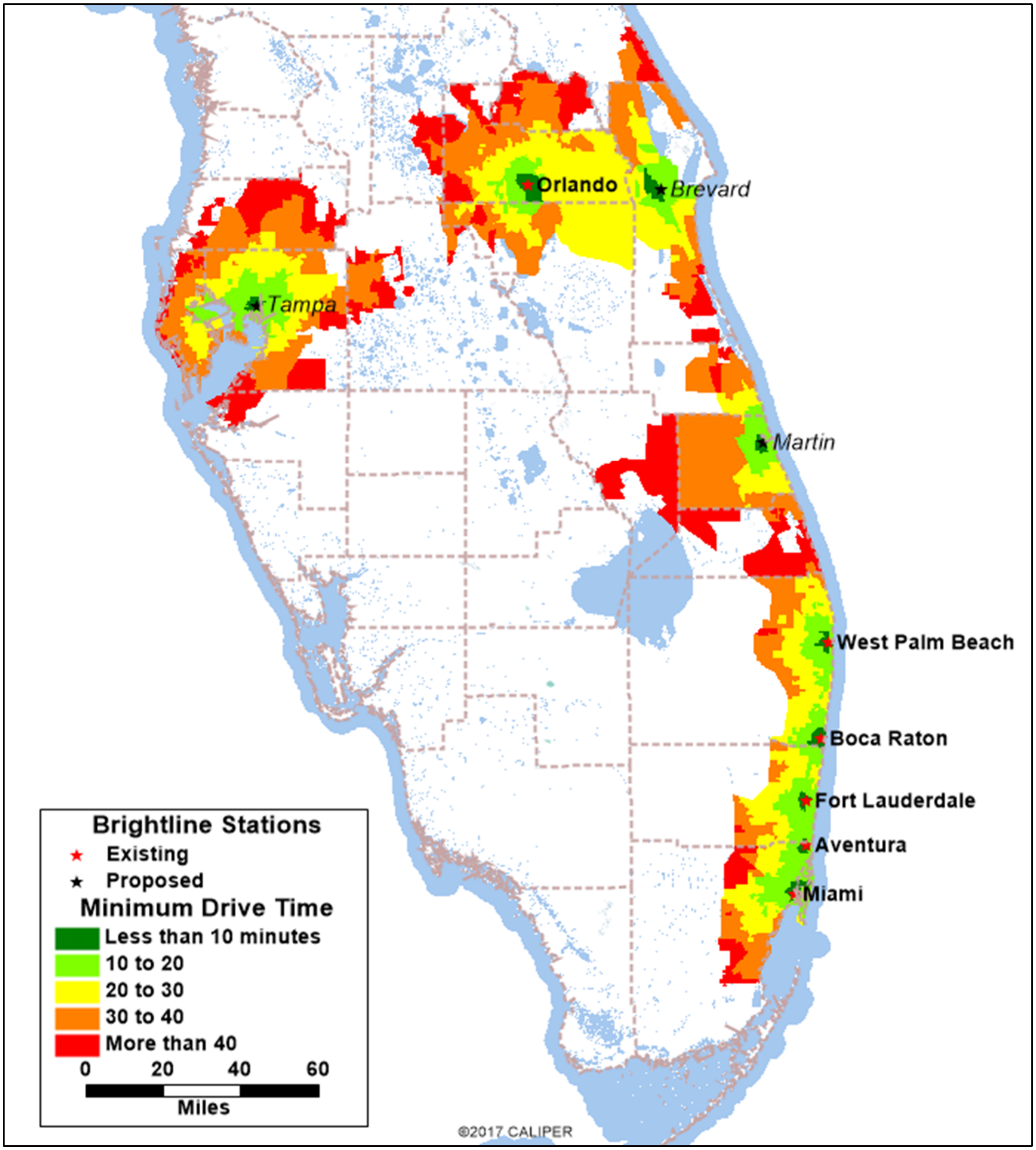
Information about the existing travel markets between these station areas comes from the Replica database. Replica is a nationwide activity-based travel demand model available online. Mobility data from this cloud-based application includes information about trip origin and destination, travel mode, and trip duration. The trip tables can also identify trips by residents and non-resident visitor and include demographic information about age, race, household income and vehicle ownership.

This travel market analysis used Replica's Spring 2023 South Atlantic megaregion model. Trip information from the Replica database was prepared as described in the Brightline Ridership and Revenue Study (WSP):

- Includes only trips made by automobile.
- Reduced trips by 12 percent to account for travelers who need a car for either intermediate stops or onward travel.
- Increased trips by 4.6 percent because of seasonality and day-of-week effects.

Commercial vehicle trips are not included in the 2023 Replica estimates, so no reduction was made to remove person trips made by truck drivers.

Figure 1: Brightline Station Catchment Areas



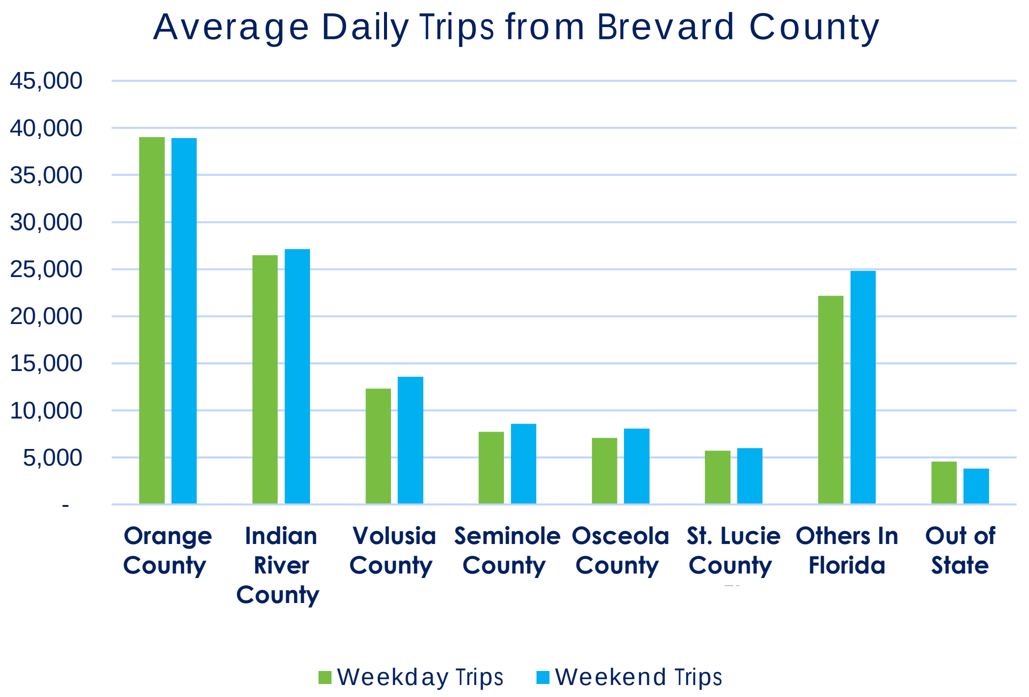
Market Analysis and Ridership

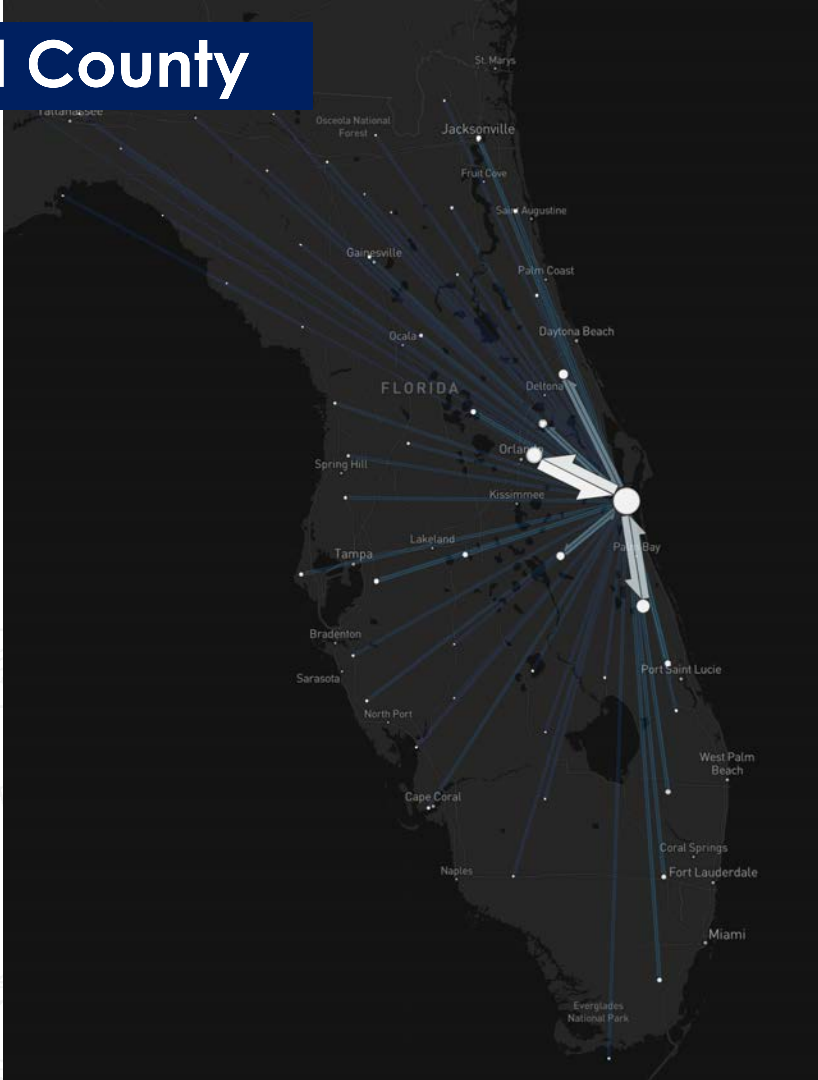
Tourism Data

- **2 of 3** visitors got to a **beach**
- **2 in 5** visitors are **Florida Residents** (others mostly from neighboring states)
- **1 in 3** visitors will take a **cruise**
- **44%** increase in the last year in multiday cruise passenger embarkments
- **45%** drove to the area, while the rest flew into MCO, MLB or SFB (55%)
- **Top 3** most visited **beaches**: **Cocoa Beach**, **Jetty Park Beach** and **Melbourne Beach**

Sources:
Tourism Journal Article – Office of Tourism 2023
Port Canaveral Economic Impact Study – Canaveral Port Authority 2023

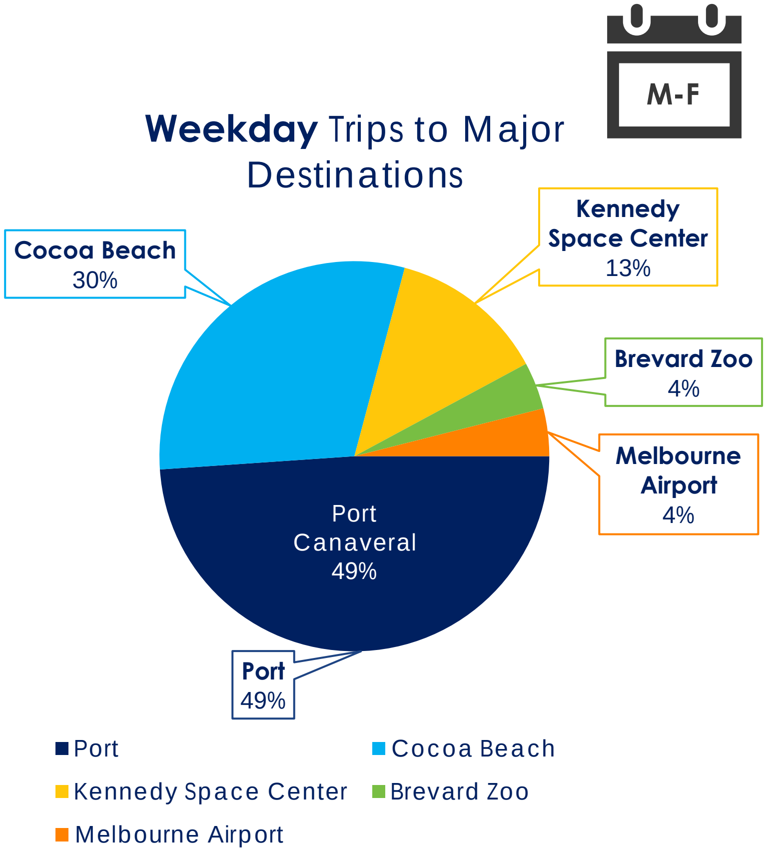
Top Destinations – Leaving Brevard County

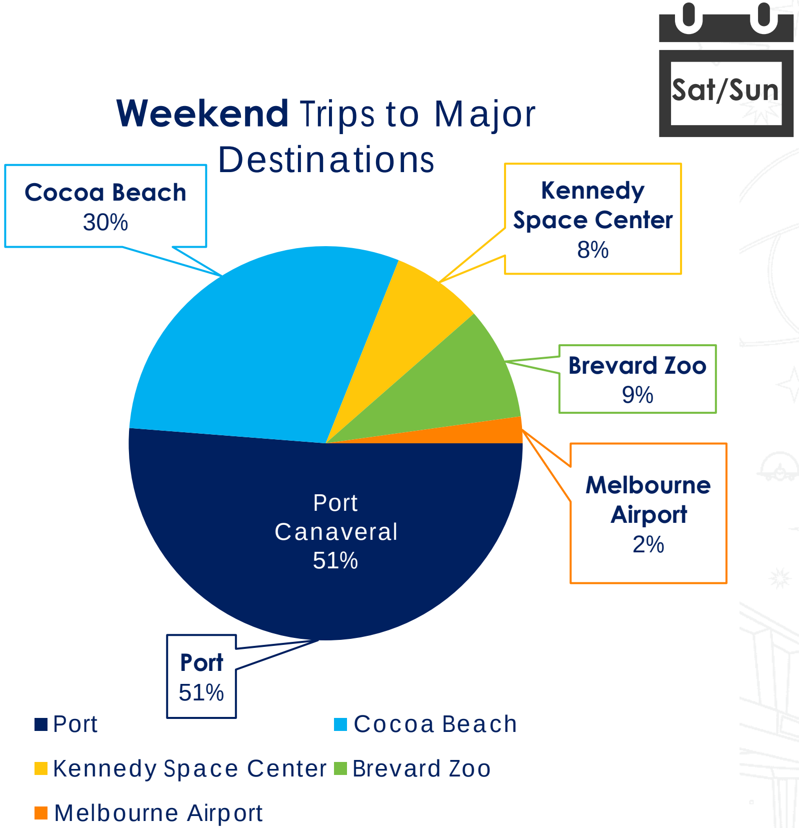




Source: Replica Data, 2022

Major Destinations in Brevard County – Travel Split





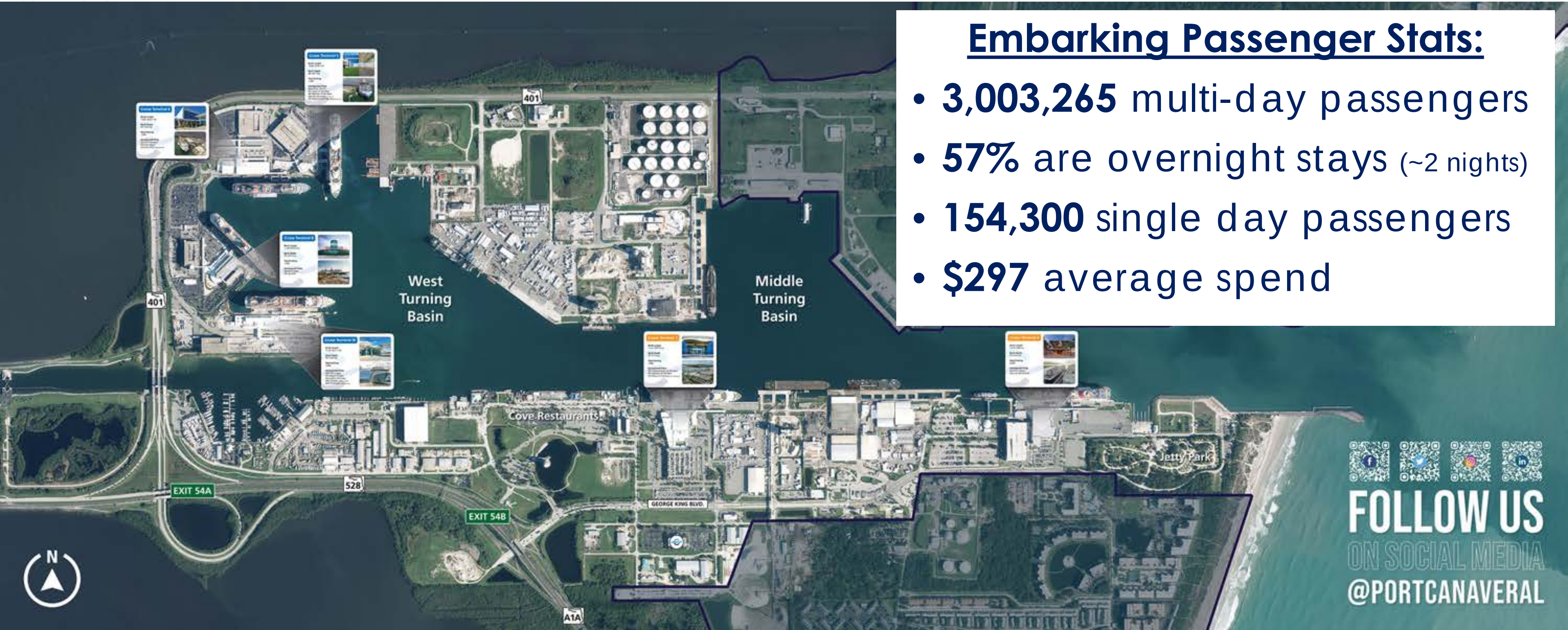
Source: Replica Data, 2022

Port Canaveral

Source: Canaveral Port Authority 2023 Economic Analysis

Embarking Passenger Stats:

- **3,003,265** multi-day passengers
- **57%** are overnight stays (~2 nights)
- **154,300** single day passengers
- **$297** average spend



Kennedy Space Center & Canaveral Space Force

Source: 2022 & 2023 Kennedy Space Center Annual Report

Launches:

- 100+ expected

Guest Operations:

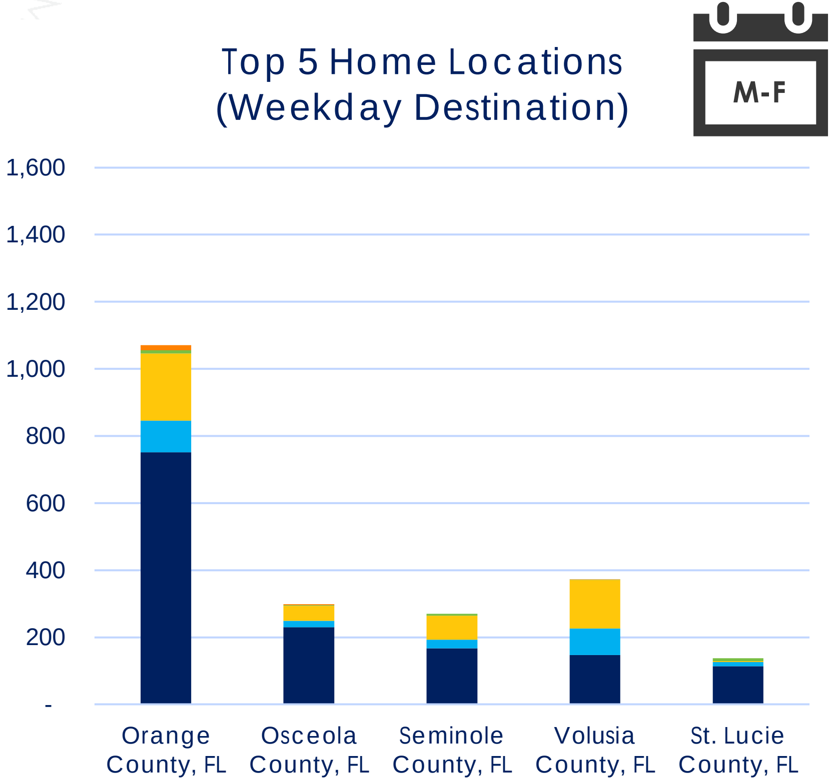
- 16,000+ guests

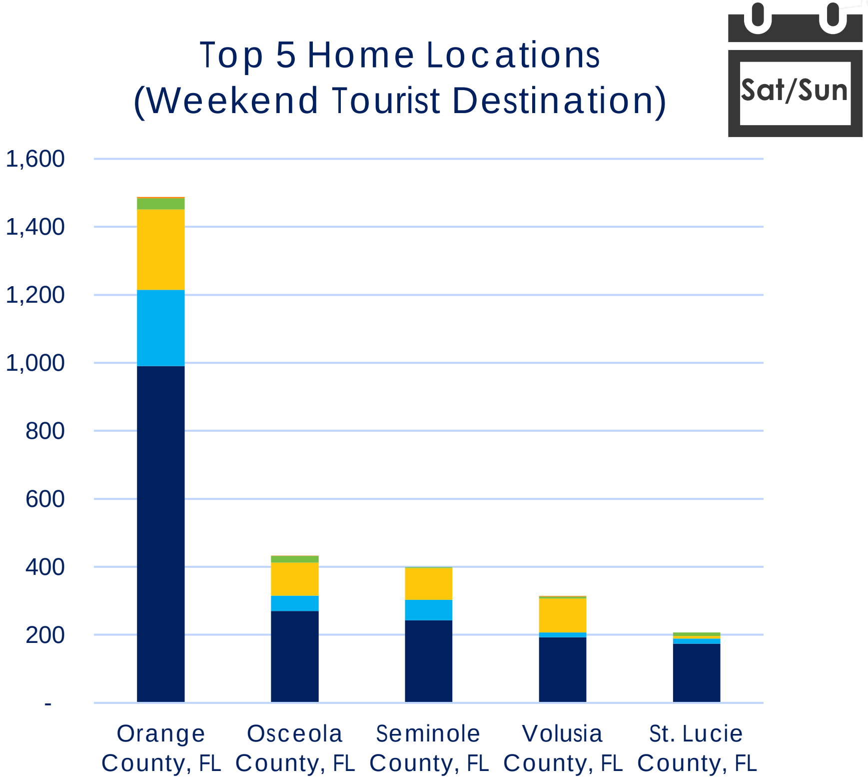
NASA Socials:

- 2022 – 100 people
- 2023 – 3,000 applications (350 selected)

	2021	2022	Difference
Followers across accounts	4.2 million	4.6 million	9.5% increase ⬆
Engagement across accounts	3.6 million	5.53 million	53.61% increase ⬆
Facebook engagement	1.6 million	1.65 million	3.125% increase ⬆
Twitter engagement	571,800	2.35 million	310.98% increase ⬆
Instagram engagement	1.4 million	1.53 million	9.28% increase ⬆
Facebook new followers	53,600	82,474	53.86% increase ⬆
Twitter new followers	245,400	482,800	96.7% increase ⬆
Instagram new followers	166,000	173,874	4.74% increase ⬆

Where Do Our Visitors Live?



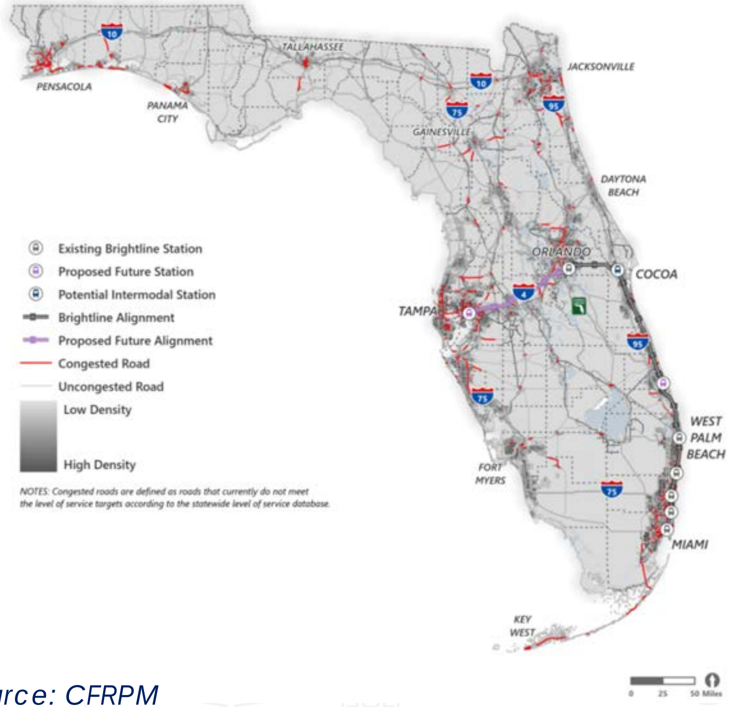


Port   Cocoa Beach   Kennedy Space Center   Brevard Zoo   Melbourne Airport

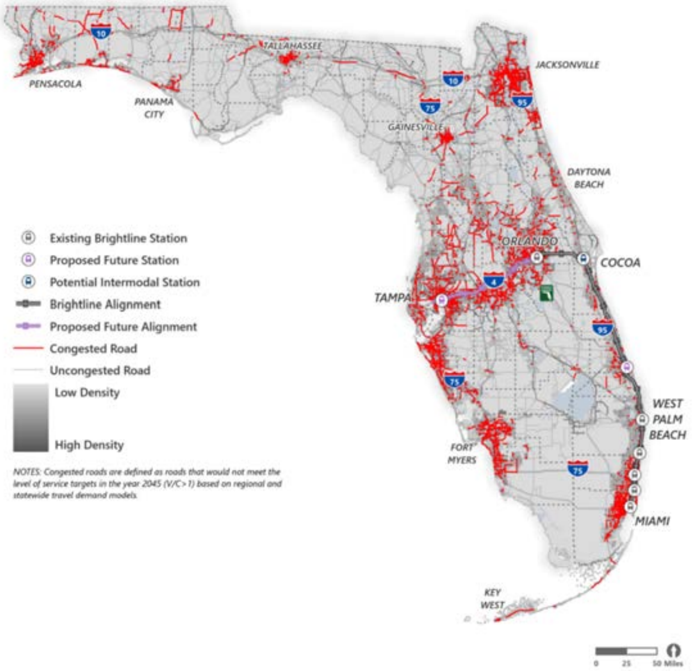
Source: Replica Data, 2022

Road Congestion

Current



Future



Data Source: CFRPM

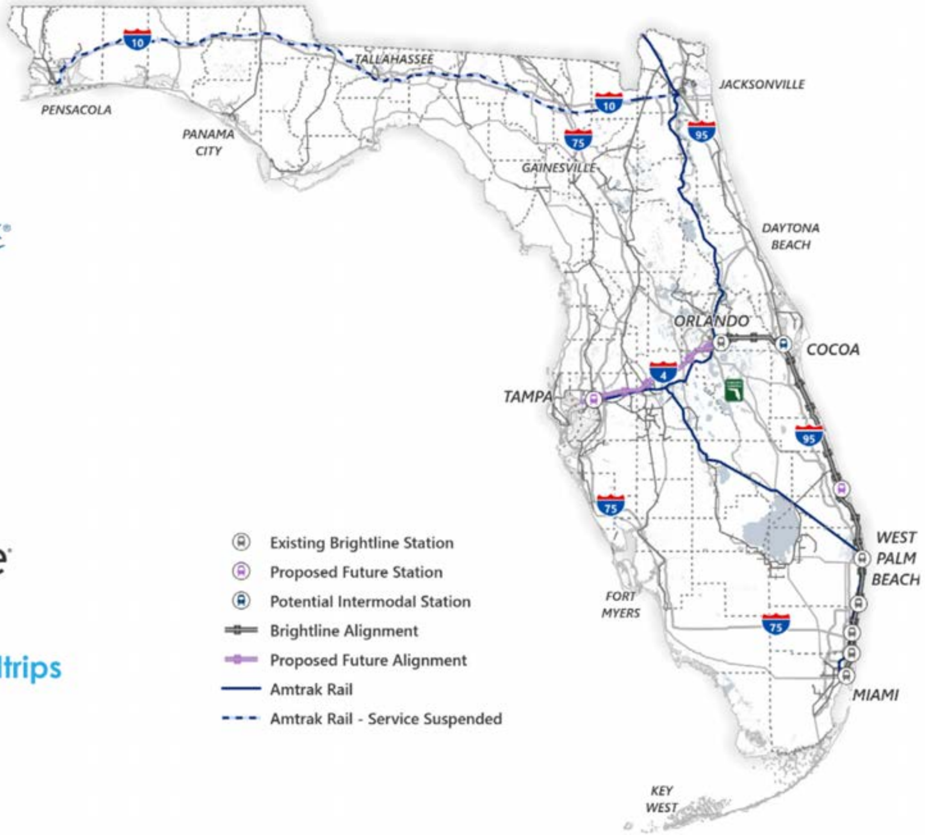
Passenger Rail in Florida

AMTRAK

Operates 3 trains a day

brightline

Operates 32 weekday roundtrips



Brightline Ridership Estimation & Key Findings for Market Capture

- **Substantial addressable market**
- Over 34 million long-distance trips
- Challenging intercity trip
- Orlando to Miami – too short to fly, too long to drive
- 2-3% yearly growth on Turnpike and I-95
- No comparable service
- Travel time savings of 25% to 50%
- Fares competitive
- Interest in the Florida East Coast corridor

TABLE 6-22 FORECAST BRIGHTLINE – ANNUAL SEGMENT VOLUMES AND REVENUES, 2026

	MARKET SHARE	ADDRESSABLE MARKET	RIDERSHIP	2026 FARE (2021$)	REVENUE ($M, 2021$)
Short-Distance					
Miami - West Palm Beach	5.6%	9,973,112	554,484	$44.63	$24.7
Miami - Boca Raton	4.3%	13,298,990	578,070	$31.97	$18.5
Miami - Fort Lauderdale	0.6%	57,529,071	360,402	$22.60	$8.1
Miami - Aventura	0.2%	221,022,888	491,274	$12.56	$6.2
Aventura - West Palm Beach	4.0%	9,037,783	363,994	$39.97	$14.5
Aventura - Boca Raton	0.5%	19,901,338	102,240	$25.08	$2.6
Aventura - Fort Lauderdale	0.2%	158,270,353	283,129	$15.32	$4.3
Fort Lauderdale - West Palm Beach	0.9%	24,250,574	228,926	$31.97	$7.3
Fort Lauderdale - Boca Raton	0.3%	137,918,979	372,622	$16.99	$6.3
Boca Raton - West Palm Beach	0.3%	103,853,596	335,852	$22.60	$7.6
Total Short-Distance	**0.5%**	**755,056,685**	**3,670,994**	**$27.31**	**$100.2**
Long-Distance					
Miami - Orlando	11.5%	13,689,565	1,576,025	$124.24	$195.8
Aventura - Orlando	12.8%	4,056,266	518,324	$118.42	$61.4
Fort Lauderdale - Orlando	11.1%	10,788,827	1,194,065	$111.02	$132.6
Boca Raton - Orlando	13.0%	3,601,660	467,981	$112.24	$52.5
West Palm Beach - Orlando	11.5%	6,508,150	751,326	$97.70	$73.4
Total Long-Distance	**11.7%**	**38,644,468**	**4,507,722**	**$114.40**	**$515.7**
Total All Pairs	**1.0%**	**793,701,153**	**8,178,716**	**$75.31**	**$615.9**

Note: In this table, the pandemic recovery adjustment discussed in Section 6.1.2 is made to Brightline ridership but not the addressable market, suppressing the reported Brightline market share by approximately 1%.

Source: Brightline Ridership and Revenue Study

Brightline Ridership

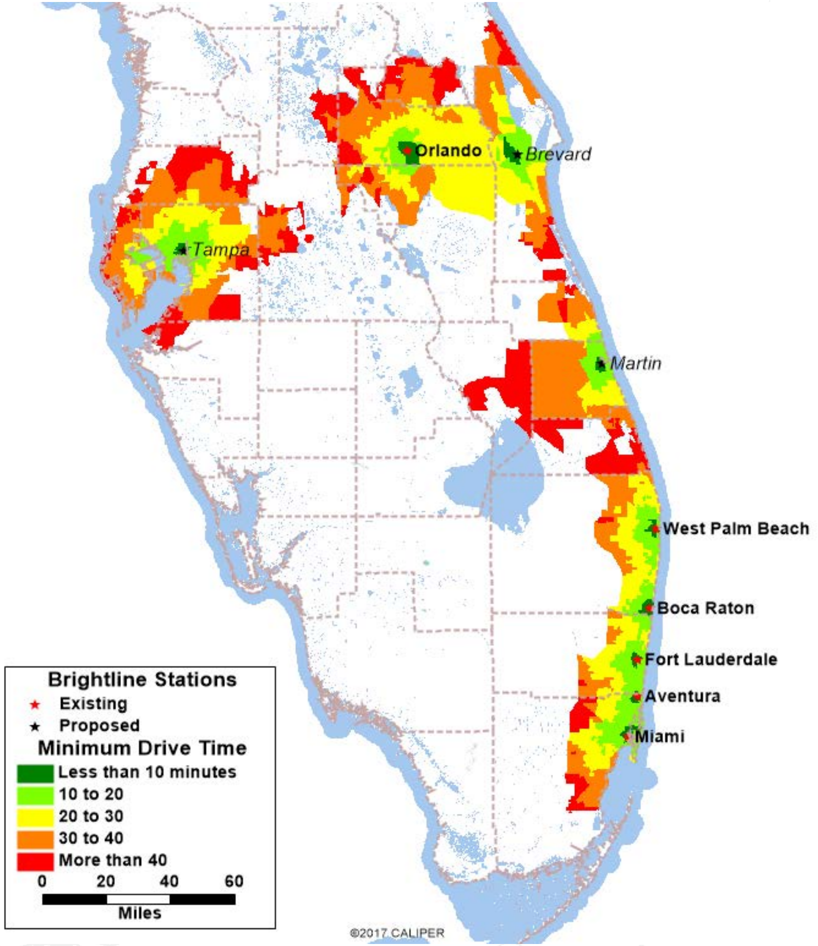
- Sept 2022 – Orlando station operational
- Annual 2024 ridership target – 4 million between Orlando and Miami

Operation Performance Metrics	2018	2019	2020*	2021*	2022	2023	2024	2025
Forecasted					669,236	4,664,059	7,940,379	8,178,716
Actual Ridership	579,205	1,012,804	271,778	159,474	1,230,494	1,624,963		
Average Fare per Passenger	$12.27	$16.88	$18.08	$11.32	$20.03			
Passholders	--	322	635	--				

Source: Brightline Monthly Reports

Catchment Opportunity

Station Pair		Miles	Annual Trip Potential (Visitor, Social, Recreational, Work, Other Trips)
Cocoa	Miami	199	475,000
Cocoa	Aventura	192	188,000
Cocoa	Ft Lauderdale	181	398,000
Cocoa	Boca Raton	162	383,000
Cocoa	West Palm Beach	138	851,000
Cocoa	Treasure Coast	80	4,613,000
Cocoa	Orlando	38	21,126,000
Cocoa	Tampa	118	1,430,000
Cocoa	**All Stations**		**29,464,000**

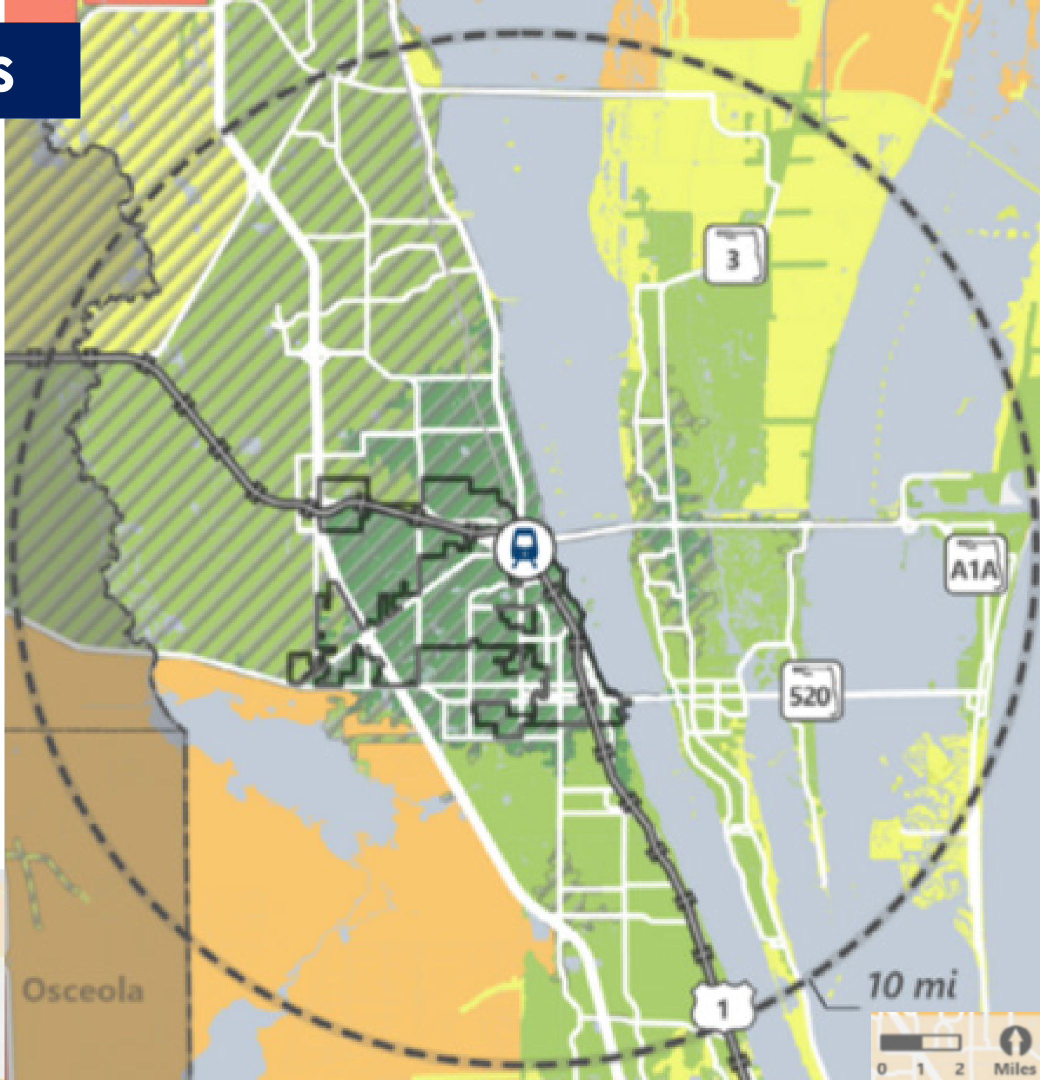


Source: HDR analysis of Replica data, 2023.

Station Area Demographics

- 10-mile demographic radius – less than 20 minute drive

Station Location	Source	Total Population	Total Households
Orlando	Brightline Study	383,025	174,214
Cocoa	HDR	204,559	84,480
West Palm	Brightline Study	500,125	206,378
Boca Raton	Brightline Study	532,287	261,800
Fort Lauderdale	Brightline Study	891,494	412,377
Aventura	Brightline Study	768,245	386,706
Miami	Brightline Study	793,762	450,048



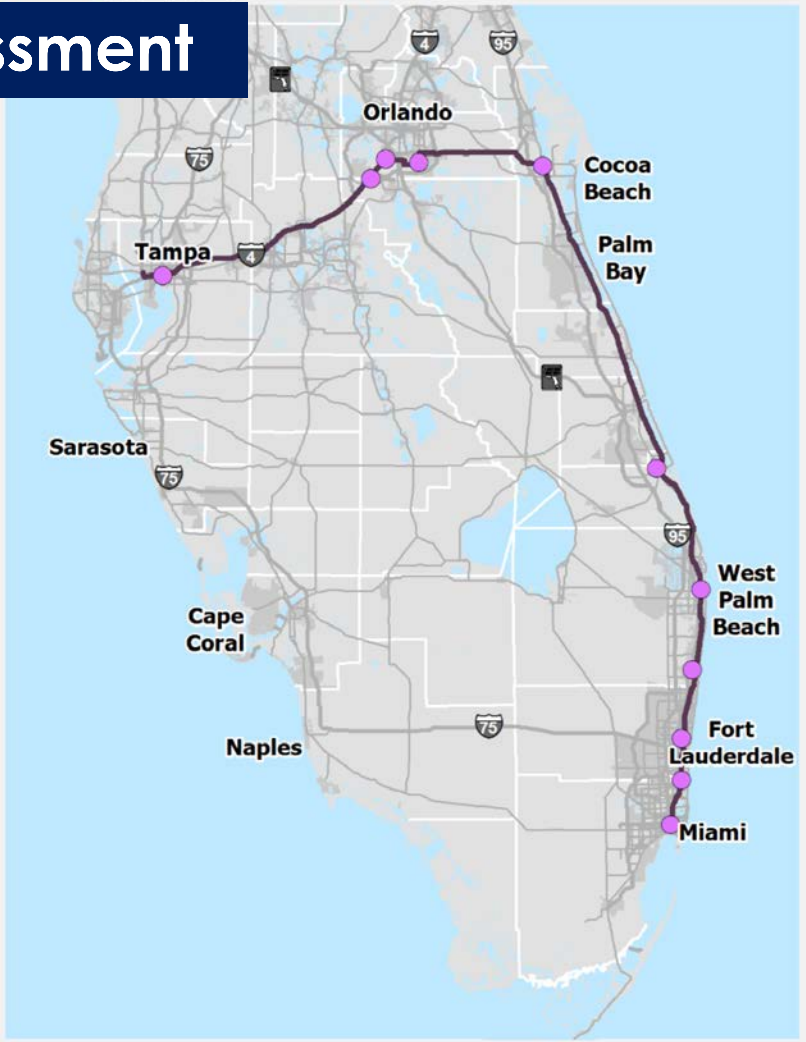
Map Source: HDR driveshed analysis

FDOT Passenger Rail Corridor Assessment

- Brightline currently running 32 weekday roundtrips
- Estimated ridership matches Brightline 2024 projections
- Among other potential Florida rail routes assessed, this alignment scored highest

Service Quantities and Estimated Annual Boardings [1/8]

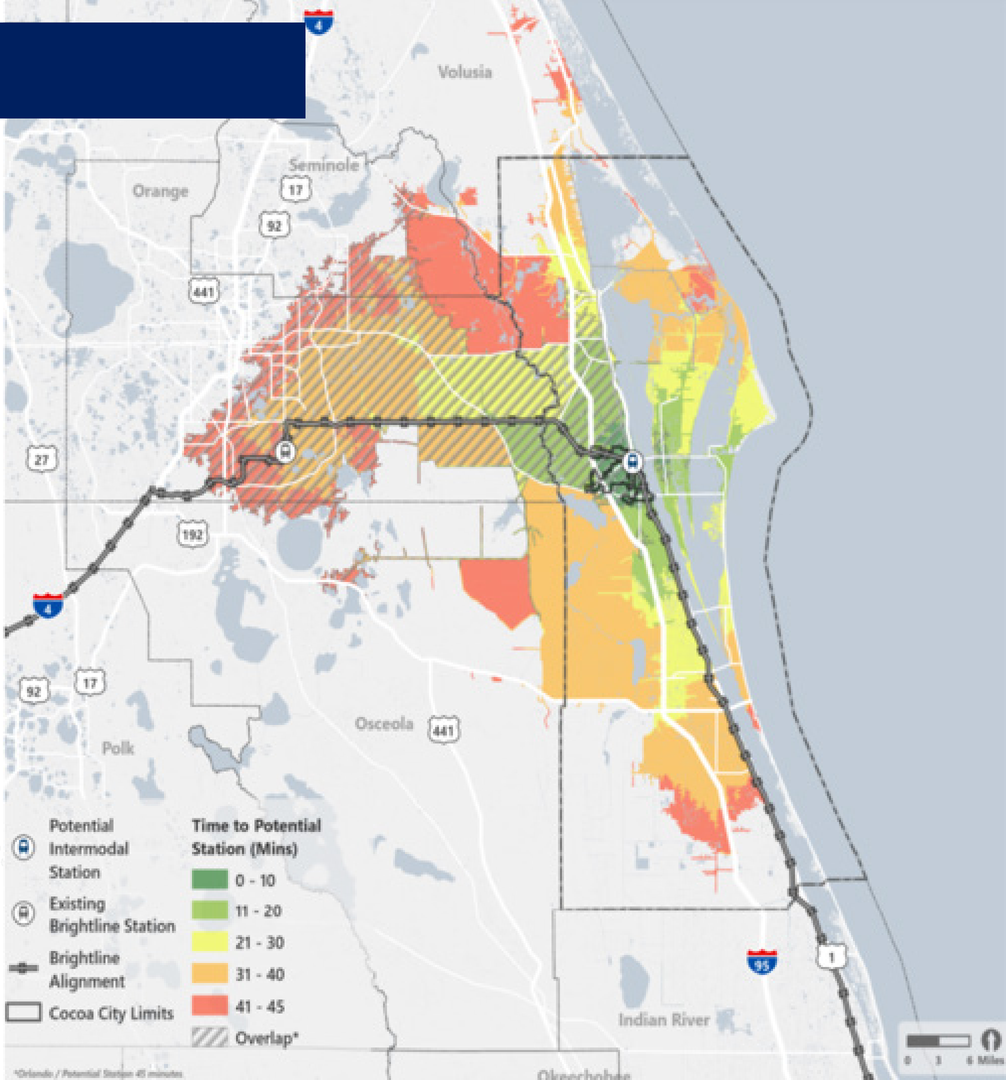
Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	3,065,100	5,149,500	7,219,900



Source: *FDOT Passenger Rail Corridor Assessment, 2023*

Private Vehicle Accessibility

- 45 minute driveshed overlaps with OIA station



Map Source: HDR driveshed analysis

Brightline Reports

December 2022 Ridership and Revenue Results

For the month ended December 31, 2022, we carried 183,920 passengers and generated total revenue of $5.1 million. Ticket revenue in December 2022 increased 205% compared to December 2021 to $3.7 million, with ridership up 87% and average fares 63% higher compared to the prior period. The strong year over year increase in revenue reflects continued adoption of our service and the opening of our two new stations in late December. Ancillary revenue totaled $1.4 million compared to $0.4 million in December 2021.

Brightline Florida
December 2022 Ridership and Revenue

	Month End December 31		Year to Date December 31	
	2022	2021	2022	2021
Ridership	183,920	98,429	1,230,494	159,474
Average Fare per Passenger	$ 20.30	$ 12.42	$ 20.03	$ 11.32
Ticket Revenue	$ 3.7	$ 1.2	$ 24.6	$ 1.8
Ancillary Revenue	1.4	0.4	7.3	1.3
	$ 5.1	**$ 1.6**	**$ 32.0**	**$ 3.1**

(in millions of dollars, except ridership and average fare per passenger)

Forward Looking Statements

Certain statements in this filing may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are generally identified by the use of wordssuch as "outlook," "believes," "expects," "potential," "continues," "may," "will," "should," "could," "seeks,""approximately," "predicts," "intends," "plans," "estimates," "anticipates," "target," "projects," "contemplates" or the negative version of those words or other comparable words. The inclusion of any forward-looking information should not be regarded as a representation by the Company or Brightline thatthe future plans, estimates, or expectations contemplated by the Company or Brightline will be achieved. Forward-looking statements are not historical facts, but instead represent only the Company's or Brightline'sbelief as of the date of this filing regarding future events, many of which, by their nature, are inherently uncertain and outside of the Company's or Brightline's control. Furthermore, new risks and uncertainties arise from time to time, some of which may be beyond the Company's or Brightline's control, and it is not possible for the Company or Brightline to predict those events or how they may affect the Company or Brightline. Except as may be required by law, the Company, Brightline and their affiliates assume no duty toupdate or revise its forward-looking statements based on new information, future events or otherwise.

Third Quarter Financial Results

Results of Operations

For the quarter ending September 30, 2023 and 2022, we carried a total of 449,352 and 303,275 passengers, respectively, and recognized $14.0 million and $7.3 million, respectively, of total revenues, representing increases of 48% and 92%, respectively, over the same quarter in the prior year. Average ticket fare was $21.07 and ancillary revenue totaled $4.5 million in the third quarter of 2023.

For the year-to-date period through September 2023, we carried 1,405,472 passengers and generated total revenue of $44.3 million. For the year-to-date period through September 2023, compared to the same period last year, ridership was up 67%, ticket revenue was up 87% and total revenue was up 116%.

Brightline Florida
September 2023 Ridership and Revenue

	Quarter Ended September 30			Year to Date September 30		
	2023	2022	% change	2023	2022	% change
Ridership						
Short Distance	431,774	303,275	42%	1,387,894	841,415	65%
Long Distance	17,578	-	NM	17,578	-	NM
Total	449,352	303,275	48%	1,405,472	841,415	67%
Average Fare per Passenger						
Short Distance	$ 18.50	$18.41	1%	$ 21.27	$19.69	8%
Long Distance	$ 84.16	-	NM	$84.16	-	NM
Total	$21.07	$18.41	14%	$22.05	$19.69	12%
Ticket Revenue						
Short Distance	$ 8.0	$ 5.6	43%	$ 29.5	$ 16.6	78%
Long Distance	1.5	-	NM	1.5	-	NM
	9.5	5.6	70%	31.0	16.6	87%
Ancillary Revenue	4.5	1.7	160%	13.3	3.9	237%
Total Revenue	**$ 14.0**	**$ 7.3**	**92%**	**$ 44.3**	**$ 20.5**	**116%**

(in millions of dollars, except ridership and average fare per passenger)

During the third quarter of 2023, train operating expenses increased 13% to $37.5 million primarily as a result of increases in maintenance costs, labor and depreciation, partially offset by decreases in marketing and other operating costs. Corporate, general and administrative expenses decreased by 24% to $12.8 million primarily due to decreases in IT costs, professional fees and corporate labor,