

**BROWARD COMMUTER RAIL (BCR)**  
 PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY

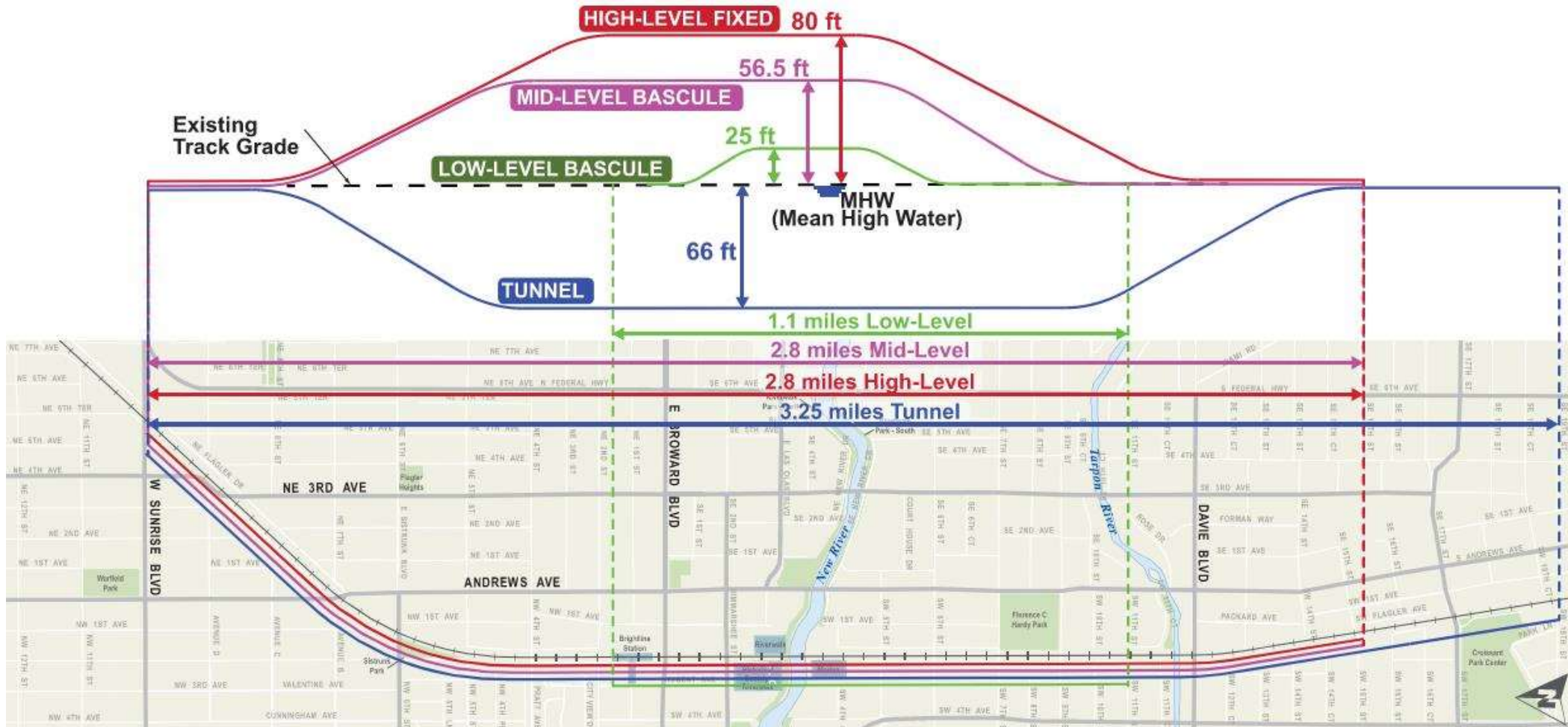


FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), DISTRICT 4  
 BROWARD COUNTY, FLORIDA • FPID: 417031-5-22-01

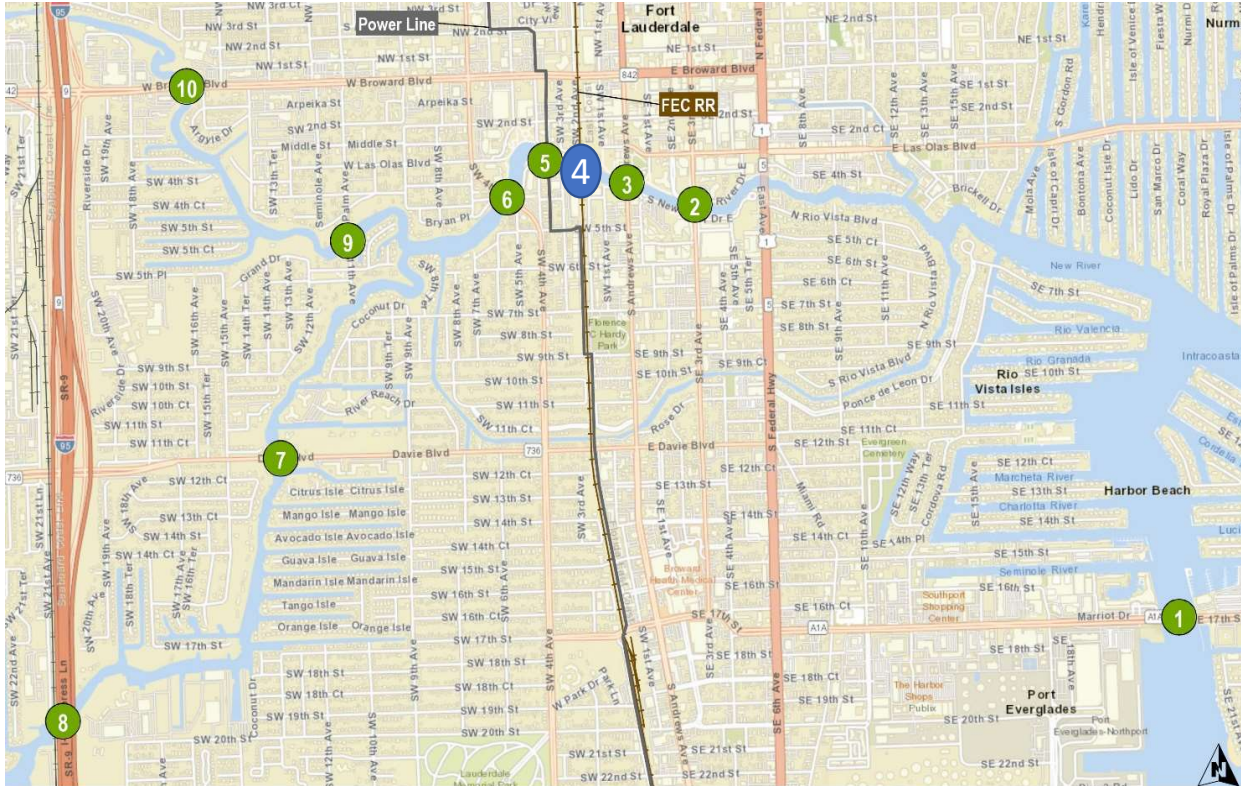
**Group 3 – Navigational  
 Concerns/General Q&A  
 November 18, 2021**



# BCR - New River Crossing Alternative Clearances



# New River Bridge Clearances & Restrictions



	Crossing Location	Vertical Clearance	Year Built
1	SE 17th Street* Bridge	55 ft.	2002
2	SE 3rd Avenue* Bridge	16 ft.	1960
3	S Andrews Avenue* Bridge	21 ft.	1981
4	FEC RR* Bridge	4 ft.	1978
5	Power Line	80 ft.	---
*Existing Movable Bridge			

	Crossing Location	Vertical Clearance	Year Built
6	4th / 7th Avenues* Bridge	20 ft.	1964
7	Davie Boulevard* Bridge	21 ft.	1960
8	I-95 Bridge	55 ft.	1988
9	NW 11th Avenue Bridge*	4 ft.	1925 / 2010
10	Broward Boulevard Bridge	8 ft.	1979 / 2018
*Existing Movable Bridge			



# Summary of Findings – Navigation Survey Data

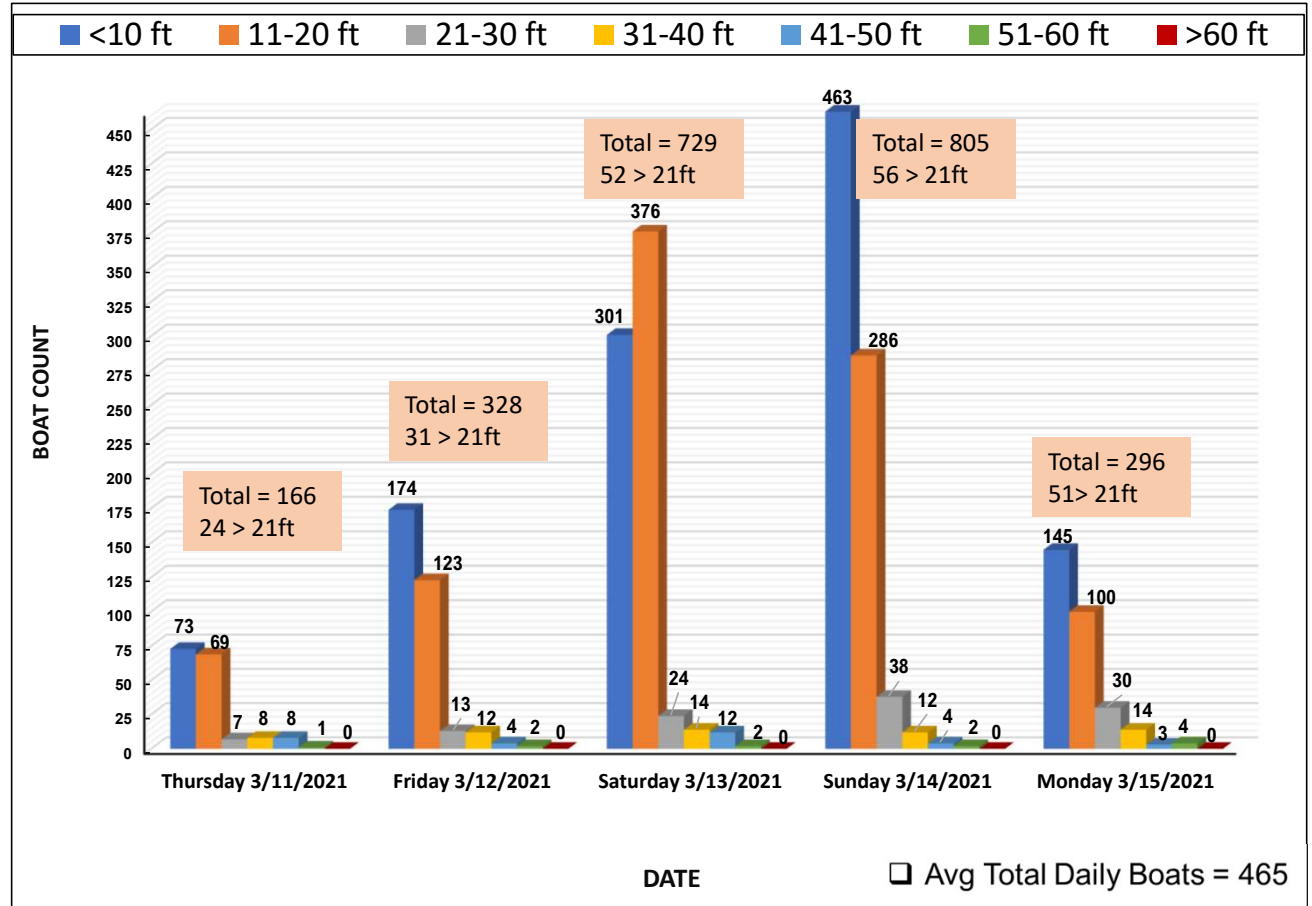
## Boat Survey Results

- Avg Total Weekday Boats = 264
- Avg Total Weekend Boat = 767
- Approximately 50 Boat per Day are greater than 21 feet tall and would need the bridges to open

## Marina Interviews

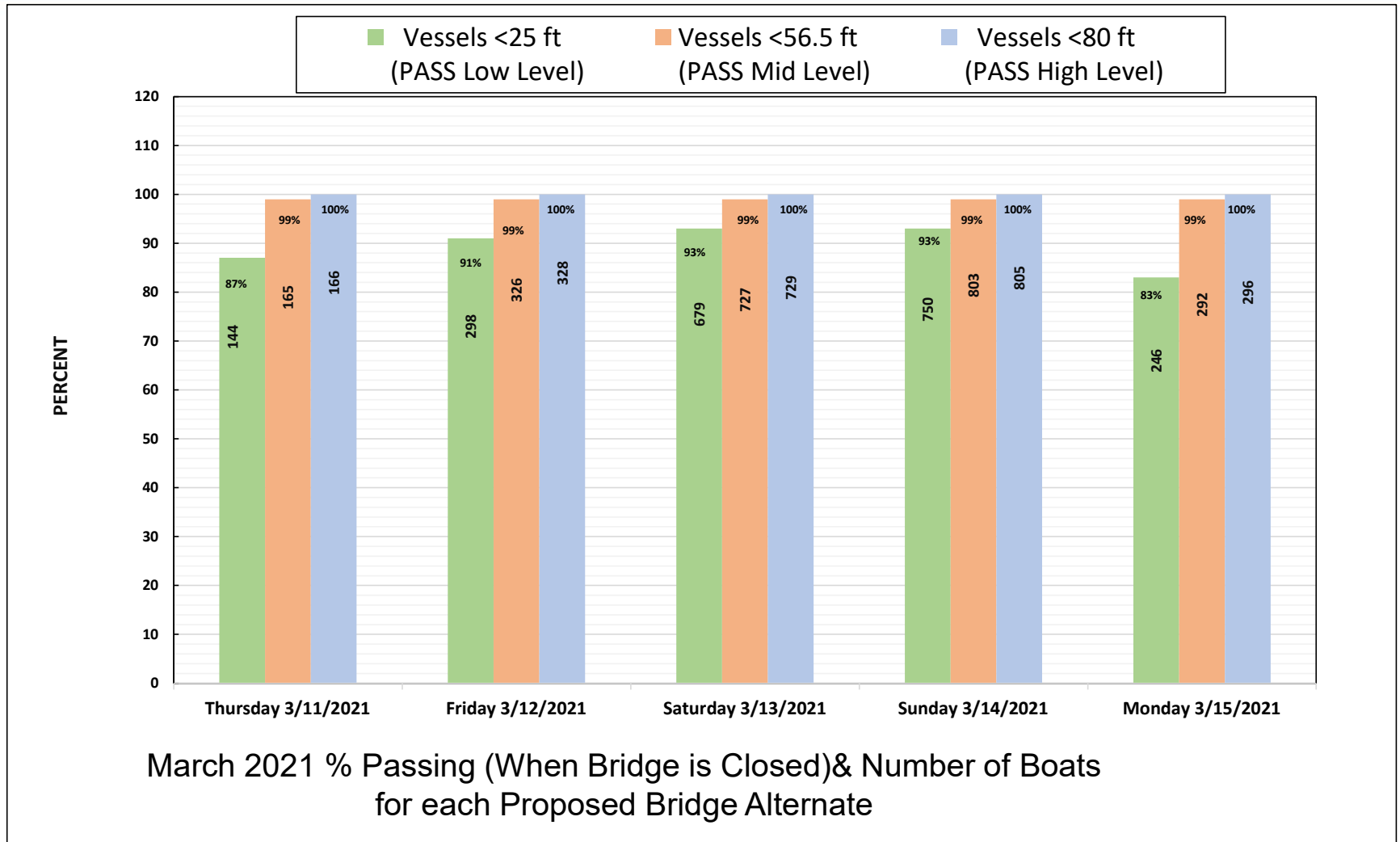
- MIA SF Provided Total Boats per Year Serviced by Marinas
- 80% of the Boats Serviced by Marinas are greater than 21 ft tall

March 2021 Survey Boat Counts per Type (Height)



NOTE: Field data collected from March 11 through March 15, 2021 (Vertical Mast (Air Draft) Height Clearances)

# Navigation Analysis – Daily % Boats Passing



### Existing FEQR / Brightline Coast Guard Restrictions

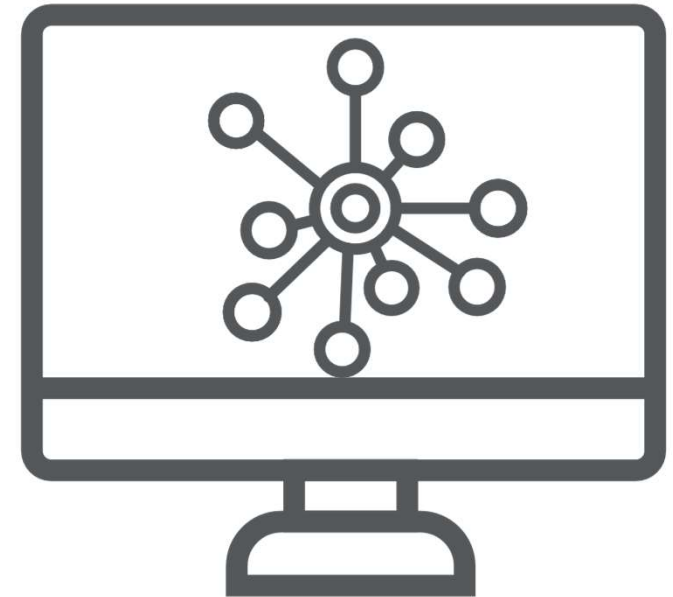
- US Coast Guard Citation 85 FR 3852 dated 10/25/2021
- Mandatory opening times
  - Fixed 10 minutes of each hour (between 05:00am to 11:59pm)
  - Additional 10 minutes opening (between noon and 2:59pm)
- No more than 36 Brightline Trains per Day
- On-Site Bridge Tender (at all times)
- Special Lighting
  - (green-open, flashing red-train approach/bridge close, back to green-open)
- Bridge remains open until train activates Closure



***7:30am – 9am and 4:30pm-6pm Andrews and 3<sup>rd</sup> Ave Bridges  
Locked Down (only tugs and tows – can still pass)***

### Train Modeling includes:

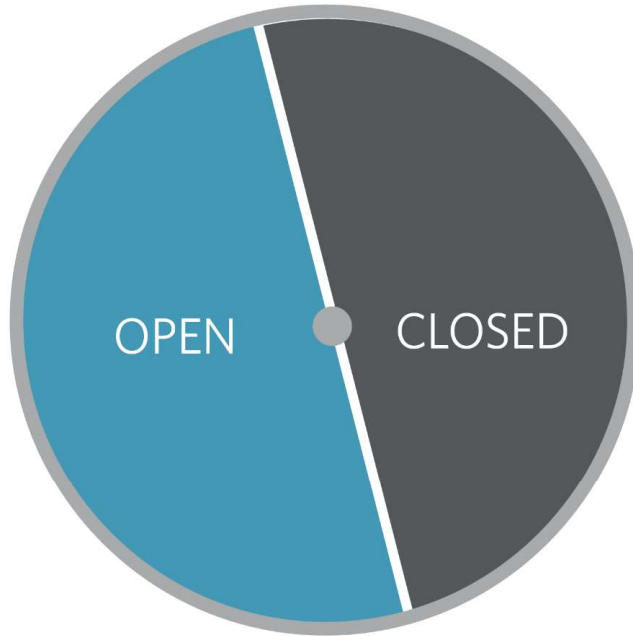
- FECR Freight Trains
  - FECR – 26 trains per day
  - Operate on 2 tracks
  - Closed 10 min ahead of train
  - Opens 1 min after train leaves
- Passenger Trains
  - Brightline – 36 trains per day
  - Broward Commuter Rail – 59 trains per day
  - Operate on 2 tracks
  - Closed 2 min ahead of Southbound train
  - Closed 5 min ahead of Northbound train
  - Opens 1 min after train leaves
  - Bascule Bridge takes 1.0 minute to close or open
- Optimization – more than one train crossings bridge when closed



## Proposed Bridge Opening Times from Rail Simulation Model Train Times

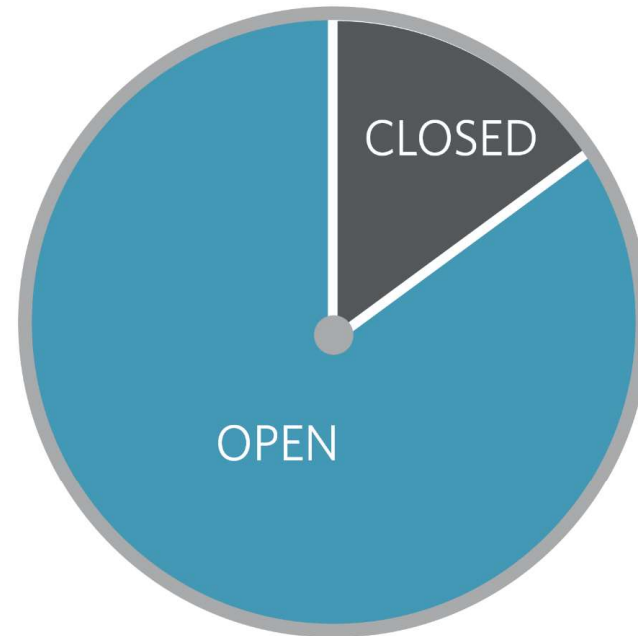
Freight and New Passenger Bridge Open Simultaneously (FE CR + Brightline + BCR)

24 Hours



Open **54%** of the Day

Between 9:00 AM and 4:30 PM



Open **85%** of These Times

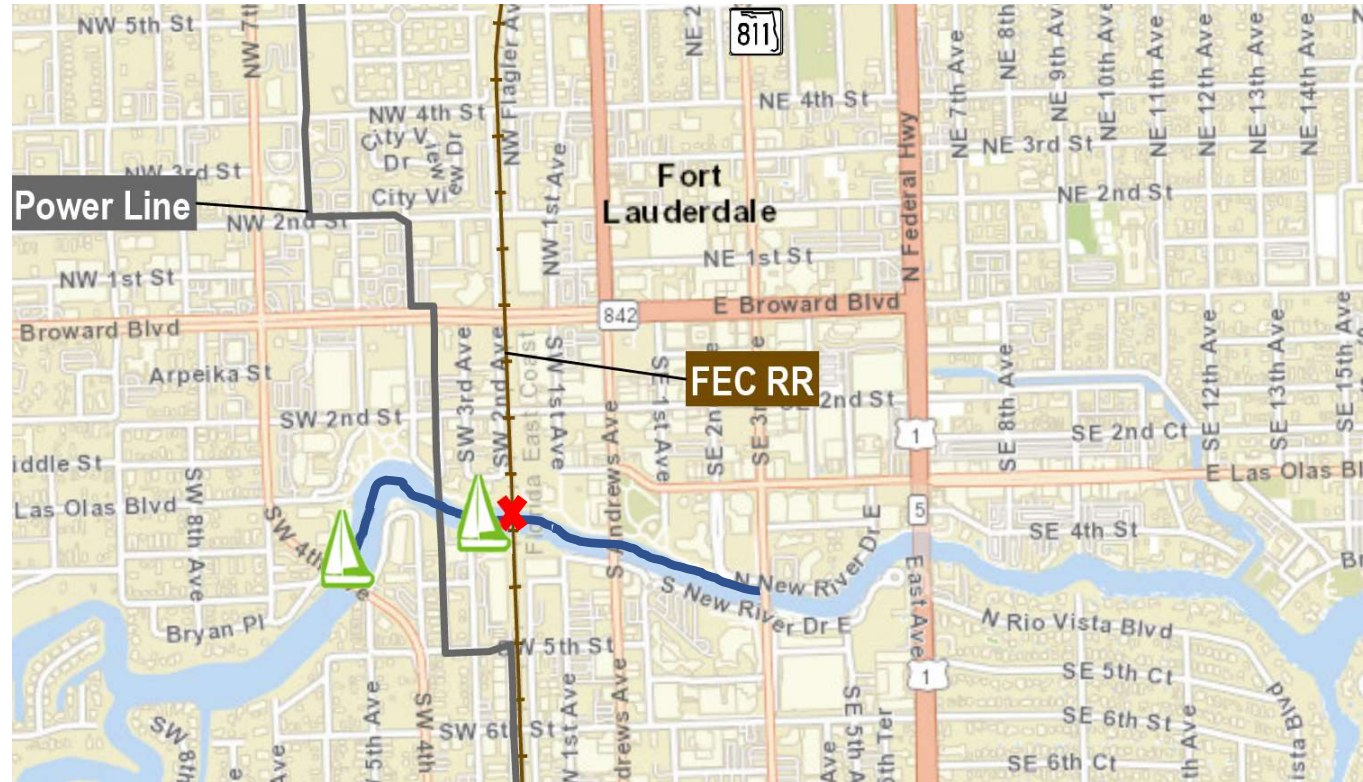


# Boat Travel Timeline – Low Level Alternative

## Analyzed Boat Travel

### (9:00am and 4:30pm)

- ❑ Actual logs (August 2021)
- ❑ Actual Boats > 25ft air draft height
- ❑ Both eastbound and westbound on New River
- ❑ Andrews Ave & 3<sup>rd</sup> Ave is locked down from 7:30am-9am & 4:30pm-6pm
- ❑ 80% of the Boats travel between 9:00am and 4:30pm
- ❑ Using Rail Simulation model
- ❑ Combined Freight, BCR and Brightline data
- ❑ Open Bridge Avg Boat travel time is 12 minutes
- ❑ Closed Bridge Avg vessel travel time is 16 minutes (Additional Average of 4 to 6 minutes)
- ❑ Depends upon when a boat arrives within the bridge cycle



## ❑ Marine Industry Impact on the Economy (2019)

- State – \$23.3 billion
- Tri-county – \$12.5 billion
- Broward county – \$9.7 billion
- Broward represents 41.6% of the marine economic impact to the state

## ❑ Marine Industry Jobs (2019)

- Tri-county – 149,000 jobs
- Broward County- 121,000 jobs
- Marine jobs pay 16% higher than the state average

## ❑ Mega Yachts Economic Trends

- An estimated 1,800 mega yachts (larger than 80 feet long) were present in Tri-County waters
- A median sized mega yacht (140 feet) spends over \$2.0 million annually in operating expenses
- In Broward County, a mega yacht generates over \$1.4M in direct labor and over \$850K in indirect/induce labor



Lauderdale Marina Center shown at night with Downtown Ft Lauderdale in the background.

\* From the mega yachts in south Florida - Trends, Impacts & Issues report by Thomas J. Murray & Associates, Inc. (2018)

# NRC Alternative Comparison

Alternative	% of Time bridge is OPEN during 9:00am – 4:30pm (Combined)	% of Boats NOT Passing BCR ALT (when Closed) (Surveyed 9:00am – 6pm)	Likely % of Vessels Delayed by a Closure of BCR ALT (# of Vessels)
Low Level Bridge (25 ft)	85%	9% (38 boats >21ft) (equivalent to 80% of boats serviced by the marinas)	10% (4 boats)
Mid Level Bridge (56.5 ft)	85%	1% (4 boats > 56.5ft)	10% (1 boat)
High Level Bridge (80 ft)	91% Existing FECR Only	Existing FECR Only *	0% / 0 *
Tunnel	91% Existing FECR Only	Existing FECR Only *	0% / 0 *
No Build (4 ft) (FECR & Brightline Remain)	87%	13% (60 boats) Existing FECR + Brightline	10% ( 6 boats)

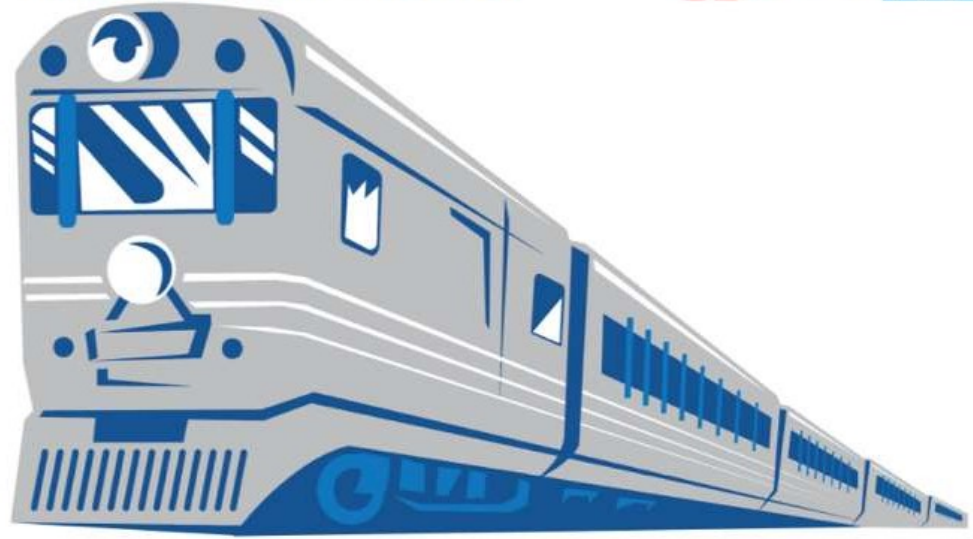
**\* Boat Delays at FECR Bridge Remain**



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Please Switch to the next  
Breakout Session

Please move to the General  
Session for Wrap-up

- Are there any other issues in this stretch of navigation that the team should be aware of?
- Are there any suggestions for any alternative that could further improve navigation either operations or safety?
- Is there any additional information that the group would like to better understand how navigation is addressed under the different alternatives?
- Understanding that each alternative provides different benefits as well as impacts and costs, do you have opinions on a preferred alternative at this point? How would you rank them?
- Is there any additional information that would be helpful for you to know or understand to formulate an opinion?
- What are the time periods that are most critical to boat travel?
- Are there any times of the day/night that are most concerning?