To: Seventh Coast Guard District Bridge Branch (via email)
Docket no. **USCG-2014-0937** Public Hearing

From: Dana A. Goward, SES USCG (ret)
Citizens Against Rail Expansion in Florida
Maritime Governance, LLC
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Re: St. Lucie River and Loxahatchee River bridge comments

Date: November 13, 2014 & November 14, 2014

On behalf of the Citizens Against Rail Expansion Florida (CARE FL) Steering Committee, please find the attached formal comments that I am submitting regarding the impact of rail bridges over the St. Lucie River and Loxahatchee River and associated waterways.

In August of 2013 I retired from a position in U.S. federal Senior Executive Service as the nation's maritime navigation authority. As part of my duties, I was responsible for permitting and regulation of over 18,000 bridges over the navigable waters of the United States. I also served as Dept. of Homeland Security representative to the White House's "President's Steering Committee on Federal Infrastructure Permitting and Review Process Improvement." And I am a retired USCG Captain, with more than 40 years of maritime experience. (Please see my attached full biography.)

I am deeply troubled by the current and future retention of the totally inadequate St. Lucie and Loxahatchee bridges for the reasons detailed in the comments I am respectfully submitting for consideration by the Coast Guard. I am submitting two complementary but different sets of comments: One details my observations and suggestions related to the St. Lucie bridge and waterway; the second addresses the Loxahatchee bridge and waterway.

Jupiter, Tequesta, Stuart and southern Martin County are water-oriented communities whose economies and attractions depend on accessible and usable waterways. As detailed in the attached comments, I believe that the current bridges negatively and unreasonably impact waterway traffic, which is inextricably tied to regional economies and local quality of life. This will be made even worse if rail activity is expanded.

Thank you for the Coast Guard's proactive stance to address these issues. Anticipated growth in rail traffic will only aggravate existing problems. And, while I understand that you are not addressing any specific proposals for entirely new services, such as All Aboard Florida, that would impact these bridges, this process and your thoughtful consideration now will prepare us all to address those issues as well.

Please feel free to reach out to me directly should you have additional questions, or require further clarification.

Sincerely,

Dana Goward, SES USCG (ret)

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Comments for USCG – Port St. Lucie Bridge Operations[1]

November 2014

Summary:

Changes in rail traffic and maritime activity since 1938 have caused the Florida East Coast Railroad bridge at Port St. Lucie over the St. Lucie River to become an unreasonable obstruction to navigation.

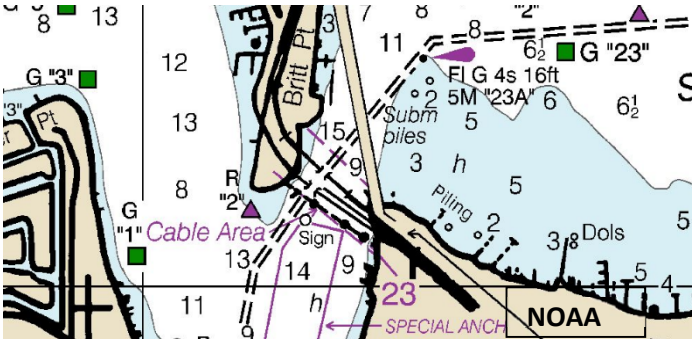
The bridge must either be completely removed, or replaced with one that is not unreasonably obstructive.

In the interim, strict, highly predictable, long term scheduling of bridge openings and closings must be instituted to mitigate obstruction of the waterway.

Background:

Waterway Description & Navigation Considerations

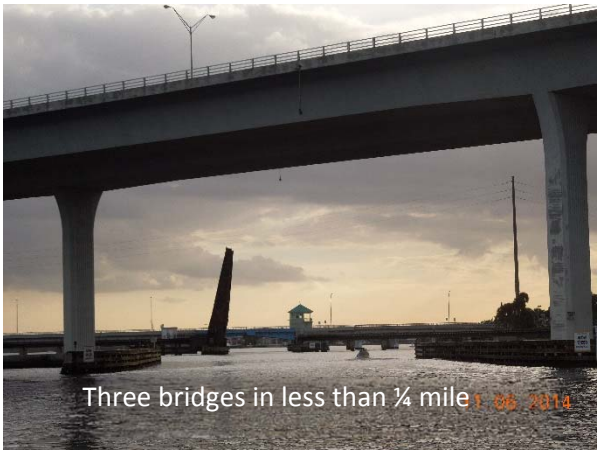
The waterway connects the communities of Palm City, Port St. Lucie, parts of Stuart, and the Okeechobee Waterway to the Atlantic and the north-south portion of the intra-coastal waterway. The Okeechobee Waterway connects the east and west coasts of Florida, is maintained at a depth of 8 feet and is suitable for both commercial tug-barge and recreational traffic. The 165 mile waterway from Stuart on the east coast to Ft. Myers on the west coast saves approximately 360 miles compared to rounding the Florida peninsula. The Army Corps of Engineers reports that approximately 10,000 vessels and 26,000 tons of cargo transit the waterways' nearby St. Lucie lock each year.



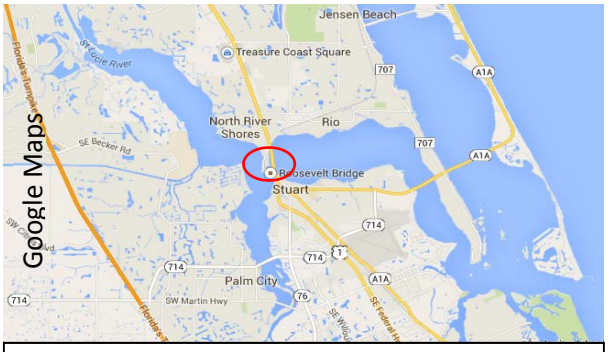
The navigable waterway passes through a 50' wide opening between the protected abutments of the FEC railroad bridge. This is the narrowest point that mariners must navigate on the 154 mile Okeechobee Waterway where the canal varies from 80 to 100 feet wide (some of the locks are 50' wide, but they are not in open water, subject to cross currents and do not pose navigation safety issues).

[1] These comments address only the current operation and condition of this bridge as of November 2014. A supplement will be provided to address proposals for increased use of the bridge included in the All Aboard Florida Draft EIS.

When the bridge is closed it comes within 7' of the surface of the water, effectively closing the waterway - vessels that require less than 7' vertical clearance usually have very shallow drafts and do not need to use the channel portion of the waterway as they can safely pass under the bridges at numerous points. When the railroad bridge is open, waterway vertical clearance in the area is 65' under the adjacent Route 1 Highway Bridge, and 14' under the adjacent draw bridge on N. Dixie Highway. This drawbridge is manned by a bridge tender and will open upon demand.



Transiting through these three bridges is challenging for many vessels because of the configuration of the waterway. Vessels must pass through three narrow bridge openings, which are not perfectly aligned, within less than a quarter mile. As with any choke point between large bodies of tidal waters, currents are strong except for brief windows during slack tide. Captains of tug and barge operations report that they must time their transits carefully so as to arrive when the tide is changing and the current is at its weakest. And while smaller vessels are able to pass each other safely, transits of the quarter-mile gauntlet by vessels of any size are limit the waterway to one way traffic.



As with any choke point between large bodies of tidal waters, currents are strong except for brief windows during slack tide.

Changes in Rail Traffic and Waterway Use

When the rail bridge was built, circa 1938, use of the waterway was much lower and trains were very infrequent. In the last 76 years:

- The population in St. Lucie and Martin counties has grown from a few thousand to over 350,000 full time residents. The winter population in many areas increases by 20%.
- The regional economy and lifestyle has shifted from mostly agriculture (pineapple farming) to waterway-oriented residential, and water-oriented commercial
- The Atlantic intra-coastal waterway was built and intersected with the St. Lucie River
- The Okeechobee Waterway was built connecting Ft. Myers, Palm City, Stuart, St. Lucie, the Atlantic intra-coastal waterway, and the Atlantic Ocean.
- Waterway use between the St. Lucie River west of the FEC rail bridge and points east has greatly increased. During one 53 day period almost 13,000 transits were observed. This equates to over 88,000 per year.
- The number of railroad bridge closures per day has greatly increased, and the closure times have gotten longer.

Waterway users from both sides of the bridge transit to use the waterways. Most of the marina (fifteen marinas) and dockage space in the area is west (upstream) of the bridge. These vessels, and those transiting from the Okeechobee Waterway, must pass through the FEC rail bridge to access the Atlantic Ocean and/or the Atlantic intra-coastal waterway, and contribute to the estimated 88,000 transits per year.

The Gulf Stream is often within 8 to 14 miles off the coast making offshore fishing particularly attractive.

According to the FECR, the bridge closes the waterway approximately 14 times each day and the closures last approximately 20 minutes. Local residents, though, report more extended closures and indicate that closures of an hour are not uncommon when the bridge does not open in between trains. None of the closures are scheduled, nor are they announced more than a few minutes in advance. Users also have no way of knowing how long the closure will last.

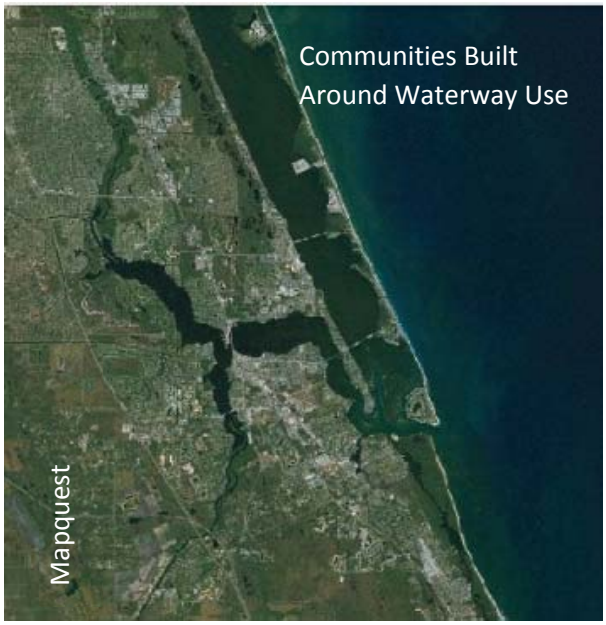
Bridge closures discourage users on both side of the bridge from fully using the waterways, especially since the closures are at random and of unpredictable length.

The Bridge Does Not Meet the Reasonable Needs of Navigation Because:

1. It interferes with primary economic engine of the local economy and undermines the foundation upon which the local water-oriented communities were built.

Huge-water oriented communities in Stuart, Palm City, St. Lucie and the surrounding areas, marine services, marine retail, and all the supporting business and economic activity would not exist, but for the presence and usability of the waterways.

The importance of this type of economic activity is essential to the entire state of Florida and is well documented. The Florida Oceans and Coastal Council reported that the states coastal counties contribute about 79 percent of the state's economic productivity*. "Florida's Ocean and Coastal Economies Report, Phase II."*



Dr. James Cato, an economist, Florida Oceans and Coastal Council member, and former Director, School of Natural Resources and the Environment, University of Florida has testified that "Anything affecting coastal tourism, recreation and marine transportation has a huge impact on Florida's ocean economy…These sectors of economic activity represent 88 percent of Florida's ocean economy…" *"Oceans and Coast Drive Florida's Economy" Environmental News Service, 1 Oct 2008*

Over 450 vessels per day transit through the bridge on peak days. These can be a varied combination of large and small recreational vessels and

larger tugs with barges. This mixture increases wait times as larger vessels must pass through more slowly and do not safely allow for traffic in the opposite direction. Many vessels must loiter for some period waiting for the bridge to open, burning fuel, increasing air emissions, and wasting time. Loitering also increases the risk of vessels colliding with each other, running aground or being set upon the bridge by strong currents.

Rail bridge closures deter waterway use. While it is impossible to measure events that do not occur, it is, nevertheless, obvious that waterway use would be higher if the bridge never closed, and the surrounding community's economies would be that much stronger. [2]

2. The bridge's age and condition risks structural and mechanical failures that obstruct the waterway.

While information on past bridge malfunctions was not immediately available for this paper, a casual inspection of the bridge shows that it has suffered from lack of attention and maintenance.

As the 76 year-old bridge structure, materials and mechanisms continue to age and degrade, mechanical and material failures are certain.

3. Alternatives to obstructing the waterway exist, are available and feasible.

Waterway users have only one route available to them, the railroad has several.

Railroad tracks farther to the west are available, and in use, for both freight and passenger service.

An elevated rail bridge is feasible. Bridges with grades of up to 4% support freight operations in other locations.

Alternatives to using a 76 year-old, poorly maintained bridge that unreasonably obstructs the waterway are more expensive for the FECR. By not using these alternatives, though, FECR is imposing much greater costs on the citizens of the surrounding area.

[2] While the local area is prosperous and growing, regional economic information is unfortunately not readily available. This information is crucial to public policy decisions, however, and such data and analyses must be incorporated into any decisions. For example, if an obstructive rail bridge decrements a $20B/yr local economy by half a percent, that would be a cost shift from the private rail company to taxpayers of $100M/yr. Similarly, if it degraded the value of $50B in property by half a percent, that would be a loss of $250M to taxpayers.

4. Competent government agencies have determined that the bridge height does not provide for the reasonable needs of navigation.

If FECR were to seek a permit to build this bridge today, it would be denied.

US Coast Guard and US Department of Transportation policies specifically state preferences for fixed bridges over mobile bridges, whenever possible, as they minimize negative impacts to all transportation modes at these important intersections of systems.

When the State of Florida constructed the Route 1 bridge over the St. Lucie River and adjacent to the FEC rail bridge it made a deliberate decision that a fixed bridge at 65' over the waterway would meet the needs of both navigation and highway traffic. Highway traffic is more continuous than rail traffic, so the parallel is not exact. However, as rail traffic has increased, both in the number of trains and their length, the parallel between the two has become much closer. For example, local officials and waterway users report that the rail bridge often does not open between individual trains to allow navigation, even if it means another 20 minutes the waterway will be closed.

The FEC RR bridge is approximately 7' above the water when closed. The USCG Bridge Clearance Guide calls for bridges in this area to be 21' above the water when closed. *Guidance for bascule bridges on the Okeechobee waterway between St. Lucie locks and the Atlantic inter-coastal waterway – see: http://www.uscg.mil/hq/cg5/cg551/bridge.asp From this web site: Bridges at the guide height "…will ordinarily receive favorable consideration under the bridge permitting process (33 CFR Chapter 1, Subchapter J - Bridges)* ***as providing for the reasonable needs of navigation."***

The Bridge Does Not Meet the Reasonable Needs of Navigation. The Coast Guard must designate this bridge as an unreasonable obstruction to navigation under the Truman-Hobbs act and mandate its replacement.

Mitigation Pending Removal or Replacement of the Bridge

Until the bridge is removed or replaced, its negative impact on the waterway must be minimized. This requires that:

1. The waterway be open to navigation for at least 31 minutes each hour,

2. The length of openings allow passage of all vessels waiting,

3. The amount of time for any single closure does not exceed 15 minutes as this would discourage waterway use, and

4. The times that the waterway will be open are highly predictable and easily understood.

Openings

The law gives deference to waterways users because of their limited alternatives, and the multiple alternatives available to surface transportation.

The waterway must be open at least 31 minutes per hour, and for at least 15 minutes per opening.

Safe vessel transits are often limited by the narrow passage to one direction at a time, and the need for a slow to modest speed (no more than 10 to 15 knots). The length of the openings must allow passage for all vessels waiting on both sides to cross. With 88,000 transits per year and up to 450 per day, including large commercial vessels, waiting lines can be long. Less than 15 minutes would often be insufficient for vessels on both sides of the bridge to organize, accelerate, and individually pass under the bridge. Note that it is too narrow for safe two way traffic for many vessels.

Waiting for the bridge to open degrades the boating experience significantly, and can drive potential waterway users to just stay home. According to one authority:

> "Americans spend roughly 37 billion hours each year waiting in line. The dominant cost of waiting is an emotional one: stress, boredom, that nagging sensation that one's life is slipping away. **The last thing we want to do with our dwindling leisure time is squander it in stasis.**" *Alex Stone "Why Waiting is Torture" New York Times Sunday Review Opinion Page, 18 August 2012.*

Informal interviews with users show that they consider a wait of 15 minutes or less reasonable. This is predicated upon the schedule of such waits being highly predictable so that users can structure their arrivals so as to avoid most closures altogether.

As mentioned earlier, vessels loitering and trying to position themselves for when the bridge opens unnecessarily waste fuel, have increased air emissions due to the addition fuel burn and typically low engine speed, and run greater risk of collision, grounding and being set upon the bridge by strong currents.

Predictability and Clarity

Safe and enjoyable waterway use requires time and preparation. Numerous items of equipment, some of which is time consuming to prepare and requires special transport, is often involved. It is also often a group activity, so schedules of multiple people must be coordinated, sometimes weeks in advance.

Minimizing the negative impact of rail bridge closures on waterway use requires that users have a long term predictable schedule of when the waterway will be open. This certainty will manage expectations, and allow users to adjust their activities and schedules accordingly.

It is also important that schedules be clear, easily understood and recalled from memory. For example: "The bridge will open on the hour and half hour, and stay open for 20 minutes."

We prefer that the schedule for the waterway being open is published in the Federal Register as part of the rulemaking. Less preferred, but acceptable, would be that the rulemaking provide for the schedule to be published at least 90 days in advance and that all schedules remain unchanged for at least 90 days.

Comments for USCG - Loxahatchee Bridge Operations[1]

November 2014

Summary:

Changes in rail traffic and maritime activity since 1935 have caused the Florida East Coast Railroad bridge over the Loxahatchee River to become an unreasonable obstruction to navigation.

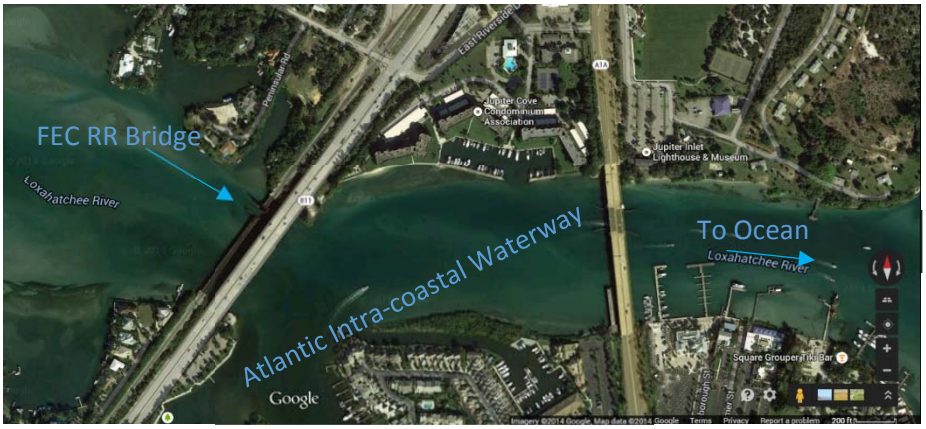
The bridge must either be completely removed, or replaced with one that is not unreasonably obstructive.

In the interim, strict, highly predictable, long term scheduling of bridge openings and closings must be instituted to mitigate obstruction of the waterway.

Background:

Waterway Description & Navigation Considerations

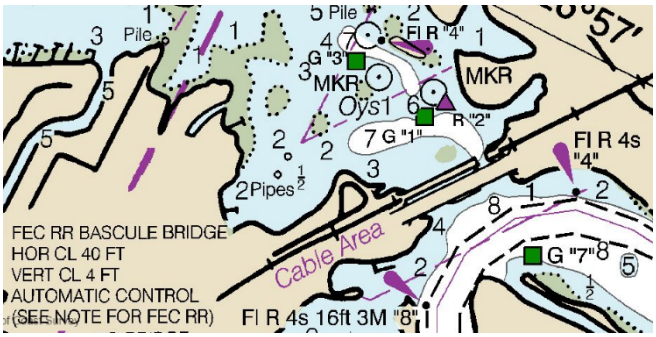
The navigable waterway passes through a narrow, 40' space between the protected abutments of the FEC railroad bridge. When the railroad bridge is open, waterway vertical clearance is 25' which is controlled by the adjacent Route 811 fixed highway bridge. The 3,000 mile intra-coastal waterway that traverses the Atlantic and Gulf coasts is immediately to the east of the two bridges. A third of a mile downstream the Route 1/A1A fixed highway bridge has 26' vertical clearance.



When the railroad bridge is in use the waterway into and out of the Loxahatchee River system is closed as the bridge comes within 4' of surface of the water.

[1] These comments address only the current operation and condition of this bridge as of November 2014. A supplement will be provided to address proposals for increased use of the bridge included in the All Aboard Florida Draft EIS.

Boats waiting for the bridge to open must often contend with strong tidal currents estimated at 7 to 8 knots. This is caused by the tide surging through a narrow river neck into and out of the very large basin and recreation area comprised of the three forks of the Loxahatchee River and the extensive, wide confluence area just west of the bridge. Boats waiting for the bridge to open can have difficulty avoiding being set onto the bridge, the shore, and each other.



The narrow passage and strong current beneath the bridge make it impossible, or at best unsafe, for even small vessels to pass each other. So traffic is almost always limited to one way at a time.

Changes in Rail Traffic and Waterway Use

When the rail bridge was built, circa 1935, use of the waterway was much lower and trains were very infrequent. In the last 79 years:

- The local population has grown by approximately 10,000%
- The regional economy and lifestyle has shifted from working agriculture to waterway-oriented residential, and water-oriented commercial
- The intra-coastal waterway was built and intersected with the Loxahatchee
- Waterway use between the Loxahatchee River system and other waterway areas has greatly increased. For 193 days during the first half of this year, the Jupiter Inlet District observed over 48,000 vessel transits through the rail bridge. This equates to over 90,000 a year.
- The number of railroad bridge closures per day has greatly increased, and the closure times have gotten longer.

While there are more than 1,200 boat slips upstream, waterway users from both sides of the bridge transit to use the waterway on the other side. Boaters from the east side of the bridge transit west to the broader and more sheltered areas of the river to water ski, jet ski, picnic on a wide and long sand bar at low-tide, and visit Jonathan Dickinson State Park. Boaters from the west side transit east to use the intra-coastal waterway, visit marinas, patronize restaurants, and enter the Atlantic.

The Gulf Stream comes closer to shore in this area than anywhere else in the United States (between 1 and 2 miles) making offshore fishing particularly attractive. Average year-round water temperature is 78 degrees adding to the attractiveness of in-water and water-borne recreation.

According to the FECR, the bridge closes the waterway approximately 14 times each day for approximately 20 minutes. Residents report that the closures can be much longer, though, lasting up to an hour when the bridge does not open between trains. Data collected by the Jupiter Inlet District, though, shows that the number of times per day the waterway is open for navigation during daylight hours varies greatly between zero and 16. None of the closures are scheduled, nor are they announced more than a few minutes in advance. Users also have no way of knowing how long the closure will last.

Bridge closures discourage users on both side of the bridge from fully using the waterways, especially since the closures are at random and of unpredictable length.

The Bridge Does Not Meet the Reasonable Needs of Navigation Because:

1. It interferes with primary economic engine of the local economy and undermines the foundation upon which the local water-oriented communities were built.

Huge-water oriented communities in Jupiter, Tequesta, southern Martin County and northern Palm Beach County, marine services, marine retail, and all the supporting business and economic activity would not exist, but for the presence and usability of the waterways.

The importance of this type of economic activity is essential to the entire state of Florida and is well documented. The Florida Oceans and Coastal Council reported that the states coastal counties contribute about 79 percent of the state's economic productivity. *"Florida's Ocean and Coastal Economies Report, Phase II."*

Dr. James Cato, an economist, Florida Oceans and Coastal Council member, and former Director, School of Natural Resources and the Environment, University of Florida has testified that "Anything affecting coastal tourism, recreation and marine transportation has a huge impact on Florida's ocean economy…These sectors of economic activity represent 88 percent of Florida's ocean economy…" *"Oceans and Coast Drive Florida's Economy" Environmental News Service, 1 Oct 2008*

Over 500 vessels per day transit through the bridge on peak days. Many, if not most, must loiter and wait for the bridge to open, burning fuel, increasing air emissions, and wasting time. Loitering also increases the risk of vessels colliding with each other, running aground or being set upon the bridge by strong currents.

Rail bridge closures deter waterway use. While it is impossible to measure events that do not occur, it is, nevertheless, obvious that waterway use would be higher if the bridge never closed, and the surrounding community's economies would be that much stronger.[2]

[2] While the local area is prosperous and growing, regional economic information is unfortunately not readily available. This information is crucial to public policy decisions, however, and such data and analyses must be incorporated into any decisions. For example, if an obstructive rail bridge decrements a $20B/yr local economy by half a percent, that would be a cost shift from the private rail company to taxpayers of $100M/yr. Similarly, if it degraded the value of $50B in property by half a percent, that would be a loss of $250M to taxpayers.

2. The bridge's age and condition has caused failures that obstructed the waterway. The risk of additional and more frequent obstructions is increasing.

Upon one occasion a large piece of metal fell from the bridge and obstructed the waterway. Because it was not visible from the surface, several boats struck the metal and reported minor damage. Requests to the railroad for it to be removed went unheeded. The large metal object was eventually cleared from the waterway by the Jupiter Inlet District.

Mechanical failures of the bridge mechanism have obstructed the waterway while it was being repaired.

Extended waterway closures have resulted from a faulty locking system or signal system. With the bridge in the down position, trains have repeatedly stopped short of the crossing for the engineer to dismount, walk up to the bridge to ensure it is locked down and safe to cross. For south-bound trains this also blocks all three streets exiting the City of Tequesta and has resulted in complaints to FECR by the mayor.

Very little to no preventive maintenance or care is evident to anyone walking out onto the bridge (the bridge is entirely accessible to casual pedestrians and even lacks land-side warning or "no trespassing" signs.)

As the 79 year-old bridge structure, materials and mechanisms continue to age and degrade, an increase in mechanical and material failures is certain.

3. Alternatives to obstructing the waterway exist, are available and feasible.

Waterway users have only one route available to them, the railroad has several.

Railroad tracks farther to the west are available, and in use, for both freight and passenger service.

An elevated rail bridge is feasible. Bridges with grades of up to 4% support freight operations in other locations.

US Coast Guard and US Department of Transportation policies specifically state preferences for fixed bridges over mobile bridges, whenever possible, as they minimize negative impacts to all transportation modes at these important intersections of systems.

When the State of Florida constructed the route 811/A1A bridge over the Loxahatchee and adjacent to the FEC rail bridge it made a deliberate decision that a fixed bridge at 25' over the waterway would meet the needs of both navigation and highway traffic. Highway traffic is more continuous than rail traffic, so the parallel is not exact. However, as rail traffic has increased, both in the number of trains and their length, the parallel between the two has become much closer. For example, local officials and waterway users report that when individual trains are separated by 20 minutes or less, the rail bridge will not open to allow navigation between train crossings.

The FEC RR bridge is approximately 4' above the water when closed. The USCG Bridge Clearance Guide calls for bridges on the adjacent intra-coastal waterway to be 21' above the water when closed. *Guidance for bascule bridges on the Atlantic intra-coastal waterway between Jacksonville and Miami– see: http://www.uscg.mil/hq/cg5/cg551/bridge.asp From this web site: Bridges at the guide height "…will ordinarily receive favorable consideration under the bridge permitting process (33 CFR Chapter 1, Subchapter J - Bridges) as* ***providing for the reasonable needs of navigation****."*

Alternatives to using a 79 year-old, poorly maintained bridge that unreasonably obstructs the waterway are more expensive for the FECR. However, by not using these alternatives, FECR is imposing much greater costs on the citizens of Tequesta, Jupiter and the surrounding area.

If FECR were to seek a permit to build this bridge today, it would be denied.

The Bridge Does Not Meet the Reasonable Needs of Navigation. The Coast Guard must designate this bridge as an unreasonable obstruction to navigation under the Truman-Hobbs act and mandate its replacement.

Mitigation of Negative Impact Pending Removal or Replacement of the Bridge

Until the bridge is removed or replaced, its impact on the waterway must be minimized. This requires that:

1. **The waterway be open to navigation for at least 31 minutes each hour,**
2. **The length of openings allow passage of all vessels waiting,**
3. **The amount of time for any single closure does not exceed 15 minutes as this would discourage waterway use, and**
4. **The times that the waterway will be open are highly predictable and easily understood.**

Openings

The law gives deference to waterways users because of their limited alternatives, and the multiple alternatives available to surface transportation.

The waterway must be open at least 31 minutes per hour, and for at least 15 minutes per opening.

Safe vessel transits are limited by the narrow passage to one direction at a time, and the need for a slow to modest speed (no more than 10 to 15 knots). The length of the openings must allow passage for all vessels waiting on both sides to cross. The Jupiter Inlet District has observed an average of 288 vessel bridge transits each day, and even more vessels would do so, but for the obstruction of the bridge. With over 500 transits per day on peak days, waiting lines can be long. Less than 15 minutes would often be insufficient for vessels on both sides of the bridge to organize, accelerate, and individually pass under the bridge (it is too narrow for safe two way traffic).

Waiting for the bridge to open degrades the boating experience significantly, and can drive potential waterway users to just stay home. According to one authority:

> "Americans spend roughly 37 billion hours each year waiting in line. The dominant cost of waiting is an emotional one: stress, boredom, that nagging sensation that one's life is slipping away. **The last thing we want to do with our dwindling leisure time is squander it in stasis.**" *Alex Stone "Why Waiting is Torture" New York Times Sunday Review Opinion Page, 18 August 2012.*

Informal interviews with users show that they consider a wait of 15 minutes or less reasonable. This is predicated upon the schedule of such waits being highly predictable so that users can structure their arrivals so as to avoid most closures altogether.

As mentioned earlier, vessels loitering and trying to position themselves for when the bridge opens unnecessarily waste fuel, have increased air emissions due to the addition fuel burn and typically low engine speed, and run greater risk of collision, grounding and being set upon the bridge by strong currents.

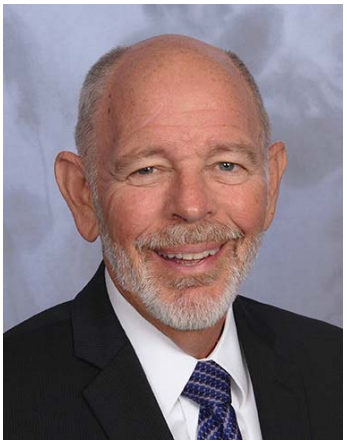
Predictability and Clarity

Safe and enjoyable waterway use requires time and preparation. Numerous items of equipment, some of which is time consuming to prepare and requires special transport, is often involved. It is also often a group activity, so schedules of multiple people must be coordinated, sometimes weeks in advance.

Minimizing the negative impact of rail bridge closures on waterway use requires that users have a long term predictable schedule of when the waterway will be open. This certainty will manage expectations, and allow users to adjust their activities and schedules accordingly.

It is also important that schedules be clear, easily understood and recalled from memory. For example: "The bridge will open on the hour and half hour, and stay open for 20 minutes."

We prefer that the schedule for the waterway being open is published in the Federal Register as part of the rulemaking. Less preferred, but acceptable, would be that the rulemaking provide for the schedule to be published at least 90 days in advance and that all schedules remain unchanged for at least 90 days.



Dana Goward is the Proprietor at Maritime Governance, LLC, a consultancy offering advice and counsel on a wide variety of maritime navigation, search and rescue, maritime domain awareness, and governance issues.

Capt. Goward has more than 40 years of experience in the maritime industry; he is also a bridge expert. He retired in 2013 from the U.S. federal Senior Executive Service as the nation's maritime navigation authority, with 12 business lines budgeted at over $1.3B/yr. He has represented the US at IMO, IALA, the UN anti-piracy working group, and other international forums.

A licensed helicopter and fixed wing pilot, he commanded the US Coast Guard's air station in New Orleans and served as the service's first Chief, Office of Board Forces, before retiring as a Captain.

He is also President of the Resilient Navigation and Timing Foundation, Chairman of the Board for the Association for Rescue at Sea, and is a member of the govering council for the Institute of Navigation.

Bridge Administration Specific: Capt. Goward was responsible for permitting and regulation of over 18,000 bridges over the navigable waters of the United States and a nationwide staff of 45. The portfolio included $225B in bridge construction projects requesting permits.

He also served as Dept of Homeland Security representative to White House's "President's Steering Committee on Federal Infrastructure Permitting and Review Process Improvement," a Deputy Secretary-level group created by presidential executive order. Negotiated agreements between competing interests and authorities on highly charged, nationally significant, $1.3B to $3.4B bridge construction and modification projects publicly tracked by White House.