

**F. Consent Agenda - Natural Resources Management  
ITEM 3.**



**AGENDA REPORT  
February 26, 2019**

**Consideration of Support for a FDOT Causeway Improvement Study of  
State Roads 528 and 520**

---

**SUBJECT:**

Consider support of a request to evaluate the water circulation improvements of replacing portions of the State Road (SR) 528 and 520 causeways with elevated bridge spans over the Banana River.

**FISCAL IMPACT:**

FY 18-19 - No Fiscal Impact

FY 19-20 - No Fiscal Impact

**DEPT/OFFICE:**

Natural Resources Management

**REQUESTED ACTION:**

Consideration of a recommendation from the Save Our Indian River Lagoon Citizen Oversight Committee supporting requests to the Florida Department of Transportation (FDOT) to evaluate options to improve water circulation by replacing portions of the State Road (SR) 528 and 520 causeways with elevated bridge spans over the Banana River.

**SUMMARY EXPLANATION and BACKGROUND:**

The Florida Department of Transportation (FDOT) is conducting a causeway improvement study (FM #407402-3&4) for the future widening of SR 528 and has plans to conduct future studies for SR 520. Results of a recent circulation study show an approximate 10% improvement (reduction in residence time) in a portion of the Banana River that is currently suffering from intense harmful algal blooms if portions of the earthen causeways of SR 528 and SR 520 are removed. Addressing man-made causeways that interfere with natural circulation supports local efforts to improve the water quality of the Banana River and Indian River Lagoon.

On December 5, 2018, Canaveral Port Authority adopted a resolution (attached) supporting FDOT's efforts to study these improvements. At the Indian River Lagoon National Estuary Program (IRLNEP) meeting on February 8, 2019, the IRLNEP Board of Directors adopted a similar resolution (attached), which was strongly supported by Commissioner Lober.

At the February 15, 2019 Save Our Indian River Lagoon Citizen Oversight Committee

(COC) Meeting, the committee members heard a presentation regarding resolutions of support approved by the Canaveral Port Authority and Indian River Lagoon National Estuary Council. The COC moved to recommend that the County Commission consider supporting requests that FDOT study and evaluate infrastructure improvement options to SR 528 and SR 520, and encourage the inclusion of any and all infrastructure improvements that will benefit the Lagoon, the economy and the resiliency of essential transportation corridors and infrastructure.

**ATTACHMENTS:**

**Description**

- ▯ **Canaveral Port Authority Resolution #RES-2018-014-EXE-3**
- ▯ **IRLNEP Resolution**



Tammy Rowe, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001  
Fax: (321) 264-6972  
Tammy.Rowe@brevardclerk.us

February 27, 2019

**M E M O R A N D U M**

**TO:** Virginia Barker, Natural Resources Management Director

**RE:** Item F.3., Consideration of Support for a Florida Department of Transportation (FDOT) Causeway Improvement Study of State Roads 528 and 520

The Board of County Commissioners, in regular session on February 26, 2019, approved recommendation from the Save Our Indian River Lagoon Citizen Oversight Committee supporting requests to the Florida Department of Transportation (FDOT) to evaluate options to improve water circulation by replacing portions of the State Road (SR) 528 and 520 causeways with elevated bridge spans over the Banana River.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS  
SCOTT ELLIS, CLERK

*Tammy Rowe*

Tammy Rowe, Deputy Clerk

**CANAVERAL PORT AUTHORITY  
RESOLUTION # RES-2018-014-EXE-3  
A RESOLUTION IN SUPPORT OF THE INCLUSION OF  
IMPROVEMENTS BENEFICIAL TO THE INDIAN RIVER LAGOON  
SYSTEM RESTORATION AND REGIONAL INFRASTRUCTURE IN  
PLANNING STUDIES FOR  
STATE ROAD 528 AND STATE ROAD 520**

**WHEREAS**, the Indian River Lagoon (“Lagoon”) is a diverse, shallow-water estuary stretching across 40 percent of Florida’s East Coast;

**WHEREAS**, the Lagoon represents a complex estuarine ecosystem comprised of three water bodies: the Indian River, Mosquito Lagoon and Banana River that together have been designated as an “Estuary of National Significance” by the U.S. Congress in 1990;

**WHEREAS**, the Lagoon supports important commercial and recreational fisheries and economic resources that are vital to the interests of the Port District, the region, the State of Florida and the nation with an estimated annual economic impact of \$7.6 billion;

**WHEREAS**, the Lagoon has become one of the most vulnerable estuaries in Florida that is threatened throughout its geographic range and watershed by water quality decline, habitat alteration and loss, fisheries decline, loss of biological diversity, and altered hydrologic flow;

**WHEREAS**, the earthen causeways for State Road (SR) 528 and SR 520 have an impact on the natural water flow and impede dispersal mechanisms of the Indian River Lagoon;

**WHEREAS**, the Florida Department of Transportation (FDOT) is a key partner with the Canaveral Port Authority in planning and construction of intermodal and port facility projects;

**WHEREAS**, FDOT is conducting a causeway improvement study (FM #407402-3&4) for the future widening of SR 528 (the “Project”) and has plans to conduct future studies for SR 520;

**WHEREAS**, the Project is listed as a priority by the Central Florida Metropolitan Planning Organization Alliance and the Space Coast Transportation Planning Organization on which the Canaveral Port Authority serves as a Member of the Governing Board;

**WHEREAS**, both SR 528 and SR 520 are designated hurricane evacuation routes;

**WHEREAS**, SR 528 serves as an essential transportation corridor that links the goods entering Port Canaveral (including fuel) to all of Central Florida for hurricane preparedness and during post-hurricane response and recovery periods;

**WHEREAS**, the Canaveral Port Authority partnered with the Indian River Lagoon National Estuary Program and Indian River Lagoon Council to complete a study of potential improvements to improve the flushing of the Indian River Lagoon system based on increasing bridge spans, adding additional relief spans, and elevating portions of the causeways;

**WHEREAS**, the study, *Numerical Model Flushing Experiments, Final Report*, dated September 2018 was presented at the regularly scheduled meeting of the Canaveral Port Authority's Board of Commissioners on October 31<sup>st</sup>, 2018;


**WHEREAS**, the results of the study conservatively show that flushing may be improved by almost 10% with causeway elevating alterations to SR 528 and SR 520; and

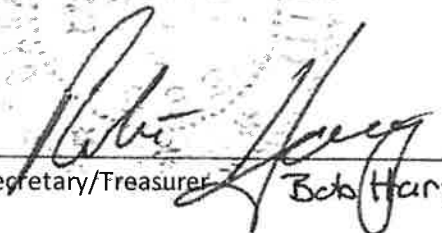
**WHEREAS**, causeway elevating alterations can provide 21st century transportation corridor improvements that deliver the following additional benefits: improved infrastructure resiliency to storm surge, shoreline erosion and sea level rise; restoration of Lagoon bottom lost during causeway construction; restoration of historic sea grass beds lost in causeway construction; improved recreational fishing associated with elevated roadway structure; and opportunities for long-term mitigation planning.


**NOW, THEREFORE, BE IT RESOLVED, THE CANAVERAL PORT AUTHORITY** in a regularly scheduled meeting assembled on December 5, 2018, supports FDOT's efforts to study and evaluate infrastructure improvements options to SR 528 and SR 520 and encourages the inclusion of any and all infrastructure improvements that will benefit the Lagoon, the economy and the resiliency of essential transportation corridors and infrastructure.

**DONE, ORDERED AND ADOPTED**, this 5<sup>th</sup> day of December 2018 at Port Canaveral, Brevard County, Florida.

**CANAVERAL PORT AUTHORITY:**



  
Secretary/Treasurer Bob Harvey

  
Micah Loyd Chairman

**IRL COUNCIL RESOLUTION #2019-03**  
**A RESOLUTION IN SUPPORT OF THE INCLUSION OF IMPROVEMENTS**  
**BENEFICIAL TO THE INDIAN RIVER LAGOON SYSTEM RESTORATION AND**  
**REGIONAL INFRASTRUCTURE IN PLANNING STUDIES FOR**  
**STATE ROAD 528 AND STATE ROAD 520**

WHEREAS, the Indian River Lagoon ("Lagoon") is a diverse, shallow-water estuary stretching across 40 percent of Florida's East Coast; and

WHEREAS, the Lagoon represents a complex estuarine ecosystem comprised of three water bodies: the Indian River, Mosquito Lagoon and Banana River that together have been designated as an "Estuary of National Significance" by the U.S. Congress in 1990; and

WHEREAS, the Lagoon supports important commercial and recreational fisheries and economic resources that are vital to the interests of the region, the State of Florida and the nation with an estimated annual economic impact of \$7.6 billion; and

WHEREAS, the Lagoon has become one of the most vulnerable estuaries in the United States that is threatened throughout its geographic range and watershed by water quality decline, habitat alteration and loss, fisheries decline, loss of biological diversity, and altered hydrologic flow; and

WHEREAS, the earthen causeways for State Road (SR) 528 and SR 520 have impacted the natural water flow of the Lagoon and impede dispersal mechanisms of Lagoon organisms; and

WHEREAS, the Florida Department of Transportation (FDOT) is a key partner with the Canaveral Port Authority in planning and construction of intermodal and port facility projects; and

WHEREAS, FDOT is conducting a causeway improvement study (FM #407402-3&4) for the future widening of State Road 528 (the "Project") and has plans to conduct future studies for State Road 520; and

WHEREAS, the Project is listed as a priority by the Central Florida Metropolitan Planning Organization Alliance and the Space Coast Transportation Planning Organization on which the Canaveral Port Authority serves as a Member of the Governing Board; and

WHEREAS, both SR 528 and SR 520 are designated hurricane evacuation routes; and

WHEREAS, SR 528 serves as an essential transportation corridor that links the goods entering Port Canaveral (including fuel) to all of Central Florida for hurricane preparedness and during post-hurricane response and recovery periods; and

WHEREAS, the Canaveral Port Authority partnered with the IRL Council (an independent, special district of Florida) and Indian River Lagoon National Estuary Program (IRLNEP) to complete a study of potential improvements to improve the flushing of the Lagoon system based on increasing bridge spans, adding additional relief spans, and elevating portions of the causeways;

WHEREAS, the study, Numerical Model Flushing Experiments, Final Report, dated September 2018 was presented at the regularly scheduled meeting of the Canaveral Port Authority's Board of Commissioners on October 31, 2018;

WHEREAS, the results of the study show that flushing may be improved by almost 10% with causeway elevating alterations to SR 528 and SR 520; and

WHEREAS, causeway elevating alterations can provide 21st century transportation corridor improvements that deliver the following additional benefits: Improved infrastructure resiliency to storm surge; Shoreline erosion and sea level rise; Restoration of Lagoon bottom lost during causeway construction; Restoration of historic sea grass beds lost in causeway construction; Improved recreational fishing associated with elevated roadway structure; and Opportunities for long-term mitigation planning.

NOW, THEREFORE, BE IT RESOLVED, THE IRL COUNCIL in a regularly scheduled meeting assembled on February 8, 2019, supports FDOT's efforts to study and evaluate infrastructure improvement options to SR 528 and SR 520 and encourages the inclusion of any and all infrastructure improvements that will benefit Indian River Lagoon water quality, the economy and the resiliency of essential transportation corridors and infrastructure.

DONE at \_\_\_\_\_, Florida, this \_\_\_\_ day of \_\_\_\_, 2019.

By: \_\_\_\_\_  
Chair, IRL Council

ATTEST:

\_\_\_\_\_  
Secretary, IRL Council

Approved as to legal form and sufficiency:

\_\_\_\_\_  
Carolyn S. Ansay  
IRL Council, Legal Counsel