



SUMMARY OF ESTIMATED PROJECT IMPACTS and COSTS
NASA Causeway Bridge Public Hearing
Thursday, October 17, 2019

NASA Causeway Bridge PD&E Study
 FPID: 440424-1
 Brevard County

NASA Causeway Bridge Alternatives		
Evaluation Criteria	No Build *	Preferred Build Alternative
Description	Maintenance and Repair (Assume Replacement after 10 years)	High-Level Fixed Bridge Replacement South Alignment
General Information		
Number of Travel Lanes (Existing/Proposed)	4/4	4/4
Existing (2018) Annual Average Daily Traffic (AADT)	12,200	12,200
Future (2045) AADT	16,000	16,000
Number of Moveable Spans	1	0
Number of Fixed Spans	56	26
Minimum Vertical Clearance Above Water	28 feet Closed Position	65 feet Fixed
Minimum Horizontal Clearance (Navigational Channel)	90 feet	125 feet
Maintains/Improves Bridge Load Rating within 5 years	No	Yes
Designated Hurricane Evacuation Route	Yes	Yes
Bridge Length (approximate)	3,000 feet	4,000 feet
Total Project Length (approximate)	10,000 feet	10,000 feet
Social Environment Impacts **		
Residential Land Uses	0	0
Commercial Land Uses	0	0
Community Facilities	0	0
Natural Environment Impacts **		
Wetlands (no. of acres)	1.0	3.1
Floodplains (no. of acres) (Over Indian River)	0.85	2.45
Seagrasses	<0.1 acres	<0.1 acres
Other Essential Fish Habitat (no. of acres) (Water Column and Substrate)	0.85	2.45
Wildlife Habitat (Endangered and Threatened Species)	Minimal	Minimal
Cultural Environment Impacts **		
Historic Sites/Structures	1 - Existing bridge	1 - Existing bridge
Archaeological Sites	Minimal to none	Minimal to none
Physical Environment Impacts **		
Utilities	2 (AT&T and FP&L)	2 (AT&T and Florida City Gas)
Potential Contamination Sites	2	2
Traffic Control During Construction (no. of lanes open)	2 lanes (1 in each direction)	4 lanes (2 in each direction)
Estimated Project Cost (2019)		
Construction Cost Estimate		
Roadway ¹	\$9.7M	\$9.0M
Structures ²	\$63.6M	\$62.9M
Demolition	\$8.0M	\$8.0M
Life Cycle ³	\$21.4M	\$1.9M
Utility Relocation ⁴	\$2.1M	\$2.0M
Maintenance of Traffic (MOT) (10%) ⁵	\$8.7M	\$8.0M
Mobilization (8%) ⁶	\$7.6M	\$6.4M
Contingency (20%) ⁷	\$17.4M	\$15.9M
SUBTOTAL CONSTRUCTION	\$138.5M	\$114.1M
Construction Engineering and Inspection (CEI) ⁸	\$17.3M	\$13.7M
Right of Way ⁹	\$0.0M	\$0.0M
TOTAL ESTIMATED COST	\$155.8M	\$127.8M

Notes:

- * For life cycle cost comparison, assume High-level Fixed Bridge replacement for No Build after 10 years.
- ** Environmental impacts for the No Build Alternative assumes future bridge replacement on existing alignment.
- 1. Includes roadway approaches.
Assume 2% per year increase for future roadway costs for No Build.
Includes causeway reconstruction for Preferred Build Alternative.
- 2. Initial bridge costs based on FDOT historical costs, modified for site conditions.
Estimates include initial rehabilitation and full replacement costs for No Build.
Assume 2% per year increase for future bridge costs for No Build.
For life cycle cost comparison, assume High-level Fixed Bridge replacement for No Build after 10 years.
- 3. Assume 75-year life span for all alternatives including No Build.
Operation & Maintenance (O&M) for fixed bridge = \$25,000/year (new bridge only).
O&M for moveable bridge = \$225,000/year (new bridge only).
O&M for No Build and Rehabilitation = \$2,135,197/year (based on historic data from NASA, 2011 - 2018).
- 4. Assume FP&L and Florida City Gas are reimbursable.
- 5. MOT is estimated at 10% of the Construction Cost including Roadway, Structures and Demolition.
- 6. Mobilization is estimated at 8% of the Construction Cost including Roadway, Structures, Demolition and MOT.
- 7. Contingency is estimated at 20% of Construction Cost including Roadway, Structures and Demolition.
- 8. CEI is estimated at 12% of Subtotal costs.
- 9. Preferred Build Alternative is within existing Right of Way.